

Valuation & Modelling

Türkiye Şişe ve Cam Fabrikaları A.Ş.

Independent Expert Report for the Determination of
the Merger Ratio and the Share Swap Ratio

27 April 2020

*Strictly Private and
Confidential*



pwc



Serkan Aslan
Valuation and Modelling
Partner

Engin İyikül
Valuation and Modelling
Director

Eray Kumdereli
Valuation and Modelling
Director

Serra Türkkan
Valuation and Modelling
Senior Manager

Ahsen Erten
Valuation and Modelling
Manager

PwC Yönetim
Danışmanlığı A.Ş.
Süleyman Seba Caddesi No:48
BJK Plaza B Blok Kat 4,
Akaretler 34357
Beşiktaş, İstanbul - Türkiye

Türkiye Şişe ve Cam Fabrikaları A.Ş.

İçmeler Mahallesi, D-100 Karayolu Caddesi,
No: 44A 34947 Tuzla/İstanbul

27 April 2020

Dear Sirs,

This report comprises the result of the Independent Expert Report ("Report"), prepared within the scope of the CMB's Communiqué on Merger and Demerger* article 7, in accordance with the letter of engagement (See Appendix 1) signed between Türkiye Şişe ve Cam Fabrikaları A.Ş. ("Company" or "Şişecam" or "SISE") and PwC Yönetim Danışmanlığı A.Ş. ("PwC") regarding the merger of Trakya Cam Sanayii A.Ş. (TRKCM), Anadolu Cam Sanayii A.Ş. (ANACM), Paşabahçe Cam Sanayii ve Ticaret A.Ş. (PASAB), Denizli Cam Sanayii A.Ş. (DENCM) and Soda Sanayii A.Ş. (SODA) under Türkiye Şişe ve Cam Fabrikaları A.Ş. (together "Companies to Merge"). The study is complete as of our Report date, therefore subsequent events have not been taken into account for the purposes of this Report.

This Report has been prepared based on the information provided by the management of the Companies to Merge in order to determine the merger and share swap ratios with the use of the appropriate valuation methods as of 31 December 2019.

The historical financial and operational information, as well as the financial projections used in this study were provided by the Companies to Merge. The financial statements and other information presented to us within the scope of this study have not been subjected to additional audit or review procedures. It should be noted that PwC does not issue an opinion or any type of assurance regarding the achievability of the projections provided by the management of the Companies to Merge.

This Report is addressed solely to Şişecam management. PwC does not assume responsibility or liability of any nature arising from the use of this Report by third parties. This Report should not be released to any third party without PwC's written consent, except legal institutions and regulatory authorities (Capital Markets Board, etc.). In the event that we consent to the release of this Report, Şişecam assumes full responsibility relating to the use of the Report.

Yours faithfully,

Serkan Aslan

Partner

*Sermaye Piyasası Kurulu Birleşme ve Bölünme Tebliği (II-23.2)

Contents

Introduction	4
Executive Summary	21
Companies to Merge and Valuation Analysis	58
1 SISE	59
2 TRKCM	96
3 ANACM	129
4 PASAB	155
5 DENCM	182
6 SODA	190
Appendix	231

General Information on the Report (1/9)

Aim of the Study *This study comprises the preparation of the Independent Expert Report relating to the determination of the appropriate merger and share swap ratios for the merger of TRKCM, ANACM, PASAB, DENCM and SODA under SISE in accordance with CMB's Communiqué on Merger and Demerger.*

For the purpose of this assessment, PwC has made no investigation of, and assume no responsibility for the verification of the legal ownership status of the assets belonging to the Companies to Merge. PwC also assumes that there are no hidden or unexpected conditions or encumbrances relating to the ownership that may affect the values of the Companies to Merge.

Fair Value Definition

Throughout the Report, it is vital to distinguish between the terms price and value. Price is what a buyer is willing to pay, which is unlikely to equate with the value attributed to the business by the valuer.

The basis of the valuation for the study in this Report is fair market value. As indicated in CMB's Communiqué III-62.1, it is mandatory to adopt the International Valuation Standards (IVS), published by the Turkish Association of Appraisers and Turkish Capital Markets Association in an assessment of this kind. *IVS defines fair market value as, the estimated price that would be negotiated at the valuation date, in an open and unrestricted market, between a knowledgeable, willing, but not anxious buyer and a knowledgeable, willing, but not anxious seller, acting at arm's length.*

Sources of Information

This Report has been prepared based on the information provided by the management of the Companies to Merge. The audited financial statements for the periods 2017 – 2019, prepared in accordance with TAS/TFRS and the financial reporting regulations of CMB and POB were used as the basis of historical information for Companies to Merge.

The business plans cover the years 2020-2025 for most companies. For mining subsidiaries of Companies to Merge however, the lifecycle of the mine reserves have been taken into account as the determining factor for the projection period. Projection period has been extended until 2034 for ANACM's Eastern Europe investment and until 2085 for SODA's natural soda ash investment in USA which are both explained in detail in the following sections of this Report. The detailed list of information sources is presented in the 'Appendices' section of the Report

It should be noted that PwC does not issue an opinion or any type of assurance regarding the achievability of the projections provided by the management of the Companies to Merge. Our conclusions are dependent upon the completeness and accuracy of the information provided by management of the Companies to Merge, which were reviewed and discussed with the management of the Companies to Merge to the greatest extent possible and the underlying assumptions of the business plans were altered where deemed necessary.

Within the scope of this Report, PwC did not audit the financial statements and other information of the Companies to Merge. Therefore PwC does not express an opinion on the financial statements contained in this Report.

General Information on the Report (2/9)

Use of the Report

This Report is addressed solely to Şişecam management. *PwC does not assume responsibility or liability of any nature arising from the use of this Report by third parties.* This Report should not be released to any third party without PwC's written consent, except legal institutions and regulatory authorities (Capital Markets Board, etc.). In the event that we consent to the release of this Report, Şişecam assumes full responsibility relating to the use of the Report. *The information in the Report has not been by any means prepared as a promise for the future or to reflect the future. In all circumstances, individuals and institutions are advised to carry out their own market analysis and private reviews.*

Valuation Date

The valuation date has been determined as *31 December 2019* within the framework of CMB's Communiqué on Merger and Demerger.

Valuation Approaches

In the valuation assessment, 4 methods have been used: Income Approach("IA"), Market Approach("MA"), Net Asset Approach("NAA") and Stock Market Value ("SMV").

Income Approach (Discounted Cash Flows – "DCF")

In this method, the value of the Companies to Merge are estimated based on the present value of the expected future free cash flows. *Within the scope of Income Approach, the business plans and cash flow estimations after business plan period, provided by the management of the Companies to Merge, have been used.*

With the information provided by the management, discounted cash flow models have been prepared for the Companies to Merge and their operational subsidiaries and affiliates, which include the income / expense, corporate tax burden, capital expenditure and working capital need projections. The net present value of expected future cash flows of the related companies were discounted using a discount rate in line with companies' risk profiles.

After estimating the stand-alone equity values for all the companies within the scope of the Income Approach, the 'Sum of the Parts' method has been used in the calculation of the total value of each Company to Merge. In this method, the estimated equity value for each Company to be Merge is the sum of the company's equity value as well as the value of its stake in its subsidiaries and affiliates.

General Information on the Report (3/9)

Valuation Approaches (Continued)

Market Approach (Comparable Companies and Transactions)

According to comparable companies (“CC”) and comparable transactions (“CT”) methods that can be applied within the framework of Market Approach; *total equity value is estimated based on comparison of the valuation multiples of companies with similar line of business with the Companies to Merge.* Under market approach, the enterprise value is determined as a result of analysis of financial information of comparable public companies and information on publicly announced transactions. The biggest challenge while using this approach is the difficulty of finding reasonable peer companies.

In comparable companies analysis, comparable public companies that have similar operations, profitability and debt-to-equity ratios with the Companies to Merge, and which are understood to be direct competitors of the Companies to Merge in terms of similarity and geographical distribution of activities, are considered. “Enterprise Value (EV) / EBITDA ratio” has been determined as the appropriate valuation multiple to be considered in the valuation. EV/EBITDA ratio has been calculated using 5-year average market values, year-end net debt levels and other meaningful data covering the 2015-2019 periods obtained from the comparable companies. This ratio, which is calculated in average and on an annual basis for a period of 5 years, is considered to represent the average multiple of the sector. The enterprise value was estimated by applying the calculated multiple to the 4-year average EBITDA of the Companies to Merge (adjusted to 2019 prices with inflation indexation) covering the 2019-2022 period. With this method used in determining the EBITDA to which the multiple will be applied, the short-term impact of the COVID-19 outbreak has been included in the EBITDA, thus, the effect of the pandemic on the value has been captured within the scope of the Market Approach.

Comparable transactions method has not been applied due to the fact that the number of public transactions were limited especially given our focus was on the transactions realized in the past 5 years retrospectively and that some of the transactions identified were related to the purchase of minority shares.

While performing the Market Approach for SISE, no separate analysis was conducted to find comparable companies. The total equity value of SISE was estimated by considering the Market Approach results of the direct subsidiaries of SISE in proportion to its ownership rates. For other companies that are direct subsidiaries of SISE and other than the Companies to Merge, the equity values that have been estimated by applying the Income Approach or Net Asset Approach, have been taken into consideration within the scope of the Market Approach. It has been concluded that the application of the Market Approach for the valuation study of Other Companies would not be meaningful due to the fact that the Other Companies are mainly engaged in activities specific to the SISE’s needs.

General Information on the Report (4/9)

Valuation Approaches (Continued)

Net Asset Approach

The Net Asset Approach is based on the assumption that the price to be paid by a buyer for an enterprise will be at least equal to the amount to be obtained by cashing all the assets and liabilities of that enterprise at a certain date or the amount to be spent (depreciated replacement value) to bring the business to its current position.

Net asset values have been estimated based on the consolidated equity amounts presented in the audited financial statements dated 31 December 2019 and prepared in accordance with the TAS / TFRS and the financial reporting regulations of CMB and POB. In this context, adjustments have been made to the book values of consolidated equity for the dividends to be paid / collected as well as certain assets and liabilities.

Stock Market Value

Since the price information that can be obtained from an active stock market can be a meaningful indicator of value, Stock Market Value has been taken into consideration in the valuation studies of the publicly traded companies among the Companies to Merge.

In estimating the value within the context of Stock Market Value, the weighted average share price according to the daily transaction volume of the Companies to Merge has been calculated for the retrospective 1 year period between 30.01.2020 and 31.01.2019, the date when Şişecam management announced the merger to the Public Disclosure Platform (KAP).

Since PASAB is not publicly traded, an estimated stock market value is calculated for purposes of our assessment, by referencing and using the results of the Market Approach. For this special purpose calculation, the EBITDA multiples calculated over the stock market values of the Companies to Merge and the multiples obtained from comparable companies were compared. The ratios obtained from comparing these two sets of multiples for each Company to Merge have been considered as a coefficient to translate Market Approach results of PASAB into Stock Market Value estimation. Details of the calculation are presented in the PASAB section of this Report.

General Information on the Report (5/9)

Currencies Used in the Valuation Assessment

Currencies used in the valuation assessment have been determined separately for each subsidiary and affiliate of the Companies to Merge considering their operational structures and regional sales territories. *Historical cash flows, sales and profitability targets for each company subject to the valuation study, have been separately analysed to determine the most suitable functional currency, having the most impact on the aforementioned parameters.*

Under Income Approach, the enterprise values of the Companies to Merge, their subsidiaries and affiliates; have been estimated in their operational currencies and then converted into TL with the prevailing exchange rates as of the valuation date.

Shareholding Structure Prior to Merger

The Report is based on *the most recent shareholding structures of the Companies to Merge as of the Report date*. It is important to note that share ownership rates may change as the merger progresses, thus the actual pre-merger shareholding can turn out to be different than what is presented in the Report.

Share Buyback Programs

With the statement published on 25 December 2019 on Public Disclosure Platform, Türkiye İş Bankası A.Ş. (Türkiye İş Bankası) has announced its share buyback program that will continue until the end of 2020. The total budget for the share buyback is TL 300m. In this context, Türkiye İş Bankası A.Ş. has purchased SISE shares since the beginning of 2020.

Similarly, SISE buys the shares of its publicly traded subsidiaries since September-October 2019. According to the information provided by the SISE management, it is understood that the share repurchase program might continue if deemed appropriate in the period after the Report date.

General Information on the Report (6/9)

**Communiqué on
Merger and
Demerger No. II-23.2
(II-23.2 sayılı
Birleşme ve Bölünme
Tebliği)**

The merger will be coordinated within the framework of a set of legislative provisions not limited to but including; Capital Markets Law No. 6362, CMB's Communiqué on Merger and Demerger (Serie:II, N 23.2), CMB's Communiqué on Common Principles and Right to Leave on Significant Transactions (Serie:II, N 23.1) (or new communiqué), Turkish Commercial Code No. 6102 and Corporate Tax Law No. 5520. Our Independent Expert Report has been prepared by taking into consideration the CMB's Communiqué on Merger and Demerger.

Merger and Demerger Communiqué / The Independent Expert Report

ARTICLE 7

- (1) An Independent Expert Report is prepared for the purpose of determining the value and share swap ratios of companies that are parties to merger or demerger. *It is obligatory to give an opinion that the share swap ratio is fair and reasonable in that kind of report. At least three valuation methods are taken into account in the preparation of the independent expert opinion, taking into account the detailed analyses of the companies.*
- (2) In the valuation process, the regulations of the Board regarding valuation are taken into consideration.
- (3) If the fair values of the real estates are used as part of the basis forming the opinion of the expert institution, the fair values of the real estates in question are determined by the real estate valuation companies which satisfy the framework of the relevant regulations of the Board. *If there is a real estate valuation report prepared by a real estate valuation company in compliance with the relevant regulations of the Board regarding real estates, this report must be taken into consideration in the preparation of the independent expert opinion.*

General Information on the Report (7/9)

Project Team

The Independent Expert Report has been prepared by a team of 13 experts, of which 5 are executives. A short resume for each executive member is presented below:

Serkan Aslan (Partner): Serkan holds a BS degree in Management Engineering from Istanbul Technical University and an MBA degree from Marmara University. *He leads the PwC Valuation & Modelling team with more than 20 years of experience in the fields of business valuation, financial modelling and feasibility studies. Serkan holds Capital Markets Board of Turkey, Advanced Level 3 License (SPL Registration No: 770, Doc. No: 200544).*

Engin İyikul (Director): Engin graduated from Economics Department of Boğaziçi University in 2009 and joined PwC Valuation & Modelling team. *With more than 10 years of experience at PwC, Engin has specialized in business enterprise valuations and financial modelling services. He also spent more than a year with TMT Valuations team in PwC's London office.*

Eray Kundereli (Director): After graduating from the Business Engineering Department of Istanbul Technical University in 2009, Eray started his career at KPMG Audit department. Joining PwC in 2010, Eray has involved in several local and international projects, specializing in the fields of business valuation (for financial reporting and tax purposes), financial modelling and feasibility studies. *Currently working as Director, Eray has more than 10 years of experience, especially in financial modelling field.*

Serra Türkkan (Senior Manager): Serra graduated from the department of Business Administration at the University of British Columbia. She started her career at PwC Merger and Acquisition Support in 2012 and after working in this department for 2 years, joined PwC Valuation team. *Serra has more than 7 years of experience in the fields of mergers & acquisitions, business valuation, financial modelling and feasibility studies.*

Ahsen Erten (Manager): After graduating from Business Administration Department of Bilkent University in 2013, Ahsen started her career at an investment bank where she gained experience in M&A process, deal closing and post M&A management. Joining PwC Valuation and Modelling Team in 2015, she has specialized in the fields of business valuation (for financial reporting and tax purposes), financial modelling and feasibility studies. *Ahsen has more than 5 years of experience in business valuation, financial modelling services.*

General Information on the Report (8/9)

Our Statement to the CMB

In accordance with the Announcement made pursuant to the Decision of the **Capital Markets Board's** Decision Body dated 11.04.2019 and numbered 21/500, we declare that:

- We are a consultancy firm that employs at least 1 person who has "Capital Markets Board of Turkey, Advanced Level 3 License" or "Derivative License", which operates within the framework of licenses, know-how and similar agreements with foreign companies with which the authorized independent audit institution in the capital market has a membership agreement,
- We have a separate "Valuation and Modeling Services" special unit,
- There are procedures to be used during valuation studies,
- We have control charts or similar documents to be used in customer acceptance, work execution, preparation and signing of the report,
- We have all kinds of knowledge databases, internal circulars, improved know-how and similar infrastructures that constitute the technical infrastructure of valuation studies,
- We have a research infrastructure for obtaining the information needed in valuation studies,
- There is a service contract between Şişecam and our company for the preparation of the Independent Expert Report (see Appendix 1),
- There is no direct and indirect capital and management relations with the company requesting valuation (see page 12: Independence) and,
- Valuation services were not provided to the companies receiving audit assurance services in the same period,

Within the framework of the 3rd article of the Communiqué Regarding the Valuation Standards in the Capital Market, **numbered III-62.1 of the Capital Markets Board** we declare that:

- Valuation activities made pursuant to the capital market legislation are in compliance with the International Valuation Standards published by the Association of Turkish Valuation Experts and the Association of Turkish Capital Markets.

General Information on the Report (9/9)

Independence

We confirm that PwC and the PwC partners and staff involved in this project do not have, and do not contemplate, any financial interest in the merger, sales or any other potential transaction of the Companies to Merge. Furthermore, we confirm that the fee to be paid to PwC is not based on or contingent upon the outcome of this study or its use. We also confirm that PwC does not have any direct or indirect capital and management relations with the Companies to Merge, their subsidiaries and affiliates.

The management and staff of the Companies to Merge are potentially in a position of being able to influence the results of this study, intentionally or unintentionally. Such potential impacts are inherent in any study of this kind. PwC has implemented the following measures to ensure that such an influence is minimized:

- Absolute impartiality and independence of all PwC staff,
- The assumptions and forecasts used in this study are based on the business plans provided by the management of the Companies to Merge and have been discussed with the management to the greatest extent possible. The business plans have also been compared to the historical performance of the Companies to Merge and the forecasts published in different public sources; and have been revised if found necessary in order to reach fair and reasonable results.

Matters to be Considered

General (1/2)

The Effects of COVID-19

A series of meetings were held with the management of the Companies to Merge, to discuss the possible effects of the COVID-19 outbreak on business plans and projections, which has been declared as a global pandemic by the World Health Organization ("WHO").

The discussions primarily focused on the current measures taken against the effects of the epidemic such as suspending the production lines and reducing workers' shifts in the production facilities. The effects of these measures on the business plans were discussed for the projection period as a whole, and especially for 2020.

The forecasts of the management regarding the duration and scale of the effects of COVID-19 differ among the Companies to Merge. In the projections, it is taken into consideration that the business segments of the Companies to Merge have different dynamics and that the severity of the COVID-19 outbreak varies between the countries in which they operate.

The potential effects of COVID-19 in the business plans have been considered according to the information obtained from the management of the Companies to Merge. Within this scope, business plan revision suggestions of the management of the Companies to Merge, their subsidiaries and affiliates have been taken into consideration in the study.

In addition to the amendments in business plans, macroeconomic assumptions and discount rates applied in the study have been estimated by taking into account the effects of COVID-19. Detailed information about the revisions made and measures taken by the management are explained on the following pages of the Report.

As of the Report Date, our knowledge about the impact of the COVID-19 outbreak on projections is limited to the information provided by the management of the Companies to Merge. Currently, it is not possible to fully predict the possible effects of the COVID-19 outbreak on business plans and basic assumptions that the study is based on. Therefore, it is likely that there will be other changes in cash flows and valuation results in case unforeseen global developments regarding the epidemic take place and such events trigger possible decisions by the Companies to Merge that change the direction of the projections in a way not accounted for in the study.

Matters to be Considered

General (2/2)

Carbon Border Adjustment Mechanism

The Green Deal, which was announced by the European Union ("EU") in December 2019, contains a number of goals such as carbon regulation at the border, ending the use of coal, reducing the carbon containment of fossil fuels, reorganizing energy taxation in EU countries, providing energy largely from renewable sources. Also, in the schedule of the EU Emissions Trading System, carbon quotas are expected to be tightened for the period after 2021. Within this context, there is a high risk of significant additional financial liabilities for energy and resource intensive industries.

According to the information provided by Şişecam management, the arrangements regarding the EU's Green Deal have been presented to the stakeholders' opinion by 2020. Within the scope of Green Deal, the above-mentioned 'Carbon Border Adjustment Mechanism' ("CBAM") is planned to be implemented. Although the details being unclear, the regulation is expected to impose an additional carbon tax burden per ton in exports to EU countries. It was reported by Şişecam management that the options regarding the implementation scope of CBAM are in the negotiation phase. It is expected that the draft legislation will be completed and presented to the public for opinion in the third quarter of 2020.

According to the Şişecam management, the most prominent option regarding the regulation mechanism is "The application of the EU's Emissions Trading System to imports". Within this scope, the main business segments of the Companies to Merge; Float Glass, Glass Packaging, Glassware and Chemicals may have to carry the burden of additional carbon tax costs.

The possible legislative amendments to be made regarding CBAM have not been taken into account in the study since it is still in the negotiation phase with the stakeholders and it is not possible to fully identify the financial and operational effects of CBAM as of the Report Date and correctly reflect it to the business plans. ***Within this scope, the financial and operational effects that will be clear after the legislation is finalized may cause a change in the cash flows and equity values of the Companies to Merge.***

Matters to be Considered

Matters Regarding the Valuation Study (1/6)

Company Abbreviations

In our Report, company abbreviations have been used for the Companies to Merge, their subsidiaries and affiliates.

While mentioning the Companies to Merge on a **consolidated** basis, “SISE”, “TRKCM”, “ANACM”, “PASAB”, “DENCM” and “SODA” abbreviations have been used. While mentioning the Companies to Merge on a **stand-alone** basis, **the two-letter company codes** of companies assigned by Şişecam have been used. The following tables list the abbreviations used for the Companies to Merge, their subsidiaries and affiliates.

SISE		TRKCM		ANACM	
Company	Company Code	Company	Company Code	Company	Company Code
Türkiye Şişe ve Cam Fabrikaları A.Ş. (Solo)	SC	Trakya Cam Sanayii A.Ş. (Solo)	TR	Anadolu Cam Sanayii A.Ş. (Solo)	AC
Camış Madencilik A.Ş.	MD	Şişecam Otomotiv A.Ş.	SO	OOO Ruscam Glass Packaging Holding	RH
Camış Egypt Mining	ME	Trakya Investment B.V.	HT	OOO Energosystems	RS
Rudnik Krecnjaka Vijenac D.O.O.	VM	TRSG Glass Holding B.V.	TS	OOO Ruscam Management Company	RM
Madencilik Sanayii ve Tic. A.Ş.	MT	Sisecam Flat Glass Holding B.V.	HF	JSC Mina	MN
Şişecam Sigorta Aracılık Hizmetleri A.Ş.	SG	Trakya Glass Bulgaria EAD	TB	CJSC Brewery Pivdenna	UK
Şişecam Dış Ticaret A.Ş.	DT	Sisecam Automotive Bulgaria EAD	BO	Merefa Glass Company Ltd.	UM
Şişecam Enerji A.Ş.	SE	Glasscorp S.A.	GO	Anadolu Cam Investment B.V.	AI
Şişecam Çevre Sistemleri A.Ş.	CV	Trakya Glass Rus AO	RD	Sisecam Glass Packaging B.V.	BS
Camış Ambalaj Sanayii A.Ş.	CA	Automotive Glass Alliance Rus AO	RO	AC Glass Holding B.V.	AG
Camış Elektrik Üretim A.Ş.	EU	Trakya Glass Rus Trading OOO	RT		
SC Glass Trading B.V.	HG	Automotive Glass Alliance Rus Trading OOO	RA		
Çayırova Cam Sanayii A.Ş.	CY	Sisecam Flat Glass Italy S.R.L.	SI		
Cam Elyaf Sanayii A.Ş.	CE	Richard Fritz Holding GmbH	FO		
		Richard Fritz Prototype + Spare Parts GmbH	FP		
		Richard Fritz Spol, S.R.O.	FS		
		Richard Fritz Kft	FK		
		Sisecam Flat Glass India Private Limited	HD		
		Sisecam Flat Glass South Italy S.R.L.	FI		
		Çayırova Cam Sanayii A.Ş.	CY		
		Saint Gobain Glass Egypt S.A.E.	EF		
		Camış Elektrik Üretim A.Ş.	EU		

Source: Şişecam Management

Matters to be Considered

Matters Regarding the Valuation Study (2/6)

Company Abbreviations (cont'd)

In our Report, company abbreviations have been used for the Companies to Merge, their subsidiaries and affiliates.

While mentioning the Companies to Merge on a **consolidated** basis, “SISE”, “TRKCM”, “ANACM”, “PASAB”, “DENCM” and “SODA” abbreviations have been used. While mentioning the Companies to Merge on a **stand-alone** basis, **the two-letter company codes** of companies assigned by Şişecam have been used. The following tables list the abbreviations used for the Companies to Merge, their subsidiaries and affiliates.

PASAB		DENCM		SODA	
Company	Company Code	Company	Company Code	Company	Company Code
Paşabahçe Cam Sanayii ve Tic. A.Ş. (Solo)	PB	Denizli Cam Sanayii ve Tic. A.Ş.	DC	Soda Sanayii A.Ş. (Solo)	SS
Pasabahçe Bulgaria EAD	BP			Şişecam Elyaf Sanayii A.Ş.	ES
OOO Posuda	PR			Oxyvit Kimya Sanayii Ve Tic. A.Ş.	OX
Denizli Cam Sanayii ve Tic. A.Ş.	DC			Sisecam Chem Investment B.V.	HC
Paşabahçe Egypt Glass Manufacturing S.A.E.	EG			Sisecam Bulgaria EOOD	BL
Paşabahçe Mağazaları A.Ş.	PS			Sisecam Soda Lukavac D.O.O.	SL
Pasabahçe Srl	PI			Cromital S.p.A	CO
Pasabahçe (Shanghai) Trading Co. Ltd.	PT			Sisecam Trading Co.	ST
Pasabahçe Spain SL	SP			Sisecam Chemicals USA Plc.	UC
Pasabahçe Glass GmbH	PG			Pasific Soda LLC	UP
Pasabahçe USA Inc.	PA			Solvay Sisecam Holding AG	SH
Pasabahçe Investment B.V.	PH				
Istanbul Investment B.V.	II				
Nude Design Investment B.V.	ND				
Nude Glass Investment B.V.	NG				

Source: Şişecam Management

Matters to be Considered

Matters Regarding the Valuation Study (3/6)

Adjustments in the Historical Financial Statements

The historical financial statements for 2017-2019 period of Companies to Merge used in the valuation study have been analysed and were taken into consideration in the valuation study after necessary adjustments. Adjustments on historical financial statements are classified as following:

- **EBITDA Adjustments:**

Operational profit/loss (EBIT) is defined as;

“Gross Profit from Operations” + “Operating Expenses” + “Other Operational Income / Expense”

Reported EBITDA;

“EBIT” + “Depreciation and Amortization (+)”

As part of EBITDA adjustments, where identified, non-operational / financial income / expenses were separated from the items classified under "Other Operational Income / Expense". In addition, income / expense items that are operational but are one-off and are not expected to continue during the projection period were not taken into account in the valuation study.

TL m		Reported EBITDA	Adjusted EBITDA	Difference	Main Reasons of the Difference
SISE	Consolidated	4,206	4,107	(99)	Income/Expense Adjustments & Consolidation Eliminations
TRKCM	Consolidated	1,304	1,299	(5)	Income/Expense Adjustments
ANACM	Consolidated	1,129	1,118	(11)	Income/Expense Adjustments
PASAB	Consolidated	427	373	(55)	Income/Expense Adjustments & TFRS 16 Adjustment
DENCM	Solo	7	7	0	-
SODA	Consolidated	1,073	1,071	(2)	Income/Expense Adjustments

- **Net Working Capital Adjustments:** The financial statements of the Companies to Merge are analyzed, and balances which are classified within the reported working capital items but are not directly related to the operations are adjusted in net working capital calculation and included in the net debt calculation.
- **Net Debt Adjustments:** These adjustments mainly refer to the asset/liability balances which are reclassified and adjusted from the working capital calculation. These balances have been taken into consideration in the net cash / debt position when calculating the total equity values of the Companies to Merge.

Matters to be Considered

Matters Regarding the Valuation Study (4/6)

Tax Assets

Within the scope of the Income Approach, it is understood that in the valuation studies carried out for the Companies to Merge, their subsidiaries and affiliates; the tax benefits that the companies are entitled to as of the Valuation Date can be qualified as "tax assets" and categorized under 3 groups:

- Previous year financial losses deductible from corporate tax base
- Corporate tax deduction incentive resulting from investments made within the scope of the Decision on State Aid in Investments No. 2012/3305
- R&D discount incentives that SC can benefit from within its own R&D center activities within the scope of Law No. 5746 on Supporting R&D and Design Activities

Within the scope of the valuation study, projections have been made according to the information provided by the management, regarding how the tax assets, which will cause a decrease in the taxable base, can be utilized in the projection period. In the projections, the estimates of companies from the EBIT level to the profit before tax level have been calculated by the information obtained from the management and by taking into account the tax base formed over the years. Calculated tax savings have been discounted with cost of equity forecasts to estimate the value of tax assets. Local tax regulations in the countries where companies operate (outside Turkey) are taken into consideration within the scope of the information provided by the relevant company management. Information on the amount and content of the incentives leading to tax assets are shared in the relevant Report sections for the Companies to Merge.

Matters to be Considered

Matters Regarding the Valuation Study (5/6)

Dividend Payments	Within the scope of the study, dividend distribution decisions taken by the Companies to Merge at their general assemblies as of the report date were taken into consideration in the calculation of the total equity value. According to the announcements made by the relevant companies to Public Disclosure Platform, it is understood that the dividend payments will be made on 02.06.2020. Accordingly, the net effect of dividend payments and dividend income of the Companies to Merge is included in the calculation as equity value adjustment.
Valuation of Investment Purposed Properties	Each year, the fair value of the real estate properties classified as investments estimated by independent valuation companies authorized by the CMB. Within the scope of the study, fair values calculated for such investments by "Harmoni Gayrimenkul ve Danışmanlık A.Ş." were taken into consideration as of 31 December 2019, and these values are assumed to reflect the market value as of 31 December 2019. <i>The accuracy of the valuation studies for investment properties has not been reviewed by PwC. For this reason, PwC does not accept any responsibility for the conclusions made in the relevant studies. Details of the investment properties are presented in the "Appendix" section of the Report.</i>
Discount Rate	<p><i>Weighted Average Cost of Capital ("WACC") is used as the discount rate in the calculation of the DCF within the scope of the Income Approach. WACC has been estimated specifically for each company and in the relevant valuation currency.</i></p> <p>Calculation of 'Risk Free Rate (RFR)', which is an important component of WACC, was performed with the 'indirect' approach. The RFR calculation takes into account the 30-year USA treasury bond yield as the base rate of return. In the indirect approach, the "country risk premium" calculated according to the regions in which the companies operate, and the expected inflation rate difference between the valuation currency and \$ constitute other important parts of RFR. Due to the fact that inflation forecasts change over the years, RFR and therefore estimated WACC rates are also expected to change during the business plan period.</p> <p>The RFR calculation method is explained in detail in the Appendix section of the Report.</p>
Holding Companies / Non-operating Companies	Companies to Merge also own subsidiaries and affiliates that are holding companies and non-operating companies. <i>Net Asset Approach has been adopted in the valuation study of relevant Companies, as DCF method used in the Income Approach is not suitable for these companies.</i>

Matters to be Considered

Matters Regarding the Valuation Study (6/6)

Macroeconomic Assumptions

The macroeconomic assumptions used in the study are grouped under: Inflation rates and exchange rates.

For the 2020-2025 projection period, inflation expectations for countries are based on the *IMF's most recent WEO database (April 2020) as of the report date. Particularly for years 2020-2021, IMF WEO inflation estimations have been used. Forecasts between 2022-2025 also take into account historical data as well as publicly available forecasts.*

While estimating the exchange rates for the projection period, the "Fisher Method" was applied and it was assumed that the change in the exchange rates at the end of the period will vary by the difference between the two currencies' year-end inflation rate expectations. Similar to inflation expectations, for the parities that showed sharp fluctuations in 2020, the first 3 months realizations and April data were analyzed and the year-end and annual parities were estimated independent of the Fisher Method based on market sentiment. In this context, the aforementioned approach was applied in the estimation of the exchange rate of currencies USD, EUR, RUB, CNY, GEL and INR against TL. Fisher Method was effectively used For the period between 2021-2025.

Detailed information on macroeconomic assumptions is provided in the "Appendix" section of the Report.

Investments Accounted for Using the Equity Method

The affiliates of the Companies to Merge that are accounted for using the equity method as of 31 December 2019 were assessed in terms of their operations and cash flow generation potential in the future. Based on that assessment, DCF method or Net Asset Approach were adopted for the valuation of these affiliates and their estimated equity values were taken into account for the total equity values of the Companies to Merge.

SISE		TRKCM		ANACM		SODA	
Company	Company Code	Company	Company Code	Company	Company Code	Company	Company Code
Saint Gobain Glass Egypt S.A.E	EF	Saint Gobain Glass Egypt S.A.E	EF	Camiş Elektrik Üretim A.Ş.*	EU	Pacific Soda LLC	UP
Rudnik Krechnjaka Vijenac D.O.O. VM		Camiş Elektrik Üretim A.Ş.*	EU			Solvay Şişecam Holding AG	SH
Pacific Soda LLC	UP	Çayirova Cam Sanayii A.Ş.*	CY				
Solvay Şişecam Holding AG	SH						

Source: Şişecam Management

(*) Companies which are 100% consolidated on SISE level

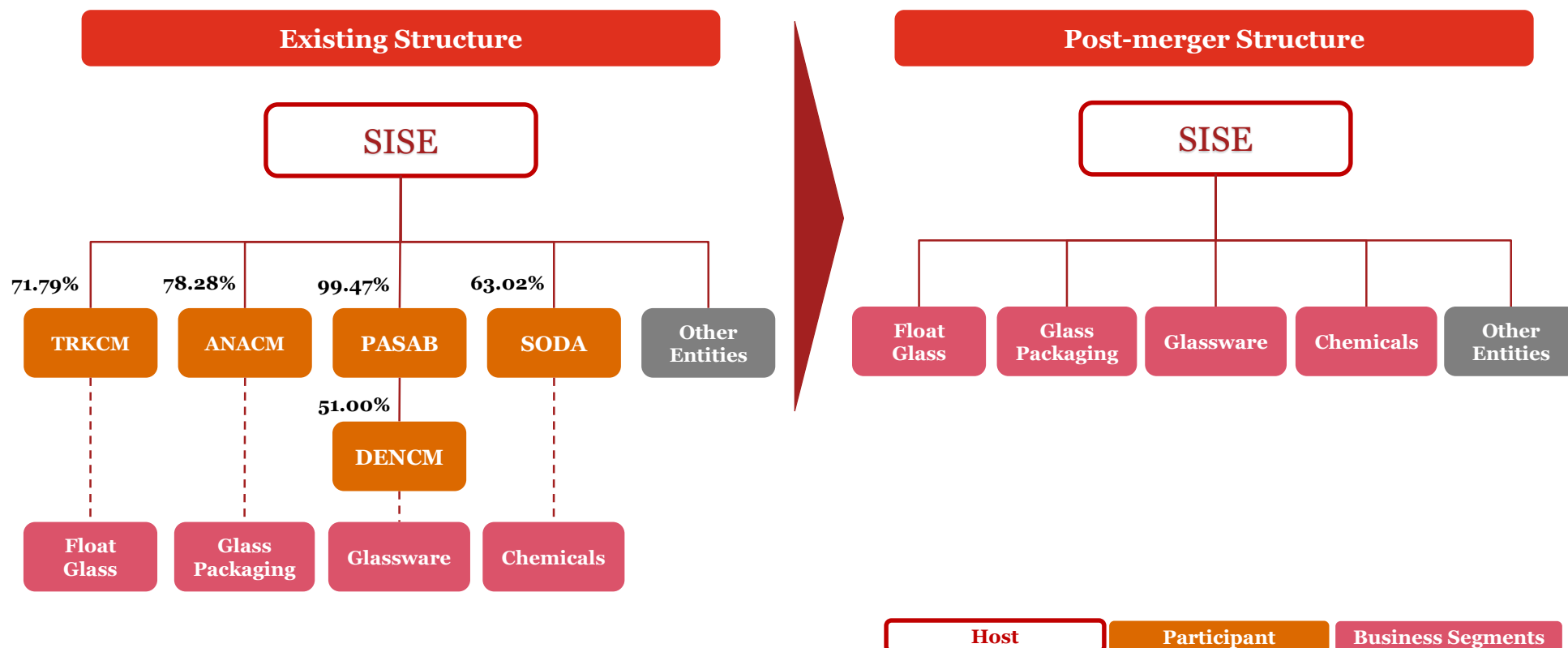
Executive Summary

Aim of the Study

The aim of the study is to prepare the **Independent Expert Report** for the determination of the appropriate merger and share swap ratios, in accordance with the CMB's Communiqué on Merger and Demerger, regarding the merger of TRKCM, ANACM, PASAB, DENCM and SODA ("Participants") under SISE ("Host") (all collectively referred to as "Companies to Merge").

SISE Shareholding Structure	Share
Türkiye İş Bankası	69.05%
Efes Holding A.Ş.	8.23%
Other (Publicly Listed Shares)	22.72%

SISE Shareholding Structure	Share
Türkiye İş Bankası	?%
Efes Holding A.Ş.	?%
Other (Publicly Listed Shares)	?%



Source: Şişecam Management

Existing Shareholding Structure

As of Report date, the current existing shareholding structures of the Companies to Merge have been used for the calculation of merger and share swap ratios. All shares except the shares of the host company (SISE) will be taken into consideration in the merger.

TL m	Host		Participant		Participant		Participant		Participant		Participant	
	SISE		TRKCM		ANACM		PASAB		DENCM		SODA	
	Paid Capital	Ratio	Paid Capital	Ratio	Paid Capital	Ratio	Paid Capital	Ratio	Paid Capital	Ratio	Paid Capital	Ratio
Türkiye İş Bankası AŞ	1,554	69.05%										
Türkiye Şişe ve Cam Fabrikaları AŞ			897	71.79%	587	78.28%	223	99.47%			630	63.02%
Paşabahçe Cam San ve Tic AŞ									8	51.00%		
Efes Holding AŞ	185	8.23%										
Other (Publicly Listed Shares)	511	22.72%	353	28.21%	163	21.72%			7	49.00%	370	36.98%
The Islamic Development Bank							1	0.53%				
Total	2,250	100.00%	1,250	100.00%	750	100.00%	224	100.00%	15	100.00%	1,000	100.00%
Shares Subject to the Merger	2,250	100.00%	353	28.21%	163	21.72%	1	0.53%	7	49.00%	370	36.98%
Shares of SISE	-	-	897	71.79%	587	78.28%	223	99.47%	8	51.00%	630	63.02%

Source: Company Management, PwC Analysis

Merger Ratio

The equity values of the Companies to Merge have been calculated by using 4 different valuation methods. The merger ratios were calculated based on the portion of the equity values corresponding to the shares subject to the merger, obtained from the valuation methods.

Equity Value (TL m)	Income Approach	Market Approach	Net Asset Approach	Stock Market Value
SISE	21,009	22,006	14,480	11,461
TRKCM	8,178	7,764	6,275	3,794
ANACM	6,850	8,245	2,684	2,382
PASAB	405	1,175	2,193	252
DENCM	11	23	65	83
SODA	12,074	11,158	5,497	6,294

Merger Ratio (TL m)	Equity Value	Merger Ratio	Equity Value	Merger Ratio	Equity Value	Merger Ratio	Equity Value	Merger Ratio
SISE (*)	21,009	71.92%	22,006	73.23%	14,480	76.58%	11,461	74.44%
TRKCM	2,307	7.90%	2,190	7.29%	1,770	9.36%	1,070	6.95%
ANACM (*)	1,422	4.87%	1,712	5.70%	583	3.08%	495	3.21%
PASAB	2	0.01%	6	0.02%	12	0.06%	1	0.01%
DENCM	5	0.02%	11	0.04%	32	0.17%	41	0.26%
SODA	4,466	15.29%	4,127	13.73%	2,033	10.75%	2,328	15.12%
Total	29,212	100.00%	30,052	100.00%	18,910	100.00%	15,396	100.00%

Source: Company Management, PwC Analysis





Sample Calculation (*)

TL m	Income Approach	Shares Subject to the Merger	Equity Value Subject to the Merger
SISE	21,009	100.00%	21,009
TRKCM	8,178	28.21%	2,307
ANACM	6,850	21.72%	1,488
ANACM Group B Share Adjustment			(65)
PASAB	405	0.53%	2
DENCM	11	49.00%	5
SODA	12,074	36.98%	4,466
Total			29,212

(*) Since the group B shares of ANACM owned by SISE are privileged, the share of SISE in the total equity value of ANACM is higher than its own ownership rate. The reason for this is the difference in value between the privileged group B shares owned by SISE and the group A shares. This difference in value arises from the privileged right of the Group B shares to receive higher dividend than the group A shares. Therefore, there is a transition between the equity value of SISE's share in ANACM and the equity value of ANACM shareholders other than SISE. The adjustment amount differs for each valuation method. Detailed explanation is provided in the ANACM section of the Report.

Merger Method and the Rationale





As part of the Valuation Assessment, **4** methods have been performed for Companies to Merge. In order to determine the Merger Method; Income Approach, Market Approach, Net Asset Approach and Stock Market Value has been weighted **30%**, **30%**, **20%** and **20%** respectively.

Valuation Methods	Weight	The Rationale for the Merger Method
Income Approach 	30%	<ul style="list-style-type: none"> Income Approach has been given 30% weight due to the fact that it reflects the expected cash generating potential of the Companies to Merge better, it takes into account the effect of COVID-19 and as it also captures the impact from new investment projects.
Market Approach 	30%	<ul style="list-style-type: none"> There are many publicly listed competitors with similar operational and financial structure as Companies to Merge. Market Approach has been given a 30% weight, similar to Income Approach, since market approach results are deemed to represent meaningful sector multiples.
Net Asset Approach 	20%	<ul style="list-style-type: none"> The Net Asset Approach is taken into consideration, as the Companies to Merge carry out capital intensive operations. However, given this method's inability to capture future returns, Net Asset Approach has only been given 20% weight.
Stock Market Value 	20%	<ul style="list-style-type: none"> Considering that the Companies to Merge are publicly listed, are included in BIST30-50 Indices, with considerable liquidity & transaction volume performance and high profile institutional investors, the Stock Market Value based on the weighted average stock market price for the trailing 12 months going back from the merger announcement date has also been taken into account. On the other hand, the Stock Market Value has been given 20% weight since the historical prices do not reflect recent developments.

Source: PwC Analysis

Merger Ratio and Share Capital Based on the Merger Method

We are of the opinion that the merger ratio for SISE, TRKCM, ANACM, PASAB, DENCM and SODA estimated by the Merger Method is **fair and reasonable**.

Valuation Methods	Weight	Merger Ratio	Paid Capital After the Merger	Increase in Paid Capital
Income Approach 	30%	71.92%	3,128 TL m	878 TL m
Market Approach 	30%	73.23%	3,073 TL m	823 TL m
Net Asset Approach 	20%	76.58%	2,938 TL m	688 TL m
Stock Market Value 	20%	74.44%	3,022 TL m	772 TL m
Merger Method	100%	73.43%	3,064 TL m	814 TL m

Source: PwC Analysis

Swap Ratios

The share swap ratio between the shares of Participants the shares of the Host, SISE, has been estimated by considering **fair and reasonable** merger ratio.

TL m	Income Approach		Market Approach		Net Asset Approach		Stock Market Value		Final Merger Method	
	Paid Capital	Ratio	Paid Capital	Ratio	Paid Capital	Ratio	Paid Capital	Ratio	Paid Capital	Ratio
SISE	2,250	1.00000	2,250	1.00000	2,250	1.00000	2,250	1.00000	2,250	1.00000
TRKCM	247	0.70070	224	0.63506	275	0.77999	210	0.59581	238	0.67615
ANACM	152	0.93516	175	1.07459	91	0.55603	97	0.59609	144	0.88239
PASAB	0	0.19338	1	0.53609	2	1.52016	0	0.22047	1	0.53423
DENCM	1	0.07725	1	0.15826	5	0.67700	8	1.08823	2	0.33089
SODA	478	1.29307	422	1.14081	316	0.85413	457	1.23560	429	1.15997
Total	3,128		3,073		2,938		3,022		3,064	

Source: PwC Analysis

- The shareholders of **SISE** that will participate in the merger will get **1.00000 SISE share post-merger** for **1 SISE share** based on the Merger Method.
- The shareholders of **TRKCM** that will participate in the merger will get **0.67615 SISE share post-merger** for **1 TRKCM share** based on the Merger Method.
- The shareholders of **ANACM** that will participate in the merger will get **0.88239 SISE share post-merger** for **1 ANACM share** based on the Merger Method.
- The shareholders of **PASAB** that will participate in the merger will get **0.53423 SISE share post-merger** for **1 PASAB share** based on the Merger Method.
- The shareholders of **DENCM** that will participate in the merger will get **0.33089 SISE share post-merger** for **1 DENCM share** based on the Merger Method.
- The shareholders of **SODA** that will participate in the merger will get **1.15997 SISE share post-merger** for **1 SODA share** based on the Merger Method.

Shareholding Structure After the Merger

SISE's shareholding structure after the merger is presented below, considering the share swap ratio estimates as per the Merger Method and share capital to be reached.

TL m	Income Approach		Market Approach		Net Asset Approach		Stock Market Value		Final Merger Method	
	Paid Capital	Ratio	Paid Capital	Ratio	Paid Capital	Ratio	Paid Capital	Ratio	Paid Capital	Ratio
Türkiye İş Bankası AŞ	1,554	49.66%	1,554	50.56%	1,554	52.88%	1,554	51.40%	1,554	50.70%
Other (Publicly Listed Shares)	1,389	44.41%	1,333	43.39%	1,198	40.76%	1,283	42.46%	1,325	43.24%
Efes Holding AŞ	185	5.92%	185	6.02%	185	6.30%	185	6.12%	185	6.04%
The Islamic Development Bank	0	0.01%	1	0.02%	2	0.06%	0	0.01%	1	0.02%
Total	3,128	100.00%	3,073	100.00%	2,938	100.00%	3,022	100.00%	3,064	100.00%

Source: PwC Analysis

Merger and Swap Ratios TRKCM

The shareholders of TRKCM that will participate in the merger will get **0.67615 SISE shares post-merger** for 1 TRKCM share based on the Merger Method.

TL m	Status	Paid Capital (*)	Stock Value	Merger Ratio	Swap Ratio
SISE	Acquirer	2,250 A1	18,093 A2	73.43%	1.00000
TRKCM	Acquired	353 B1	1,917 B2	7.78%	0.67615
ANACM	Acquired	163 C1	1,156 C2	4.69%	0.88239
PASAB	Acquired	1 D1	5 D2	0.02%	0.53423
DENCM	Acquired	7 E1	20 E2	0.08%	0.33089
SODA	Acquired	370 F1	3,450 F2	14.00%	1.15997
Total			24,640	100.00%	

	Formula	Calculation (TL m)
Merger Ratio (G)	$\frac{A2}{A2 + B2 + C2 + D2 + E2 + F2}$	$\frac{18,093}{24,640} = 73.43\%$
Share Capital After the Merger (H)	$\frac{A1}{G}$	$\frac{2,250}{73.4\%} = 3,064$
Increase in Share Capital (J)	$H - A1$	$3,064 - 2,250 = 814$
Merger Ratio (TRKCM)	$\frac{B2}{A2 + B2 + C2 + D2 + E2 + F2}$	$\frac{1,917}{24,640} = 7.78\%$
Share Swap Ratio (TRKCM)	$\frac{H * \text{Merger Ratio (TRKCM)}}{B1}$	$\frac{3,064 * 7.78\%}{353} = 0.67615$

Source: The Company Management, PwC Analysis

(*) Paid Capital of Shares Subject to Merger

Merger and Swap Ratios ANACM

The shareholders of ANACM that will participate in the merger will get **0.88239 SISE shares post-merger** for 1 ANACM share based on the Merger Method.

TL m	Status	Paid Capital (*)	Stock Value	Merger Ratio	Swap Ratio
SISE	Acquirer	2,250 A1	18,093 A2	73.43%	1.00000
TRKCM	Acquired	353 B1	1,917 B2	7.78%	0.67615
ANACM	Acquired	163 C1	1,156 C2	4.69%	0.88239
PASAB	Acquired	1 D1	5 D2	0.02%	0.53423
DENCM	Acquired	7 E1	20 E2	0.08%	0.33089
SODA	Acquired	370 F1	3,450 F2	14.00%	1.15997
Total			24,640	100.00%	

	Formula	Calculation (TL m)
Merger Ratio (G)	$\frac{A2}{A2 + B2 + C2 + D2 + E2 + F2}$	$\frac{18,093}{24,640} = 73.43\%$
Share Capital After the Merger (H)	$\frac{A1}{G}$	$\frac{2,250}{73.4\%} = 3,064$
Increase in Share Capital (J)	$H - A1$	$3,064 - 2,250 = 814$
Merger Ratio (ANACM)	$\frac{C2}{A2 + B2 + C2 + D2 + E2 + F2}$	$\frac{1,156}{24,640} = 4.69\%$
Share Swap Ratio (ANACM)	$\frac{H * \text{Merger Ratio (ANACM)}}{C1}$	$\frac{3,064 * 4.69\%}{163} = 0.88239$

Source: The Company Management, PwC Analysis

(*) Paid Capital of Shares Subject to Merger

Merger and Swap Ratios PASAB

The shareholders of PASAB that will participate in the merger will get **0.53423 SISE shares post-merger** for 1 PASAB share based on the Merger Method.

TL m	Status	Paid Capital (*)	Stock Value	Merger Ratio	Swap Ratio
SISE	Acquirer	2,250 A1	18,093 A2	73.43%	1.00000
TRKCM	Acquired	353 B1	1,917 B2	7.78%	0.67615
ANACM	Acquired	163 C1	1,156 C2	4.69%	0.88239
PASAB	Acquired	1 D1	5 D2	0.02%	0.53423
DENCM	Acquired	7 E1	20 E2	0.08%	0.33089
SODA	Acquired	370 F1	3,450 F2	14.00%	1.15997
Total			24,640	100.00%	

	Formula	Calculation (TL m)
Merger Ratio (G)	$\frac{A2}{A2 + B2 + C2 + D2 + E2 + F2}$	$\frac{18,093}{24,640} = 73.43\%$
Share Capital After the Merger (H)	$\frac{A1}{G}$	$\frac{2,250}{73.4\%} = 3,064$
Increase in Share Capital (J)	$H - A1$	$3,064 - 2,250 = 814$
Merger Ratio (PASAB)	$\frac{D2}{A2 + B2 + C2 + D2 + E2 + F2}$	$\frac{5}{24,640} = 0.02\%$
Share Swap Ratio (PASAB)	$\frac{H * \text{Merger Ratio (PASAB)}}{D1}$	$\frac{3,064 * 0.02\%}{1} = 0.53423$

Source: The Company Management, PwC Analysis

(*) Paid Capital of Shares Subject to Merger

Merger and Swap Ratios DENCM

The shareholders of DENCM that will participate in the merger will **get 0.33089 SISE shares post-merger** for 1 DENCM share based on the Merger Method.

TL m	Status	Paid Capital (*)	Stock Value	Merger Ratio	Swap Ratio
SISE	Acquirer	2,250 A1	18,093 A2	73.43%	1.00000
TRKCM	Acquired	353 B1	1,917 B2	7.78%	0.67615
ANACM	Acquired	163 C1	1,156 C2	4.69%	0.88239
PASAB	Acquired	1 D1	5 D2	0.02%	0.53423
DENCM	Acquired	7 E1	20 E2	0.08%	0.33089
SODA	Acquired	370 F1	3,450 F2	14.00%	1.15997
Total			24,640	100.00%	

	Formula	Calculation (TL m)
Merger Ratio (G)	$\frac{A2}{A2 + B2 + C2 + D2 + E2 + F2}$	$\frac{18,093}{24,640} = 73.43\%$
Share Capital After the Merger (H)	$\frac{A1}{G}$	$\frac{2,250}{73.4\%} = 3,064$
Increase in Share Capital (J)	$H - A1$	$3,064 - 2,250 = 814$
Merger Ratio (DENCM)	$\frac{E2}{A2 + B2 + C2 + D2 + E2 + F2}$	$\frac{20}{24,640} = 0.08\%$
Share Swap Ratio (DENCM)	$\frac{H * \text{Merger Ratio (DENCM)}}{E1}$	$\frac{3,064 * 0.08\%}{7} = 0.33089$

Source: The Company Management, PwC Analysis

(*) Paid Capital of Shares Subject to Merger

Merger and Swap Ratios SODA

The shareholders of SODA that will participate in the merger will get **1.15997 SISE shares post-merger** for 1 SODA share based on the Merger Method.

TL m	Status	Paid Capital (*)	Stock Value	Merger Ratio	Swap Ratio
SISE	Acquirer	2,250 A1	18,093 A2	73.43%	1.00000
TRKCM	Acquired	353 B1	1,917 B2	7.78%	0.67615
ANACM	Acquired	163 C1	1,156 C2	4.69%	0.88239
PASAB	Acquired	1 D1	5 D2	0.02%	0.53423
DENCM	Acquired	7 E1	20 E2	0.08%	0.33089
SODA	Acquired	370 F1	3,450 F2	14.00%	1.15997
Total			24,640	100.00%	

	Formula	Calculation (TL m)
Merger Ratio (G)	$\frac{A2}{A2 + B2 + C2 + D2 + E2 + F2}$	$\frac{18,093}{24,640} = 73.43\%$
Share Capital After the Merger (H)	$\frac{A1}{G}$	$\frac{2,250}{\%73.4} = 3,064$
Increase in Share Capital (J)	$H - A1$	$3,064 - 2,250 = 814$
Merger Ratio (SODA)	$\frac{F2}{A2 + B2 + C2 + D2 + E2 + F2}$	$\frac{3,450}{24,640} = 14.00\%$
Share Swap Ratio (SODA)	$\frac{H * \text{Merger Ratio (SODA)}}{F1}$	$\frac{3,064 * 14.00\%}{370} = 1.15997$

Source: The Company Management, PwC Analysis

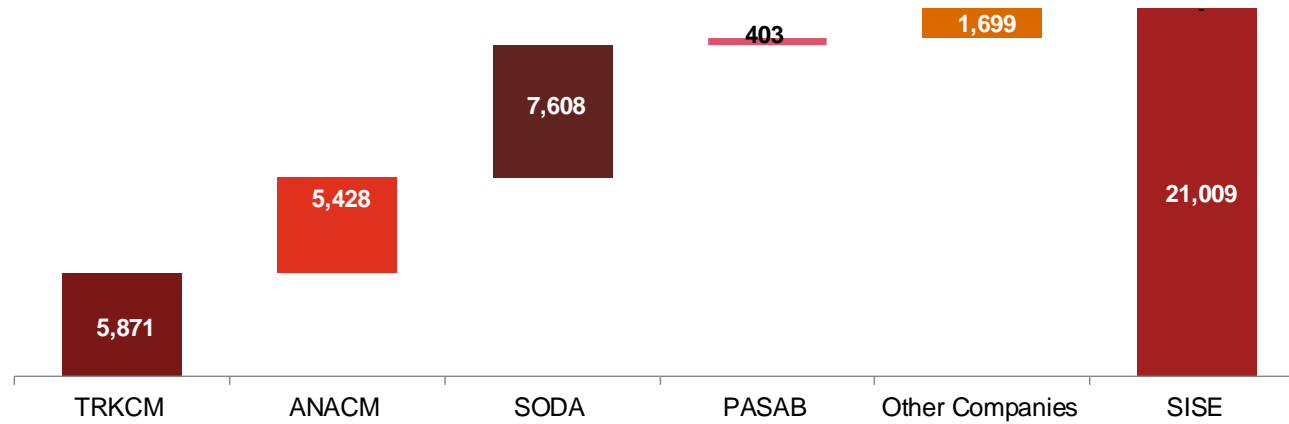
(*) Paid Capital of Shares Subject to Merger

SISE

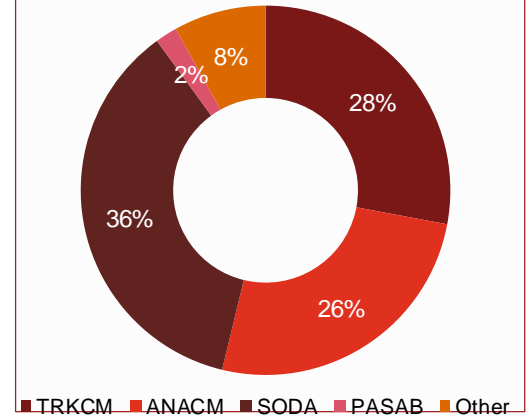
Income Approach

Based on the Income Approach, the total equity value of SISE is estimated to be **TL 21.0bn** as of the valuation date.

Total Equity Value (TL m)



Breakdown of Equity Value



TL m	Main Business Segments				Other Companies												CE,CY, HG*	Total
	TRKCM	ANACM	SODA	PASAB	SC	MD	CA	EU	SE	DT	CV	MT	SG	VM	ME			
Enterprise Value	9,202	8,736	8,190	1,705	565	433	141	43	70	51	22	15	14	9	3	-	29,198	
Net Cash/(Debt)					(807)	107	(4)	42	1	16	26	2	6	-	1	-	(610)	
Investment Properties					302	-	-	-	-	-	-	-	-	-	-	-	302	
Tax Related Assets					43	14	-	-	-	4	2	-	-	-	-	-	62	
Dividend Payment (-)					(320)	-	-	-	-	-	-	-	(3)	-	-	-	(323)	
Dividend Income (+)					386	-	-	-	-	-	-	-	-	-	-	-	386	
Equity Value	8,178	6,850	12,074	405	170	553	137	85	71	71	50	17	17	9	4	864	29,556	
Effective Shareholding Percentage	71.8%	78.3%	63.0%	99.5%	100.0%	100.0%	100.0%	39.5%	100.0%	100.0%	90.0%	100.0%	100.0%	50.0%	99.7%	0.0%	0.0%	
ANACM Group B Share Value Difference**	-	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	
Equity Value - SISE	5,871	5,428	7,608	403	170	553	137	34	71	71	45	17	17	5	4	576	21,009	

*The equity values of CE, CY and HG are estimated based on Net Asset Approach

** For details, please see the calculation of the share value difference between ANACM stock groups on pages 152, 153 and 154.

Source: Holding Management, PwC Analysis

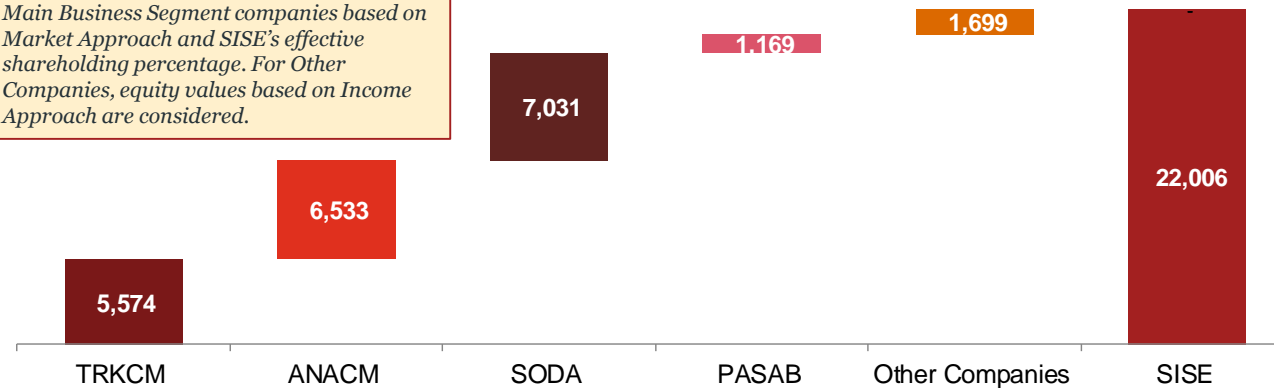
SISE

Market Approach

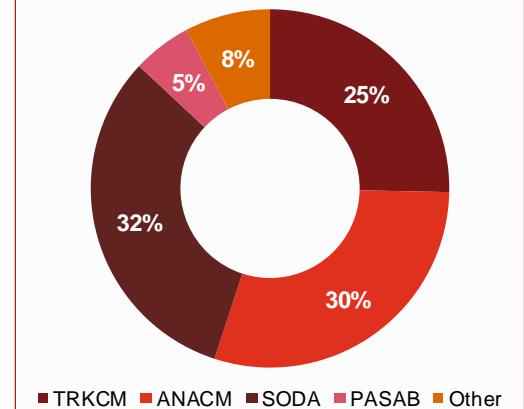
Based on the Market Approach, the total equity value of SISE is estimated to be **TL 22.0bn** as of the valuation date.

Total Equity Value (TL m)

For the estimation of SISE's market value "Sum of the Parts" method is performed by multiplying the estimated equity values of Main Business Segment companies based on Market Approach and SISE's effective shareholding percentage. For Other Companies, equity values based on Income Approach are considered.



Breakdown of Equity Value



TL m	Main Business Segments				Other Companies												CE, CY, HG*	Total
	TRKCM	ANACM	SODA	PASAB	SC	MD	CA	EU	SE	DT	CV	MT	SG	VM	ME			
Enterprise Value	8,787	10,058	7,274	2,475	565	433	141	43	70	51	22	15	14	9	3	-	29,960	
Net Cash/(Debt)					(807)	107	(4)	42	1	16	26	2	6	-	1	-	(610)	
Investment Properties					302	-	-	-	-	-	-	-	-	-	-	-	302	
Tax Related Assets					43	14	-	-	-	4	2	-	-	-	-	-	62	
Dividend Payment (-)					(320)	-	-	-	-	-	-	-	(3)	-	-	-	(323)	
Dividend Income (+)					386	-	-	-	-	-	-	-	-	-	-	-	386	
Equity Value	7,764	8,245	11,158	1,175	170	553	137	85	71	71	50	17	17	9	4	864	30,390	
Effective Shareholding Percentage	71.8%	78.3%	63.0%	99.5%	100.0%	100.0%	100.0%	39.5%	100.0%	100.0%	90.0%	100.0%	100.0%	50.0%	99.7%	0.0%	0.0%	
ANACM Group B Share Value Difference**	-	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	
Equity Value - SISE	5,574	6,533	7,031	1,169	170	553	137	34	71	71	45	17	17	5	4	576	22,006	

*The equity values of CE, CY and HG are estimated based on Net Asset Approach

** For details, please see the calculation of the share value difference between ANACM stock groups on pages 152, 153 and 154.

Source: Holding Management, PwC Analysis

SISE

Net Asset Approach

Based on the Net Asset Approach, the total equity value of SISE is estimated to be **TL 14.5bn** as of the valuation date.

TL m	31.12.2019
Paid Capital	2,250
Adjustment to Share Capital Differences	181
Share Premiums (Discount)	1
Accumulated Other Comprehensive Income/(Expense)	2,092
Accumulated Other Comprehensive Income that may be Reclassified to Profit or Loss	2,286
<i>Currency Translation Differences</i>	2,279
<i>Hedging gains (losses)</i>	5
<i>Gains/(Losses) on Revaluation and Reclassification</i>	2
Restricted Reserves	188
Retained Earnings	5,721
Net Profit or (Loss) for the Period	1,905
Non-Controlling Interests	4,511
Total Equity	19,133
1 Adjustment for Non-Controlling Interests	(4,511)
2 Dividend Adjustment, net*	(324)
3 Other Net Asset Value Adjustments	181
a CY Net Asset Adjustment	6
b CE Net Asset Adjustment	176
Net Asset Value	14,480

- a. Value adjustments related with the profit and tax liabilities after the sale of certain real estates in January 2020
- b. Value adjustments related with fair values of precious metals

*Represents the net effect of dividend adjustments at the consolidated level for SISE. The dividend payments of the subsidiaries are netted off in the consolidated SISE financial statements. The net TL 324m represents the dividend SISE will pay to its shareholders outside the group (TL 320m) and stoppage that will be paid for dividend income from RD (Effective stoppage deduction at SISE level: TL 4m).

Source: Holding Management, PwC Analysis

1 Sermaye Piyasasında Finansal Raporlamaya İlişkin Esaslar Tebliği

The breakdown of the consolidated shareholders equity for SISE, which is prepared in accordance with the CMB's "Principles of Financial Reporting in Capital Markets¹", in line with Turkish Accounting Standards and Turkish Financial Reporting Standards and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. is presented in the adjacent table.

It has been assumed that the shareholders equity that is present in the consolidated and audited 31.12.2019 balance sheet of SISE is an accurate representation of the equity value of the company, for purposes of Net Asset Approach.

The consolidated shareholders equity of SISE as of 31.12.2019 is TL 19,133m, the Net Asset Value is calculated as **TL 14,480m** after the adjustments considered.

1 Adjustment for Non-Controlling Interests:

The non-controlling interests that are presented as part of the consolidated shareholders equity are excluded from the consideration as part of the Net Asset Approach.

2 Dividend Adjustment:

The figure represents the net dividend payment of SISE that is due after 31.12.2019. Net dividend adjustment is included in our assessment with respect to its effect on the net asset value of SISE.

3 Other Net Asset Value Adjustments

CY and CE are included in SISE's financial statements according to full consolidation method.

The equity values of CY and CE is estimated based on Net Asset Approach. Adjustments made to related companies within the scope of Net Asset Approach as of 31.12.2019 are taken into consideration at the consolidated Net Asset Approach level of SISE.

SISE

Stock Market Value

The Stock Market Value for SISE has been based on the weighted average stock market price of the trailing 12 months going back from the merger announcement date, 30.01.2020. The total equity value of SISE estimated from this method is **TL 11.5bn.**

Stock Price and Transaction Volume

Stock Price (TL/lot)
8.00



Source: CapitalIQ, PwC Analysis

Transaction Volume (TL m)

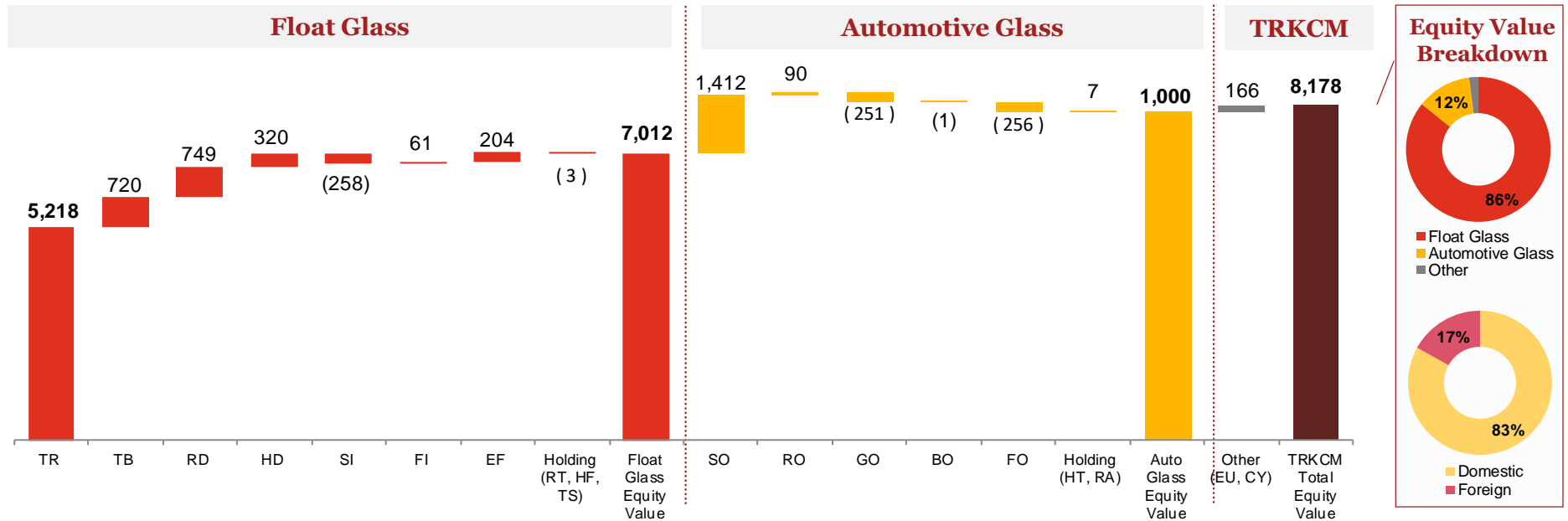
Weighted Avg. Price (TL/lot)

TRKCM

Income Approach

Based on the Income Approach, the total equity value of TRKCM is estimated to be **TL 8.2bn** as of the valuation date.

Total Equity Value (TL m)



TL m	TR	TB	RD	HD	SI	FI	EF	Holding (RT, HF, TS)	Total Float Glass	SO	RO	GO	BO	Fritz (EU, CY)	Holding (HT, RA)	Total Automotive Glass	Other (EU, CY)	Total TRKCM
Enterprise Value	4,977	1,341	840	225	(85)	226	-	-	7,524	1,147	166	172	299	145	-	1,929	-	9,454
Net Cash/(Debt)	143	(620)	377	89	(174)	(174)	-	-	(359)	264	(76)	(424)	(301)	(430)	-	(965)	-	(1,324)
Tax Related Assets	119	-	2	6	-	9	-	-	136	0	0	-	1	0	-	2	-	138
Investment Properties	1	-	-	-	-	-	-	-	1	-	-	-	-	28	-	28	-	28
Dividend Payment (-)	(130)	-	(148)	-	-	-	-	-	(278)	-	-	-	-	-	-	-	-	(278)
Dividend Income (+)	108	-	-	-	-	-	-	-	108	-	-	-	-	-	-	-	-	108
Equity Value	5,218	720	1,070	320	(258)	61	681	(3)	7,809	1,412	90	(251)	(1)	(256)	7	1,000	571	9,380
Effective Shareholding Percentage	100.0%	100.0%	70.00%	100.0%	100.0%	100.0%	30.0%	-	-	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	-	-	-
Equity Value - TRKCM	5,218	720	749	320	(258)	61	204	(3)	7,012	1,412	90	(251)	(1)	(256)	7	1,000	166	8,178

Source: Holding Management, PwC Analysis

TRKCM

Market Approach

Based on the Market Approach, the total equity value of TRKCM is estimated to be **TL 7.8bn** as of the valuation date.

TL m	FY19	FY20	FY21	FY22	Average*
EBITDA	1,304	948	1,543	2,127	
1 Effective EBITDA**	1,272	926	1,515	2,093	
<i>Inflation Indexation</i>	1.00	1.12	1.25	1.40	
2 EBITDA (Discounted 2019 figures)	1,272	827	1,208	1,496	1,201
<i>EV / EBITDA (x)</i>					7.3x
3 Enterprise Value					8,787
Net Cash/(Debt)					(1,437)
Investment Properties					28
Tax Related Assets					137
Dividend Adjustment, net					(126)
5 Investments Accounted for using the Equity Method					370
<i>Saint Gobain Glass Egypt S.A.E</i>					204
<i>Camış Elektrik Üretim A.Ş.</i>					29
<i>Çayırova Cam San. A.Ş.</i>					137
6 Other Companies					4
<i>Trakya Investment B.V.</i>					1
<i>Automotive Glass Alliance Rus Trading OOO</i>					6
<i>Trakya Glass Rus Trading OOO</i>					(1)
<i>Şişecam Flat Glass Holding B.V.</i>					(1)
<i>TRSG Glass Holding B.V.</i>					(1)
Equity Value					7,764

* EBITDA figure represents the average of FY19-FY22. Adjustment figures that are included in the EV-Equity bridge is year-end figures for the calendar year 2019.

** Consists of EBITDA figures of companies that are included in the Enterprise Value calculation for TRKCM through the Income Approach, multiplied by their effective ownership percentages.

Market Approach has been applied following the steps discussed below:

- Actual and forecasted consolidated FY19-FY22 EBITDA figures for TRKCM are taken into consideration after multiplying the respected figures with effective ownership percentages.
- The respective forecasted EBITDA figures have been discounted with TL inflation to 2019, in order to express forecast figures in 2019 prices.
- EV/EBITDA multiple derived from the comparable companies analysis is applied to the average of discounted FY19-FY22 EBITDA figures to estimate the enterprise value.
- In order to estimate the equity value; net cash/debt, investment properties, tax related assets and planned dividend income and payments associated with subsidiaries of TRKCM are also considered. Such equity value adjustments are weighted by the effective ownership of the relevant entities at the TRKCM level.
- The estimated equity values of investments accounted for using the equity method as of 31.12.2019 are also taken into consideration. Equity value of Çayırova Cam Sanayii A.Ş. is estimated through Net Asset Approach, whereas the value shares in Saint Gobain Glass Egypt S.A.E. are assumed to be equal to book value carried on the consolidated balance sheet of TRKCM. Income Approach has been considered as the only method for the value of the shares in Camış Elektrik Üretim A.Ş..
- Other non-operational companies have been included in the equity value estimation of TRKCM, based on their respective values estimated via the Net Asset Approach as of 31.12.2019.

Source: CapitalIQ, PwC Analysis

TRKCM

Net Asset Approach

Based on the Net Asset Approach, the total equity value of TRKCM is estimated to be **TL 6.3bn** as of the valuation date.

TL m	31.12.2019
Paid Capital	1,250
Adjustment to Share Capital Differences	6
Share Premiums (Discount)	0
Gains/(Losses) on Revaluation	648
Accumulated Other Comprehensive Income/(Expense)	1,249
Currency Translation Differences	1,209
Hedge Reserves	40
Restricted Reserves	232
Retained Earnings	2,250
Net Profit or (Loss) for the Period	750
Non-Controlling Interests	412
Total Equity	6,797
1 Adjustment for Non-Controlling Interests	(412)
2 Dividend Adjustment, net*	(135)
3 Adjustment for Investments Accounted for using the Equity Method	25
Net Asset Value	6,275

*Represents the net effect of dividend adjustments at the consolidated level for TRKCM. The dividend payments made to TR by the subsidiaries are netted off at the TRKCM level. The resulting TL 135m consists of the dividend payments (TL 130m) planned to be made by TRKCM to its own shareholders and the withholding tax that will be due from the dividend payment of RD that will be made to TR (effective withholding tax of: TL 5m). The net dividend adjustment presented under the Income Approach and Market Approach is TL 126m. This discrepancy stems from a representation difference, that is, the remaining TL -9m is included in the Income and Market Approaches as part of Çayirova Cam Sanayii A.Ş. valuation result.

Source: Holding Management, PwC Analysis

1 Sermaye Piyasasında Finansal Raporlamaya İlişkin Esaslar Tebliği

The breakdown of the consolidated shareholders equity for TRKCM, which is prepared in accordance with the CMB's "Principles of Financial Reporting in Capital Markets¹", in line with Turkish Accounting Standards and Turkish Financial Reporting Standards and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. is presented in the adjacent table.

It has been assumed that the shareholders equity that is present in the consolidated and audited 31.12.2019 balance sheet of TRKCM is an accurate representation of the equity value of the company, for purposes of Net Asset Approach.

The consolidated shareholders equity of TRKCM as of 31.12.2019 is TL 6,797m, the Net Asset Value is calculated as **TL 6,275m** after the adjustments are considered.

1 Adjustment for Non-Controlling Interests:

The non-controlling interests that are presented as part of the consolidated shareholders equity are excluded from the consideration as part of the Net Asset Approach.

2 Dividend Adjustment:

The figure represents the net dividend payment of TRKCM that is due after 31.12.2019. Dividend adjustment is included in our assessment with respect to its effect on the net asset value of TRKCM.

3 Adjustments for Investments Accounted for using the Equity Method:

Çayirova Cam Sanayii A.Ş., Saint Gobain Glass Egypt S.A.E and Camiş Elektrik Üretim A.Ş. are included in the consolidated financial statements of TRKCM through the equity method. While determining the equity value of the aforementioned companies, the carrying values of the respective companies that are present in the consolidated balance sheet of TRKCM are taken into consideration.

Entry stands for adjustments made for Çayirova Cam Sanayii A.Ş., with respect to estimation of its individual equity value under Net Asset Approach.

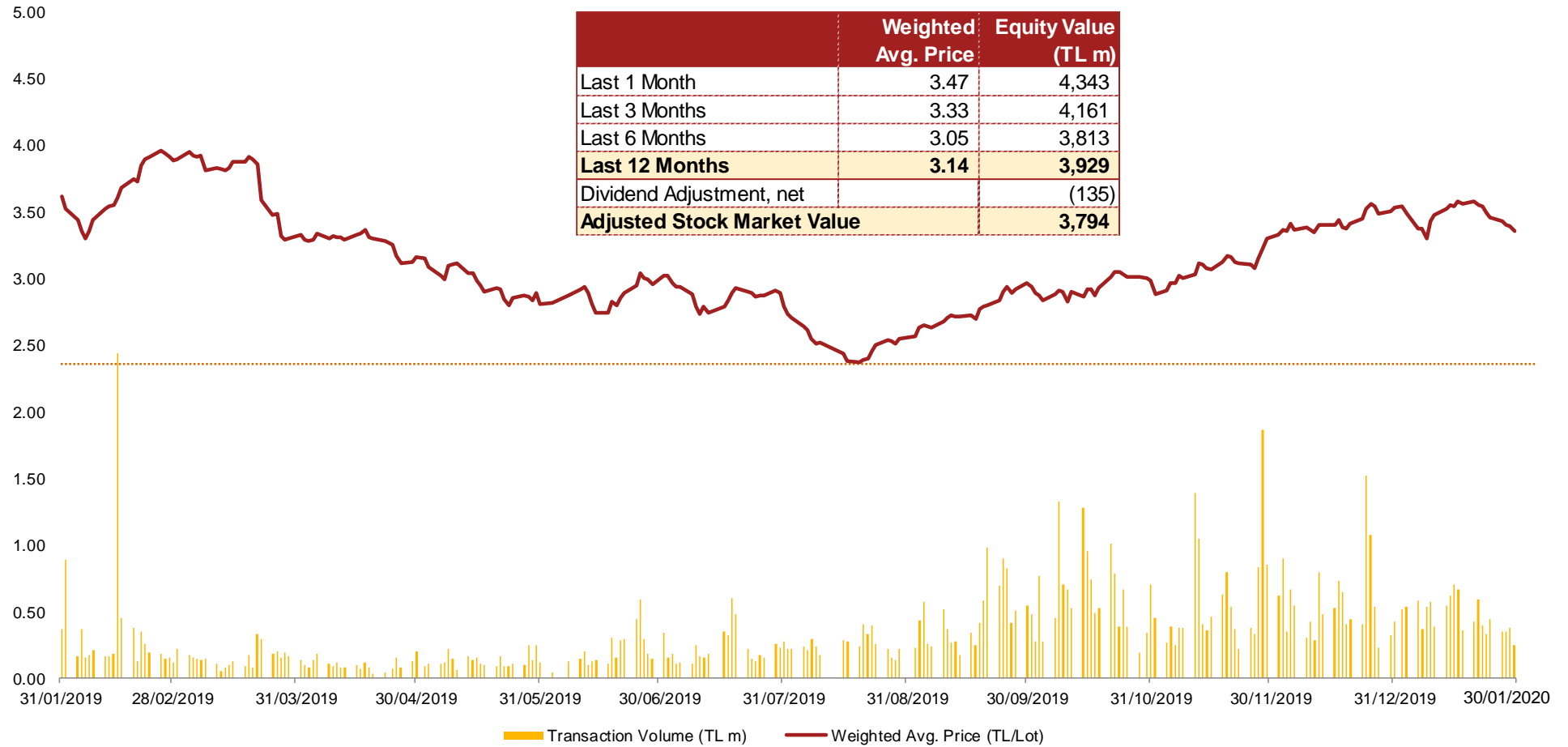
TRKCM

Stock Market Value

The Stock Market Value for TRKCM is based on the weighted average stock market price of quoted TRKCM shares for the trailing 12 months going back from the merger announcement date, 30.01.2020. The total equity value of TRKCM estimated from this method is estimated to be **TL 3.8bn.**

Stock Price and Transaction Volume

Stock Price (TL/lot)



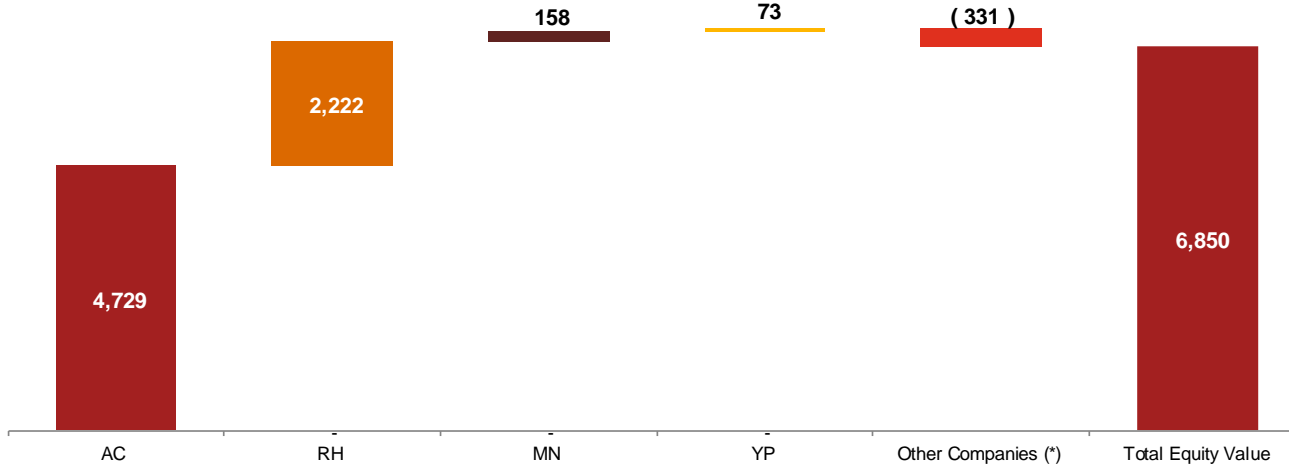
Source: CapitalIQ, PwC Analysis

ANACM

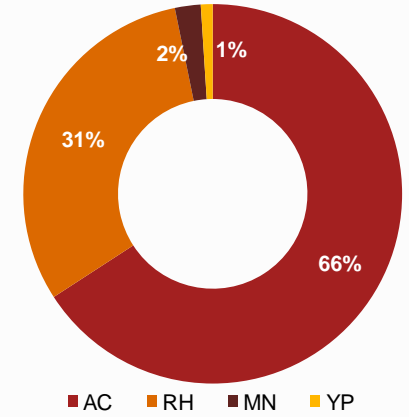
Income Approach

Based on the Income Approach, the total equity value of ANACM is estimated to be **TL 6.9bn** as of the valuation date.

Total Equity Value (TL m)



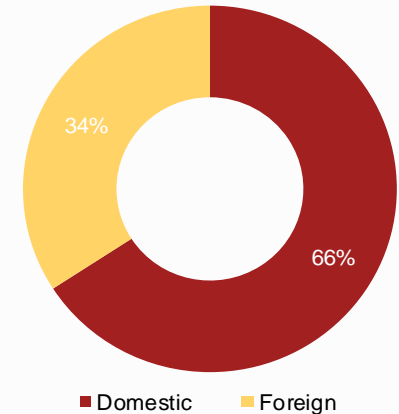
Equity Value Breakdown



TL m	AC	RH	MN	YP	Other Companies	Total
Enterprise Value	5,218	3,263	182	73	-	8,736
Net Cash/(Debt)	(694)	(1,132)	(24)	-	-	(1,850)
Tax Related Assets	273	90	-	-	-	364
Investment Properties	74	-	-	-	-	74
Dividend Payment (-)	(142)	-	-	-	-	(142)
Equity Value	4,729	2,222	158	73	(331)	6,850
Effective Shareholding Percentage	100%	100%	100%	100%	-	
Equity Value - ANACM	4,729	2,222	158	73	(331)	6,850

* Other Companies include Camiř Elektrik, SPVs and non-operational companies. The value estimates for SPVs and non-operational companies are estimated acc. To Net Asset Approach and exclude the impact of investments in subsidiaries, for SPVs.

Source: Holding Management, PwC Analysis



ANACM

Market Approach

Based on the Market Approach, the total equity value of ANACM is estimated to be **TL 8.2bn** as of the valuation date.

TL m	FY19	FY20	FY21	FY22	Average*
EBITDA**	1,118	1,307	1,513	1,738	
① Effective EBITDA**	1,118	1,307	1,513	1,738	
<i>Inflation Indexation</i>	1.00	1.12	1.25	1.40	
② EBITDA (Discounted 2019 figures)	1,118	1,167	1,206	1,243	1,184
EV / EBITDA (X)					8.5x
③ Enterprise Value					10,058
Net Cash/(Debt)					(1,850)
Investment Properties					74
Tax Related Assets					364
Dividend Adjustments					(142)
⑤ Investments Accounted for using Equity Method					22
<i>Camiş Elektrik Üretim A.Ş.</i>					22
⑥ Other Companies					(353)
<i>AC Glass Holding B.V.</i>					(0)
<i>Anadolu Cam Investment B.V.</i>					(2)
<i>Sisecam Glass Packaging B.V.</i>					(316)
<i>OOO Ruscam Management Company</i>					0
<i>Merefa Glass Company Ltd.</i>					18
<i>CJSC Brewery Pivdenna</i>					(52)
<i>OOO Energosystems</i>					(1)
⑦ Investment Project					73
Equity Value					8,245

Market Approach has been applied following the steps discussed below:

- ① Actual and forecasted consolidated FY19-FY22 EBITDA figures for ANACM are taken into consideration after multiplying the respected figures with effective ownership percentages.
- ② The respective forecasted EBITDA figures have been discounted with TL inflation to 2019, in order to express forecast figures in 2019 prices.
- ③ EV/EBITDA multiple derived from the comparable companies analysis is applied to the average of discounted FY19-FY22 EBITDA figures to estimate the enterprise value.
- ④ In order to estimate the equity value; net cash/debt, investment properties, tax related assets and planned dividend payments are also considered. Such equity value adjustments are weighted by the effective ownership of the relevant entities at the ANACM level.
- ⑤ The equity values of investments accounted for using the equity method as of 31.12.2019 is taken into consideration for Camiş Elektrik Üretim A.Ş.. Income Approach has been considered as the only method for the value of the shares in Camiş Elektrik Üretim A.Ş..
- ⑥ Other non-operational companies and SPVs have been included in the equity value estimation of ANACM, based on their respective values estimated via the Net Asset Approach as of 31.12.2019.
- ⑦ Investment Project's value estimated through Income Approach is also considered as part of the total equity value.

* EBITDA figure represents the average of FY19-FY22. Adjustment figures that are included in the EV-Equity bridge is year-end figures for the calendar year 2019.

** Anadolu Cam, Ruscam and Mina's EBITDA figures are taken into account in Market Approach. Investment Project's value estimated is considered not as part of enterprise value estimate but as an adjustment of the equity value estimate.

Source: CapitalIQ, PwC Analysis

ANACM

Net Asset Approach

Based on the Net Asset Approach, the total equity value of ANACM is estimated to be **TL 2.7bn** as of the valuation date.

TL m	31.12.2019
Paid Capital	750
Adjustment to Share Capital Differences	0
Gains /(Losses) on Revaluation	720
Accumulated Other Comprehensive Income/(Expense)	(182)
<i>Currency Translation Differences</i>	(203)
<i>Hedge Reserves</i>	22
Restricted Reserves	189
Retained Earnings	821
Net Profit or (Loss) for the Period	527
Total Equity	2,826
1 Dividend Adjustment	(142)
Net Asset Value	2,684

The breakdown of the consolidated shareholders equity for ANACM, which is prepared in accordance with the CMB's Communiqué Serial II. No: 14.1 "Principles of Financial Reporting in Capital Markets¹", in line with Turkish Accounting Standards and Turkey Financial Reporting Standards and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. is presented in the adjacent table.

It has been assumed that the shareholders equity that is present in the consolidated and audited 31.12.2019 balance sheet of ANACM is an accurate representation of the equity value of the company, for purposes of Net Asset Approach.

The consolidated shareholders equity of ANACM as of 31.12.2019 is TL 2,826m, the Net Asset Value is calculated as **TL 2,684m** after the adjustments are considered.

1 Dividend Adjustment:

The figure represents the dividend payment of ANACM that is due after 31.12.2019. Dividend adjustment is included in our assessment with respect to its effect on the net asset value of ANACM.

Source: Holding Management, PwC Analysis

¹ Sermaye Piyasasında Finansal Raporlamaya İlişkin Esaslar Tebliği

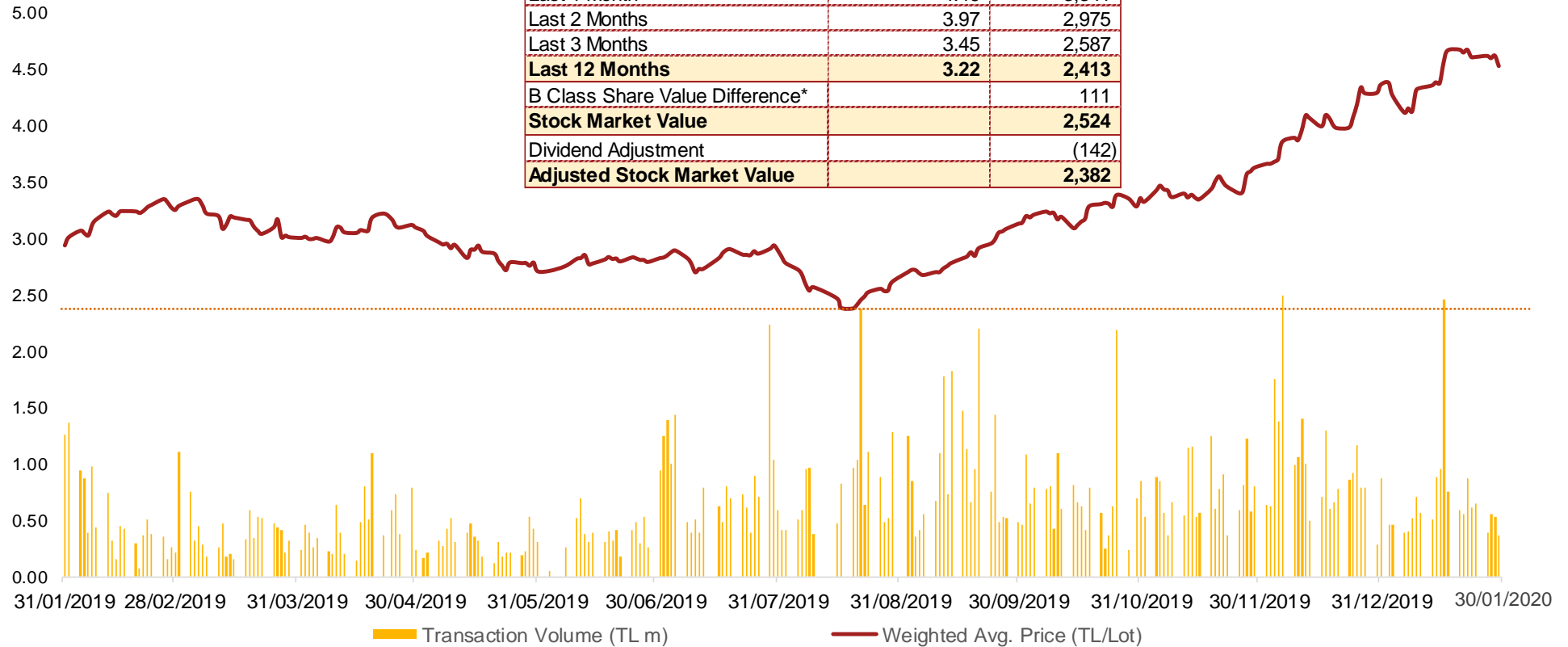
ANACM

Stock Market Value

The Stock Market Value for ANACM is based on the weighted average stock market price of quoted ANACM shares for the trailing 12 months going back from the merger announcement date, 30.01.2020. The total equity value of ANACM derived from this method is estimated to be **TL 2.3bn**.

Stock Price and Transaction Volume

Stock Price (TL/lot)



* A and B class share values are separately calculated due to an additional expected value arisen from B class shares that is not reflected through stock market prices. The details of the calculations are presented on pages 152, 153 and 154 of the report.

Source: CapitalIQ, PwC Analysis

PASAB

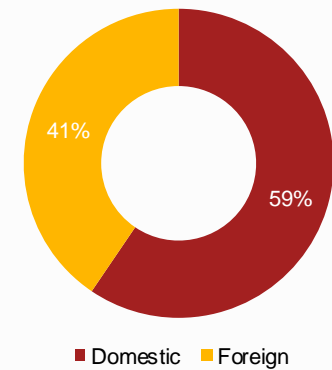
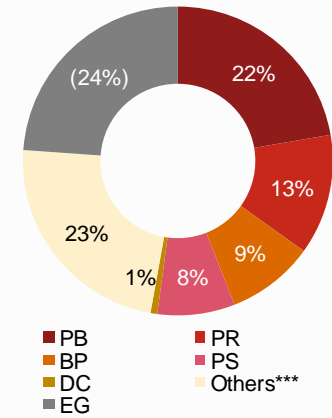
Income Approach

Based on the Income Approach, the total equity value of PASAB is estimated to be **TL 405m** as of the valuation date.

Total Equity Value (TL m)



Equity Value Breakdown



*** Sales Offices and Holding Companies

TL m	PB	BP	PR	EG	DC	PS	Sales Offices	Holding Companies	Total PASAB
Enterprise Value	823	282	347	99	31	84	54	-	1,720
Net Cash/(Debt)	(712)	(212)	(266)	(284)	(20)	(21)	17	-	(1,498)
Investment Properties	8	0	0	0	0	0	0	-	8
Tax Related Assets	53	0	17	0	0	0	3	-	73
Equity Value	173	71	98	(185)	11	63	73	107	410
Effective Shareholding Percent	%100.0	%100.0	%100.0	%100.0	%51.0	%100.0	%100.0	%100.0	
Equity Value- PASAB	173	71	98	(185)	6	63	73	107	405

* Refers to assets and liabilities excluding financial investments.

** Tax assets consisting of tax incentives from investments and carry-forward losses

Source: Holding Management, PwC Analysis

PASAB

Market Approach

Based on the Market Approach, the total equity value of PASAB is estimated to be **TL 1.2bn** as of the valuation date.

TL m	FY19	FY20	FY21	FY22	Average*
EBITDA	373	268	442	601	
① Effective EBITDA**	369	272	435	591	
Inflation Indexiation	1.00	1.12	1.25	1.40	
② EBITDA (Discounted 2019 Figures)	369	243	347	423	345
EV / EBITDA (x)					7.2x
③ Enterprise Value					2,475
Net Cash/(Debt)					(1,488)
Investment Properties					8
Tax Related Asset					73
⑤ Other Companies					107
Paşabahçe Investment B.V.					101
Nude Design Investment B.V.					5
İstanbul Investment B.V.					0
Nude Glass Investment B.V.					0
Equity Value					1,175

Market Approach has been applied following the steps discussed below:

- ① Actual and forecasted consolidated FY19-FY22 EBITDA figures for PASAB are taken into consideration after multiplying the respected figures with effective ownership percentages.
- ② The respective forecasted EBITDA figures have been discounted with TL inflation to 2019, in order to express forecast figures in 2019 prices.
- ③ EV/EBITDA multiple derived from the comparable companies analysis is applied to the average of discounted FY19-FY22 EBITDA figures to estimate the enterprise value.
- ④ In order to estimate the equity value; net cash/debt, investment properties and tax related assets of PASAB are also considered. Such equity value adjustments are weighted by the effective ownership of the relevant entities at the PASAB level.
- ⑤ Other non-operational companies have been included in the equity value estimation of PASAB, based on their respective values estimated via the Net Asset Approach as of 31.12.2019.

*EBITDA amount represents the average of MY19-MY22 periods. The amounts added while coming to the share value are the figures for the end of 2019.

** Includes EBITDA amounts multiplied by ownership rates of companies included in the Enterprise Value calculation in the Income Approach.

Source: Capital IQ, PwC Analysis

PASAB

Net Asset Approach

Based on the Net Asset Approach, the total equity value of PASAB is estimated to be **TL 2.2bn** as of the valuation date.

TL m	31.12.2019
Paid Capital	224
Accumulated Other Comprehensive Income/(Expense)	70
Impact of Transactions Including Entities Under Common Control	(12)
Share Premiums (Discount)	166
Gains and (Losses) Revaluation	706
Restricted Reserves	378
Retained Earnings	620
Net Profit or (Loss) for the Period	39
Non Controlling Interests	23
Total Equity	2,216
1 Adjustment for Non Controlling of Interest	(23)
Net Asset Value	2,193

The breakdown of the consolidated shareholders equity for PASAB, which is prepared in accordance with the CMB's "Principles of Financial Reporting in Capital Markets¹", in line with Turkish Accounting Standards and Turkish Financial Reporting Standards and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. is presented in the adjacent table.

It has been assumed that the shareholders equity that is present in the consolidated and audited 31.12.2019 balance sheet of PASAB is an accurate representation of the equity value of the company, for purposes of Net Asset Approach.

The consolidated shareholders equity of PASAB as of 31.12.2019 is TL 2,216m the Net Asset Value is calculated as **TL 2,193m** after the adjustments are considered.

Adjustment for Non-Controlling Interests:

The non-controlling interests that are presented as part of the consolidated shareholders equity are excluded from the consideration as part of the Net Asset Approach.

Source: Holding Management, PwC Analysis

¹ Sermaye Piyasasında Finansal Raporlamaya İlişkin Esaslar Tebliği

PASAB

Estimated Stock Market Value

Due to the fact that PASAB shares are not publicly traded in the stock market, an estimated stock market value is calculated based on the outcome from Market Approach. As a result of related calculations, PASAB's estimated stock market value is calculated as **TL 252m**.

Discount Rate

	Companies to Merge		Comparable Companies		Discount Rate
	EV / EBITDA (x)		EV / EBITDA (x)		
	FY15-FY19 Average		FY15-FY19 Average		
SISE	5.4x		7.5x		28%
TRKCM	4.8x		7.3x		34%
ANACM	4.6x		8.5x		46%
SODA	4.7x		8.0x		42%
DENCM	a.d.		7.2x		a.d.
Average					37%

Although PASAB is not a publicly listed company, an estimate has been made for the stock market value, in order to be consistent in terms of the valuation methods used. For the calculation of the estimated stock market value of PASAB, the market multiples calculated based on the stock market values of the publicly traded Companies to Merge were compared with the multiples obtained from comparable companies. The ratios of these multiples with each other are considered as the **discount rate** between the value obtained from the Market Approach and the Stock Market Value. The arithmetic average of the discount rates of the Companies to Merge is applied to the multiple obtained from comparable companies with the Market Approach for PASAB and the stock market value for PASAB was estimated.

The discount rate was calculated as **37%** by applying the specified calculation method for the publicly traded Companies to Merge. The discount rate was applied to PASAB's EV/ EBITDA multiple obtained from comparable companies and estimated stock market value was calculated as **TL 252m**.

Estimated Stock Market Value (*)

TL m	FY19	FY20	FY21	FY22	Average*
EBITDA	373	268	442	601	
Effective EBITDA**	369	272	435	591	
Inflation Indexation	1.00	1.12	1.25	1.40	
EBITDA (Discounted 2019 Figures)	369	243	347	423	345
Comparable Companies - EV / EBITDA Avr.					(A) 7.2x
Discount Rate					(B) %37
Discounted EV / EBITDA Avr.			(A) x (1 - (B))		4.5x
Enterprise Value					1,552
Net Cash/(Debt)					(1,488)
Investment Properties					8
Tax Related Asset					73
Other Companies					107
Estimated Stock Market Value					252

(*) The estimated stock market value of PASAB does not represent a benchmark in any condition for the stock market value of the company in the case of a public offering. The sole purpose of the estimation is to be used in the merger study.

Source: PwC Analysis

DENCM

Income Approach

Based on the Income Approach, the total equity value of DENCM is estimated to be **TL 11m** as of the valuation date.

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV	Enterprise Value	TL m
Revenue	82	107	132	104	166	193	223	246	270	292	DCF (2020-25)	(29)
Change (%)	27.5%	30.2%	24.2%	(21.2%)	59.3%	16.4%	15.2%	10.6%	9.6%	8.0%	DCF (>2025)	60
Cost of Sales	(61)	(87)	(111)	(99)	(136)	(154)	(174)	(192)	(209)	(226)	Enterprise Value	31
GP from Trading Activity	21	20	21	5	30	39	49	55	61	66	Net Cash/(Debt)	(20)
GP Margin (%)	25.5%	18.4%	15.8%	4.7%	18.2%	20.1%	21.9%	22.2%	22.6%	22.6%	Adjusted Equity Value	11
Operating Expenses	(15)	(12)	(14)	(14)	(17)	(19)	(21)	(23)	(25)	(27)		
Other Operating Income / Expenses	(0)	1	0	-	-	-	-	-	-	-		
EBITDA	5	9	7	(9)	13	20	28	32	36	39		
EBITDA Margin (%)	6.6%	8.6%	5.5%	(8.8%)	8.1%	10.4%	12.6%	13.0%	13.4%	13.4%		
Depreciation and Amortization (-)	(4)	(4)	(4)	(7)	(8)	(9)	(10)	(11)	(13)	(18)		
EBIT	1	5	4	(17)	5	11	18	21	23	21		
EBIT Margin (%)	1.7%	4.9%	2.7%	(15.9%)	3.1%	5.6%	8.0%	8.4%	8.7%	7.4%		
Tax				-	(1)	(2)	(4)	(4)	(5)	(4)		
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%		
Depreciation and Amortization (+)				7	8	9	10	11	13	18		
Operational Cash Flows				(9)	12	18	24	28	31	35		
Change in NWC				6	(14)	(6)	(7)	(6)	(6)	(5)		
Capex				(39)	(8)	(9)	(10)	(11)	(12)	(18)		
Free Cash Flows				(42)	(10)	3	8	11	14	12		
Discount Rate				21.0%	19.5%	19.0%	18.2%	17.2%	16.2%	15.7%		
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00			
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50			
Cumulative Discount Factor				0.91	0.76	0.63	0.53	0.45	0.39	0.39		
Discounted Cash Flows				(38)	(7)	2	4	5	5	60		

Source: Company Management, PwC Analysis

DENCM Market Approach

Based on the Market Approach, the total equity value of DENCM is estimated to be **TL 23m** as of the valuation date.

TL m	FY19	FY20	FY21	FY22	Average*
1 EBITDA	7	(9)	13	20	
Inflation Indexiation	1.00	1.12	1.25	1.40	
2 EBITDA (Discounted 2019 Figures)	7	(8)	11	14	6
EV / EBITDA (x)					7.2x
3 Enterprise Value					43
Net Cash/(Debt)					(20)
4 Equity Value					23

* EBITDA amount represents the average of MY19-MY22 periods. The amounts added while coming to the share value are the figures for the end of 2019.

Market Approach has been applied following the steps discussed below:

- 1 Actual and forecasted consolidated FY19-FY22 EBITDA figures for DENCM are taken into consideration after multiplying the respected figures with effective ownership percentages.
- 2 The respective forecasted EBITDA figures have been discounted with TL inflation to 2019, in order to express forecast figures in 2019 prices.
- 3 EV/EBITDA multiple derived from the comparable companies analysis is applied to the average of discounted FY19-FY22 EBITDA figures to estimate the enterprise value. Since DENCM manufactures hand-made products only and works directly for PASAB as a subcontractor, there aren't any reasonable direct peer companies for DENCM. Due to this, comparable peer companies and multiples used for PASAB were taken into account for DENCM as well, considering DENCM sells all its product to PASAB as a subcontractor.
- 4 In order to estimate the equity value; net cash/debt of DENCM is also considered.

DENCM

Net Asset Approach

*Based on the Net Asset Approach, the total equity value of is estimated to be **TL 65m** as of the valuation date.*

TL m	31.12.2019
Paid Capital	15
Adjustment Share Capital Differences	21
Share Premiums (Discount)	0
Accumulated Other Comprehensive Income/(Expense)	42
<i>Currency Translation Difference</i>	44
<i>Hedge Reserves</i>	(1)
Restricted Reserves	1
Retained Earnings	(8)
Net Profit or (Loss) for the Period	(6)
Net Asset Value	65

The breakdown of the consolidated shareholders equity for DENCM, which is prepared in accordance with the CMB's "Principles of Financial Reporting in Capital Markets¹", in line with Turkish Accounting Standards and Turkish Financial Reporting Standards and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. is presented in the adjacent table.

It has been assumed that the shareholders equity that is present in the consolidated and audited 31.12.2019 balance sheet of DENCM is an accurate representation of the equity value of the company, for purposes of Net Asset Approach.

The consolidated shareholders equity of **TL 65m** as of 31.12.2019 is considered as Net Asset Value of DENCM as of the valuation date.

Source: Company Management, PwC Analysis

DENCM

Stock Market Value

The Stock Market Value for DENCM is based on the weighted average stock market price of quoted DENCM shares for the trailing 12 months going back from the merger announcement date, 30.01.2020. The total equity value of DENCM estimated from this method is estimated to be **TL 83m**.

Stock Price and Transaction Volume

Stock Price (TL/lot)

18.00

16.00

14.00

12.00

10.00

8.00

6.00

4.00

2.00

	Adjusted Avg.Price(TL/lot)	Equity Value (TL m)
Last 1 Month	8.85	133
Last 3 Months	7.63	114
Last 6 Months	6.50	97
Last 12 Months	5.54	83
Adjusted Stock Market Value		83

Due to the fact that DENCM has increased its paid capital, the average equity values were calculated by using the equity values obtained by multiplying the weighted average share price of each transaction day with the number of issued shares available on that transaction day.

Daily equity values before 16.09.2019, the date on which the paid capital increase is valid, were adjusted by adding the increased capital amount of TL 9m to the equity value.

The weighted average price presented in the table is obtained by dividing the average equity value by the current number of shares, 15m.

Denizli Cam has made a paid capital increase in accordance with the decision of the board of directors approved by the CMB on 05.09.2019. The issued capital of the company has increased from TL 6m to TL 15m.

31/01/2019 28/02/2019 31/03/2019 30/04/2019 31/05/2019 30/06/2019 31/07/2019 31/08/2019 30/09/2019 31/10/2019 30/11/2019 31/12/2019 30/01/2020

Source: Capital IQ, PwC Analysis

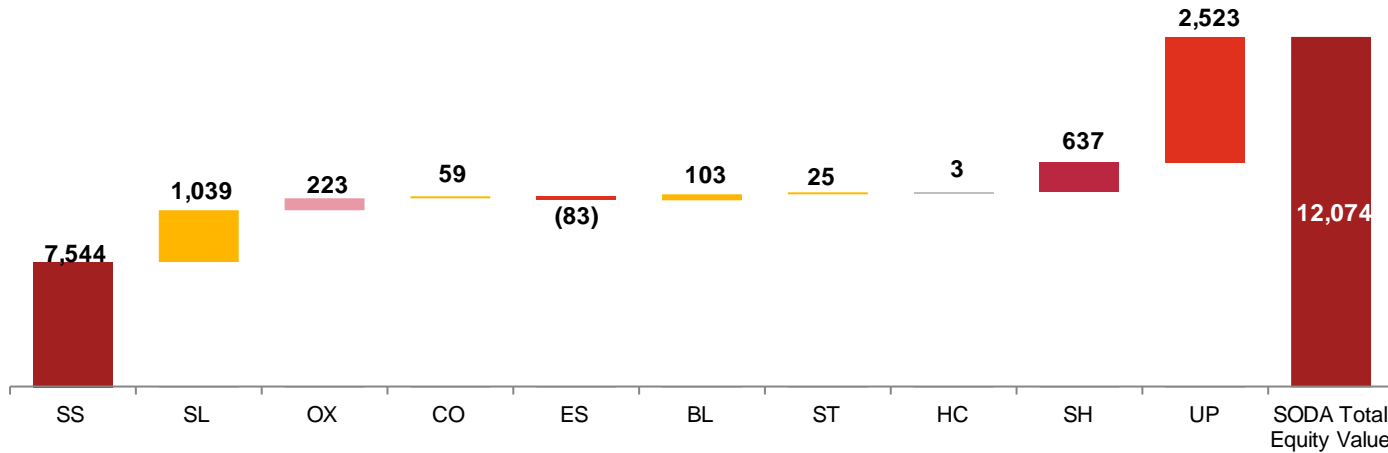
Transaction Volume (TL m) Adjusted Avg.Price(TL/lot)

SODA

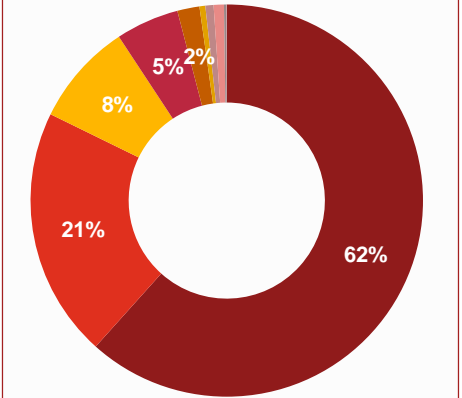
Income Approach

Based on the Income Approach, the total equity value of SODA is estimated to be **TL 12.1bn** as of the valuation date.

Total Equity Value (TL m)

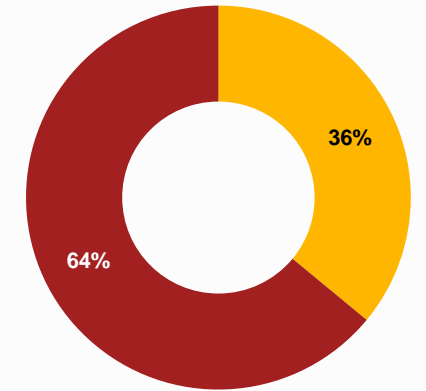


Equity Value Breakdown



■ SS ■ UP ■ SL ■ SH ■ OX
■ CO ■ ES ■ BL ■ ST ■ HC

TL m	SS	SL	OX	CO	ES	BL	ST	HC	SH	UP	Total SODA
Enterprise Value	5,967	1,115	212	51	736	92	16	-	-	-	8,190
Net Cash/(Debt)	1,788	(76)	36	8	(907)	19	8	-	-	-	876
Tax Related Assets	1	-	-	-	88	-	-	-	-	-	89
Dividend Payment (-)	(245)	-	(25)	-	-	(7)	-	-	-	-	(277)
Dividend Income (+)	32	-	-	-	-	-	-	-	-	-	32
Equity Value	7,544	1,039	223	59	(83)	103	25	3	2,548	5,046	16,508
Effective Shareholding Percentage	%100	%100	%100	%100	%100	%100	%100	%100	%25	%50	
Equity Value- SODA	7,544	1,039	223	59	(83)	103	25	3	637	2,523	12,074



■ Domestic ■ Foreign

Source: Holding Management, PwC Analysis

SODA

Market Approach

Based on the Market Approach, the total equity value of SODA is estimated to be **TL 11.2bn** as of the valuation date.

TL m	FY19	FY20	FY21	FY22	Average*
EBITDA	1,071	857	1,060	1,345	
1 Effective EBITDA**	1,071	857	1,060	1,345	
<i>Inflation Indexiation</i>	1.00	1.12	1.25	1.40	
2 EBITDA (Discounted 2019 Figures)	1,071	765	845	961	911
EV / EBITDA (x)					8.0x
3 Enterprise Value					7,274
Net Cash/(Debt)					876
Tax Related Asset					89
Dividend Adjustment, net					(245)
5 Investment Accounted for using Equity Method					3,160
<i>Solvay Şişecam Holding AG</i>					637
<i>Pacific Soda LLC</i>					2,523
6 Other Companies					3
<i>Şişecam Chem Investment B.V.</i>					3
Equity Value					11,158

* EBITDA figure represents the average of FY19-FY22. Adjustment figures that are included in the EV-Equity bridge is year-end figures for the calendar year 2019.

** Consists of EBITDA figures of companies that are included in the Enterprise Value calculation through the Income Approach, which are multiplied by their effective ownership percentages.

Several steps have been taken into consideration for the derivation of the Market Approach:

- Actual and forecasted consolidated FY19-FY22 EBITDA figures for SODA are taken into consideration after multiplying the respected figures with effective ownership percentages.
- The respective forecasted EBITDA figures have been discounted with TL inflation to 2019, in order to express forecast figures in 2019 prices.
- EV/EBITDA multiple derived from the comparable companies analysis is applied to the average of discounted FY19-FY22 EBITDA figures to estimate the enterprise value.
- In order to derive the equity value, net cash/debt, tax related assets and planned dividend income and payments associated with subsidiaries of SODA are also considered. Such equity value adjustments are weighted by the effective ownership of the relevant entities at the SODA level.
- The estimated equity values of investments accounted for using the equity method as of 31.12.2019 are also taken into consideration. Income Approach has been considered as the only method for the value of the shares in Solvay Şişecam Holding AG and Pacific Soda LLC.
- Other non-operational companies have been included in the equity value estimation of SODA, based on their respective values estimated via the Net Asset Approach as of 31.12.2019.

Source: CapitalIQ, PwC Analysis

SODA

Net Asset Approach

Based on the Net Asset Approach, the total equity value of SODA is estimated to be **TL 5.5bn** as of the valuation date.

TL m	31.12.2019
Paid Capital	1,000
Accumulated Other Comprehensive Income/(Expense)	951
Currency Translation Difference	760
Hedge Reserves	7
Tangible Asset Revaluation Increases (Decreases)	184
Gains (Losses) on Remeasurements of Defined Benefit Plans	0
Restricted Reserves	230
Retained Earnings	2,452
Net Profit or (Loss) for the Period	1,109
Non Controlling Interests	-
Total Equity	5,742
1 Dividend Adjustment, net*	(245)
Net Asset Value	5,497

* Represents the net effect of dividend adjustments at the consolidated level for SODA. The dividend payments made to SS by the subsidiaries are netted off at the SODA level. The resulting TL 245m consists of the dividend payment that will be made by SODA to non-group companies and Şişecam.

The breakdown of the consolidated shareholders equity for SODA, which is prepared in accordance with the CMB's "Principles of Financial Reporting in Capital Markets¹", in line with Turkish Accounting Standards and Turkish Financial Reporting Standards and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. is presented in the adjacent table.

It has been assumed that the shareholders equity that is present in the consolidated 31.12.2019 balance sheet of SODA, that has been prepared in accordance with TAS/IFRS is an accurate representation of the equity value of the company.

The consolidated shareholders equity of SODA as of 31.12.2019 is TL 5,742m, the Net Asset Value is calculated as **TL 5.497m** after the adjustments considered.

1 Dividend Adjustment:

The figure represents the net dividend payment of SODA that is due after 31.12.2019. Net dividend adjustment is included in our assessment with respect to its effect on the net asset value of SODA.

Source: Holding Management, PwC Analysis

¹ Sermaye Piyasasında Finansal Raporlamaya İlişkin Esaslar Tebliği

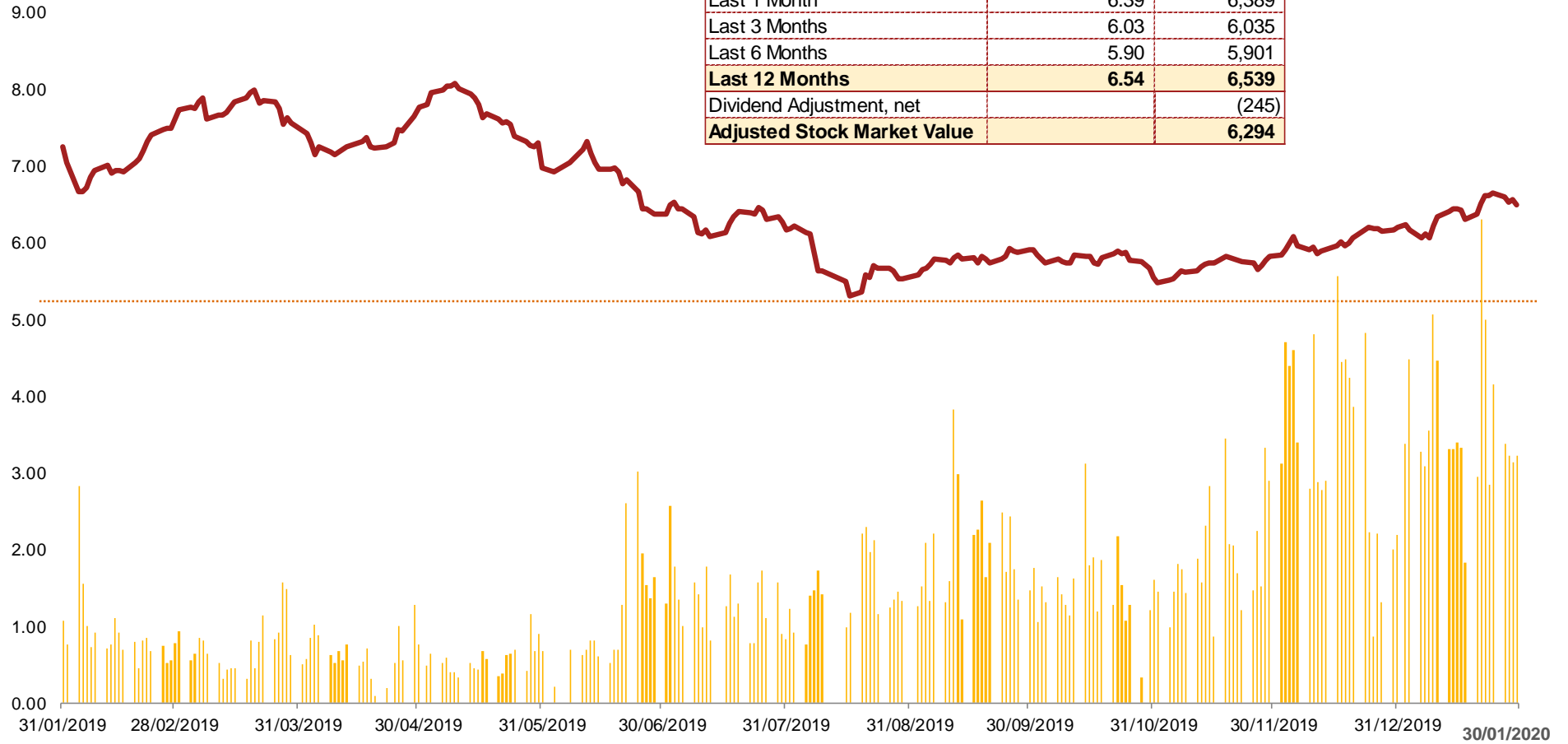
SODA

Stock Market Value

The Stock Market Value for SODA is based on the weighted average stock market price of quoted SODA shares for the trailing 12 months going back from the merger announcement date, 30.01.2020. The total equity value of SODA estimated from this method is estimated to be **TL 6.3bn**.

Stock Price and Transaction Volume

Stock Price (TL/lot)



Source: CapitalIQ, PwC Analysis

Transaction Volume (TL m) Weighted Avg.Price (TL/lot)

Companies to Merge and Valuation Analysis

SISE

Matters to be Considered

Türkiye Şişe ve Cam Fabrikaları A.Ş.

(1/2)

Türkiye Şişe ve Cam Fabrikaları A.Ş. (SC)

In the Independent Expert Report, **SISE** refers to the Şişecam Group, whereas "**SC**" or "**Şişecam Holding**" refer to Türkiye Şişe ve Cam Fabrikaları A.Ş. as a stand-alone entity.

Royalty Income: According to the information provided by SISE management, since January 1, 2017, Şişecam Holding has been collecting royalty income over the third-party sales of the group companies, in accordance with the principles of transfer pricing, in the rates that are considered to reflect the market averages. All companies that are organized under the main business segments of the group and have third-party sales, except PASAB, use the Şişecam brand. Royalty income is a payment that Şişecam Holding, the owner of the brand, demands from the group companies regarding the right to use the brand.

The royalty rate, which was 1% in 2017 and 2018, increased to 1.75% in 2019. In the projection period, parallel to the realization of 2019, this rate was taken into account as 1.75%. Group companies make the payments to the legal entity which is the parent company of their main business segment. On the other hand, Şişecam Holding collects payments from the parent company of each main business segment which are Trakya Cam Sanayii A.Ş. (Architectural Glass), Şişecam Otomotiv A.Ş. (Automotive Glass), Anadolu Cam Sanayii A.Ş. (Glass Packaging), Ruscam Glass Packaging Holding (Glass Packaging) and Soda Sanayii A.Ş. (Chemicals), both based on their own sales and the payments received by them from the group companies. Although Ruscam is not the parent company of the Glass Packaging Group, it makes royalty payments directly to Şişecam Holding in order to comply with the local legislation in Russia. Companies within Other Companies are exempt from such royalty payments.

Within the scope of the valuation study of Şişecam Holding, the estimated royalty income, which is calculated by taking into consideration the revenue that the group will generate through third-party sales, are also taken into consideration.

Central Service Revenues: Şişecam Holding provides services to group companies and plays an active role in determining the plans and strategies of its subsidiaries. Şişecam Holding reflects these expenses to the related companies with a certain profit margin in line with the transfer pricing principles on the expenses it incurs for the group companies. The related revenues from group companies constitute Central Service Revenues.

Central service expenses to be paid by the group companies during the projection period are estimated by considering the 2020 expenditure budget provided by SISE management and the forecasts for the following years.

Matters to be Considered

Türkiye Şişe ve Cam Fabrikaları A.Ş.

(2/2)

Türkiye Şişe ve Cam Fabrikaları A.Ş. (SC)

Law No. 5746 on Supporting R&D and Design Activities: It is understood that all R&D activities of SISE are carried out by the R&D center within Şişecam Holding. According to the information received from the management, incentives are used for R&D expenditures and investments within the scope of the Law No. 5746 on Supporting R&D and Design Activities.

These incentives give Şişecam Holding several rights that it can utilise the expenditures and investments for R&D purposes to reduce its corporate tax liability. The benefits to be obtained at corporate tax level related to R&D incentives are considered as a tax asset that can be considered as an equity value adjustment within the scope of the Independent Expert Report. In the valuation study carried out with Income Approach for Şişecam Holding, the value of the tax asset is estimated.

Guarantor Revenue: Şişecam Holding provides guarantor services to group companies for out-of-group loans, if needed. If a group company secures financing under the guarantee of Şişecam Holding, the group company pays a guarantor service fee to Şişecam Holding. The guarantor service fee is determined as a certain percentage of the total financing amount.

The capacity of Şişecam Holding to provide guarantor services is directly proportional to its ability to generate dividend income, therefore to its share in its subsidiaries and the financial performance of its subsidiaries. Guarantor revenue is not included in the stand-alone valuation study of Şişecam Holding according to the Income Approach in the Independent Expert Report due to the fact that not being a revenue generated by company assets related to operations and instead being financing related.

Matters to be Considered

Other Companies

(1/4)

Şişecam Çevre Sistemleri A.Ş. (CV)

It is foreseen that all of broken glass sales of Şişecam Çevre Sistemleri A.Ş. ("CV" or "Çevre Sistemleri") in the projection period will be made to Anadolu Cam. According to the information provided by the company management, it is stated that Çevre Sistemleri reflects the collection and processing costs incurred for Anadolu Cam equally, and the reflection of all other costs from other operations are determined by a certain profit margin which is suggested in accordance with the principles of transfer pricing. The management of Çevre Sistemleri has provided the information that the relevant profit margin rate will remain stable during the projection period.

Investment Incentive Tax Asset: Regarding the investment that Çevre Sistemleri started in 2019, there is a tax incentive of TL 15m, which CV has been entitled within the scope of the Decision on State Aid in Investments no. 2012/3305, that is deductible from the corporate tax at the end of 2019.

Within the scope of the valuation study by the Income Approach for Çevre Sistemleri, a projection has been made with the information provided by the Company management regarding how these tax assets can be used in the projection period. Based on the projections, the value of tax assets is estimated and taken into account as an equity value adjustment in the valuation study.

Camiş Elektrik Üretim A.Ş. (EU)

Electricity Generation License: The electricity generation license of Trakya Plant owned by Camiş Elektrik Üretim A.Ş. ("EU" or "Camiş Elektrik") will expire on 27.01.2025. In the valuation study conducted in accordance with the Income Approach within the Independent Expert Report, cash flows for Camiş Elektrik after this date are not included in the scope. Based on the assumption that the electricity generation license will not be renewed, it is assumed that the power plant can be dismantled and sold as scrap, in return for the estimated value provided by the Camiş Elektrik management.

Power Plant Maintenance Expenditure: It is understood that one of the 2 turbines of the Trakya Power Plant will be under maintenance for half of 2020, and the power plant will continue production with a single turbine during the maintenance. Throughout 2019, Trakya Power Plant operated with a single turbine. For the cash flow projections, capex and capacity decrease estimates in 2020, where maintenance will take place, were taken into consideration.

Şişecam Dış Ticaret A.Ş. (DT)

Şişecam Dış Ticaret A.Ş. ("DT" or "Dış Ticaret"), which provides services to group companies to handle and organize all export operations from a single channel, has TL 24m loss from previous year as of 2019, which is deductible from corporate tax base. Within the scope of the valuation study, a projection has been made with the information provided by the company management regarding how these tax assets can be used in years, decreasing the corporate tax base. Based on the projections, the value of tax assets is estimated and taken into account in the valuation study as an equity value adjustment.

Matters to be Considered

Other Companies

(2/4)

Çayırova Cam Sanayii A.Ş. (CY) Under the scope of Independent Expert Report, only the Net Asset Approach was taken into account for **Çayırova Cam Sanayii A.Ş. ("CY" or "Çayırova Cam Sanayii")** due to the fact that CY is not involved in production activities and the major assets of CY are investment purposes properties. Within the scope of the value adjustments made for CY, where the appraisal study was carried out according to the Net Asset Approach, the results of the appraisal study of CE were taken into account as CY is a shareholder of 39.7%. In addition, the equity value adjustments related to the price of some real estates that are understood to be among the assets of CY as of 31.12.2019 but sold in January 2020 and the post-sale profit and tax liabilities are also taken into the scope of the study.

The dividend amount planned to be distributed by CY in 2020 was also taken into consideration in the valuation study of CY.

Cam Elyaf Sanayii A.Ş. (CE) Under the scope of Independent Expert Report, only the Net Asset Approach was taken into account for **Cam Elyaf Sanayii A.Ş. ("CE" or "Cam Elyaf")**, as its operations have ended in 2019.

On the balance sheet of CE dated 31.12.2019, the fair values of the precious metals of TL 52.8m (accounted by their purchase costs) under the Tangible Fixed Assets are calculated and the relevant adjustment has been applied to the reported equity value of CE. The adjustment has been applied to estimate the market values of platinum, rhodium, palladium, gold and silver alloys needed for the bushing machine used in glass fiber production and the precious metal price assumptions based on the valuation are given below. It is understood that as of the valuation date, rhodium and palladium prices exceeded the average of medium and long term prices, and the price increase was due to developments that may not be permanent but may be short-term. Therefore, in the valuation study of these mines, instead of the values as of the valuation date, the average prices of the last 10 years were taken into consideration. Moreover, the refining labor costs and refining losses incurred during the separation are provided by SISE management and also taken into account in the valuation study.

- Rhodium: Johnson Matthey and Engelhart Commodities Trading Partners Ltd. The average of the last 10-year rhodium prices (120-month price) announced by the company is taken into account.
- Palladium: The average of the last 10-year palladium prices announced by the London Metal Exchange (120-month price) is taken into account.
- Platinum: 31.12.2019 platinum price announced by London Metal Exchange has been taken into consideration.
- Gold: The 31.12.2019 price announced by the London Bullion Market Association has been taken into account.
- Silver: The price of 31.12.2019 announced by the London Bullion Market Association has been taken into account.

The dividend amount planned to be distributed by CE in 2020 was also taken into consideration in the valuation study of CE.

Matters to be Considered

Other Companies

(3/4)

Şişecam Sigorta Aracılık Hizmetleri A.Ş. (SG)	Şişecam Sigorta Aracılık Hizmetleri A.Ş. ("SG" or "Şişecam Sigorta") was established to meet all the insurance needs of Şişecam Group through a single channel. As of the Independent Expert Report date, it is understood that Şişecam Group is receiving insurance brokerage services from non-group companies. Şişecam Sigorta continues its activities only to meet the minor needs of the group companies and the needs of group employees. As a result, it is assumed that Şişecam Insurance's commission income, whose activities have declined significantly, will not increase significantly during the projection period compared to 2019.
Şişecam Enerji A.Ş. (SE)	In line with the information received from Şişecam Enerji A.Ş. ("SE" or "Şişecam Enerji"), it is understood that SE makes a significant portion of the wholesale natural gas and electricity sales to contracted customers. The impact of the COVID-19 outbreak on sales was reflected in the 2020 budget, after meetings with SE management.
Camiş Madencilik A.Ş. (MD)	<p>Camiş Madencilik A.Ş. meets the glass sand needs of flat glass, glass packaging and glassware companies of Şişecam Group, ("MD" or "Camiş Madencilik") and makes non-group sales through its licenses. Within the scope of the study, approximately 50 licenses and operable reserves held by Camiş Madencilik as of 2019 year-end are taken into consideration and it is assumed that no new licenses would be acquired after 2020. 70% of the sales of 5 facilities within the company are made to Şişecam group companies. The amount of operable reserves is expected to be depleted by 90% in 2080, taking into consideration the demand projections for group sales and feldspar and other sands sales to non-group companies. Therefore, projections are made until 2080 within the scope of the Income Approach and the terminal value is not taken into account.</p> <p>According to the information received from the MD management, it is assumed that the profit margin targets for intra-group sales which are assumed to be in accordance with transfer pricing principles and the profit margin target for non-group sales will be realized similarly throughout the projection period.</p> <p>With the restructuring investment in the Yalıköy facility planned to take place in 2020-2021, a capacity increase is projected. Moreover, in 2022, a new facility investment that will provide raw materials to the packaging business is planned. After 2022, no new facility or reserve purchases are considered.</p> <p>As of 2019, there is no production in some fields owned by the company, and there are ongoing metallic mineral explorations. As of 2019, since there is no clarity about the existence of a reserve, any revenue contribution from the related fields has not been taken into consideration.</p>
Camiş Egypt Mining Ltd. Co. (ME)	Camiş Egypt Mining Ltd. Co. ("ME" or "Camiş Egypt") provides raw materials for glass packaging and flat glass companies. After the increase in capacity in Yalıköy facility under Camiş Madencilik, sales are expected to be limited and production will shift to Yalıköy facility. Therefore, it is foreseen that only after 2022, solar sand will be sold to flat glass companies. Currently, raw materials are purchased from third parties and processed in Zafarana facility and shipped to group companies. For this reason, the terminal value is taken into account with the prediction that ME will continue operating as a processing facility and that no mining will be carried out.

Matters to be Considered

Other Companies

(4/4)

Madencilik Sanayii ve Ticaret A.Ş. (MT)	Madencilik Sanayii ve Tic A.Ş. ("MT" or "MADSAN") manufactures contractor companies through licenses it holds and sells them to Camiř Madencilik with transfer pricing. In line with the intra-group sand demand, it is foreseen that the tonnages to be produced and sold from these fields will increase after 2020. Taking into account the reserve life, an estimate was made until 2080 within the scope of the Income Approach and the terminal value was not taken into account.
Rudnik Krecnjaka Vijenac D.O.O. (VM)	Rudnik Krecnjaka Vijenac D.O.O. ("VM" or "Vijenac") is accounted using the equity method in the consolidated financial statements. Previous year's financial losses at the end of 2019 are added to the capital of the company, which has not distributed dividends before and had financial losses in the previous year. As a result of the meeting with SISE Management, it is understood that Vijenac will begin to distribute dividends as of 2020. In the study, under the Income Approach, projected future dividend amounts for Vijenac are taken into consideration after discounting.
Camiř Ambalaj Sanayii A.Ş. (CA)	Camiř Ambalaj Sanayii A.Ş. ("CA" or "Camiř Ambalaj") makes 65% of its total sales to Pařabahçe Factories and 35% to non-group companies. It is predicted that the capacity will increase from 50m to 65m m ² with the targeted investments in the projection period. In the long term, it is planned that 55% of the sales will be made to Pařabahçe Factories and 45% to non-group producers, and the increase in capacity is aimed to stimulate non-group sales. It is understood that the change in paper prices is the most important factor in determining the unit sales price. According to the information received from the Camiř Ambalaj management, it is understood that Camiř Ambalaj was able to sell to the market at a high price by providing an advantage as a result of the crisis in the sector in 2019 and the difficulties in paper supply of small players. However, 2019 profitability figures are predicted to be unsustainable and will decrease from 2020 on.

Matters to be Considered

SISE

Value Difference Between ANACM Share Groups

ANACM embodies three share groups (Group A, Group B and Founding Dividend Shares). Group B and Founding Dividend Shares have different privileges at profit distribution from Group A, which constitutes the majority shares. It is assumed that the Group B shares, which are not public and have profit distribution privileges, are more valuable than the Group A shares.

By analyzing the last 10-year period, it is understood that, thanks to the privileges provided by Group B shares in profit distribution, it is entitled to 4.70 times more profit share than Group A shares. Since Group B shares are more liquid compared to Group A shares, a 20% liquidity discount was applied to the coefficient calculated. It is assumed that the value of one Group B share will be 3.76 (4.70 x (1-20%)) times of one Group A share.

The shares of SISE under different share groups in ANACM are presented below. Accordingly, it is observed that the 1.66% shares of SISE in ANACM is the privileged Group B shares.

TL	Equity	Share
SISE A	574,629,808	76.62%
SISE B	12,486,104	1.66%
SISE Total	587,115,912	78.28%
Other	162,884,088	21.72%
Total	750,000,000	100.00%

In the calculation of the equity value of SISE, the value of privileged Group B shares has been taken into account by all methods except the Net Asset Approach.

For the calculation of the value difference between ANACM share groups, please see the calculation on pages 153, 154 and 155.

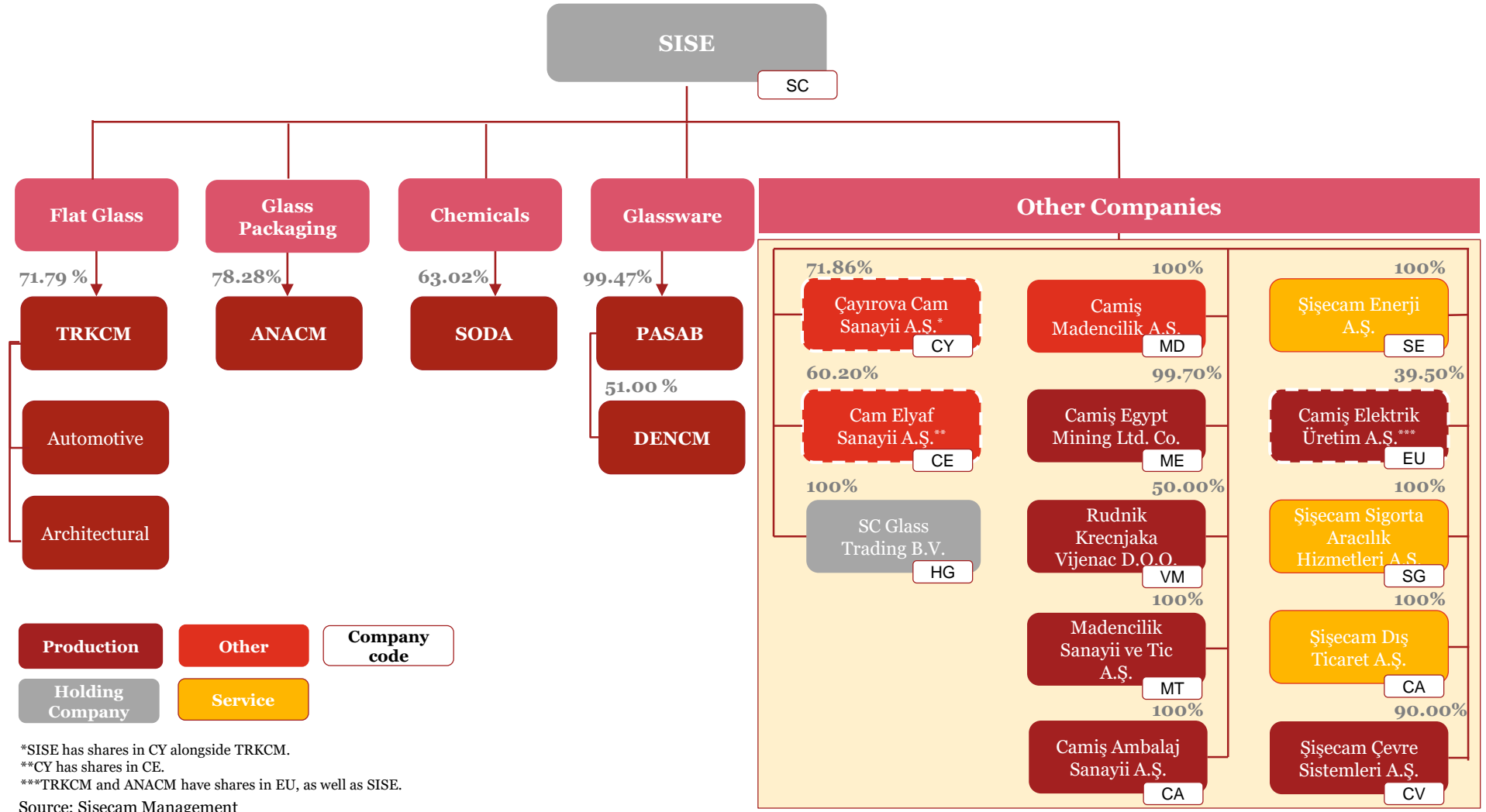
Effects of COVID-19 Outbreak on Valuation Results

The effects of the COVID-19 outbreak on SISE companies on the basis of main lines of business are discussed in the sections where the valuation studies for the acquired companies are explained. As the valuation studies of SISE by Income Approach and Market Approach are conducted by "Sum of the Parts" Method, the impact of the COVID-19 outbreak on the main lines of business can be reflected in the SISE value. These effects are to be found on the related pages of the Companies to Merge. The effects of COVID-19 epidemic on the acquired companies also create an impact on Other Companies. COVID-19 related effects in valuation studies conducted according to Income Approach of DT and SC are estimated as a decrease in royalty income on the back of declining company revenues and a fall in commission revenues of DT as a result of declining foreign trade volume of the group. In addition, within the scope of mining operations, the COVID-19 effect has been reflected in the projections.

SISE

Shareholding Structure

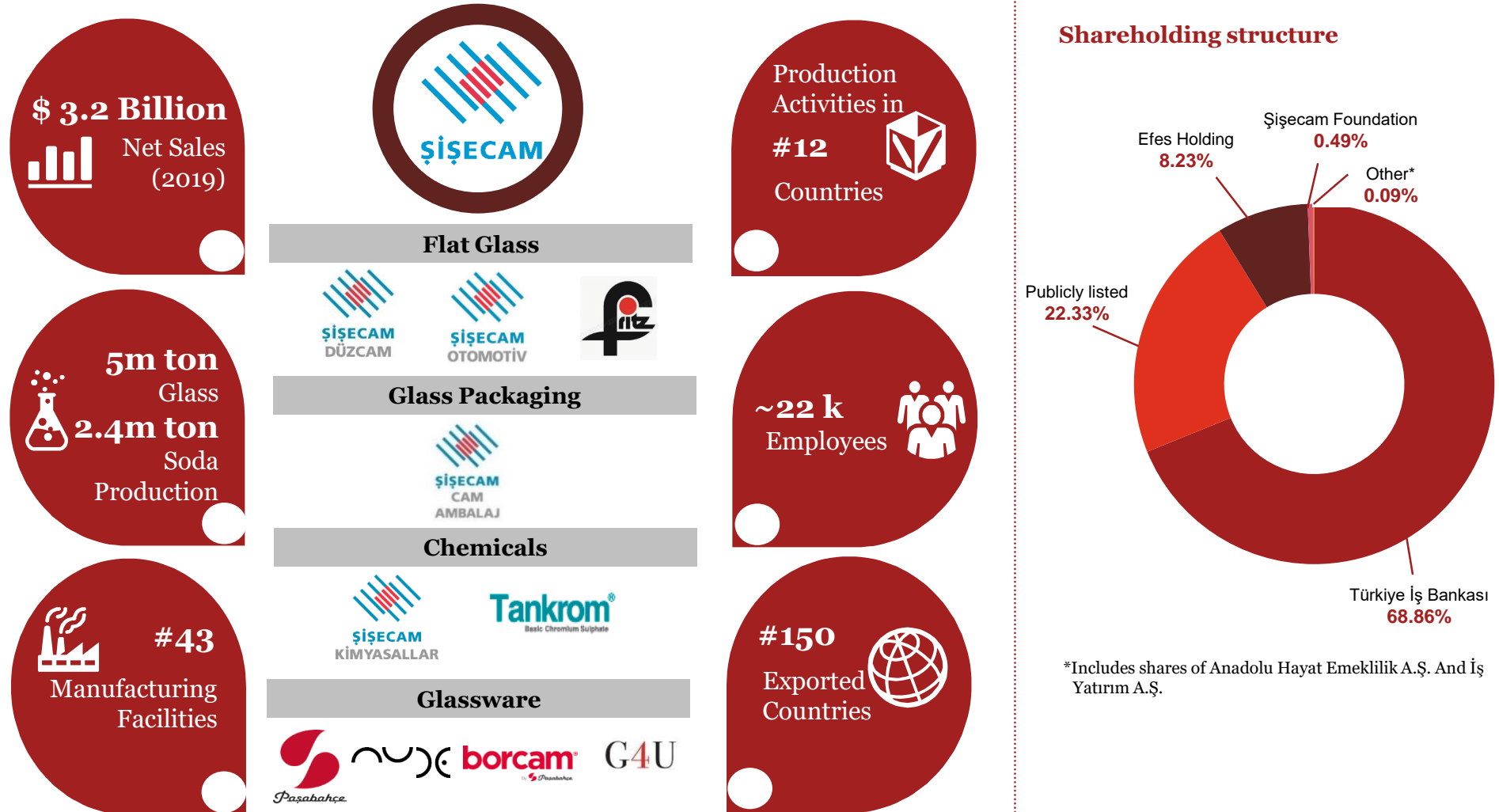
The shareholding structure below shows the companies owned by SISE with the **direct ownership** percentages. **Other Companies**, include the Companies outside of the main business segments, which provide services for these segments.



SISE

General Information










68.86% of SISE is owned by Türkiye İş Bankası, 8.23% by Efes Holding and the remaining 22.33% is publicly listed. SISE is an industrial group operating on an international scale in 14 countries with c. 22k employees in main business segments flat glass, glassware, glass packaging and chemicals.



Source: Şişecam Management

SISE**Main Business Segments (1/2)**

SISE, is the top 5th in Europe and top 10th producer in the World in it's main business segments. The Group is the world leader of basic chromium sulphate production.










		Flat glass	Glass packaging	Glassware	Chemicals
					
Scope of operations		Architectural and automotive glasses	Production of glass packaging for food, beverage and cosmetics sectors	Production of glassware and paper board packaging, as well as retailing	Soda and analogues, chromium chemicals, industrial raw materials and Vitamin K3
Sectors of input provision		Construction, automotive, solar energy and domestic appliances	Food, beverage, pharmaceutical and cosmetics	Home, hospitality and industry	Glass, detergent, leather industry, animal food, ceramics, construction, automotive, marine, wind turbine wings
World Ranking		5th Globally and the 1st in Europe	The 5th Globally and in Europe	The 3rd Globally and the 2nd in Europe	The 8th Globally and the 4th in Europe
2019 Net Sales		TL 6.7 billion	TL 4.3 billion	TL 3.0* billion	TL 4.6* billion

Source: Şişecam Management

*Camiş Ambalaj has been shown in Glassware group, while the Mining companies have been shown in the Chemicals group.

SISE**Main Business Segments (2/2)**

SISE, is the top 5th in Europe and top 10th producer in the World in it's main business segments. The Group is the world leader of basic chromium sulphate production.

		Flat glass	Glass packaging	Glassware	Chemicals
					
Turkey production plants #		#7 plants	#3 plants	#7 plants #52 stores	#7 plants
Foreign production plants #		#12 plants	#6 plants	#4 plants #3 stores	#5 plants
Capacity		3.2m tons flat glass 3.5m automotive glass 15m units of encapsulated glass	2.4m tons	-	2.4m tons of soda 128k tons of Basic Chromium Sulphate (BSC)
Production		2.5m tons of architectural glass 11m m ² automotive glass 12m units of encapsulated glass	2.2m tons	358k tons	2.4m tons of soda 100k tons of BCS 45.7k tons of fibre glass 3.9m tons of industrial raw materials

Source: Şişecam Management

*Camış Ambalaj has been shown in Glassware group, while the Mining companies have been shown in the Chemicals group.

SISE

Important Historical Milestones

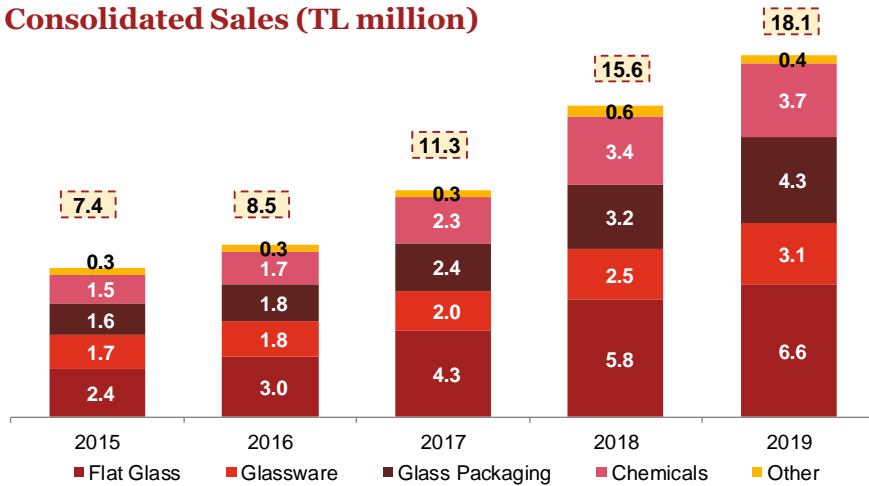
2000-2014	2014-2020
<p><i>Şişecam increased its market share in selected regions and became a regional leader by creating strategic partnerships, in the period between 2000-2014.</i></p>	<p><i>After 2014, Şişecam strengthened its market position and became one of the top three largest players in the sector.</i></p>
<p>Flat glass</p> <ul style="list-style-type: none"> Capacity increasing investments in Turkey and new oven investments An establishment of joint venture with Saint Gobain due to the development of shared projects in Russia and Egypt New plant investments in Bulgaria, Romania and Russia 50% partnership with HNG Float Glass Limited in India Acquisition of Fritz GmbH 	<p>Flat glass</p> <ul style="list-style-type: none"> Capacity increasing investments in Russia and Bulgaria Capacity increasing investments and new oven investments in the foreign plants Two new one oven plant investments in Italy and reach to the position of the largest flat glass producer in Europe based on the total capacity Acquisition of the remaining 50% shares of HNG Float Glass Limited
<p>Glass packaging</p> <ul style="list-style-type: none"> Mersin, Topkapi and Çayırova factories have been joined under Anadolu Cam Investments aiming to increase factory capacity and acquisitions in Russia and Ukraine Increase of capacity and new oven investments in Turkey and Georgia Production capacity threshold of 500k tons has been exceeded 	<p>Glass packaging</p> <ul style="list-style-type: none"> Investments aiming to increase capacity and new oven investments in Turkey Acquisition of Ruscam shares from the partner of glass packaging Sudel in Russia and transfer of sand companies in Russia to Sudel in return Reach of production capacity in Turkey to 1.2m tons in 2018
<p>Chemicals</p> <ul style="list-style-type: none"> Soda Sanayii A.Ş.'s public listing and capacity increasing investments 50% partnership with Cromital Partnership with the Lukovac Soda Factory (FSL) which makes soda production in Bosnia & Herzegovina Acquisition of 2.65% share of Soda Sanayii A.Ş. by the International Finance Corporation, and therefore an investment to Şişecam Group 	<p>Chemicals</p> <ul style="list-style-type: none"> Capacity increase investments in Turkey and Bosnia & Herzegovina Signing the 50% shareholder agreement with Ciner Group to build a plant producing soda ash in the USA
<p>Glassware</p> <ul style="list-style-type: none"> Opening of representatives in the USA, Russia and other countries and the first store abroad Acquisition of Posuda Ltd. and capacity increasing investments Investment of European Bank for Reconstruction and Development (EBRD) to the Şişecam Group by purchasing 15.44% share of Paşabahçe Cam Sanayii A.Ş. 	<p>Glassware</p> <ul style="list-style-type: none"> Purchase of an asset from the Pearl for Glass Manufacturing Company and establishment of Paşabahçe Egypt Glass Manufacturing S.A.E. Acquisition of the 14.85% share in PASAB from EBRD by SISE

SISE

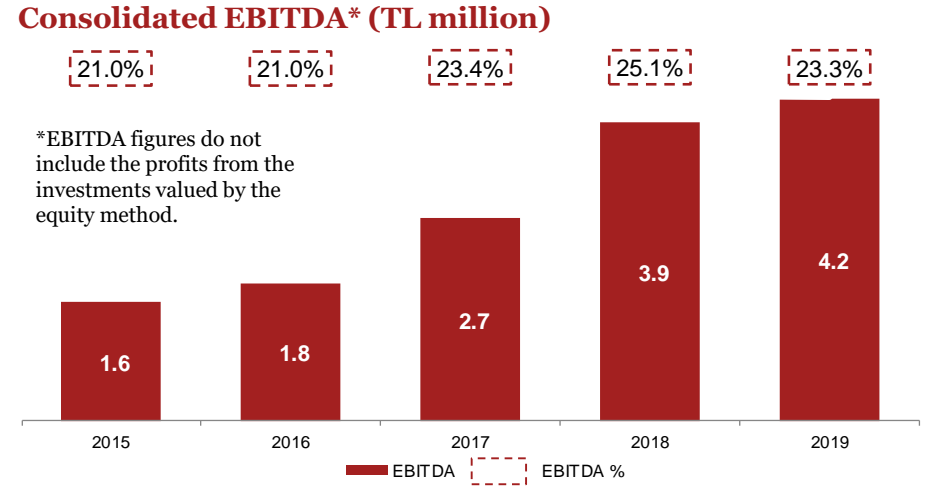
Key Financial Indicators

60% of SISE's sales exports due to its' global outreach. Mining operations are shown beneath the **Chemicals** main business segment in the Group's financials. However, in the following pages of the report, the mining operations are taken into consideration under **the Other Companies**.

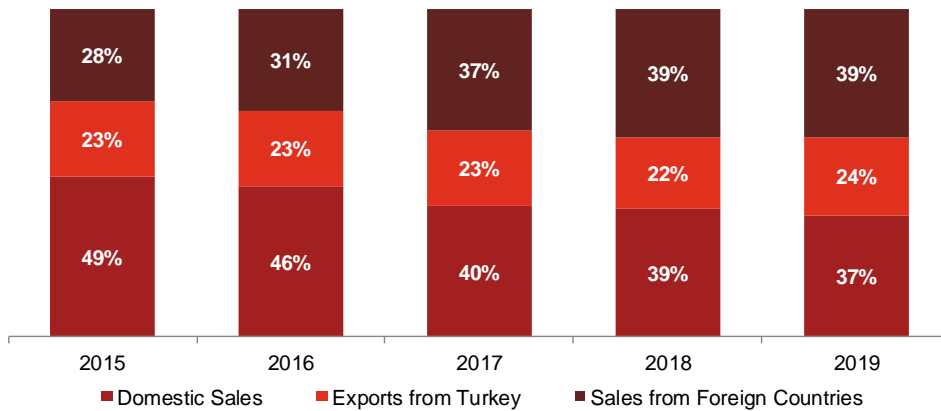
Consolidated Sales (TL million)



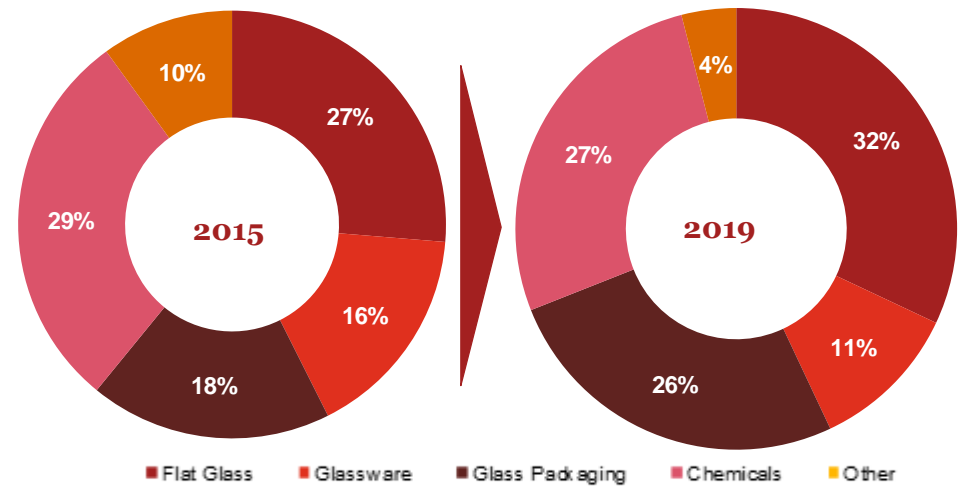
Consolidated EBITDA* (TL million)



Geographic Breakdown of Sales



Breakdown of Consolidated EBITDA



Source: Şişecam management, PwC analysis

Other Companies (1/7)

Other Companies comprise of companies that provide services and goods to the companies that are operating under the main business segments of SISE. **Other Companies** include companies which provide the Group with services such as managerial, operational and financial support, as well as inputs such as raw materials and energy.

Overview of Activities

Şişecam Holding - SC

Şişecam Holding manages the Companies within the scope of the Group. The Holding's main income items are: collection of royalty payments over the sales of the group companies' to non-group companies, Group's cost projection invoices and guarantorship income. Şişecam Holding also has a significant level of dividend income from the subsidiaries and affiliates. The Companies make a royalty payment to their associated main group company of 1.75% calculated over their sales to the non-group companies. However, Şişecam Holding only collects royalty over the consolidated sales of Trakya Cam Sanayii, Şişecam Otomotiv A.Ş., Anadolu Cam Sanayii, Ruscam Glass Packaging Holding and Soda Sanayii A.Ş.

Camiş Madencilik- MD

Camiş Madencilik A.Ş. which operates under the Şişecam Chemicals segment, provides its' industrial raw materials for the glass, fibre glass and soda factories in the Group, both locally and globally to meet their relevant raw material demand. It operates in various regions of Turkey on c. 70 mine sites and 18 raw material preparation and enrichment plants.

Financial Indicators

(TL m)	FY17	FY18	FY19
Net Sales	196	258	477
EBITDA	20	10	140
EBITDA Margin	10.0%	4.0%	29.4%
Total Assets	3,518	4,840	6,196
Equity	2,719	3,152	3,479

(TL m)	FY17	FY18	FY19
Net Sales	246	333	412
EBITDA	35	51	65
EBITDA Margin	14.1%	15.4%	15.7%
Total Assets	283	333	416
Equity	222	262	318

Source: Şişecam management, PwC analysis

Other Companies

(2/7)

Other Companies comprise of companies that provide services and goods to the companies that are operating under the main business segments of SISE. **Other Companies** include companies which provide the Group with services such as managerial, operational and financial support, as well as inputs such as raw materials and energy.

Overview of Activities

Camış Ambalaj - CA

Camış Ambalaj Sanayi A.Ş. has initially been created to fulfil the demand for paper and cardboard packaging of the Group companies. It makes sales to the glassware segment of the Group as well as to producers outside of the Group. The total production capacity has been 50m m² as at 2019, and with new investments the capacity is expected to gradually reach 65m m².

Şişecam Enerji - SE

Şişecam Enerji has been created with an aim of operating in the energy and natural gas sector in accordance with the regulations of the Energy Market Regulatory Authority in 2014. Şişecam Enerji does wholesale trade of electric energy and natural gas in accordance with the relevant legislation. Şişecam Enerji sells electricity and natural gas to group and other companies, that it purchases from the spot market or via the bilateral contracts.

Financial Indicators

(TL m)	FY17	FY18	FY19
Net Sales	107	158	173
EBITDA	15	22	30
EBITDA Margin	14.2%	14.1%	17.5%
Total Assets	223	247	238
Equity	179	181	200

(TL m)	FY17	FY18	FY19
Net Sales	728	729	897
EBITDA	11	23	20
EBITDA Margin	1.5%	3.2%	2.2%
Total Assets	92	200	172
Equity	21	31	69

Source: Şişecam management, PwC analysis

Other Companies (3/7)

Other Companies comprise of companies that provide services and goods to the companies that are operating under the main business segments of SISE. **Other Companies** include companies which provide the Group with services such as managerial, operational and financial support, as well as inputs such as raw materials and energy.

Overview of Activities

Çevre Sistemleri - CV

Çevre Sistemleri has been established in 2016 with the 10% share ownership by EBRD with the aim of becoming the leader in the industrialisation of the recycling industry, speeding up the modernisation of recycling companies, providing work on recycling, collection and communication in order to bring the suppliers towards a corporate structure, and providing consulting on quality, environmental and health safety systems.

Dış Ticaret - DT

Şişecam Dış Ticaret, has been established with the aim of supporting Şişecam Group in export operations and with the aim of rationalising the export activities. The synergies and knowledge sharing developed due to all of the exports taking place under Şişecam Dış Ticaret has helped the Company to be awarded as the export leader in the category of 'Cement, Glass, Ceramics and Soil Products' by the Turkish Exporters Assembly in 2019.

Financial Indicators

(TL m)	FY17	FY18	FY19
Net Sales	22	36	62
EBITDA	5	1	6
EBITDA Margin	22.1%	2.4%	10.3%
Total Assets	73	77	133
Equity	66	68	89

(TL m)	FY17	FY18	FY19
Net Sales	2,861	3,789	4,674
EBITDA	7	15	6
EBITDA Margin	0.3%	0.4%	0.1%
Total Assets	772	1,178	1,355
Equity	43	51	56

Source: Şişecam management, PwC analysis

Other Companies

(4/7)

Other Companies comprise of companies that provide services and goods to the companies that are operating under the main business segments of SISE. **Other Companies** include companies which provide the Group with services such as managerial, operational and financial support, as well as inputs such as raw materials and energy.

Overview of Activities

Şişecam Sigorta - SG

Şişecam Sigorta carries out the insurance contracts of the Group and is engaged in brokership activities. Currently, it only covers individual insurance of the Group employees, and provides a limited scope of insurance needs for some of the Group companies.

Camiş Elektrik - SE

Trakya Power Plant with the power of 31 MW was established in 1997 with the aim to put the demand of the Group Companies' electricity provision under the guarantee, to eliminate the problems with the electricity quality that was provided by the power plant, to reduce the production losses and to create a cost advantage and produce electricity at a lower cost in comparison to purchasing it. The Group's regional glassware and flat glass factories are directly connected to the power plant, which provides their electricity demand.

Financial Indicators

(TL m)	FY17	FY18	FY19
Net Sales	4	4	4
EBITDA	3	2	3
EBITDA Margin	71.9%	61.6%	59.8%
Total Assets	20	10	11
Equity	16	7	7

(TL m)	FY17	FY18	FY19
Net Sales	728	729	897
EBITDA	11	23	20
EBITDA Margin	1.5%	3.2%	2.2%
Total Assets	92	200	172
Equity	21	31	69

Source: Şişecam management, PwC analysis

Other Companies

(5/7)

Other Companies comprise of companies that provide services and goods to the companies that are operating under the main business segments of SISE. **Other Companies** include companies which provide the Group with services such as managerial, operational and financial support, as well as inputs such as raw materials and energy.

Overview of Activities

Madencilik Sanayii - MT

Madencilik A.Ş., which operates under the Şişecam Chemicals segment, provides the Group's raw material requirements along with Camiş Madencilik. The Company owns 11 permits. On some, it performs production, and on the others, it gains royalty income.

Rudnik Krecnjaka Vijenac - VM

Limestone company -R.K. Vijenac D.O.O., located in Tuzla Canton of the Federation of Bosnia and Herzegovina, has been purchased by the joint venture of Camiş Madencilik A.Ş. and the Austrian Factory Cementa Lukavac. The plant produces limestone raw materials for the cement and soda sectors.

Financial Indicators

(TL m)	FY17	FY18	FY19
Net Sales	6	6	8
EBITDA	0	1	1
EBITDA Margin	7.5%	10.5%	12.9%
Total Assets	3	4	5
Equity	1	2	2

(BAM m)	FY17	FY18	FY19
Net Sales	10	10	10
EBITDA	2	2	2
EBITDA Margin	19.2%	21.5%	17.5%
Total Assets	28	27	27
Equity	24	25	26

Source: Şişecam management, PwC analysis

Other Companies

(6/7)

Other Companies comprise of companies that provide services and goods to the companies that are operating under the main business segments of SISE. **Other Companies** include companies which provide the Group with services such as managerial, operational and financial support, as well as inputs such as raw materials and energy.

Overview of Activities

Camiş Egypt Mining - ME

Camiş Egypt Mining Co. has been established by Camis Madencilik A.Ş. in Egypt in 1999. The Company has licensed lands in Egypt and also purchases raw materials from third-parties and conveys silica sand to the Group glass factories by processing the raw materials on the Zafarana plant. The demand of the Group for low iron sand is met by Egypt.

Cam Elyaf Sanayii - CE

Cam Elyaf Sanayii was established for the fibre glass production in 1976 by the Şişecam Group. The Company has decided to suspend its' operations in 2019 and has rented out the valuable minerals to Şişecam Elyaf Sanayii A.Ş., which still continues its' operations of fibre glass production under the Group.

Financial Indicators

(TL m)	MY17	MY18	MY19
Net Sales	23	26	40
EBITDA	1	1	1
EBITDA Margin	5.6%	2.7%	1.7%
Total Assets	4	3	6
Equity	2	2	3

(TL m)	FY17	FY18	FY19
Net Sales	205	190	39
EBITDA	57	53	(2)
EBITDA Margin	27.6%	27.9%	-4.6%
Total Assets	301	312	405
Equity	247	278	381

Source: Şişecam management, PwC analysis

Other Companies (7/7)

*Other Companies comprise of companies that provide services and goods to the companies that are operating under the main business segments of SISE. **Other Companies** include companies which provide the Group with services such as managerial, operational and financial support, as well as inputs such as raw materials and energy.*

Overview of Activities

Çayirova Cam Sanayii - CY

The Company has been created along with the first flat glass production made in 1959. The Board of Directors has made a decision dated 24.11.2004, to terminate the Company's operations at the end of 2004. As a result of this decision, the ovens have been made cold and the production operation has been terminated. Investment properties in Çayirova are amongst the significant assets of the Company.

Financial Indicators

<u>(TL m)</u>	<u>FY17</u>	<u>FY18</u>	<u>FY19</u>
Net Sales	-	-	-
EBITDA	0	(1)	(8)
EBITDA Margin	0.0%	0.0%	0.0%
Total Assets	102	421	519
Equity	101	391	486

Source: Şişecam management, PwC analysis

SISE

Historical Financial Statements

(1/3)

The consolidated financial statements of SISE have been prepared in accordance with the provisions of the CMB's "Communiqué on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Balance Sheet

TL m	31.12.2017	31.12.2018	31.12.2019
1 Cash and Cash Equivalents	3,439	3,164	8,369
1 Financial Investments	95	222	426
Trade Receivables	2,338	3,235	3,572
Inventories	2,141	3,006	3,831
Other Receivables	38	49	275
Other Current Assets	314	639	742
Current Assets	8,365	10,315	17,216
Financial Investments	1,784	2,384	2,537
Derivative Assets	1	-	90
Investments Accounted for using the Equity Method	712	627	711
Investment Properties	583	730	772
2 Property, Plant and Equipment	9,200	12,177	14,685
3 Intangible Assets	161	580	630
Deferred Tax Assets	329	779	1,094
Other Non-Current Assets	172	216	1,016
Non-Current Assets	12,943	17,494	21,535
Total Assets	21,307	27,809	38,751
Short-term Borrowings	1,976	3,676	5,274
Trade Payables	1,152	1,657	2,093
Current Income Tax Liabilities	61	70	86
Other Current Liabilities	584	602	737
Current Liabilities	3,773	6,005	8,191
Long-term Borrowings	3,941	4,334	10,595
Other Payables	3	1	31
Other Non-Current Liabilities	528	756	801
Non-Current Liabilities	4,472	5,090	11,426
Total Equity	13,062	16,713	19,133
Total Liabilities and Equity	21,307	27,809	38,751

1 In 2019, SISE issued two bonds amounting to \$ 700m in total with semi-annual interest coupon payments. Certain part of the issued bonds have been distributed to the Group companies to meet their financing needs, while the rest remained within cash and cash equivalents and financial assets. As of the balance sheet date, the Group has TL 8bn of cash and cash equivalents with a maturity of less than 3 months. 54% of cash and cash equivalents less than 3 months are held in \$; while 31% are in €, 8% are in TL while the remaining 7% are in other foreign currencies.

2 The fair value of the real estates in question represents the value estimated based on the annual valuations made by experts holding the relevant capital market real estate valuation license. Investment properties are all located in Turkey. These include the old factory buildings and lands, of which TL 302m worth are located in Beykoz owned by Şişecam Holding and TL 350m worth of them is located in Çayirova, owned by Çayirova Cam Sanayii.

3 Şişecam group companies made TL 2.3 billion of capital expenditures in 2019 in line with their growth targets. € 180m of these investment expenditures consist of the new furnace and machinery equipment investments of the Flat Glass group; about TL 890m, of the modernization, capacity expansion and improvement investments of the Glass Packaging group's Georgia, Turkey and Russia factories. Besides TL 284m of capital expenditure was made for the USA investments of the Chemicals group.

Source: Şişecam management, PwC analysis

SISE

Historical Financial Statements

(2/3)

The consolidated financial statements of SISE have been prepared in accordance with the provisions of the CMB's "Communiqué on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Balance Sheet

TL m	31.12.2017	31.12.2018	31.12.2019
Cash and Cash Equivalents	3,439	3,164	8,369
Financial Investments	95	222	426
Trade Receivables	2,338	3,235	3,572
Inventories	2,141	3,006	3,831
Other Receivables	38	49	275
Other Current Assets	314	639	742
Current Assets	8,365	10,315	17,216
Financial Investments	1,784	2,384	2,537
Derivative Assets	1	-	90
Investments Accounted for using the Equity Method	712	627	711
Investment Properties	583	730	772
Property, Plant and Equipment	9,200	12,177	14,685
Intangible Assets	161	580	630
Deferred Tax Assets	329	779	1,094
4 Other Non-Current Assets	172	216	1,016
Non-Current Assets	12,943	17,494	21,535
Total Assets	21,307	27,809	38,751
5 Short-term Borrowings	1,976	3,676	5,274
Trade Payables	1,152	1,657	2,093
Current Income Tax Liabilities	61	70	86
Other Current Liabilities	584	602	737
Current Liabilities	3,773	6,005	8,191
5 Long-term Borrowings	3,941	4,334	10,595
Other Payables	3	1	31
Other Non-Current Liabilities	528	756	801
Non-Current Liabilities	4,472	5,090	11,426
Total Equity	13,062	16,713	19,133
Total Liabilities and Equity	21,307	27,809	38,751

4 In 2019, SISE has signed a contract with Imperial Natural Resources Trona Mining Inc., one of Park Holding companies on a production partnership with an equal shareholding structure to invest a total capacity of 2.7m tons, being 2.5m tons of natural soda and 200k tons of sodium bicarbonate, with a solution mining method in the Wyoming State, USA, Green River region. Related business development cost (TL 440m) is accounted under other fixed assets. Remaining other fixed assets balance mainly include the long term advances given for various other capital expenditures.

5 SISE has a total financial debt of TL 15.8bn as of 31.12.2019. TL 9bn consist of bank loans, while the remaining TL 6bn of issued bonds. 39% of Şişecam group's financial debts are in \$, with an effective interest rate of 3.90%; 29% are in EUR, with an effective interest rate is 2.3%; 20% are TL with an effective interest rate is 12.75%.

Source: Şişecam management, PwC analysis

SISE

Historical Financial Statements

(3/3)

The consolidated financial statements of SISE have been prepared in accordance with the provisions of the CMB's "Communiqué on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Income Statement

TL m	FY17	FY18	FY19
1 Revenues	11,318	15,550	18,059
Cost of Sales	(7,688)	(10,389)	(12,179)
Gross Profit	3,630	5,161	5,880
General Administrative Expenses	(725)	(884)	(1,038)
Marketing Expenses	(1,370)	(1,866)	(2,311)
Research and Development Expenses	(57)	(75)	(74)
2 Other Operating Income	552	1,127	847
Other Operating Expenses	(346)	(606)	(473)
(+) Depreciation and Amortization	968	1,049	1,375
Dividends from Investments Accounted for using the Equity Method	172	133	96
EBITDA	2,824	4,037	4,302
(-) Depreciation and Amortization	(968)	(1,049)	(1,375)
EBIT	1,856	2,989	2,927
Income from Investing Activities	344	1,128	647
Expense from Investing Activities	(49)	(270)	(88)
Financial Income	1,025	2,058	2,029
Financial Expense	(1,234)	(2,431)	(2,927)
Impairment Gains / (Losses) arising from TFRS-9	-	(60)	8
Other income from associates and joint ventures	-	(90)	-
Other gain (loss) from reclassification of fair value difference accounted under other comprehensive income to profit or loss	-	138	-
Profit Before Tax	1,942	3,462	2,596
Tax on (Expense) / Income	(225)	(510)	(283)
Deferred Tax Income / (Expense)	20	415	387
Profit / (Loss) for the Period	1,737	3,366	2,700





1 SISE produced 5.1 tons of glass, 2.4m tons of soda, 3.9m tons of industrial raw materials in 2019; increased its sales by 16% compared to the previous year to TL 18bn. 37% (TL 6.6 billion) of sales realized by the Group consists of sales to Turkey; 63% of exports from Turkey and other territories' production.

2 Other income and expenses mainly consist of FX gain / losses, the early / late payment discounts / interests, raw material and material sales profits / losses.

Source: Şişecam management, PwC analysis

SISE Valuation Results

SISE's valuation results obtained with 4 different valuation approaches (Income Approach, Market Approach, Net Asset Approach and Stock Market Value) are summarized in the table below.

Valuation Method	Equity Value	Explanations
Income Approach 	TL 21,009 m	The stand-alone equity value of TRKCM, ANACM, SODA, PASAB and DENCM estimated within the scope of the Income Approach, have been included in “the Sum of the Parts” consideration according to SISE’s ownership rates. “DCF” method was applied for operational Other Companies; whereas, “NAA” method was used for non-operational Other Companies.
Market Approach 	TL 22,006 m	The stand-alone equity value of TRKCM, ANACM, SODA, PASAB and DENCM estimated within the scope of the Market Approach, have been included in “the Sum of the Parts” consideration according to SISE’s ownership rates. “DCF” method was applied when accounting for operational Other Companies; whereas, “NAA” method was used for non-operational Other Companies.
Net Asset Approach 	TL 14,480 m	Net asset value is estimated based on the consolidated equity amounts presented in the audited financial statements dated 31 December 2019 and prepared accordance with the TAS / TFRS with certain adjustments made if deemed necessary.
Stock Market Value 	TL 11,461 m	The Stock Market Value for SISE has been calculated based on the weighted average stock market price of the trailing 12 months going back from the merger announcement date, 30.01.2020. Dividends planned to be distributed / collected as of the valuation date have also been considered within the scope of the Stock Market Value.

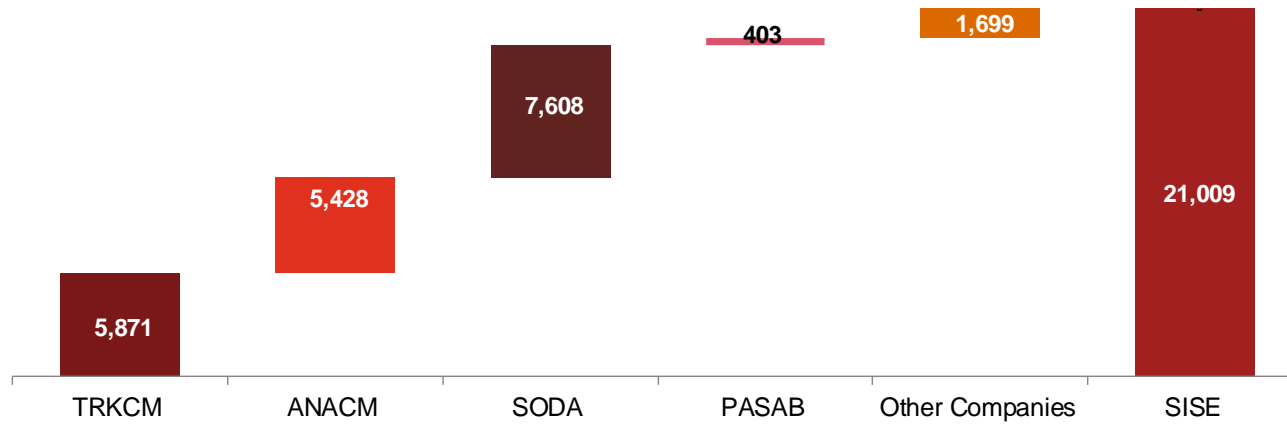
Source: Şişecam management, PwC analysis

SISE

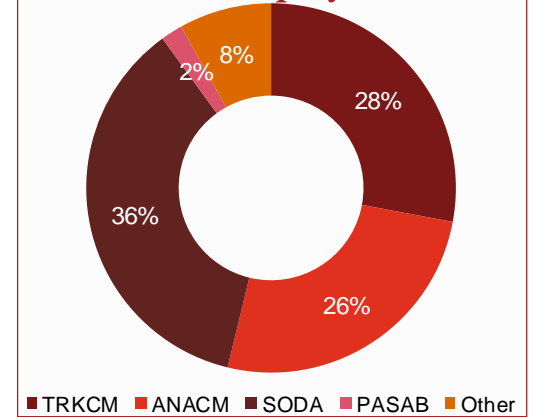
Income Approach

Based on the Income Approach, the total equity value of SISE is estimated to be **TL 21.0bn** as of the valuation date.

Total Equity Value (TL m)



Breakdown of Equity Value



TL m	Main Business Segments				Other Companies												CE,CY, HG*	Total
	TRKCM	ANACM	SODA	PASAB	SC	MD	CA	EU	SE	DT	CV	MT	SG	VM	ME			
Enterprise Value	9,202	8,736	8,190	1,705	565	433	141	43	70	51	22	15	14	9	3	-	29,198	
Net Cash/(Debt)					(807)	107	(4)	42	1	16	26	2	6	-	1	-	(610)	
Investment Properties					302	-	-	-	-	-	-	-	-	-	-	-	302	
Tax Related Assets					43	14	-	-	-	4	2	-	-	-	-	-	62	
Dividend Payment (-)					(320)	-	-	-	-	-	-	-	(3)	-	-	-	(323)	
Dividend Income (+)					386	-	-	-	-	-	-	-	-	-	-	-	386	
Equity Value	8,178	6,850	12,074	405	170	553	137	85	71	71	50	17	17	9	4	864	29,556	
Effective Shareholding Percentage	71.8%	78.3%	63.0%	99.5%	100.0%	100.0%	100.0%	39.5%	100.0%	100.0%	90.0%	100.0%	100.0%	50.0%	99.7%	0.0%	0.0%	
ANACM Group B Share Value Difference**	-	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	
Equity Value - SISE	5,871	5,428	7,608	403	170	553	137	34	71	71	45	17	17	5	4	576	21,009	

*The values of CE, CY and HG are estimated based on Net Asset Approach

** For details, please see the calculation of the share value difference between ANACM stock groups on pages 153, 154 and 155.

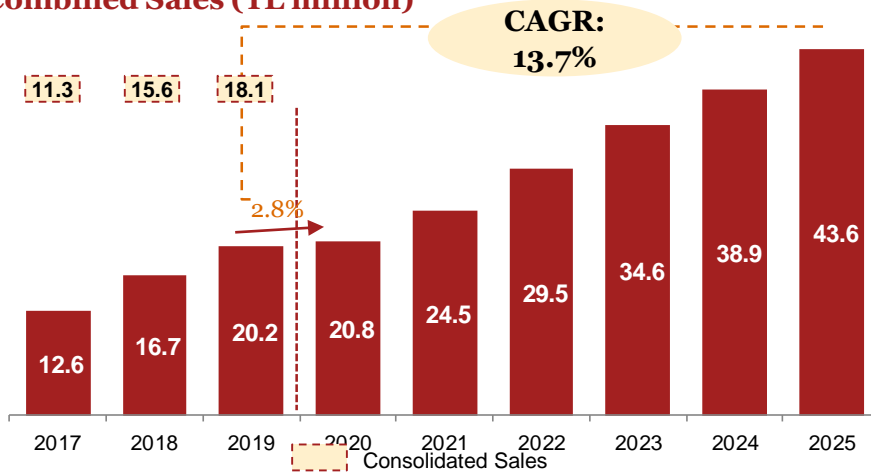
Source: Şişecam management, PwC analysis

SISE

Income Approach

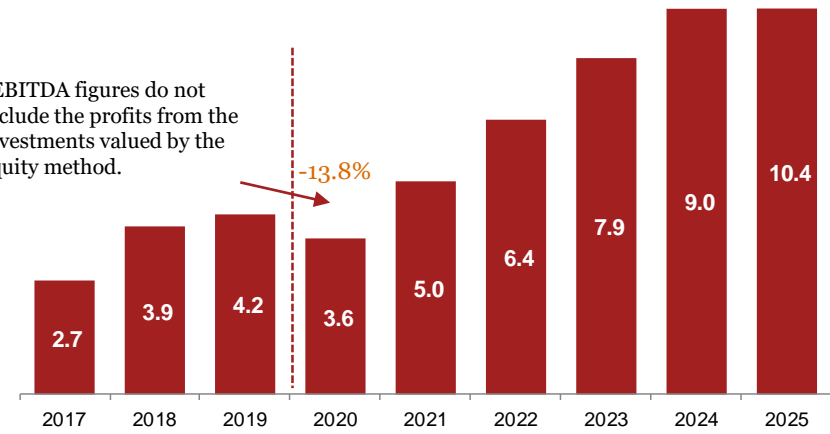
Combined sales of SISE are expected to grow at a CAGR of **13.7%** between 2019-2025. The consolidated EBITDA, which is expected to be c. **TL 4bn** in 2020, is expected to increase to **TL 10bn** in 2025.

Combined Sales (TL million)

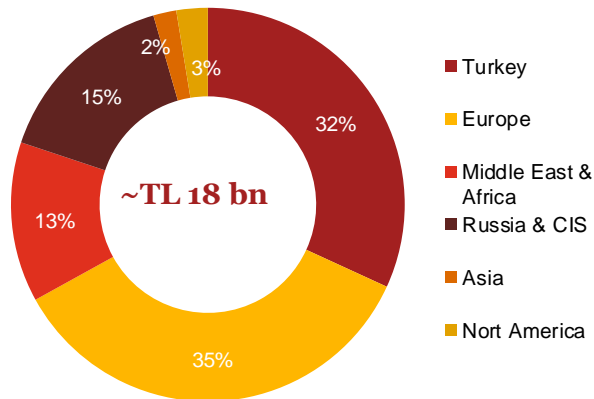


Consolidated EBITDA* (TL million)

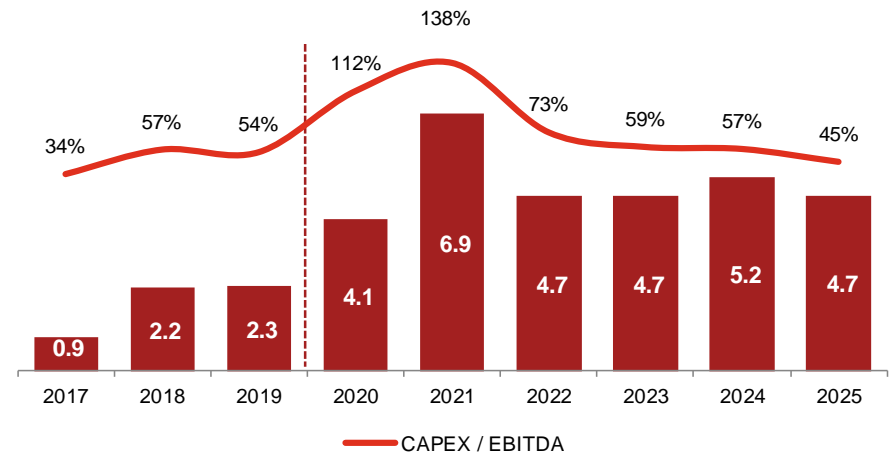
*EBITDA figures do not include the profits from the investments valued by the equity method.



Geographic Breakdown of Sales - 2019



CAPEX (TL million)

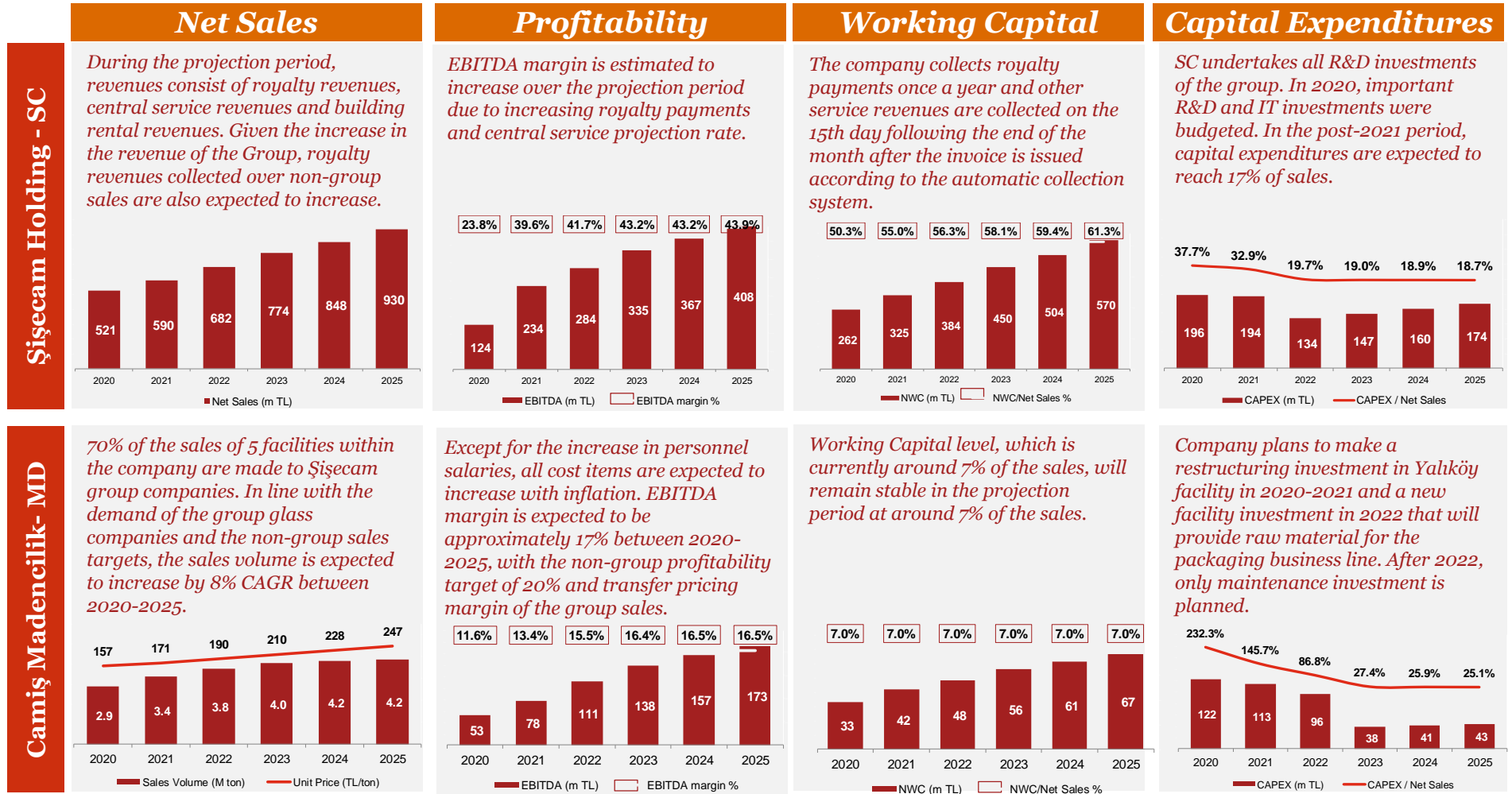


Source: Şişecam management, PwC analysis

Other Companies

Main Assumptions as the Basis of Valuation (1/5)

The main assumptions that have been taken into account when estimating the value of the Other Companies under the Income Approach are presented below.

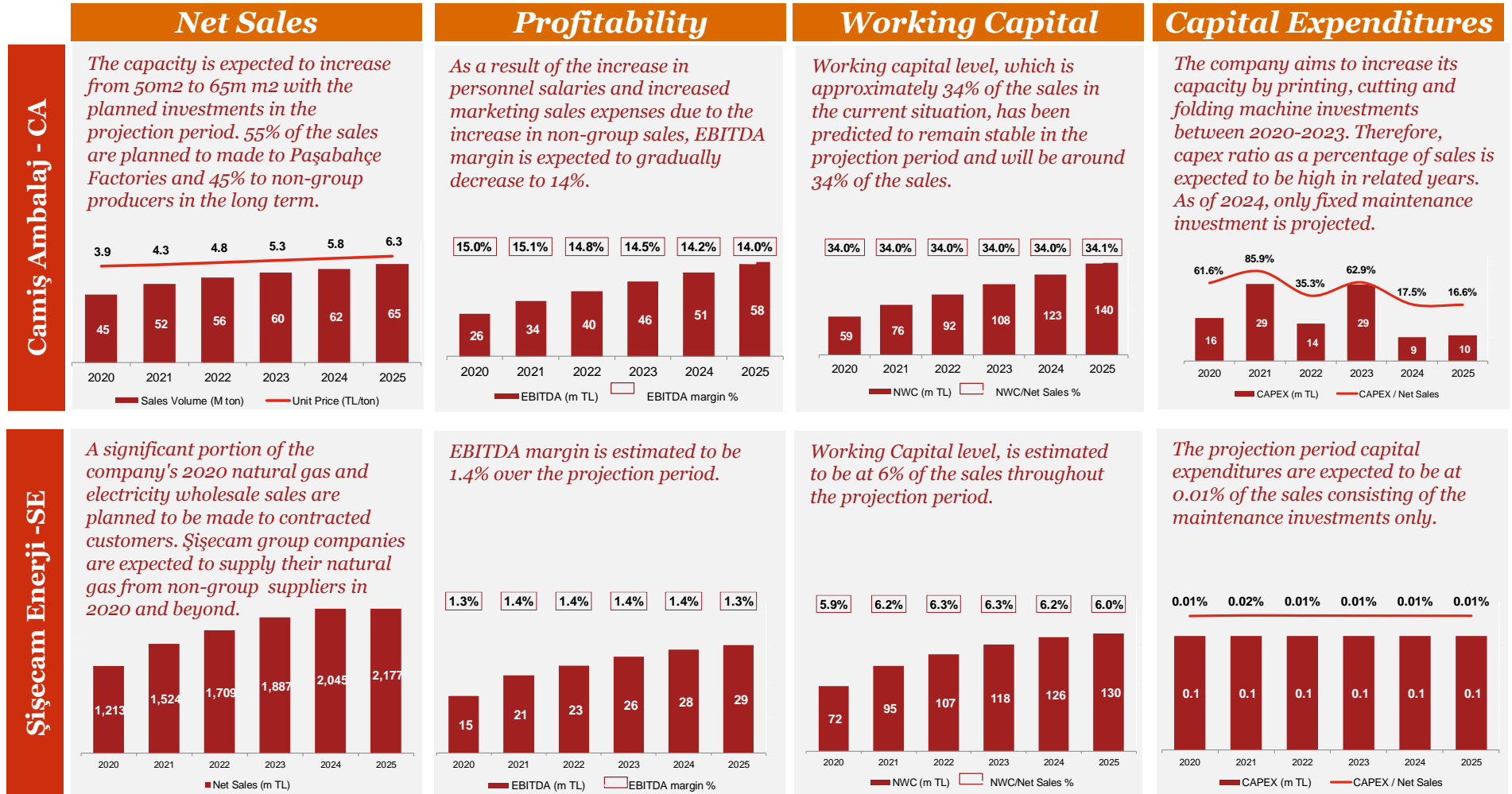


Source: Şişecam management, PwC analysis

Other Companies

Main Assumptions as the Basis of Valuation (2/5)

The main assumptions that have been taken into account when estimating the value of the Other Companies under the Income Approach are presented below.

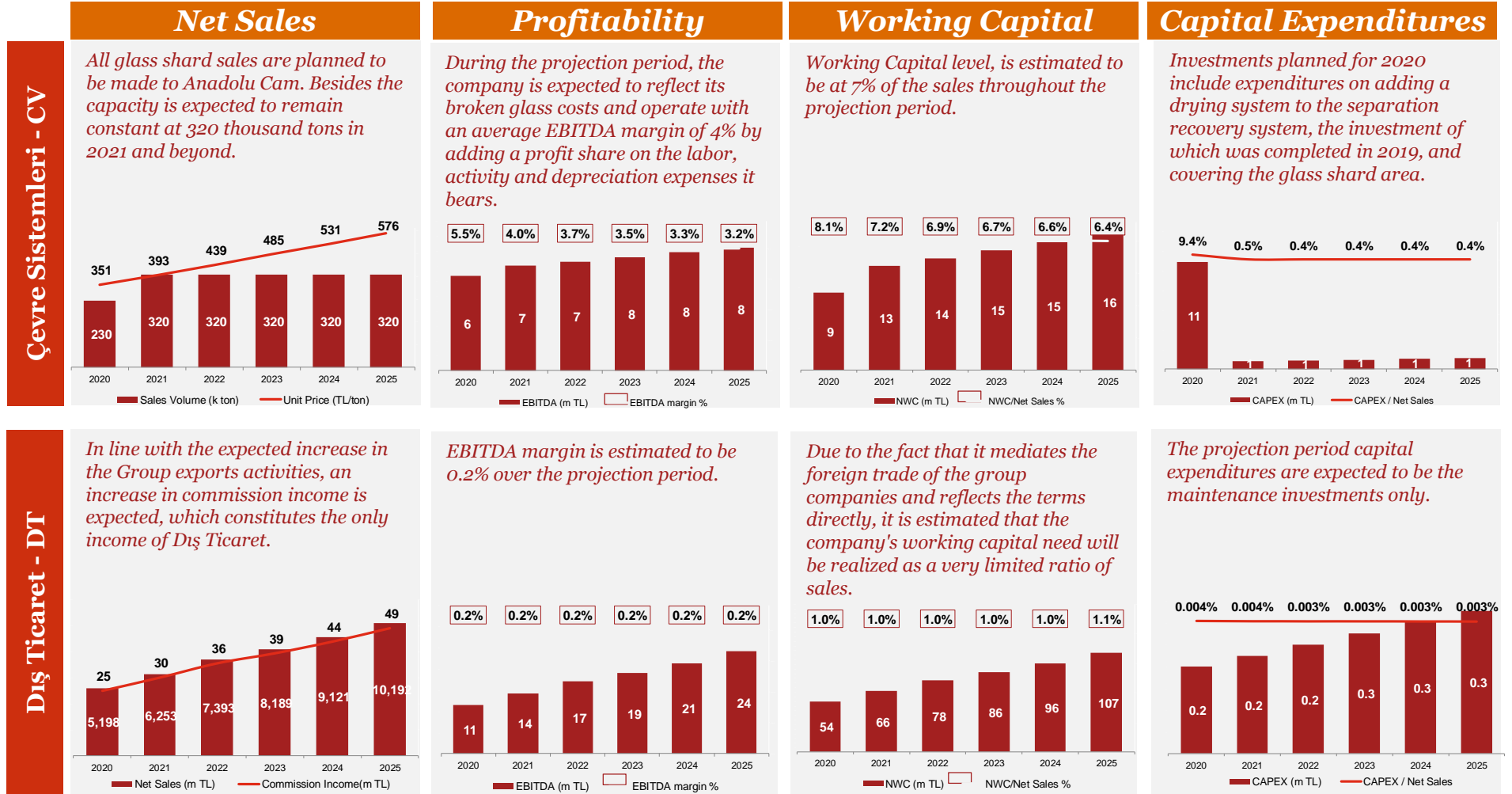


Source: Şişecam management, PwC analysis

Other Companies

Main Assumptions as the Basis of Valuation (3/5)

The main assumptions that have been taken into account when estimating the value of the Other Companies under the Income Approach are presented below.

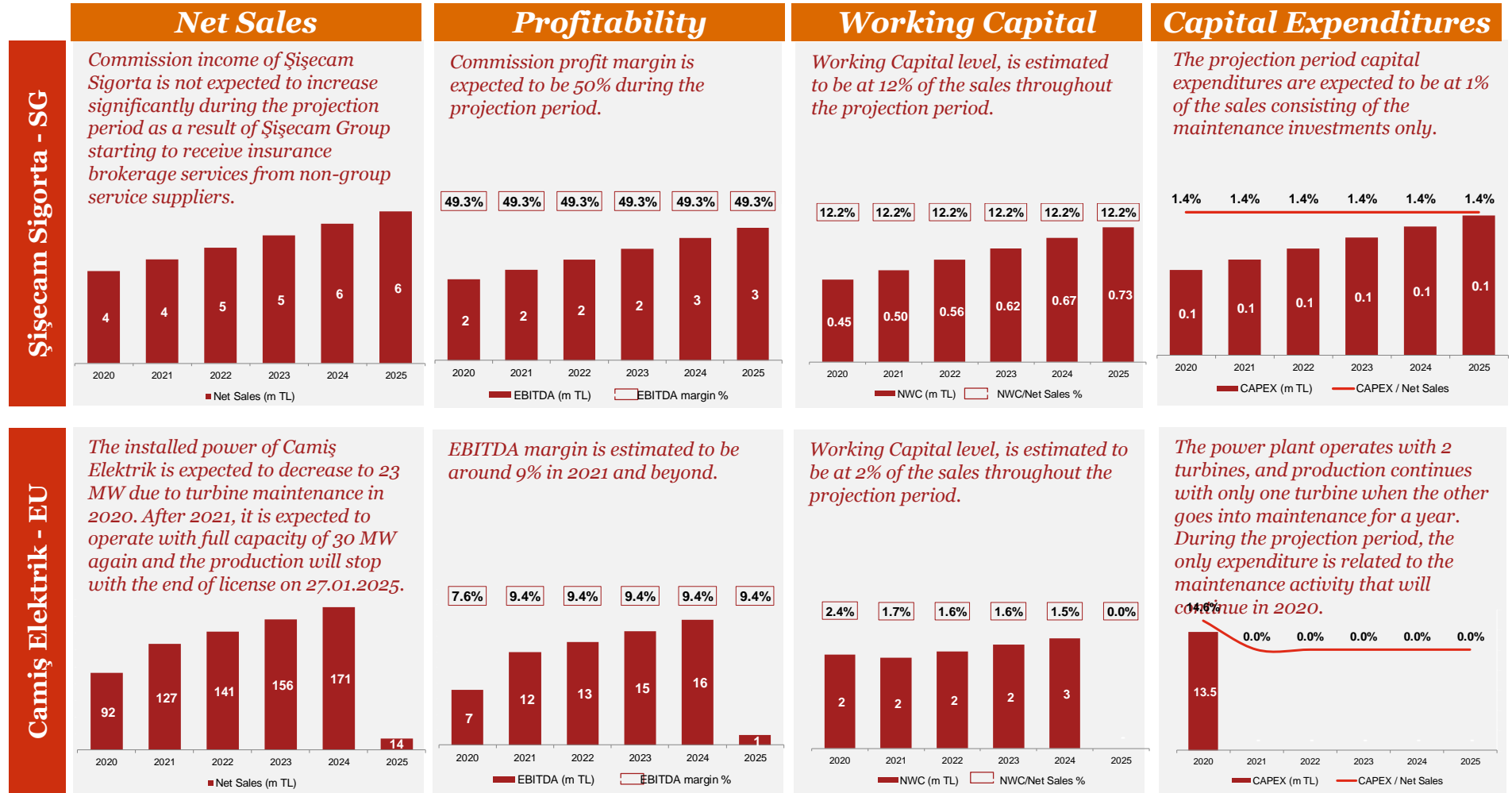


Source: Şişecam management, PwC analysis

Other Companies

Main Assumptions as the Basis of Valuation (4/5)

The main assumptions that have been taken into account when estimating the value of the Other Companies under the Income Approach are presented below.

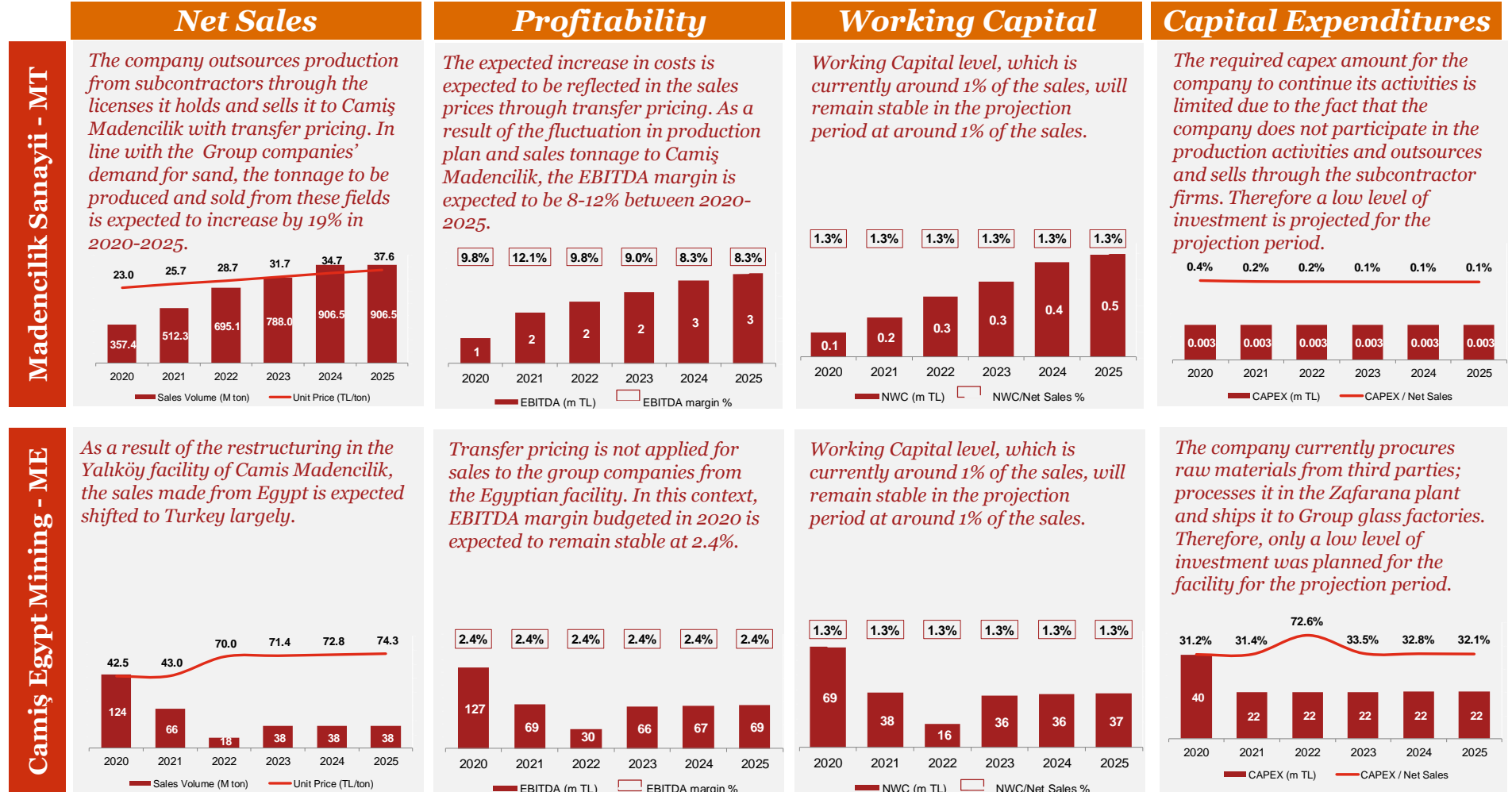


Source: Şişecam management, PwC analysis

Other Companies

Main Assumptions as the Basis of Valuation (5/5)

The main assumptions that have been taken into account when estimating the value of the Other Companies under the Income Approach are presented below.



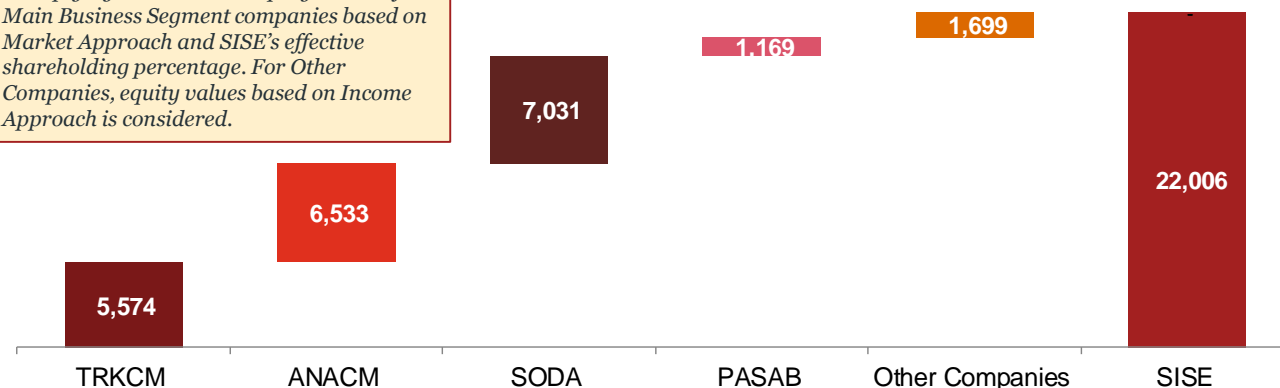
Source: řiřecam management, PwC analysis

SISE Market Approach

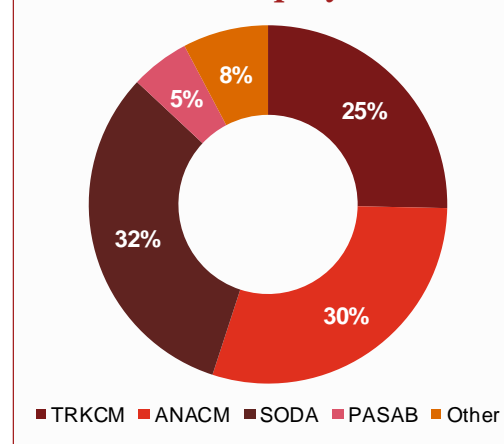
Based on the Market Approach, the total equity value of SISE is estimated to be **TL 22.0bn** as of the valuation date.

Total Equity Value (TL m)

For the estimation of SISE's market value "Sum of the Parts" method is pursued by multiplying the estimated equity values of Main Business Segment companies based on Market Approach and SISE's effective shareholding percentage. For Other Companies, equity values based on Income Approach is considered.



Breakdown of Equity Value



TL m	Main Business Segments				Other Companies												Total
	TRKCM	ANACM	SODA	PASAB	SC	MD	CA	EU	SE	DT	CV	MT	SG	VM	ME	CE, CY, HG*	
Enterprise Value	8,787	10,058	7,274	2,475	565	433	141	43	70	51	22	15	14	9	3	-	29,960
Net Cash/(Debt)					(807)	107	(4)	42	1	16	26	2	6	-	1	-	(610)
Investment Properties					302	-	-	-	-	-	-	-	-	-	-	-	302
Tax Related Assets					43	14	-	-	-	4	2	-	-	-	-	-	62
Dividend Payment (-)					(320)	-	-	-	-	-	-	-	(3)	-	-	-	(323)
Dividend Income (+)					386	-	-	-	-	-	-	-	-	-	-	-	386
Equity Value	7,764	8,245	11,158	1,175	170	553	137	85	71	71	50	17	17	9	4	864	30,390
Effective Shareholding Percentage	71.8%	78.3%	63.0%	99.5%	100.0%	100.0%	100.0%	39.5%	100.0%	100.0%	90.0%	100.0%	100.0%	50.0%	99.7%	0.0%	0.0%
ANACM Group B Share Value Difference**	-	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79
Equity Value - SISE	5,574	6,533	7,031	1,169	170	553	137	34	71	71	45	17	17	5	4	576	22,006

*The values of CE, CY and HG are estimated based on Net Asset Approach

** For details, please see the calculation of the share value difference between ANACM stock groups on pages 153, 154 and 155.

Source: Şişecam management, PwC analysis

SISE

Net Asset Approach

Based on the Net Asset Approach, the total equity value of SISE is estimated to be **TL 14.5bn** as of the valuation date.

m TL	31.12.2019
Paid Capital	2,250
Adjustment to Share Capital Differences	181
Share Premiums (Discount)	1
Accumulated Other Comprehensive Income/(Expense)	2,092
Accumulated Other Comprehensive Income that may be Reclassified to Profit or Loss	2,286
<i>Currency Translation Differences</i>	2,279
<i>Hedging gains (losses)</i>	5
<i>Gains/(Losses) on Revaluation and Reclassification</i>	2
Restricted Reserves	188
Retained Earnings	5,721
Net Profit or (Loss) for the Period	1,905
Non-Controlling Interests	4,511
Total Equity	19,133
1 Adjustment for Non-Controlling Interests	(4,511)
2 Dividend Adjustment, net*	(324)
3 Other Net Asset Value Adjustments	181
a CY Net Asset Adjustment	6
b CE Net Asset Adjustment	176
Net Asset Value	14,480

- Adjustments related with the profit and tax liabilities after the sale of certain real estates in January 2020
- Adjustments related to the fair values of precious metals

*Represents the net effect of dividend adjustments at the consolidated level for SISE. The dividend payments of the subsidiaries are netted off in the consolidated level as they are both income and payment. The net TL 324m represents the dividend SISE will pay to its non-group shareholders (TL 320m) and withholding tax that will be paid for dividend income from RD (Effective withholding tax deduction at SISE level: TL 4m).

The details of the consolidated shareholders equity for SISE, which is calculated in accordance with the CMB's "Principles of Financial Reporting in Capital Markets¹", that confides with TAS/IFRS and, audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. is presented in the adjacent table.

It has been assumed that the shareholders equity that is present in the consolidated 31.12.2019 balance sheet of SISE, that has been prepared in accordance with TAS/IFRS is an accurate representation of the equity value of the company.

The consolidated shareholders equity of SISE as of 31.12.2019 is TL 19,133m, the Net Asset Value is calculated as TL 14,480m after the adjustments considered.

1 Adjustment for Non-Controlling Interests:

The non-controlling interests that are presented as part of the consolidated shareholders equity are excluded from the consideration as part of the Net Asset Approach.

2 Dividend Adjustment:

The figure represents the net dividend payment of SISE that is due after 31.12.2019. Net dividend adjustment is included in our assessment with respect to its effect on the net asset value of SISE.

3 Other Net Asset Value Adjustments

CY and CE are included in SISE's financial statements according to full consolidation method.

The equity values of CY and CE is estimated based on Net Asset Approach. Adjustments made to related companies within the scope of Net Asset Approach as of 31.12.2019 are taken into consideration at the consolidated Net Asset Approach level of SISE.

Source: Şişecam management, PwC Analysis

1 Sermaye Piyasasında Finansal Raporlamaya İlişkin Esaslar Tebliği

SISE

CE Net Asset Approach

Adjustments (1/2)

Financial statements of CE have been prepared in accordance with the provisions of the CMB's "Communiqué on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M A.Ş.

TL m	2019	NAV Adjustments	Adjusted NAV
Cash and Cash Equivalents	126	a (11)	115
Trade Receivables	0	-	0
Other Receivables	0	-	0
Receivables from Related Parties	8	-	8
Other Current Assets	0	-	0
1 Current Assets	135	(11)	124
2 Precious Metals	53	b 182	235
Other Tangible Assets	7	-	7
3 Investment Properties	37	-	37
Intangible Assets	0	-	0
Deferred Tax Assets	3	-	3
Other Non-Current Assets	0	-	0
Non-Current Assets	100	182	281
Total Assets	234	171	405
Short-term Borrowings	0	-	0
Trade Payables	0	-	0
Other Payables	0	-	0
Payables to Related Parties	3	-	3
Short-term Provisions	1	-	1
Other Current Liabilities	1	-	1
Current Liabilities	6	-	6
Long-term Borrowings	0	-	0
Provision for ETB	19	-	19
Non-Current Liabilities	19	-	19
Adjusted NAV	210	171	381

1 A significant part of CE's current assets consist of bank deposits.

2 Having terminated its activities in 2019, CE owns precious metals (platinum, rhodium, palladium, gold, silver) that have a book value of **TL 52.8m**. A portion of these metals is rented by ES which operates in the glass fiber industry under SODA; while the remaining part is held in the safes rented from Türkiye İş Bankası.

3 Investment properties consist of land that is located in Çayırova.

Net Asset Value Adjustments

a Dividend Adjustment:

According to the information provided by the company management, TL 10.8m of dividend to be distributed after 31.12.2019 has been deducted from CE's cash and cash equivalents balance.

b Precious Metal Adjustments:

The fair value of the precious metals accounted in the 31.12.2019 balance sheet of Cam Elyaf were estimated, and the difference between **TL 52.8m** of book value and the resulting fair value has been reflected on the equity of CE as an adjustment.

The mentioned valuation analysis have been used to estimate market values of platinum, rhodium, palladium, gold and silver alloys which are required for the bushing tool used in glass fiber production. The precious metal price assumptions based on the valuation are presented on the next page.

CE Value Adjustments within the scope of SISE Net Asset Approach

TL m	Effective SISE		Adjustment
	Amount	Ownership	
Dividend Adjustment*	(11)	97%	
Precious Metal Adjustment	182	97%	176
Total			176

* The net effect of the Dividends distributed from CE to SISE have been considered at SISE level.

Source: Şişecam management, PwC analysis

SISE

CE Net Asset Approach

Adjustments (2/2)

At the end of 2019, Rhodium and Palladium prices rose significantly above the last 10-year averages. The effect of this one-time price change has been adjusted and normalized in CE's Net Asset Approach valuation study.

Precious Metal Valuation Study Results

Avr. Value per Gr.

Precious Metals	Amount (gr)	Book Value (TL m)	Expected Fair Value (TL m)	TL	\$
Raw Platinium	844,340	m.d	150	177	30
Raw Rhodium	206,284	m.d	65	317	53
Raw Palladium	123,416	m.d	19	158	27
Raw Gold	0	m.d	0	289	49
Raw Silver	30,854	m.d	0	3	1
Total	1,204,894	52.9	234.5		
Increase in Value			181.6		

The table above provides the details of the precious metal valuation study of CE. Rhodium and palladium prices have exceeded the medium and long-term price averages as of the valuation date, and the price increase is considered to stem from developments that may not be permanent or short-term. Therefore, in the valuation study of these mines, the average prices of the last 10 years were taken into consideration instead of the market values as of the valuation date. Besides, the refining labour fees and refining losses incurred during the separation provided by SISE Management were also taken into account in the valuation studies.

Sources

Rhodium: The average of the last 10-year month-end rhodium prices (120-month price) announced by Johnson Matthey and Engelhart Commodities Trading Partners Ltd. were taken into account.

Palladium: The average of the last 10-year month-end palladium prices announced by the London Metal Exchange (120-month price) were taken into account.

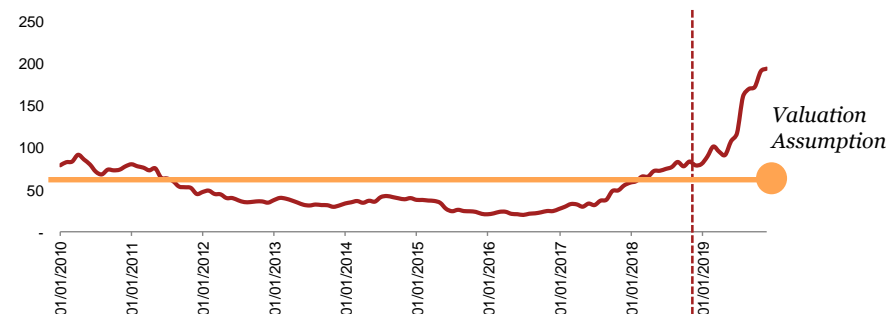
Platinum: 31.12.2019 platinum price announced by London Metal Exchange was taken into consideration.

Gold: 31.12.2019 gold price announced by the London Bullion Market Association was taken into account.

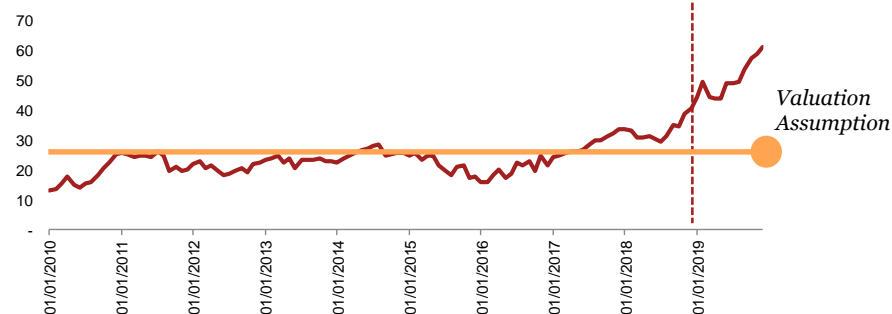
Silver: 31.12.2019 Silver price announced by the London Bullion Market Association was taken into account.

Source: Şişecam management, PwC analysis, Bloomberg

Rhodium Prices (\$/Gr)



Palladium Prices (\$/Gr)



SISE

Stock Market Value

The Stock Market Value for SISE has been calculated based on the weighted average stock market price of the trailing 12 months going back from the merger announcement date, 30.01.2020. The total equity value of SISE derived from this method is **TL 11.5bn**.

Stock Price and Transaction Volume

Stock Price (TL/lot)

	Weighted Avg. Price (TL/lot)	Equity Value (TL m)
Last 1 Month	5.27	11,854
Last 3 Months	5.02	11,302
Last 6 Months	4.73	10,647
Last 12 Months	5.24	11,785
Dividend Adjustment, net		(324)
Adjusted Stock Market Value		11,461



Transaction Volume (m TL)

Weighted Avg. Price (TL/lot)

Source: CapitalIQ, PwC Analysis

Türkiye Şişe ve Cam Fabrikaları A.Ş.
PwC

Strictly private and confidential

27 April 2020

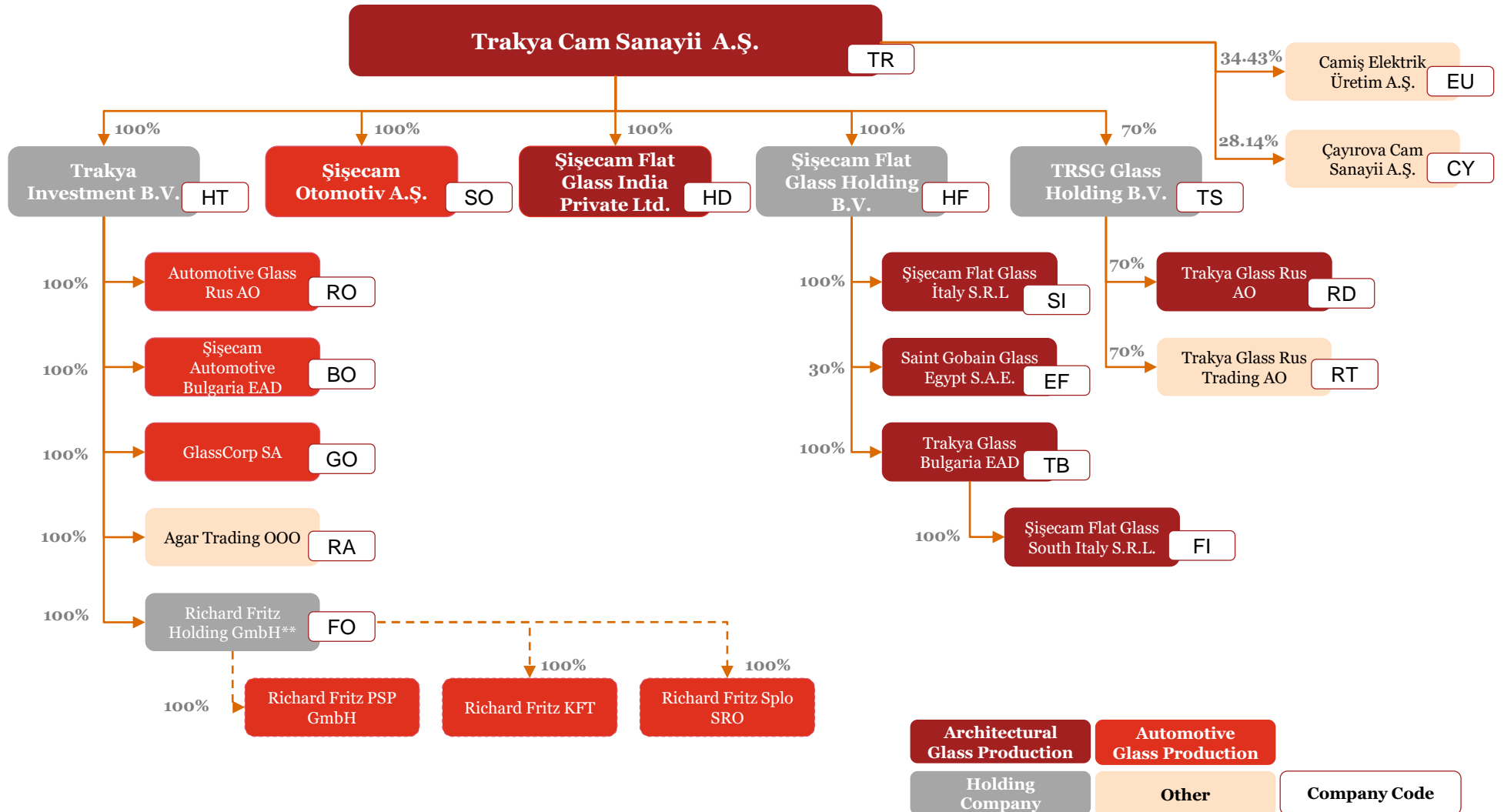
96

TRKCM

TRKCM

Shareholding Structure

TRKCM operates in the architectural glass and automotive glass sectors with 14 production companies (7 architectural glass production companies and 7 automotive glass production companies) and 4 holding companies.



Matters to be Considered

TRKCM (1/7)

Flat Glass Group The production activities of the Flat Glass Group are gathered under TRKCM ("TR" or "Architectural Glass Turkey"). The Flat Glass Group maintains its activities in two main business lines: architectural glass (float glass, patterned glass, mirrored glass, laminated glass, coated glass, solar energy glasses and white goods glasses) and automotive glass (automotive glass and encapsulated glass). The Flat Glass Group maintains the production activities with a total of 19 facilities in 10 countries (7 in Turkey, 2 each in Russia, Bulgaria and Italy, 1 each in Romania, India, Egypt, Germany, Hungary and Slovakia). TRKCM is the leading domestic architectural glass and automotive glass producer.

Trakya Cam Sanayii A.Ş. (TR) Trakya Cam Sanayii A.Ş. (Solo) ("TR" or "Architectural Glass Turkey") has activated Yenişehir coated glass plant in 2018 and initiated the investment in Polatlı factory for the 8th furnace in Turkey. It is foreseen that the number of furnaces will remain at 8 and 5 furnaces in Yenişehir, Mersin and Lüleburgaz plants will undergo cold repair, leading to the gradual increase in the total production capacity in the projection period. With the investment on 8th furnace and cold repairs, total production capacity of TR is expected to increase up to 2m tonnes (with the exception of cold repair periods).

The flat glass market share of TR in Turkey is approximately 70%. 7 of 9 existing flat glass furnaces in Turkey in 2019 operate under TR. In 2017-2019 period, 15% of total sales are exports and this rate is expected to increase and reach 20% in the projection period.

Prior to 2019, in 2017-2018, TR has been conducting its Turkey operations with two separate entities (Trakya Yenişehir Cam Sanayii A.Ş. and Trakya Polatlı Cam Sanayii A.Ş.), on which TR has 100% ownership. In the 2nd half of 2019, two separate entities have merged under TR. In the valuation study, consolidated historical financial statements of 3 companies have been used.

The TL 130m dividend payment to be made and dividends to be received from Trakya Glass Rus AO and Çayırova Cam Sanayi A.Ş. (where TR is a shareholder) of TL 99m and TL 9m, respectively, have been considered as equity value adjustments in the valuation study.

Trakya Glass Bulgaria EAD (TB) Trakya Glass Bulgaria EAD ("TB" or "Architectural Glass Bulgaria") is operating in Bulgaria with 2 flat glass furnaces and coated, laminated and mirrored glass production lines. The total capacity of the company has been affected negatively by the fact that one of the furnaces has been undergoing cold repair in 2018 – 2019. It is forecasted that after 2020, with full capacity utilization of the furnaces, the production capacity will be maintained as 470k tonnes.

15-20% of the total sales of TB is domestic, whereas the 70% consist of exports, especially to Eastern European countries. The rest of the sales are intra-group sales. The automotive glass factory in Bulgaria obtains flat glass from Trakya Glass Bulgaria.

Matters to be Considered

TRKCM (2/7)

Trakya Glass Rus AO (RD)

Trakya Glass Rus AO ("RD" or "Architectural Glass Russia") is a joint venture of TR and Saint Gobain. Effective ownership rates are 70% and 30% for TR and Saint Gobain respectively. These rates represent the shares of RD in the holding company TRSG Glass Holding B.V.. RD has flat glass production operations Russia and operates with a single furnace. The total production capacity of RD in the projection period is forecasted around 230k tonnes. In the projection period, it is estimated that approximately 90% of its sales will be made to the Russian and CIS markets and the remaining sales will be made within the group, similar to previous years. The automotive glass factory in Russia also supplies flat glass from RD. The corporate tax rate of the RD which is in the private investment region is 2%. RD's dividend payment of TL 148m over 2019 profits in 2020 was taken into account in the valuation study as an equity value adjustment.

Şişecam Flat Glass India Private Ltd. (HD)

Şişecam Flat Glass India Private Ltd. ("HD" or "Architectural Glass India"), continues flat glass production operations with one furnace in India.

In 2013, TR acquired 50% of HNG Float Glass Limited, which belongs to the Somany family. The enterprise value of the mentioned acquisition is \$ 182m. In 2018, TR acquired the remaining 50% shares of the company, and changed the name of the company to Şişecam Flat Glass India Private Ltd.. The enterprise value in the second acquisition is \$165m.

In India, per capita glass consumption is far below the world average, and in the medium term, domestic flat glass demand is expected to increase in line with the real growth projections expected in GDP. Based on the demand for flat glass, which is expected to increase during the projection period, a second furnace investment is planned in India in 2021. Within the scope of the valuation study, the second furnace investment, which is expected to be operational in 2022, was also taken into consideration. The investment for the 2nd furnace is expected to be \$ 165m. The investment amount reaches \$ 200m in total with the coating production line planned to be built within the facility. According to the information provided by the TR management, it is understood that the second furnace order in India has not yet been placed.

The existing furnace in India is supposed to undergo cold repair in 2022. The 2nd furnace investment is planned to be operational before the cold repair. Following the 2nd furnace investment, the total flat glass production capacity in India is expected to go up from 200k tonnes to 485k tonnes.

In the projection period, similar to previous years, it is estimated that approximately 90% of the sales will be made to the domestic market and the remaining 10% to foreign countries such as Sri Lanka and Qatar.

Taxation in India is based on two tax bases. Companies pay taxes on the higher base in the relevant year. In the valuation study carried out within the scope of the Income Approach, the tax rate of India was taken as 25% in the projection period.

Matters to be Considered

TRKCM (3/7)

Şişecam Flat Glass Italy S.R.L. (SI)

Şişecam Flat Glass Italy S.R.L. ("SI" or "Architectural Glass North Italy") joined the Flat Glass Group in 2016 after a EUR 84m acquisition. SI operates in the Udine region in northern Italy with a flat glass furnace and a laminated glass production line. Due to the COVID-19 epidemic, which has a high level of impact in Italy as of the Report Date, TR management foresees that both domestic sales and exports of flat glass and laminated glass will decrease significantly in 2020. SI is expected to create a negative EBITDA in 2020 due to the expected decrease in sales volume.

The furnace is planned to undergo cold repair in 2024. Accordingly, it is foreseen that the production capacity will decrease to 150k tonnes in 2024. It is understood that in other years of the projection period, the production capacity will remain constant at 220k tons by maintaining its level in 2019.

Şişecam Flat Glass South Italy S.R.L. (FI)

Şişecam Flat Glass South Italy S.R.L. ("FI" or "Architectural Glass South Italy") was established by purchasing assets of Fallimento Sangalli Vetro Manfredonia SpA, Fallimento Sangalli Vetro Satinato Srl, Fallimento Sangalli Vetro Magnetronico Srl for a consideration of EUR 14.9m. The furnace and machinery equipment purchased was commissioned in the same year in 2019, undergoing a EUR 30m cold repair and general maintenance. FI operates in architectural glass production in the Puglia region in southern Italy with a single furnace and additional coating and laminated glass lines. It is understood that the production capacity of the company will remain constant at 180k tonnes during the projection period. Due to the COVID-19 epidemic, which has had a high level of influence in Italy as of the Report Date, TR management predicts that flat glass and laminated glass prices, both domestic and abroad, will decrease significantly in 2020. FI is expected to generate negative EBITDA in 2020 due to the expected drop in sales volume of FI.

FI started production in 2020 and does not have a historical track record like other companies operating within the Flat Glass Group. Considering this, 5.0% additional business risk premium was included in the calculation of the weighted average capital cost of FI.

In the projection period, it is predicted that approximately 30% of sales will be domestic and the remaining sales will be made to other European countries, especially Germany, Austria, Hungary and Slovenia. It is estimated that the prices of products sold by FI, both domestic and exports, will be lower than the products sold by SI, in line with the product characteristics and purchasing power of the markets. FI was entitled to an investment incentive of EUR 8.3m as part of the investments made in 2018 and 2019. The related amount will be paid to the company in cash in 2020. This amount has been taken into account in the valuation study as an equity value adjustment.

Matters to be Considered

TRKCM (4/7)

Şişecam Otomotiv A.Ş. (SO)

Şişecam Otomotiv A.Ş. ("SO" or "Şişecam Otomotiv") is the only automotive glass producer in Turkey, with an annual production capacity of 6m m². It is understood that there will be no investment for capacity increase purposes during the projection period and the production capacity will remain constant at 6m m².

SO is expected to continue its activities mainly through long-term sales contracts with OEMs (Original Equipment Manufacturers). In the projection period, the sales which are already under contract and the sales which are in the bidding stage are taken into consideration. The sales in the projection period are expected to be made mainly to Ford, Toyota, Renault and Hyundai.

In addition to OEM sales, it is expected that the company will start production in the field of automotive renewal glass in the projection period, and sales in this area will increase and reach approximately 10% of the total sales in the long term.

Automotive Glass Alliance Rus AO (RO)

Automotive Glass Alliance Rus AO ("RO" or "Automotive Glass Alliance"), has been operating in the field of automotive glass production in Russia since 2014 and has an annual production capacity of 3m m². It is understood that the production capacity will remain constant at 3m m² during the projection period.

As of 2019, the capacity utilization rate of the company is around 35%. Decreasing domestic automotive demand in Russia after 2014 and increasing automotive glass supply following the entry of Fuyao into the market had a downward impact on the sales of the company.

It is expected that the capacity utilization rate will increase to 65% in line with the contracted orders expected to start in 2021 and in the following years. In the projection period, sales are expected to be made mainly to VW Group and Renault.

The corporate tax rate applicable to RO is 2% since it is located in a special investment zone.

Glass Corp S.A. (GO)

Glass Corp S.A. ("GO" or "Glass Corp") has joined the Flat Glass Group with an acquisition which took place in 2012. GO operates in the field of automotive glass production in Romania and has an annual production capacity of 3.6m m². It is understood that the production capacity will remain constant at the level of 3.6m m² during the projection period.

Suffering from operational inefficiency, the company experienced losses at the EBITDA level in 2018 and 2019. It is anticipated that the EBITDA margin will increase gradually in the projection period by ensuring the expected efficiency level after the optimization of production planning, quality control and transportation expenses.

Matters to be Considered

TRKCM (5/7)

Şişecam Automotive Bulgaria EAD (BO)

Şişecam Automotive Bulgaria EAD ("BO" or "Şişecam Automotive BG") has been operating in the automotive glass production field in Bulgaria since 2011 and has an annual production capacity of 3.4m m² automotive glass. It is understood that the annual production capacity will remain constant at the level of 3.4m m² during the projection period.

BO operates in automotive glass and white goods glass lines of production. As in the previous periods, 30-35% of BO's sales are projected to stem from the sales of glasses for white goods, while the rest will be stemming from automotive glass sales.

In the field of automotive glass, in addition to OEM sales, it is foreseen that BO will start production in the field of automotive renewal glass in the projection period, and sales in this area will increase and reach approximately 18% of automotive glass sales in the long term.

Richard Fritz Holding GmbH (FO)

Richard Fritz Holding GmbH ("FO" or "Richard Fritz") joined the Flat Glass Group with an acquisition which took place in 2013. As of 2020, FO continues its operations through 3 plants and one headquarter, which operate under 4 separate legal entities in Germany, Hungary and Slovakia. Within the scope of the Income Approach, the equity value of FO has been estimated based on the consolidated projections provided.

FO operates in the field of automotive glass encapsulation and has an annual production capacity of 15m encapsulated glass. It is understood that the production capacity will remain constant at the level of 15m during the projection period.

It is observed that profitability of the FO, which suffered from operational inefficiency, remained low in 2017-2019 periods. With the transformation project that started in 2019, one of the two production facilities in Germany was closed and actions were taken to reduce fixed operating expenses at the headquarters in Germany. It is expected that the EBITDA margin will gradually increase in the projection period by ensuring the efficiency within the scope of the transformation project.

Saint Gobain Glass Egypt S.A.E. (EF)

Saint Gobain Glass Egypt ("EF") is the joint venture of TRKCM and Saint Gobain. The company in Egypt has been operating in flat glass sector since 2010 with one furnace. Effective ownership rates are 30% and 70% for TR and Saint Gobain respectively. TR has no administrative control over the company. TR received a dividend income of EUR 5m from EF for the first time in 2019. TR management does not have any foresight about the future dividends.

Considering the lack of administrative control of TR over EF and the uncertainty in the dividend payments to be received in the coming years, only the Net Asset Approach was taken into account in the valuation study for EF. In the valuation studies carried out according to the Net Asset Approach, as of 31 December 2019, the net value of the assets (after subsidiary shares) and liabilities in the financial statements prepared in accordance with TAS / TFRS and in order to be submitted to the CMB, has been taken into consideration.

Matters to be Considered

TRKCM (6/7)

Holding Companies

Holding companies **Trakya Investment B.V**, **Şişecam Flat Glass Holding B.V** and **TRSG Holding B.V** are established by TR to carry out financing and investment activities abroad. These companies are not operational. As the companies do not have income generating activities, only the value estimated according to the Net Asset Approach is taken into consideration within the scope of the study. In the valuation studies carried out according to the Net Asset Approach, as of 31 December 2019, the net value of the assets (after excluding the book value of the subsidiaries) and liabilities in the financial statements prepared in accordance with TAS / TFRS and in order to be submitted to the CMB, has been taken into consideration.

Other Companies

Agar Trading OOO and **Trakya Glass Rus Trading AO** in Russia are not operational. As the mentioned companies do not have income generating activities, only the value estimated according to the Net Asset Approach is taken into consideration within the scope of the study. In the valuation studies carried out according to the Net Asset Approach, as of 31 December 2019, the net value of the assets (after excluding the book value of the subsidiaries) and liabilities in the financial statements prepared in accordance with TAS / TFRS and in order to be submitted to the CMB has been taken into consideration.

Camış Elektrik Üretim A.Ş. (EU)

TRKCM is a 34.43% shareholder of **Camış Elektrik Üretim A.Ş.**, which has electricity generation and sales activities. EU is accounted in TRKCM's financial statements using the equity method. Within the scope of the valuation study, the ownership rate of the TR in the EU is also taken into account while the estimated equity values according to the Income Approach and Net Asset Approach methods for the EU are selected according to the different methods considered in the valuation study of TR.

Çayırova Cam Sanayii A.Ş. (CY)

TR owns 28.14% of **Çayırova Cam Sanayii A.Ş.** Within the scope of the valuation study, only the Net Asset Approach is used for CY, as it has no production activity and its most important assets are CE (subsidiary) and investment properties.

Within the valuation study of CY with the Net Asset Approach, the effect of the equity value adjustments (platinum price change and dividend payment) applied to Cam Elyaf Sanayii A.Ş., where CY is the 39.7% shareholder, are taken into consideration.

In addition, the equity value adjustments related to the price of some real estates that are understood to be among the assets of CY as of 31.12.2019 but sold in January 2020 and the post-sale profit and tax liabilities are also taken into the scope of the study.

Matters to be Considered

TRKCM (7/7)

Flat Glass Group Tax Assets

The companies in the Flat Glass Group have tax incentives that they are entitled to as of the end of 2019, deductible from corporate tax and financial losses that can be deducted from corporate tax base. The relevant amounts are summarized in the table below.

Company	Currency	Previous Year Financial Loss	Investment Incentives
TR	TL m	-	148
RD	RUB m	1,544	-
HD	INR m	463	-
SO	TL m	-	2
RO	RUB m	2,611	-
BO	BGN m	4	-

Within the scope of the valuation study, a projection has been made with the information provided by the Holding management regarding how these tax assets, which are understood to decrease the corporate tax base, can be used over the years. Based on the projections, the value of tax assets was estimated and taken into account in the valuation study as equity value adjustments.

The Effects of COVID-19 Pandemic on the Valuation Results

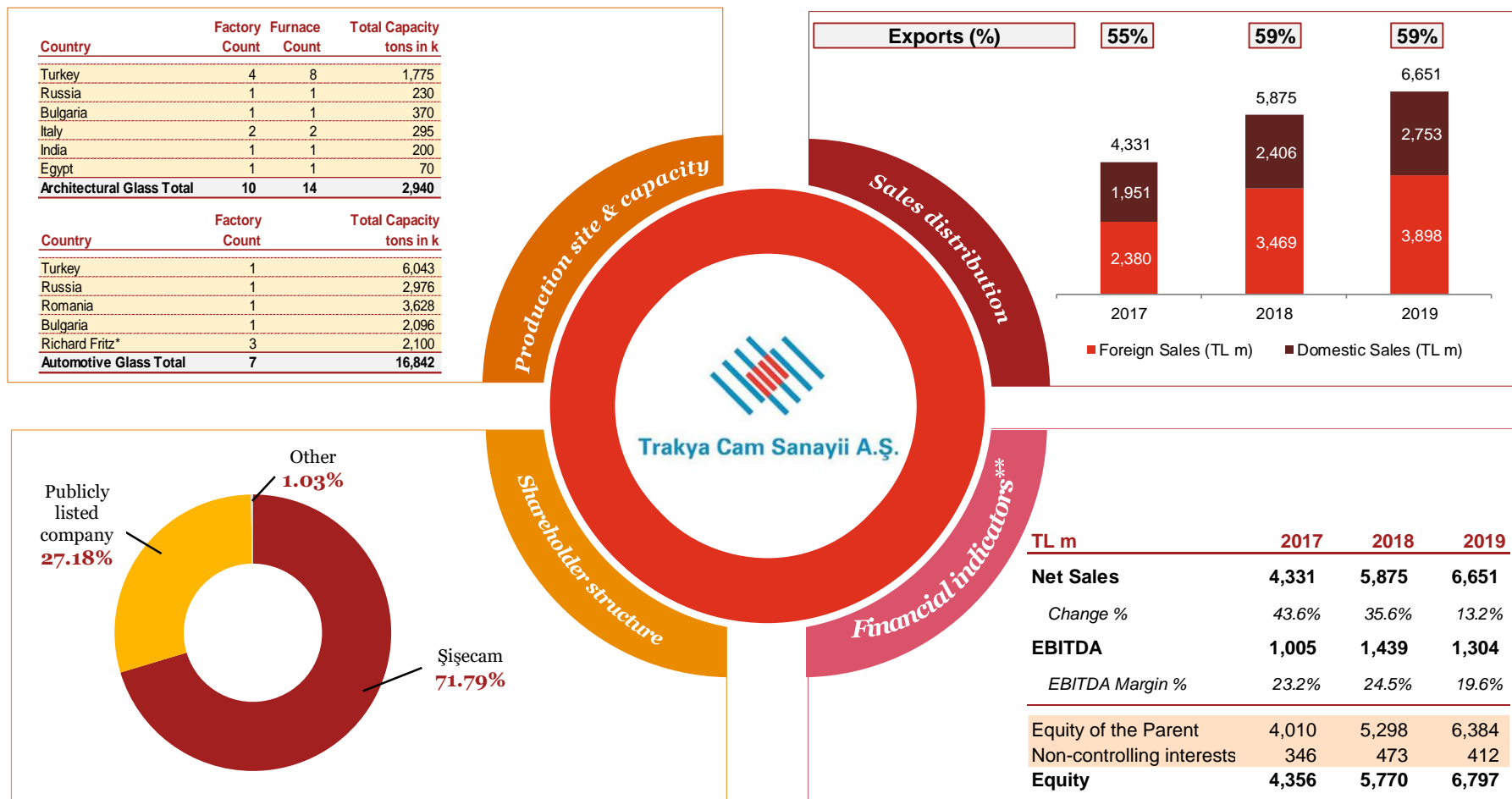
In order to understand the effects of the COVID-19 pandemic, whose effects started to show especially after the second half of March in Turkey and other countries where Flat Glass Group has operations, a meeting has been held with TRKCM management, and the business plans provided by the management has been studied once more with this particular point of view.

After the meeting with TRKCM management, it is understood that, with the effect of COVID-19, the Flat Glass Group, which provides input to the construction and automotive sectors, is projected to have a decrease by 27% in consolidated EBITDA in 2020 compared to 2019 due to the decreasing demand and supply chains. It is expected that the recovery will continue in 2021, and the expected sales and profitability levels before COVID-19 will be reached again in 2022 and onwards. This effect is considered in the projections of each company within the scope of Income Approach.

TRKCM

General overview

71.79% of TRKCM is in the ownership of SİŞECAM, while 27.18% of it is publicly listed. It has a production capacity of 3.2m tons of architectural glass, 3.5m ton sets of automotive glass and 15m pieces of encapsulated glass in 10 countries. c.58% of consolidated sales have been realized outside of Turkey in the period between 2017-2019. In the same period EBITDA margin has been c. 20-25%.



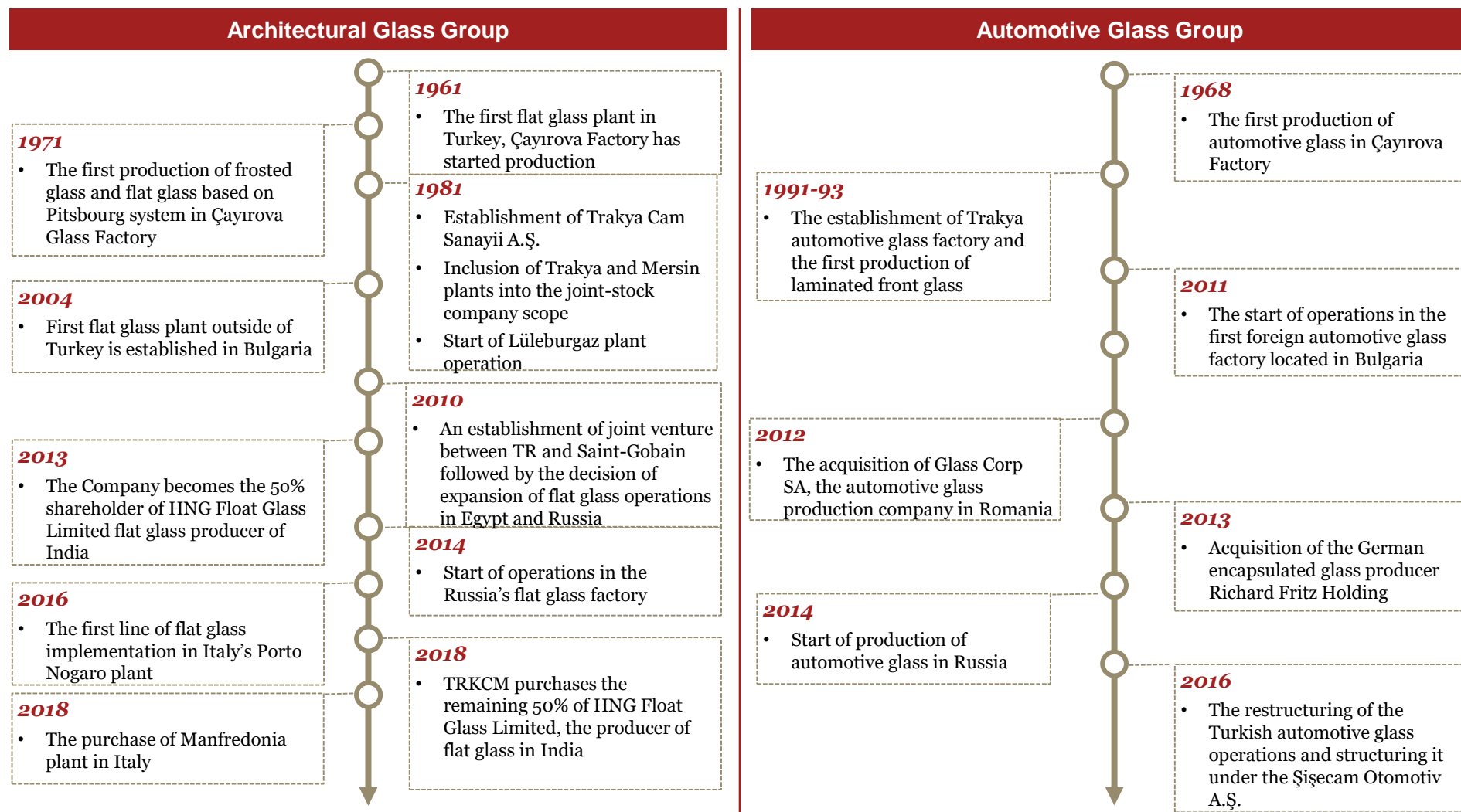
* Represents the capacity and furnace number as of 2019. It does not represent the effect of the cold repair. Russia and Egypt operate with a single furnace each, with the ownership percentage as follows (Russia – 70% and Egypt- 30%), so when multiplied, the effective furnace number is calculated as 13 in total.

** The TAS and TFRS financial have been used for the past financial performance indicators.

Source: Şişecam Management

TRKCM

Important Historical Milestones



TRKCM

Operations and Key Indicators

TRKCM performs its production operations with a total of 19 plants globally, including 7 plants in Turkey; 2 plants per country in Bulgaria, Russia and Italy; and 1 plant per country in India, Romania, Hungary, Slovenia, Germany and Egypt. It has reached a revenue of TL 6.7 billion in 2019 via sales to more than 110 countries.

Production



- **10 flat glass** and **9 automotive glass** production plants in **10 countries** (Turkey, Bulgaria, Russia, Italy, India, Romania, Germany, Slovenia, Hungary and Egypt)

Capacity



- Production capacity of 3.2m tons of architectural glass, 3.5 m of tool-set automotive glass and 15 m pieces of encapsulated glass
- Recognised as **the top flat glass producer in Europe** and **the 5th largest in the World** in 2019 based on the flat glass line production capacity

Employees



- Circa **7000** employees around the World

Sales



- **TL 6.7 billion** consolidated revenue in 2019 with **59%** of foreign sales
- Sales to more than 110 countries

Brands



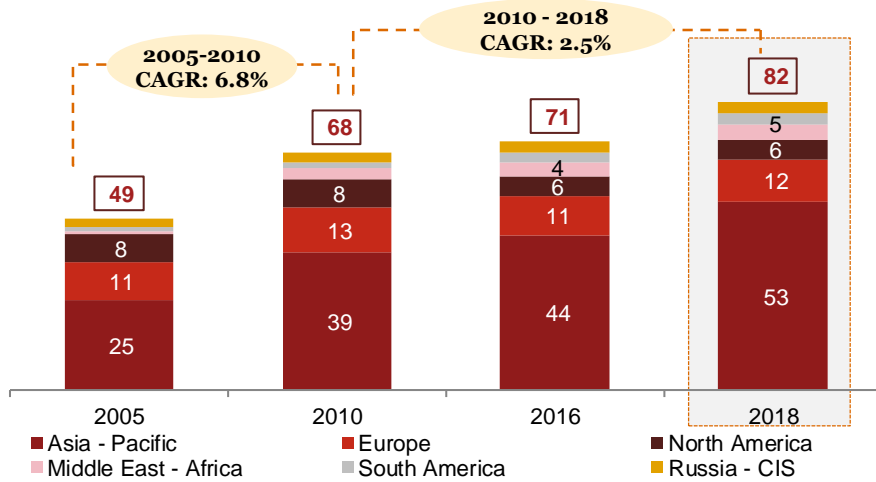
- **3** worldwide brands performing sales in various sectors (flat glass, automotive glass and encapsulation)

Source: Management

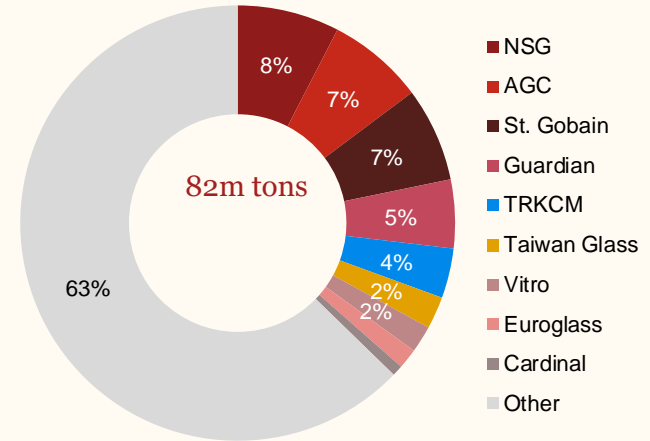
Global Flat Glass Market

There are 443 flat glass production lines around the world with the total capacity of 82m tons. 60% of these lines are located in Asia-Pacific region. TRKCM holds the leading market share in Europe and holds the 5th place globally based on production capacity.

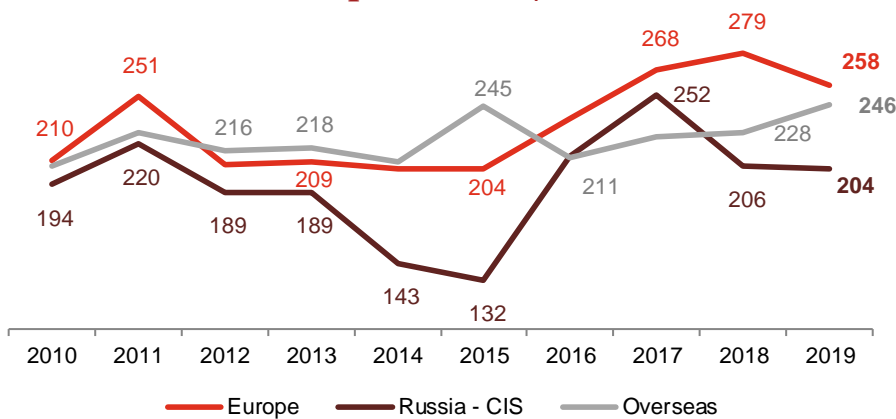
Global Flat Glass Production Capacity (m tons/year)*



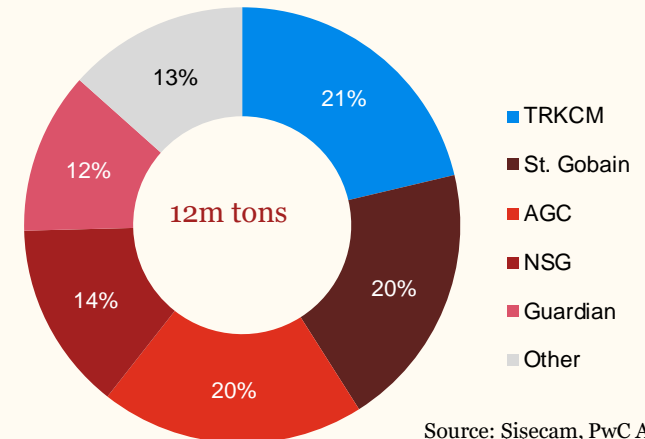
Capacity-based Market Shares of Global Flat Glass market (2018)



Flat Glass Price Development (EUR/ton)**



Europe Capacity-based Market Shares (2018)



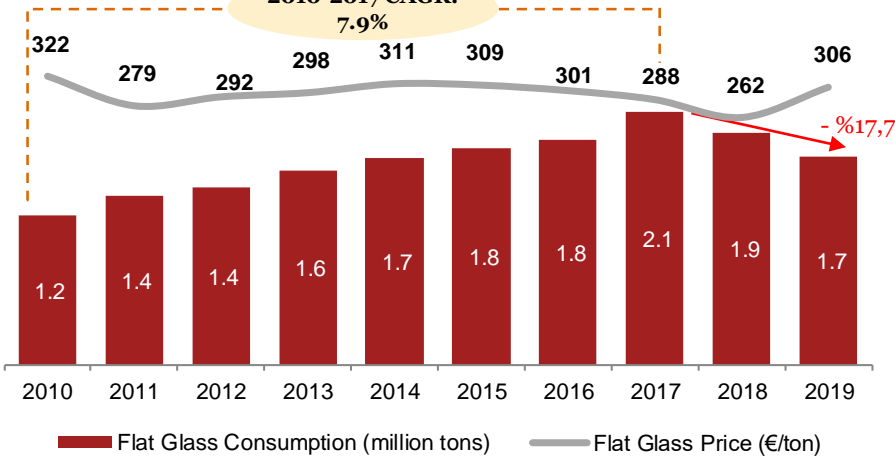
Source: Şişecam, PwC Analysis

* The capacity calculation does not include the short term cold repairs.
 ** The prices presented are 4 mm colourless EUR/ton FOB prices.

Turkish Flat Glass Market

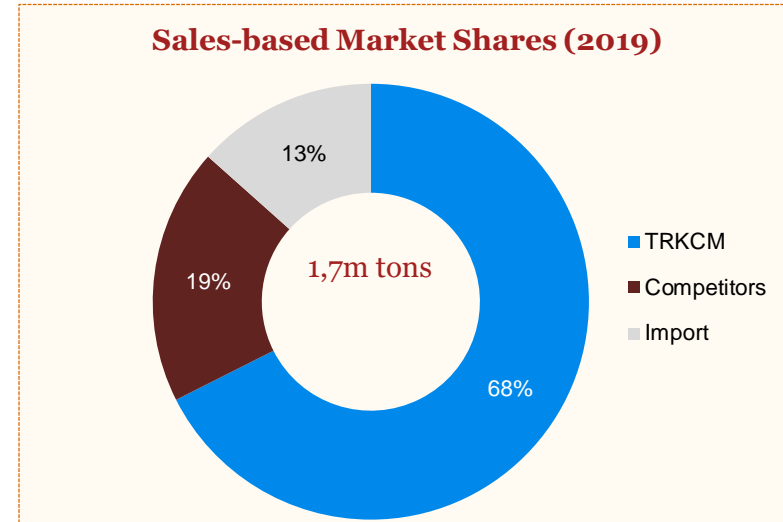
The consumption of flat glass in Turkey has grown by 7.9% annually between 2010-2017 and has reached 2.1m tons. After 2017, due to the slowdown in the construction industry, the annual flat glass consumption has decreased to 1.7m tons. TRKCM is the market leader with a market share of 68% in Turkey.

Flat Glass Consumption (m tons) and Price Development (EUR/ton)*

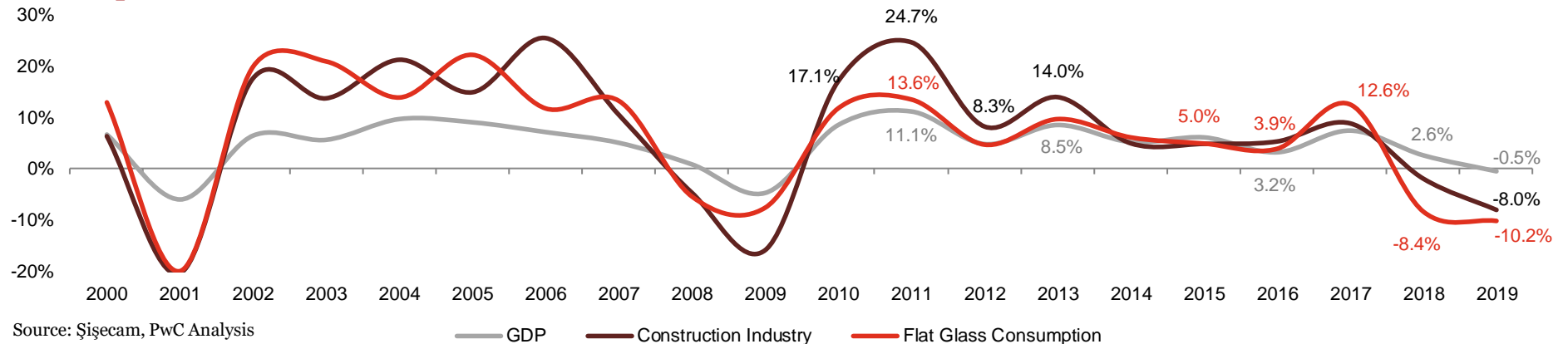


* 4mm colourless EUR/ton FOB

Sales-based Market Shares (2019)



Gross Domestic Product, Construction Industry and Flat Glass Consumption Growth (%)

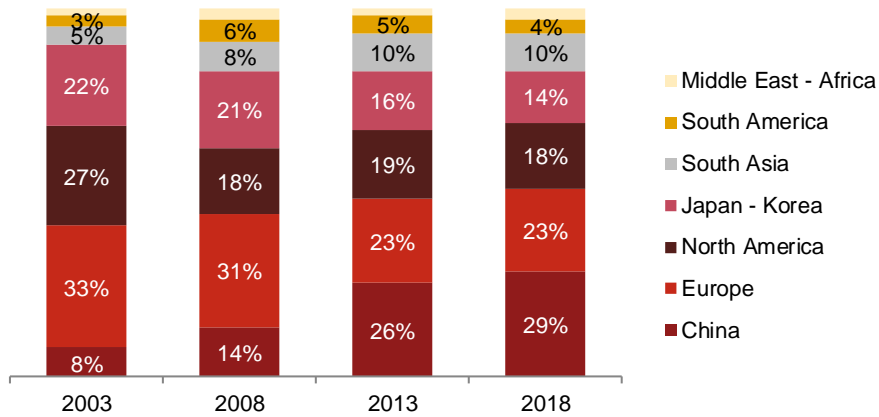


Source: Şişecam, PwC Analysis

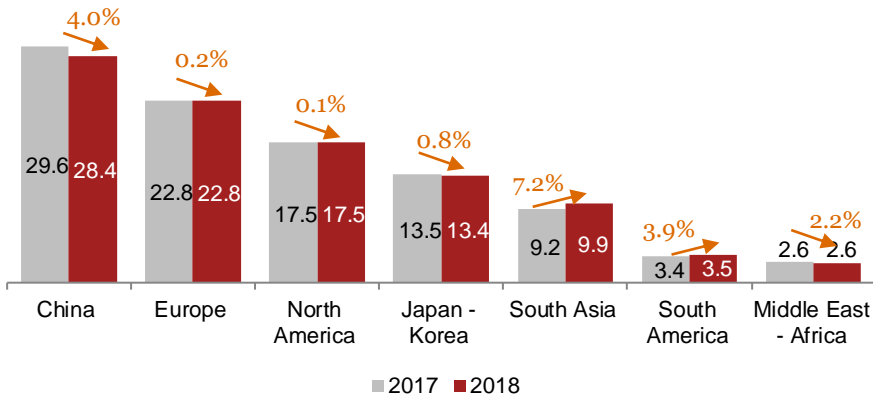
Global Automotive Glass Market

It has been observed that the automotive production has shifted from Europe, North America and Japan to China and South East Asian countries. 71% of the global automotive market's share belongs to 4 large producers (AGC, Fuyao and Saint Gobain).

Automotive Production Distribution by Regions

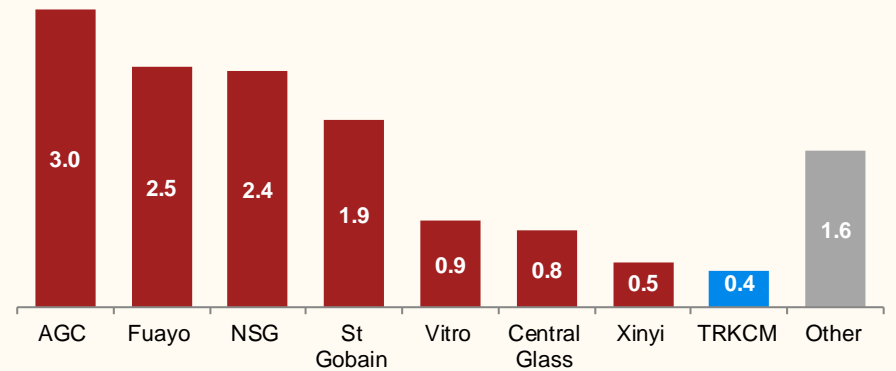


Automotive Production Units (m)

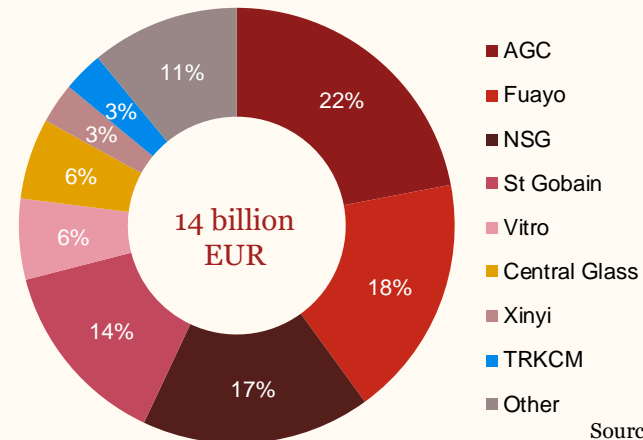


Source: Şişecam, PwC Analysis

Automotive Glass Market Sales in 2018 (billion EUR)



Automotive Glass Market Share by Sales (2018)

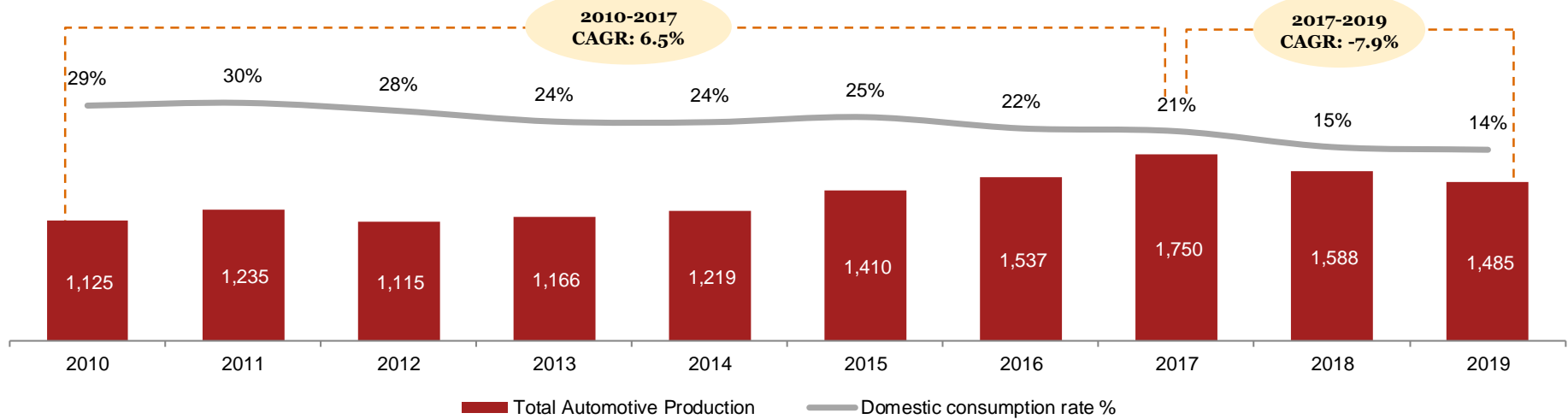


Source: Şişecam, PwC Analysis

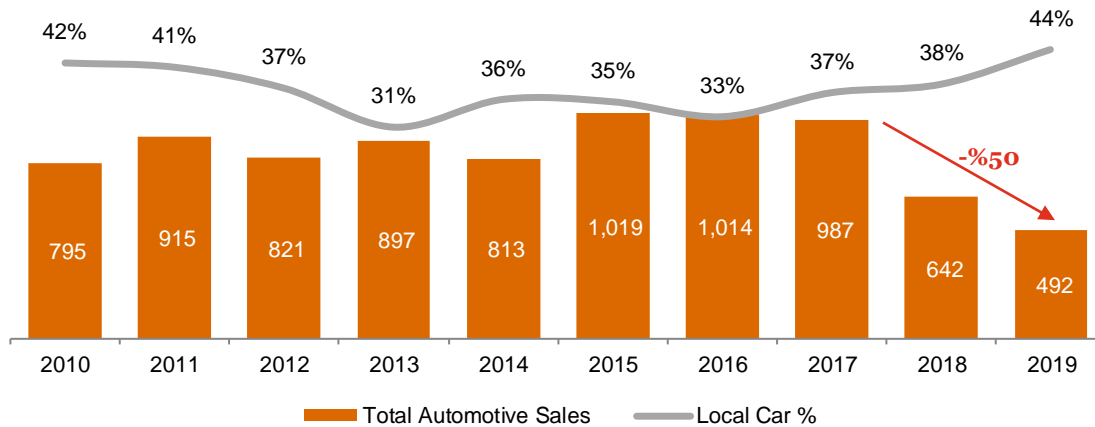
Automotive Production And Automotive Glass Market in Turkey

The local automotive sales have decreased by 50% in comparison to 2017, as a result of which 492k have been sold in 2019. In addition, the local automotive production has decreased from 1.8m units in 2017 to 1.5m units in 2019.

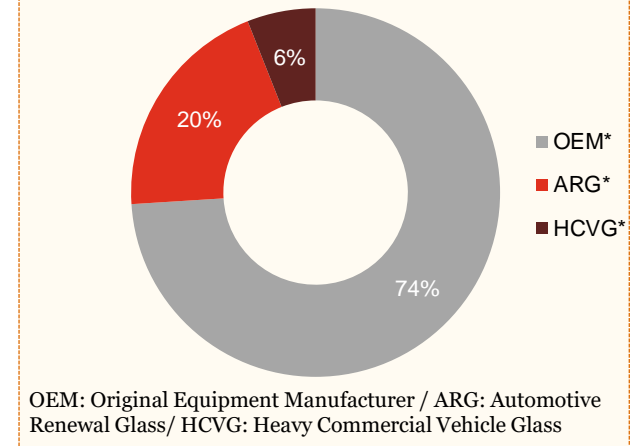
Automotive Production in Turkey (units in k)



Automotive sales in Turkey (units in k)



Automotive Glass Sector Breakdown



Source: OSD, Şişecam, PwC Analysis

TRKCM

Historical Financial Statements

(1/2)

The consolidated financial statements of TRKCM have been prepared in accordance with the provisions of the CMB's "Communique on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Balance Sheet

TL m	31.12.2017	31.12.2018	31.12.2019
1 Cash and Cash Equivalents	1,431	1,447	4,167
Trade Receivables	705	980	930
2 Inventories	682	1,090	1,433
Other Receivables	190	141	94
Other Current Assets	99	113	272
Current Assets	3,106	3,770	6,895
Financial Investments	703	946	1,000
Derivative Assets	-	-	27
3 Investments Accounted for using the Equity Method	481	308	345
Investment Properties	-	1	1
4 Tangible Assets	3,577	4,896	5,917
Intangible Assets	44	314	338
Deferred Tax Assets	52	79	63
Other Non-Current Assets	59	40	322
Non-Current Assets	4,916	6,584	8,013
Total Assets	8,021	10,354	14,908
5 Short-Term Borrowings	636	1,205	2,360
Trade Payables	484	598	976
Current Income Tax Liabilities	41	49	-
Other Current Liabilities	366	300	468
Current Liabilities	1,526	2,152	3,803
5 Long-term Borrowings	1,959	2,117	4,001
Long-term Provisions	83	102	112
Deferred Income	54	65	62
Deferred Tax Liability	42	148	103
Other Non-Current Liabilities	1	0	30
Non-Current Liabilities	2,139	2,432	4,308
Equity	4,356	5,770	6,797
Total Liabilities and Equity	8,021	10,354	14,908

1 SISE has issued bonds amounting to of \$700m in 2019. The bond issue has been distributed to the Group Companies in accordance with their financial needs. The increase in the cash and cash equivalents at the end of 2019 in comparison to previous years is related to the funds transferred to TRKCM by the bond issue.

2 The production process of the Company has been set up to produce goods continuously, independent of the demand due to the nature of glass furnaces' operations. Due to the slowdown in the construction industry, days inventory outstanding have increased from 60 days to 80 days.

3 The Investments Accounted for using the Equity Method include the net book values of TRKCM's subsidiaries, as Saint Gobain Glass Egypt S.A.E (30%), Camiş Elektrik Üretim A.Ş. (34%) and Çayirova Cam Sanayi A.Ş. (28%).

4 Flat glass production is a capital-intensive business segment, and therefore requires high investment spending in order to ensure the continuity of production. The useful life of a furnace is c.13 years, and therefore in order to ensure durability of production, at the end of the 13th year, a spending of EUR35m has to be made per furnace. The investments related to capacity increase are at the level of EUR150m per furnace. The increase in Tangible Assets is stemming from the furnace and machinery equipment investments.

5 The financial liabilities of TL 3.3 billion as at the end of 2018 has increased to the level of TL 6.4 billion as at the end of 2019. At the same period due to an increase in cash, the net debt amount stayed relatively stable with an increase of TL309 m.

Source: Management, PwC Analysis

TRKCM

Historical Financial Statements

(2/2)

The consolidated financial statements of TRKCM have been prepared in accordance with the provisions of the CMB's "Communique on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Income Statement

TL m	FY17	FY18	FY19
1 Revenues	4,331	5,875	6,651
Cost of Sales	(2,931)	(3,955)	(4,625)
Gross Profit	1,400	1,920	2,025
General Administrative Expenses	(287)	(404)	(481)
2 Marketing Expenses	(504)	(679)	(852)
Research and Development Expenses	(26)	(21)	(25)
3 Other Operating Income	208	403	292
Other Operating Expenses	(94)	(156)	(119)
(+) Depreciation and Amortization	307	376	463
EBITDA	1,005	1,439	1,304
(-) Depreciation and Amortization	(307)	(376)	(463)
EBIT	697	1,063	841
Income from Investing Activities	94	348	205
Expense from Investing Activities	(0)	(11)	(5)
Financial Income	330	721	756
Financial Expense	(397)	(1,028)	(1,043)
Share Profit from the Investments Accounted for Using the			
4 Equity Method	50	53	41
TFRS-9 Impairment Loss Profit/(Loss)	-	(23)	3
Profit/ (Loss) from Participation Share Purchase	-	49	-
Profit Before Tax	773	1,172	798
Tax on (Expense)/ Income	(117)	(194)	(79)
Deferred Tax Income / (Expense)	(12)	13	50
Profit/ (Loss) for the Period	644	991	769

1 Sales of TRKCM have increased with a CAGR of 24% during 2017-2019. 60% of the sales stem from architectural glass sales and the remaining 40% stem from automotive glass sales.

2 The largest part of the Sales and Marketing Expenses includes transportation expenses. Due to the slowdown in demand of Turkish construction industry, the company has focused on export sales in 2019. The aforementioned geographic change caused the rate of operational expense as a percentage of sales to increase in 2019. The Company makes royalty payments to the Holding since the end of 2019 as a 1.75% of the non-Group sales excluding the transportation amount. The royalty expenses are also accounted under the Sales and Marketing expenses.





3 Other Operational Expenses and Income mainly include the scrap sales profit/ (loss), raw material sales profit/ (loss), insurance damage settlement, operational foreign exchange income/ (loss) and other operational expenses.

4 Profit/ (Loss) due to the Interest Share Purchase has occurred due to the acquirement of the remaining 50% of HNG Float Glass Limited (Sisecam Flat Glass India Private Limited), which has been accounted for in 2018 via a 50% share purchase method.

Source: Management, PwC Analysis

TRKCM Valuation Results

TRKCM's valuation results obtained with 4 different valuation approaches (Income Approach, Market Approach, Net Asset Approach and Stock Market Value) are summarized in the table below.

Valuation Method	Equity Value	Explanations
Income Approach 	TL 8,178 m	Consolidated equity value has been calculated using the stand-alone equity values of the company via “the Sum of the Parts” method. “DCF” method has been used for the operational companies and the “NAA” method has been used for the Holding and non-operational companies. Projections have been prepared in each company’s operational currency for the years 2020-2025.
Market Approach 	TL 7,764 m	Companies with similar operational and financial structures have been identified as comparable companies. Average EV/EBITDA multiples of comparable companies covering the period between 2015-2019 have been taken into consideration. The relevant multiple has been applied to the 4 year average EBITDA (with 2019 values), which includes the period between 2019-2022.
Net Asset Approach 	TL 6,275 m	Net asset value has been estimated based on the consolidated equity amount presented in the consolidated balance sheet dated 31 December 2019 and prepared in accordance with TAS/ TFRS with certain adjustments where deemed necessary
Stock Market Value 	TL 3,794 m	A 1 year average (31 January 2019- 30 January 2020) market value of TRKCM’s stock market price, obtained by multiplying the daily weighted average stock price and the number of shares, has been taken into consideration. The dividends which have been planned to be distributed/collected as of the valuation date have been taken into consideration in the scope of Stock Market Value.

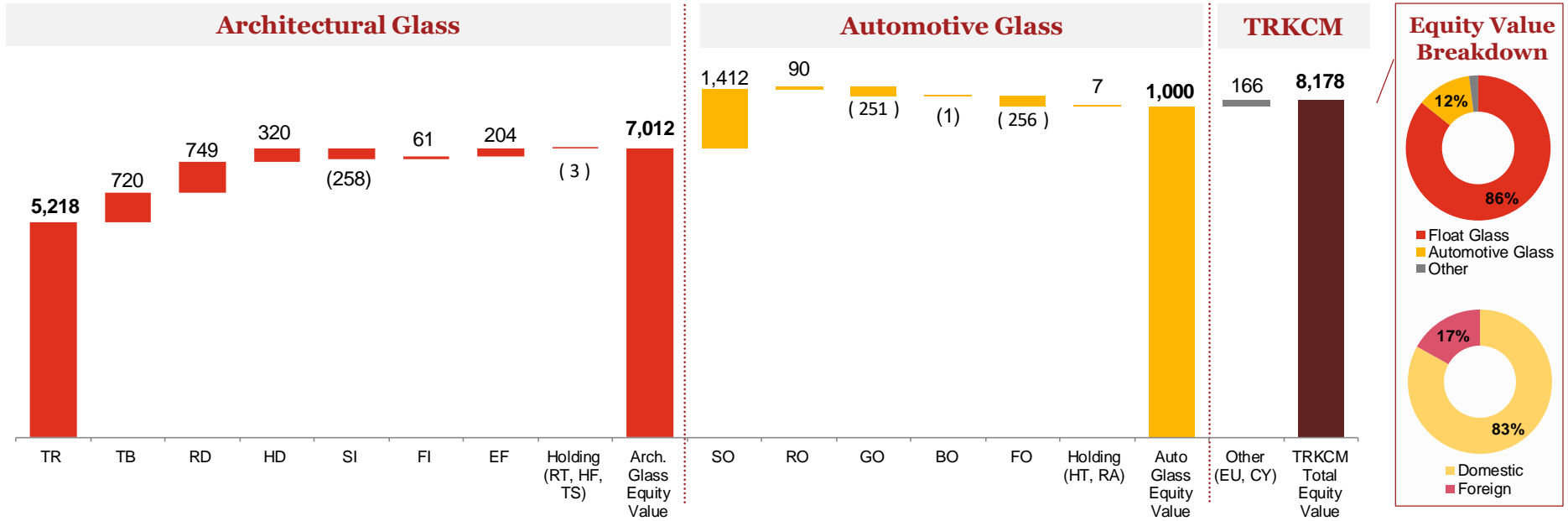
Source: Şişecam Management, PwC Analysis

TRKCM

Income Approach

Based on the Income Approach, the total equity value of TRKCM is estimated to be **TL 8.2bn** as of the valuation date.

Total Equity Value (TL m)



TL m	TR	TB	RD	HD	SI	FI	EF	Holding (RT, HF, TS)	Total Arch. Glass	SO	RO	GO	BO	Fritz	Holding (HT, RA)	Total Automotive Glass	Other (EU, CY)	Total TRKCM
Enterprise Value	4,977	1,341	840	225	(85)	226	-	-	7,524	1,147	166	172	299	145	-	1,929	-	9,454
Net Cash/(Debt)	143	(620)	377	89	(174)	(174)	-	-	(359)	264	(76)	(424)	(301)	(430)	-	(965)	-	(1,324)
Tax Related Assets	119	-	2	6	-	9	-	-	136	0	0	-	1	0	-	2	-	138
Investment Properties	1	-	-	-	-	-	-	-	1	-	-	-	-	28	-	28	-	28
Dividend Payment (-)	(130)	-	(148)	-	-	-	-	-	(278)	-	-	-	-	-	-	-	-	(278)
Dividend Income (+)	108	-	-	-	-	-	-	-	108	-	-	-	-	-	-	-	-	108
Equity Value	5,218	720	1,070	320	(258)	61	681	(3)	7,809	1,412	90	(251)	(1)	(256)	7	1,000	571	9,380
Effective Shareholding Percentage	100.0%	100.0%	70.00%	100.0%	100.0%	100.0%	30.0%	-	-	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	-	-	-
Equity Value - TRKCM	5,218	720	749	320	(258)	61	204	(3)	7,012	1,412	90	(251)	(1)	(256)	7	1,000	166	8,178

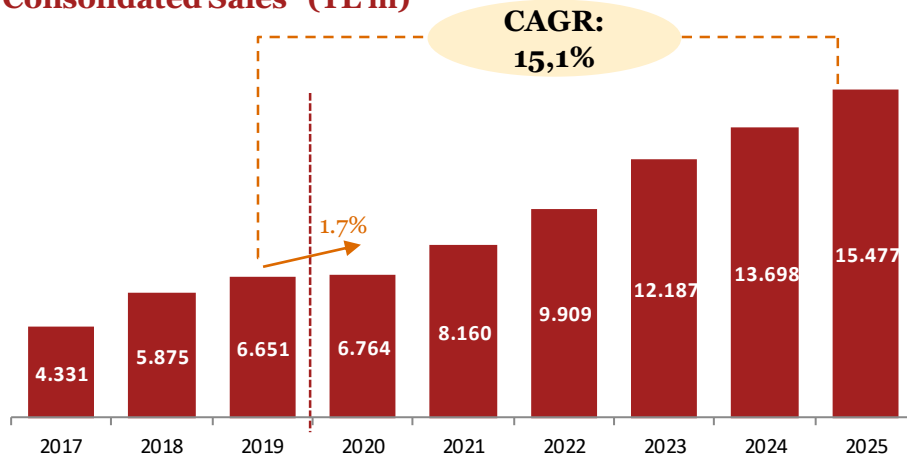
Source: Holding Management, PwC Analysis

TRKCM

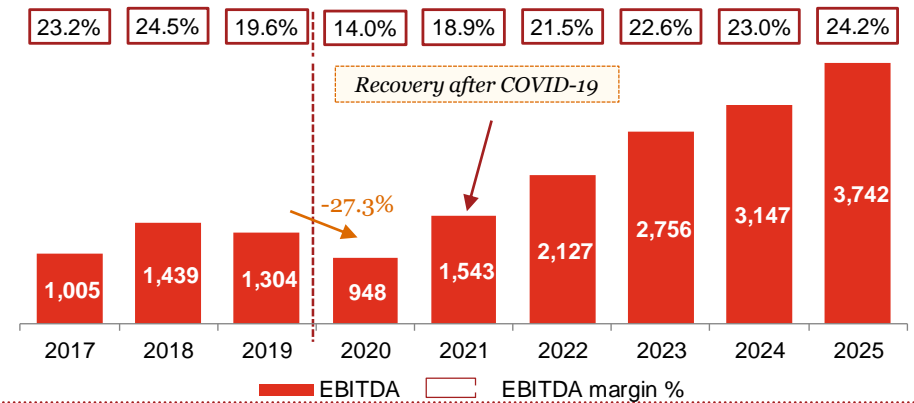
Income Approach

TRKCM's consolidated sales are expected to grow with a CAGR of 15% between 2019-2025. Consolidated EBITDA margin is expected to decrease to 14% in 2020 due to the effect of COVID-19 pandemic, however the EBITDA margin is expected to gradually increase back to the 24-25% level in the projection period.

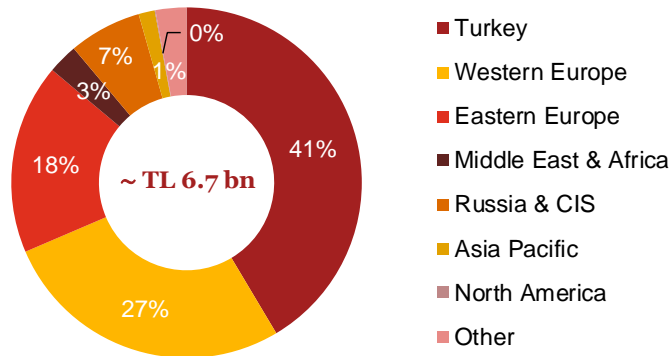
Consolidated Sales* (TL m)



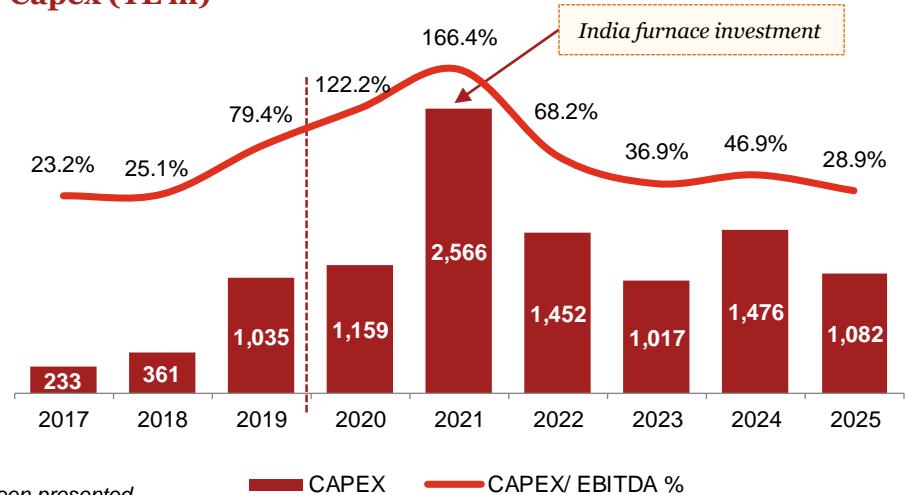
Consolidated EBITDA* (TL m)



Geographic Breakdown of Sales- 2019



Capex (TL m)



*For the 2017-2019 period, the consolidated sales amounts, stated in the TAS/ TFRS reports have been presented.

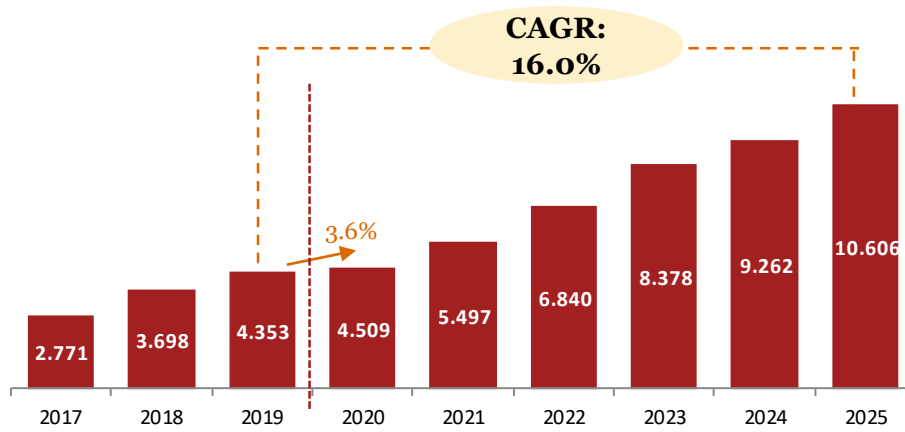
Source: Management, PwC Analysis

TRKCM

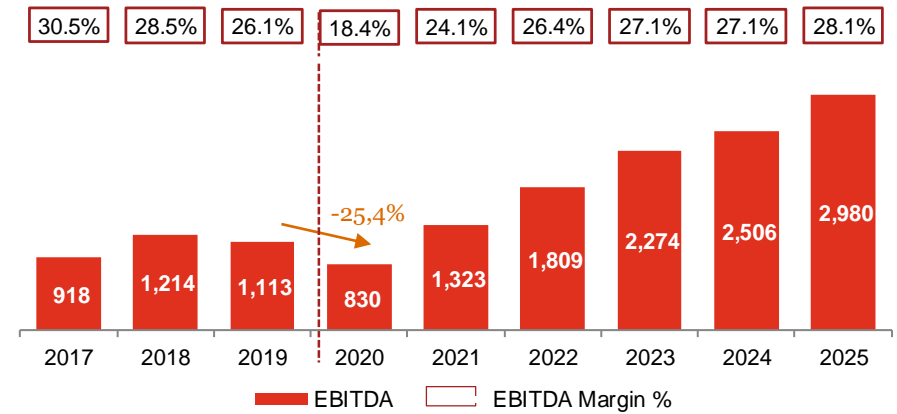
Architectural Glass Income Approach

Architectural Glass business segment's sales are expected to grow with a CAGR of 16% during 2019-2025. Consolidated EBITDA margin is expected to decrease to 18% in 2020 due to the effect of COVID-19 pandemic, however the EBITDA margin is expected to gradually increase back to the 28-29% level in the projection period.

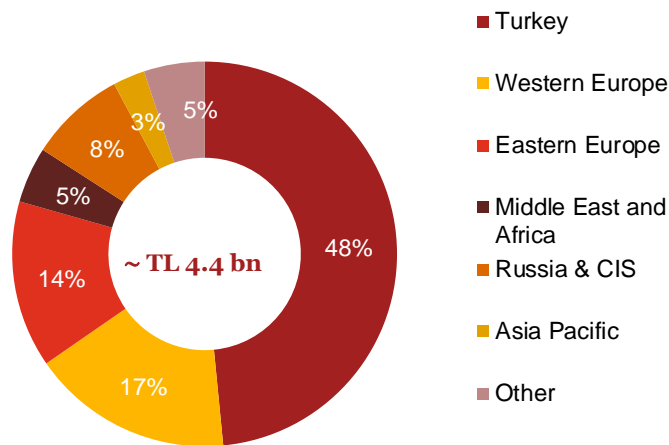
Consolidated Sales (TL m)



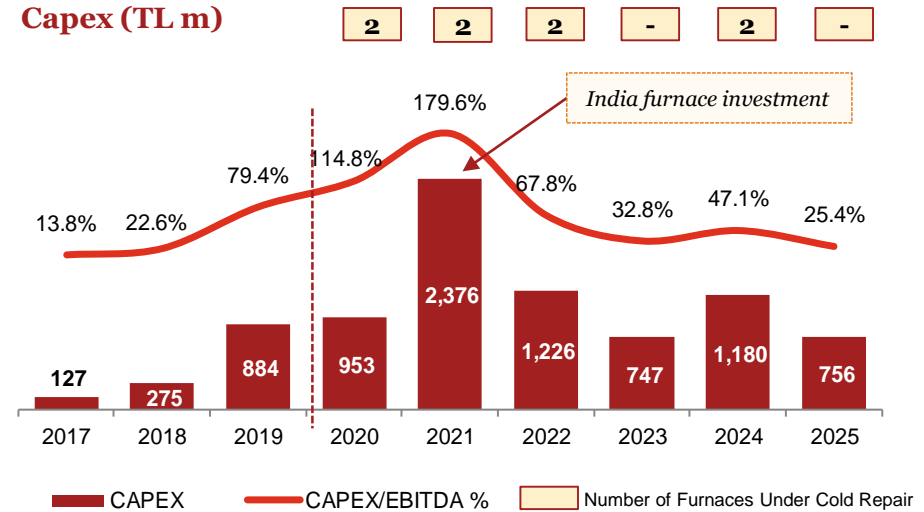
Consolidated EBITDA (TL m)



Geographic Breakdown of Sales- 2019



Capex (TL m)

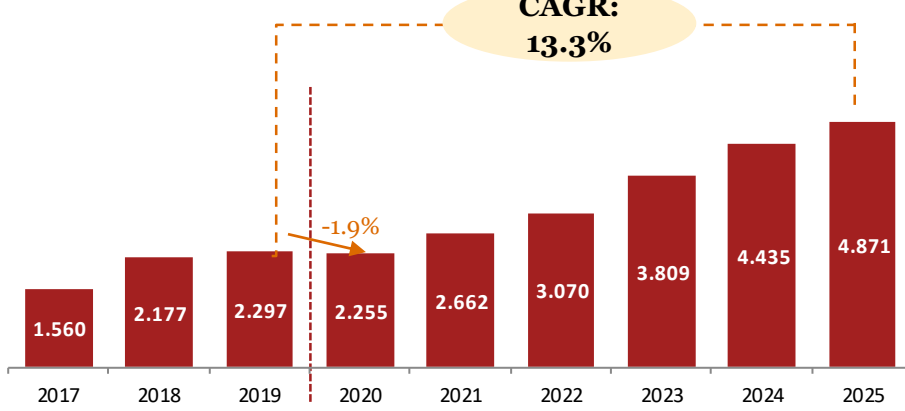


Source: Management, PwC Analysis

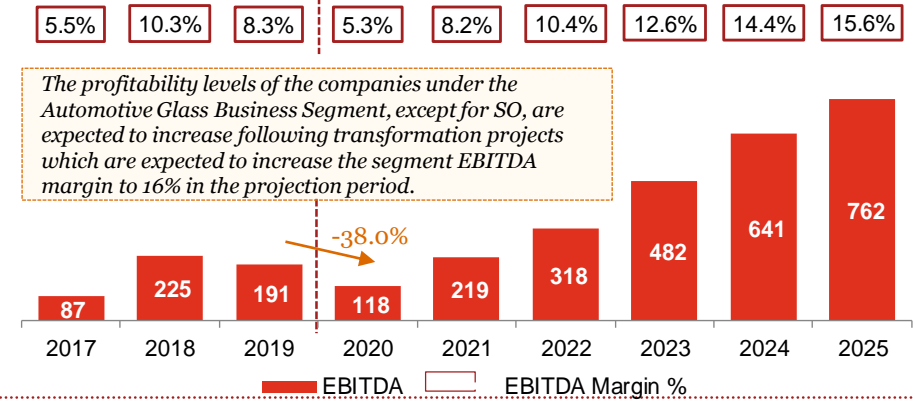
TRKCM Automotive Glass Income Approach

Automotive Glass business segment sales are expected to increase with a CAGR of 13% between 2019-2025. Consolidated EBITDA margin is expected to decrease to 5% in 2020 due to the effect of COVID-19 pandemic, however the EBITDA margin is expected to gradually increase to 16% in the projection period.

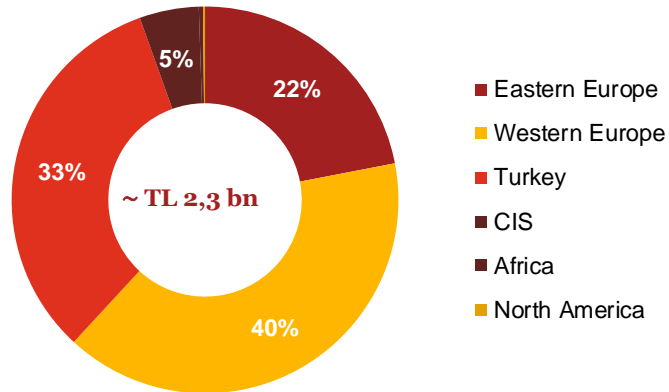
Consolidated Sales (TL m)



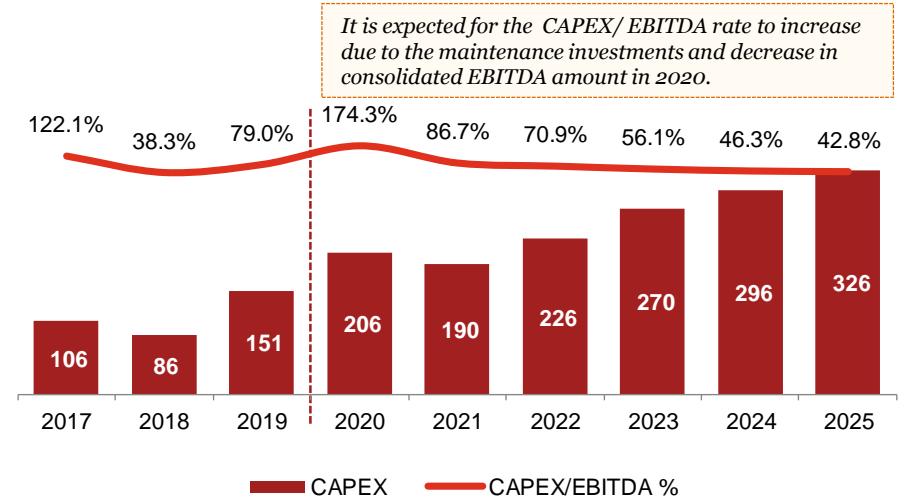
Consolidated EBITDA (TL m)



Geographic Breakdown of Sales- 2019



Capex (TL m)

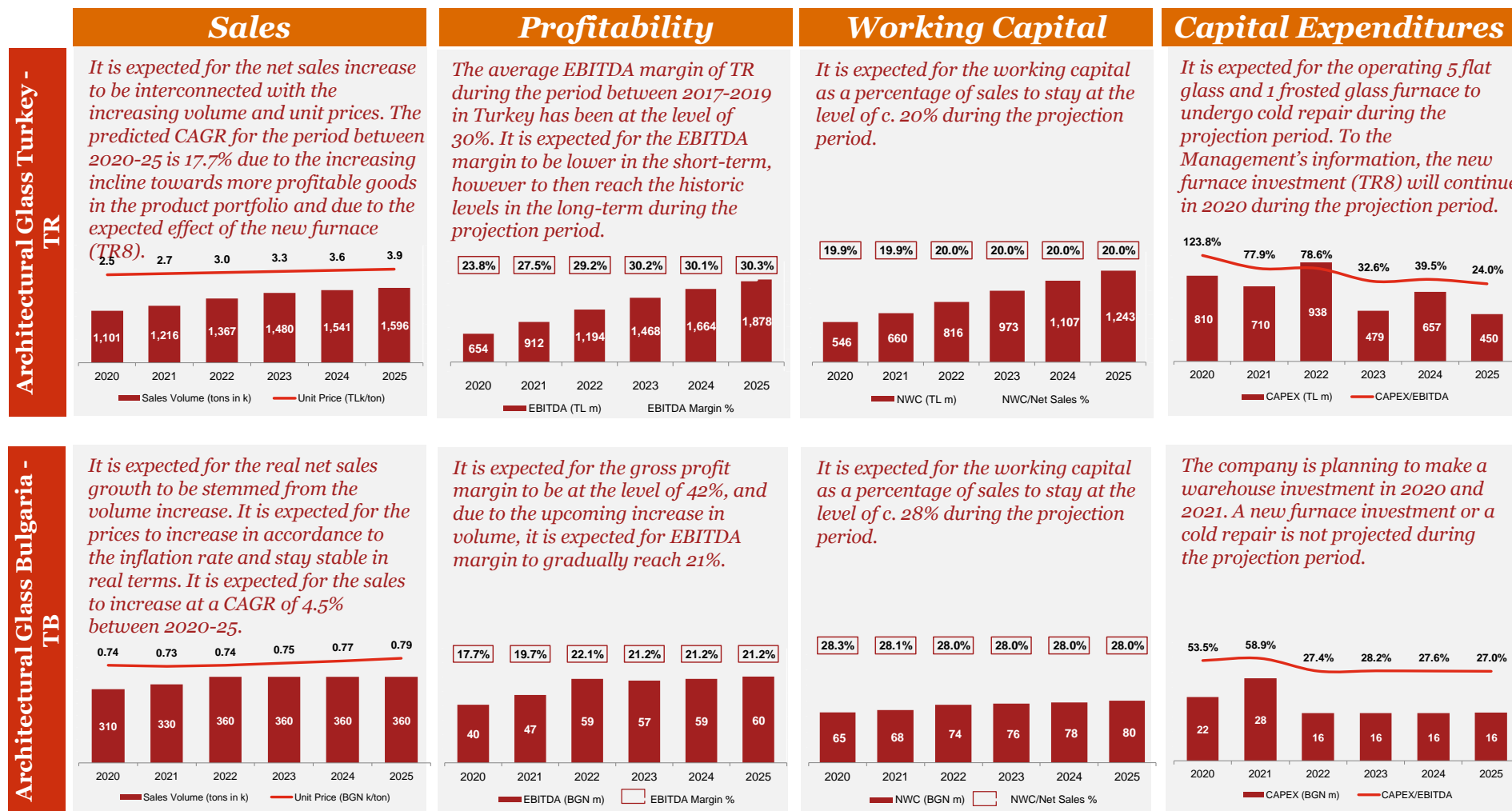


Source: Management, PwC Analysis

TRKCM

Main Assumptions as the Basis of Valuation (1/6)

The main assumptions that have been taken into account when estimating the value of the companies under the Income Approach are presented below.

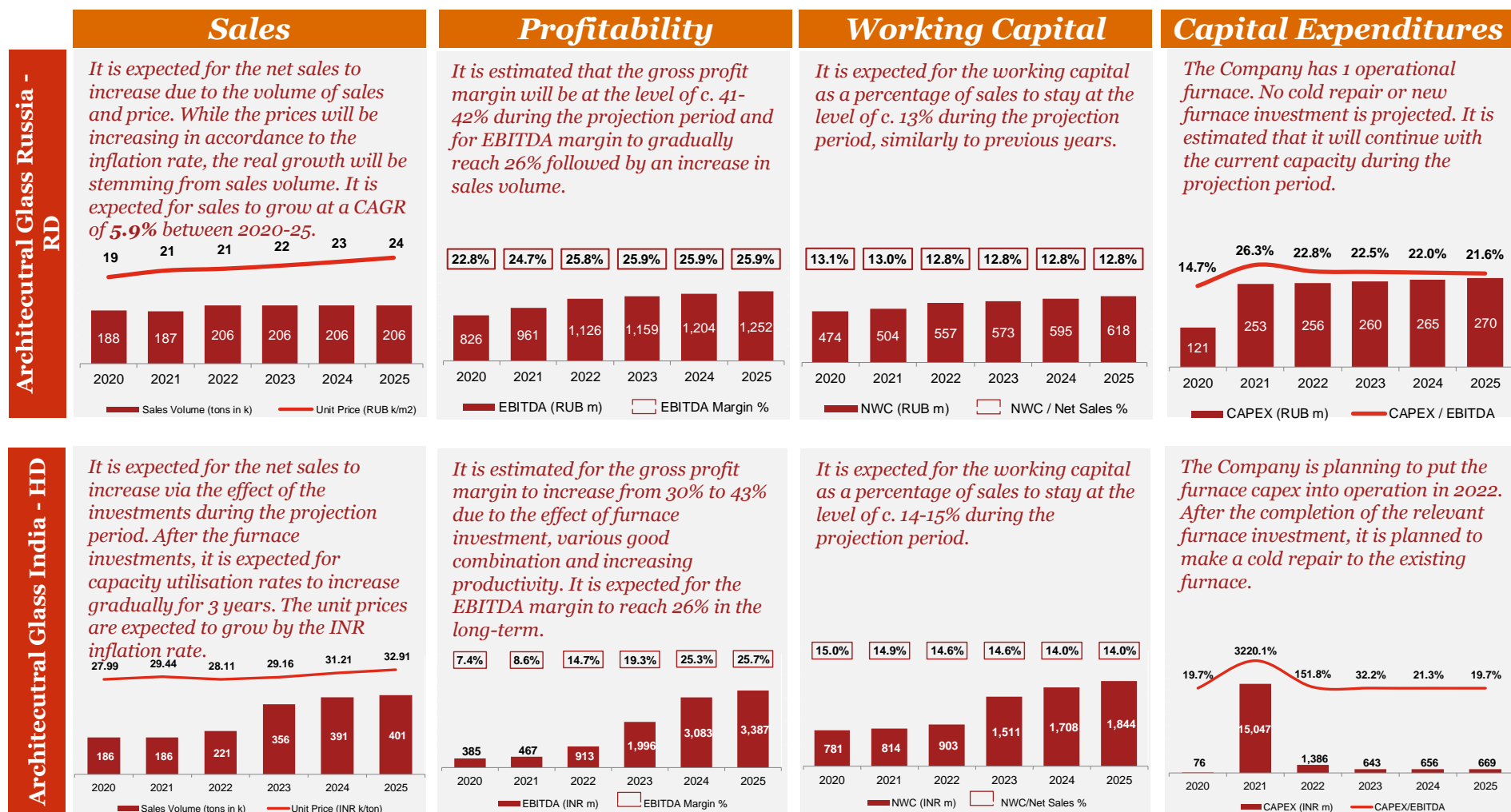


Source: Management, PwC Analysis

TRKCM

Main Assumptions as the Basis of Valuation (2/6)

The main assumptions that have been taken into account when estimating the value of the companies under the Income Approach are presented below.

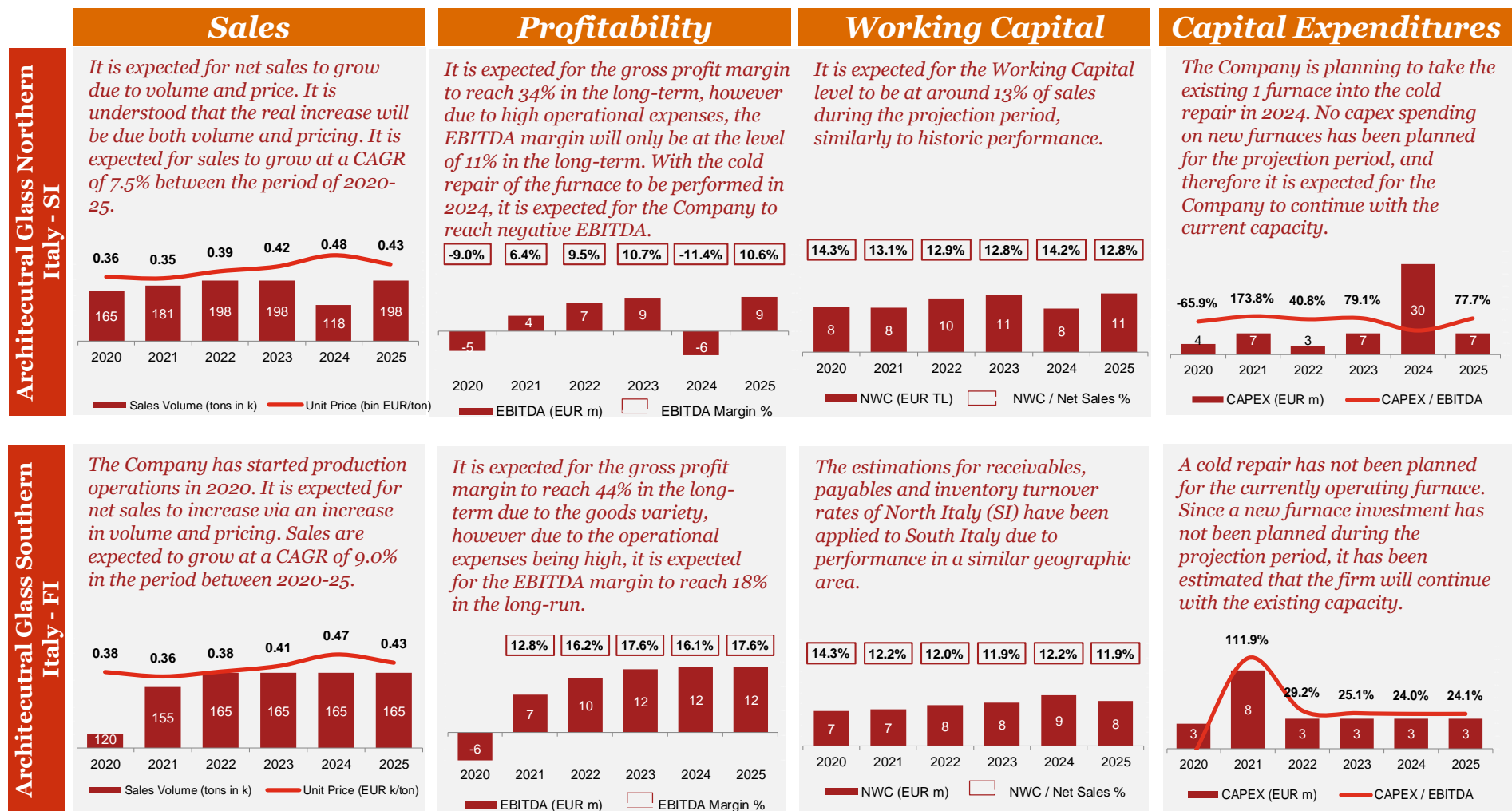


Source: Management, PwC Analysis

TRKCM

Main Assumptions as the Basis of Valuation (3/6)

The main assumptions that have been taken into account when estimating the value of the companies under the Income Approach are presented below.

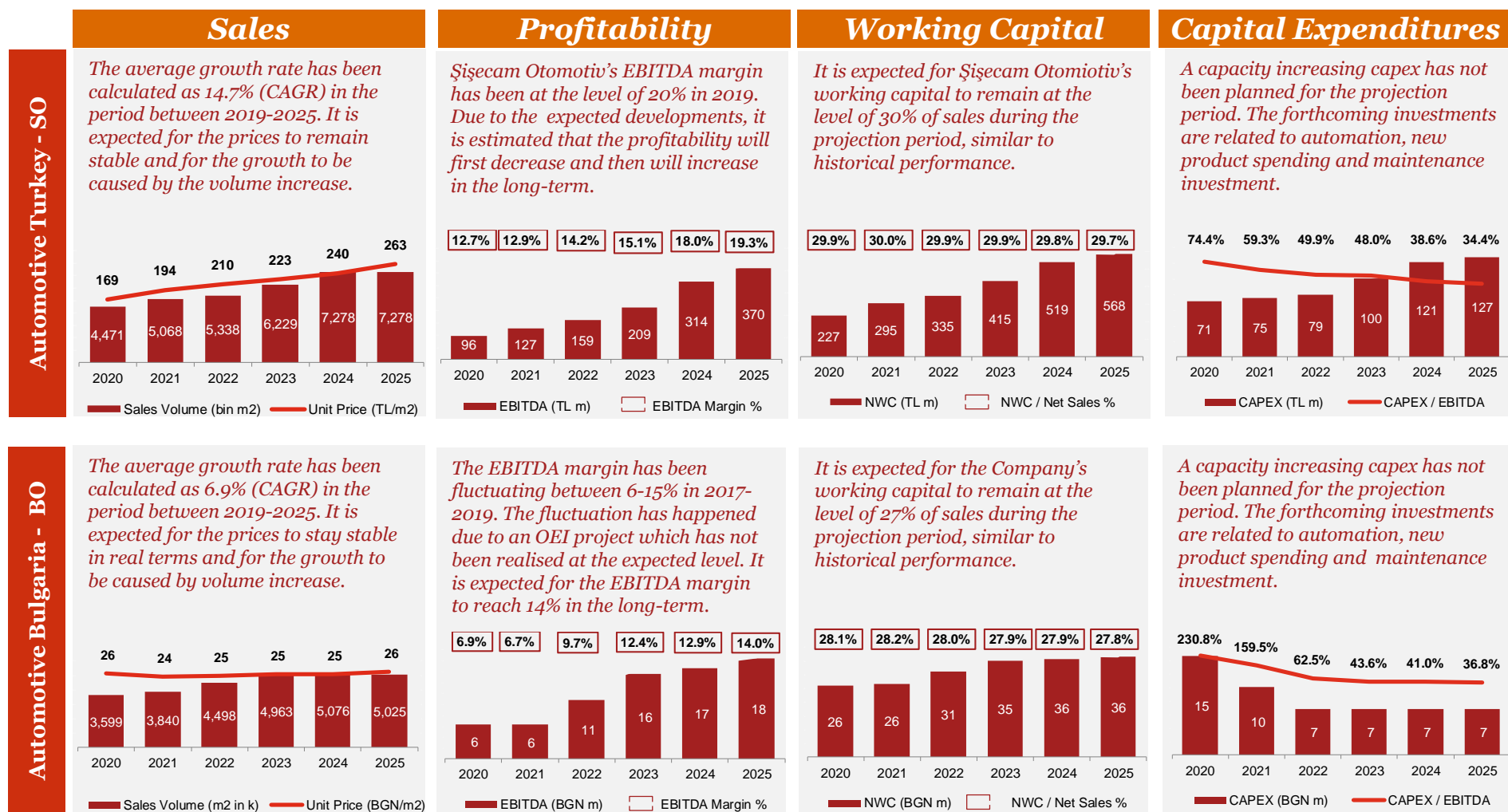


Source: Management, PwC Analysis

TRKCM

Main Assumptions as the Basis of Valuation (4/6)

The main assumptions that have been taken into account when estimating the value of the companies under the Income Approach are presented below.

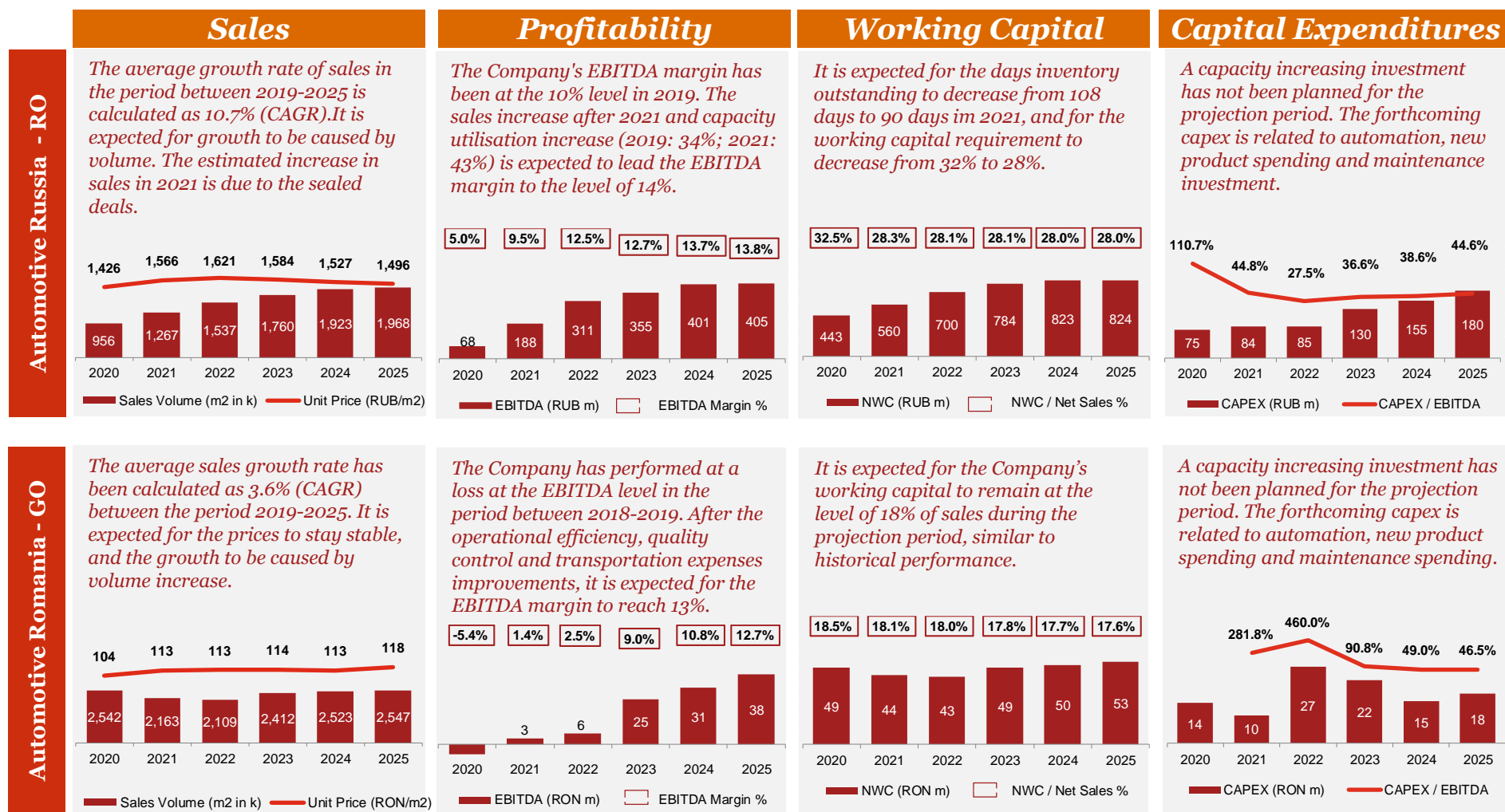


Source: Management, PwC Analysis

TRKCM

Main Assumptions as the Basis of Valuation (5/6)

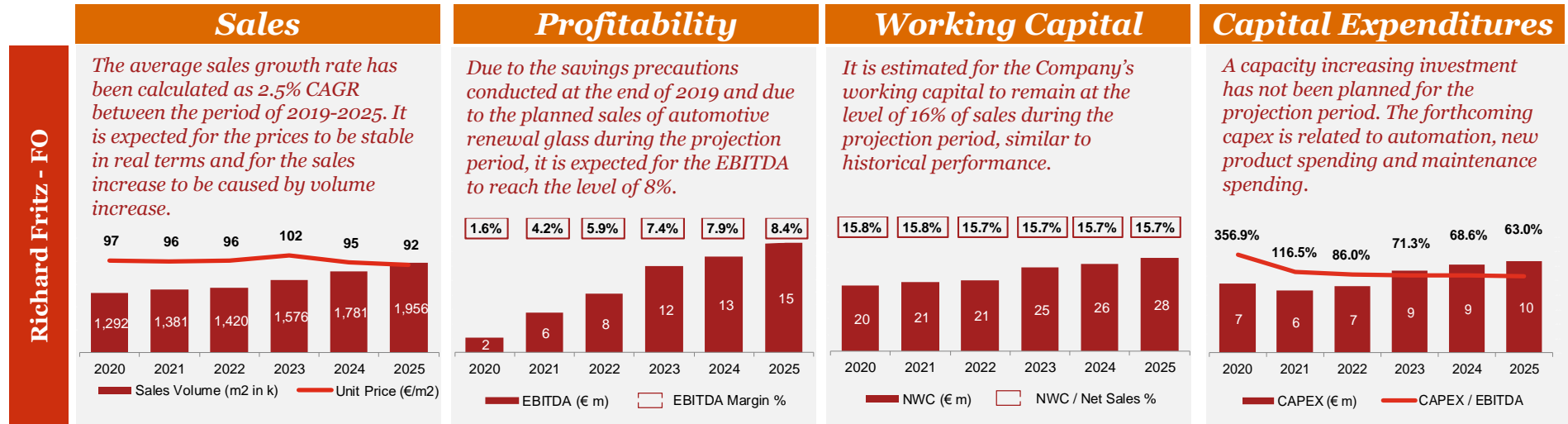
The main assumptions that have been taken into account when estimating the value of the companies under the Income Approach are presented below.



Source: Management, PwC Analysis

TRKCM**Main Assumptions as the Basis of Valuation (6/6)**

The main assumptions that have been taken into account when estimating the value of the companies under the Income Approach are presented below.



Source: Management, PwC Analysis

TRKCM Market Approach (1/2)

Based on the Market Approach, the total equity value of TRKCM is estimated to be **TL 7.8bn** as of the valuation date.

TL m	FY19	FY20	FY21	FY22	Average*
EBITDA	1,304	948	1,543	2,127	
1 Effective EBITDA**	1,272	926	1,515	2,093	
Inflation Indexation	1.00	1.12	1.25	1.40	
2 EBITDA (Discounted 2019 figures)	1,272	827	1,208	1,496	1,201
EV / EBITDA (x)					7.3x
3 Enterprise Value					8,787
Net Cash/(Debt)					(1,437)
Investment Properties					28
Tax Related Assets					137
Dividend Adjustment, net					(126)
5 Investments Accounted for using the Equity Method					370
Saint Gobain Glass Egypt S.A.E					204
Camış Elektrik Üretim A.Ş.					29
Çayıröva Cam San. A.Ş.					137
6 Other Companies					4
Trakya Investment B.V.					1
Automotive Glass Alliance Rus Trading OOO					6
Trakya Glass Rus Trading OOO					(1)
Şişecam Flat Glass Holding B.V.					(1)
TRSG Glass Holding B.V.					(1)
Equity Value					7,764

Market Approach has been applied following the steps discussed below:

- 1 Actual and forecasted consolidated FY19-FY22 EBITDA figures for TRKCM are taken into consideration after multiplying the respected figures with effective ownership percentages.
- 2 The respective forecasted EBITDA figures have been discounted with TL inflation to 2019, in order to express forecast figures in 2019 prices.
- 3 EV/EBITDA multiple derived from the comparable companies analysis is applied to the average of discounted FY19-FY22 EBITDA figures to estimate the enterprise value.
- 4 In order to estimate the equity value; net cash/debt, investment properties, tax related assets and planned dividend income and payments associated with subsidiaries of TRKCM are also considered. Such equity value adjustments are weighted by the effective ownership of the relevant entities at the TRKCM level.
- 5 The estimated equity values of investments accounted for using the equity method as of 31.12.2019 are also taken into consideration. Equity value of Çayıröva Cam Sanayii A.Ş. is estimated through Net Asset Approach, whereas the value shares in Saint Gobain Glass Egypt S.A.E. are assumed to be equal to book value carried on the consolidated balance sheet of TRKCM. Income Approach has been considered as the only method for the value of the shares in Camış Elektrik Üretim A.Ş..
- 6 Other non-operational companies have been included in the equity value estimation of TRKCM, based on their respective values estimated via the Net Asset Approach as of 31.12.2019.

* EBITDA figure represents the average of FY19-FY22. Adjustment figures that are included in the EV-Equity bridge is year-end figures for the calendar year 2019.

** Consists of EBITDA figures of companies that are included in the Enterprise Value calculation for TRKCM through the Income Approach, multiplied by their effective ownership percentages.

Source: CapitalIQ, PwC Analysis

TRKCM Market Approach (2/2)

TRKCM's total share value is estimated as TL 7.8 billion within the scope of the market approach as of the valuation date.

Comparable Companies and Multiple Analysis

\$ m	Enterprise Value					Net Sales					EBITDA					EBITDA %				
	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19
Compagnie de Saint-Gobain S.A.	30,425	29,565	36,954	36,300	29,389	43,033	41,268	49,003	47,829	47,776	4,232	4,173	4,947	5,761	5,087	10%	10%	10%	12%	11%
AGC Inc.	8,476	7,778	11,123	11,940	12,335	11,034	10,986	12,994	13,881	13,968	2,011	1,835	2,212	2,203	2,008	18%	17%	17%	16%	14%
Fuyao Glass Industry Group Co., Ltd.	5,289	5,962	8,967	9,554	8,399	2,091	2,394	2,876	2,941	3,031	563	648	790	785	694	27%	27%	27%	27%	23%
Vitro, S.A.B. de C.V.	906	1,707	2,292	1,896	1,626	820	963	2,075	2,238	2,180	174	230	418	370	282	21%	24%	20%	17%	13%
Xinyi Glass Holdings Limited	2,431	3,058	4,006	5,254	4,484	1,479	1,657	1,885	2,045	2,087	322	507	589	616	703	22%	31%	31%	30%	34%
CSG Holding Co., Ltd.	3,816	3,759	3,335	2,681	2,226	1,145	1,292	1,672	1,543	1,416	219	309	350	282	281	19%	24%	21%	18%	20%
Zhuzhou Kibing Group Co.,Ltd	2,316	1,879	2,125	2,344	1,988	796	1,003	1,166	1,218	1,238	170	290	345	324	312	21%	29%	30%	27%	25%

While determining comparable companies within the scope of the market approach, the fields of activity, profitability, indebtedness and operational structures of the selected companies were taken into consideration.

7 global flat glass producing companies have been used in the multiple analysis by taking the existing global market share and sales volume of TRKCM into consideration.

Financial metrics such as furnace count, market size, product range, sales volume, EBITDA margin, debt ratio, profitability level and others have been taken into consideration during the selection of the firms. The selected Companies are understood to be the global market competitors of TRKCM.

EV/EBITDA multiples of the selected 7 companies listed in the public markets between 2015-2019 have been analysed. The enterprise values presented in the table above are the average enterprise values that have been generated throughout the year.

The average multiples calculated for the 2015-2019 for the selected 7 companies are between **6,7x - 7,8x** as shown in the table above. **7.3x**, which is calculated as the average of the 2015-2019 period, has been taken into account under market approach.



\$ m	Enterprise Value / EBITDA (x)					Avg.
	FY15	FY16	FY17	FY18	FY19	
Compagnie de Saint-Gobain S.A.	7.2x	7.1x	7.5x	6.3x	5.8x	6.8x
AGC Inc.	4.2x	4.2x	5.0x	5.4x	6.1x	5.0x
Fuyao Glass Industry Group Co., Ltd.	9.4x	9.2x	11.4x	12.2x	12.1x	10.8x
Vitro, S.A.B. de C.V.	5.2x	7.4x	5.5x	5.1x	5.8x	5.8x
Xinyi Glass Holdings Limited	7.6x	6.0x	6.8x	8.5x	6.4x	7.1x
CSG Holding Co., Ltd.	n.m.*	12.2x	9.5x	9.5x	7.9x	9.8x
Zhuzhou Kibing Group Co.,Ltd	n.m.*	6.5x	6.2x	7.2x	6.4x	6.6x
Average	6.7x	7.5x	7.4x	7.8x	7.2x	7.3x

* Multiples that are considered as outliers have not been taken into account.

Source: Capital IQ, PwC Analysis

TRKCM

Net Asset Approach

Based on the Net Asset Approach, the total equity value of TRKCM is estimated to be **TL 6.3bn** as of the valuation date.

TL m	31.12.2019
Paid Capital	1,250
Adjustment to Share Capital Differences	6
Share Premiums (Discount)	0
Gains/(Losses) on Revaluation	648
Accumulated Other Comprehensive Income/(Expense)	1,249
Currency Translation Differences	1,209
Hedge Reserves	40
Restricted Reserves	232
Retained Earnings	2,250
Net Profit or (Loss) for the Period	750
Non-Controlling Interests	412
Total Equity	6,797
1 Adjustment for Non-Controlling Interests	(412)
2 Dividend Adjustment, net*	(135)
3 Adjustment for Investments Accounted for using the Equity Method	25
Net Asset Value	6,275

*Represents the net effect of dividend adjustments at the consolidated level for TRKCM. The dividend payments made to TR by the subsidiaries are netted off at the TRKCM level. The resulting TL 135m consists of the dividend payments (TL 130m) planned to be made by TRKCM to its own shareholders and the withholding tax that will be due from the dividend payment of RD that will be made to TR (effective withholding tax of: TL 5m). The net dividend adjustment presented under the Income Approach and Market Approach is TL 126m. This discrepancy stems from a representation difference, that is, the remaining TL -9m is included in the Income and Market Approaches as part of Çayirova Cam Sanayii A.Ş. valuation result.

Source: Holding Management, PwC Analysis

1 Sermaye Piyasasında Finansal Raporlamaya İlişkin Esaslar Tebliği

The breakdown of the consolidated shareholders equity for TRKCM, which is prepared in accordance with the CMB's "Principles of Financial Reporting in Capital Markets¹", in line with Turkish Accounting Standards and Turkish Financial Reporting Standards and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. is presented in the adjacent table.

It has been assumed that the shareholders equity that is present in the consolidated and audited 31.12.2019 balance sheet of TRKCM is an accurate representation of the equity value of the company, for purposes of Net Asset Approach.

The consolidated shareholders equity of TRKCM as of 31.12.2019 is TL 6,797m, the Net Asset Value is calculated as **TL 6,275m** after the adjustments are considered.

1 Adjustment for Non-Controlling Interests:

The non-controlling interests that are presented as part of the consolidated shareholders equity are excluded from the consideration as part of the Net Asset Approach.

2 Dividend Adjustment:

The figure represents the net dividend payment of TRKCM that is due after 31.12.2019. Dividend adjustment is included in our assessment with respect to its effect on the net asset value of TRKCM.

3 Adjustments for Investments Accounted for using the Equity Method:

Çayirova Cam Sanayii A.Ş., Saint Gobain Glass Egypt S.A.E and Camiç Elektrik Üretim A.Ş. are included in the consolidated financial statements of TRKCM through the equity method. While determining the equity value of the aforementioned companies, the carrying values of the respective companies that are present in the consolidated balance sheet of TRKCM are taken into consideration.

Entry stands for adjustments made for Çayirova Cam Sanayii A.Ş., with respect to estimation of its individual equity value under Net Asset Approach.

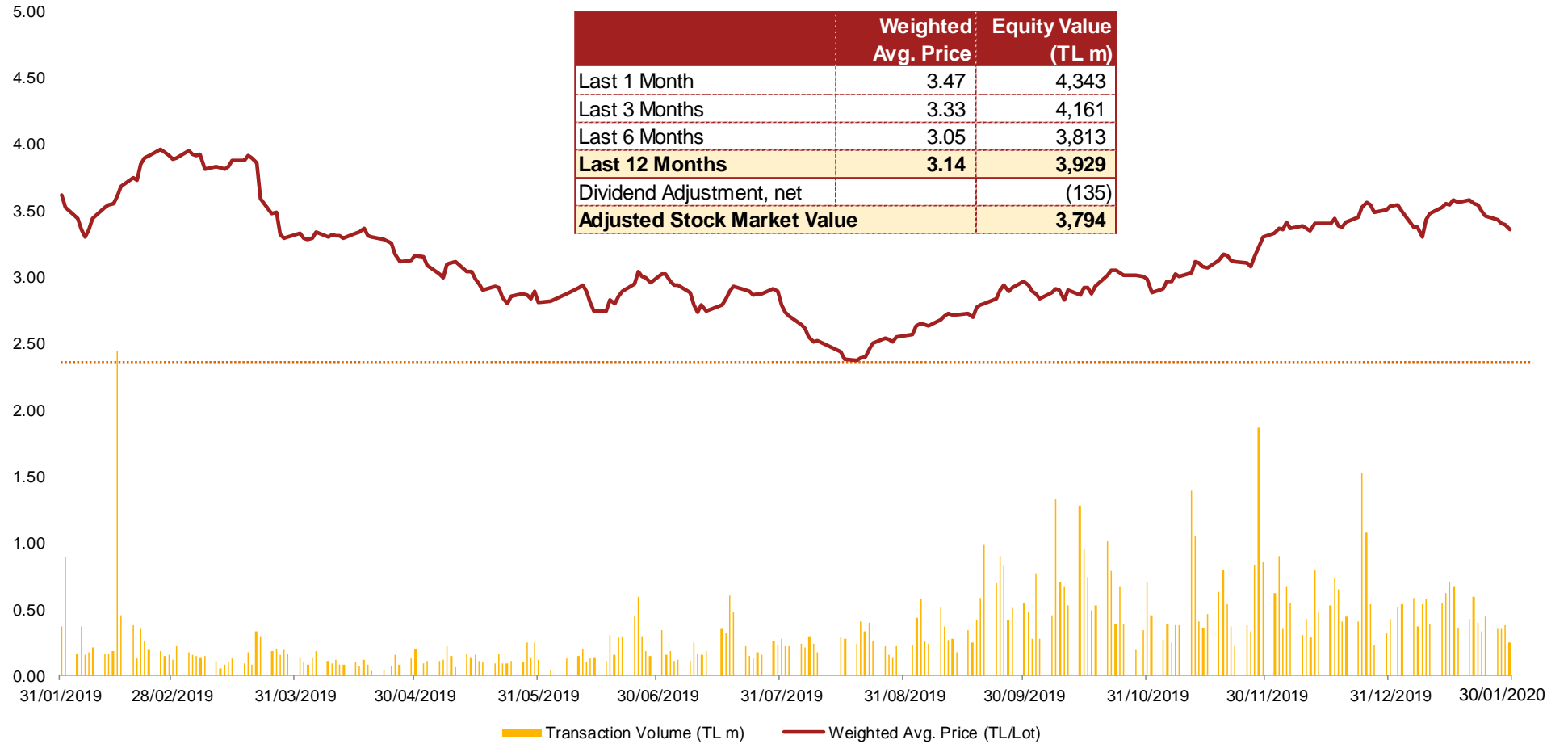
TRKCM

Stock Market Value

The Stock Market Value for TRKCM is based on the weighted average stock market price of quoted TRKCM shares for the trailing 12 months going back from the merger announcement date, 30.01.2020. The total equity value of TRKCM estimated from this method is estimated to be **TL 3.8bn.**

Stock Price and Transaction Volume

Stock Price (TL/lot)

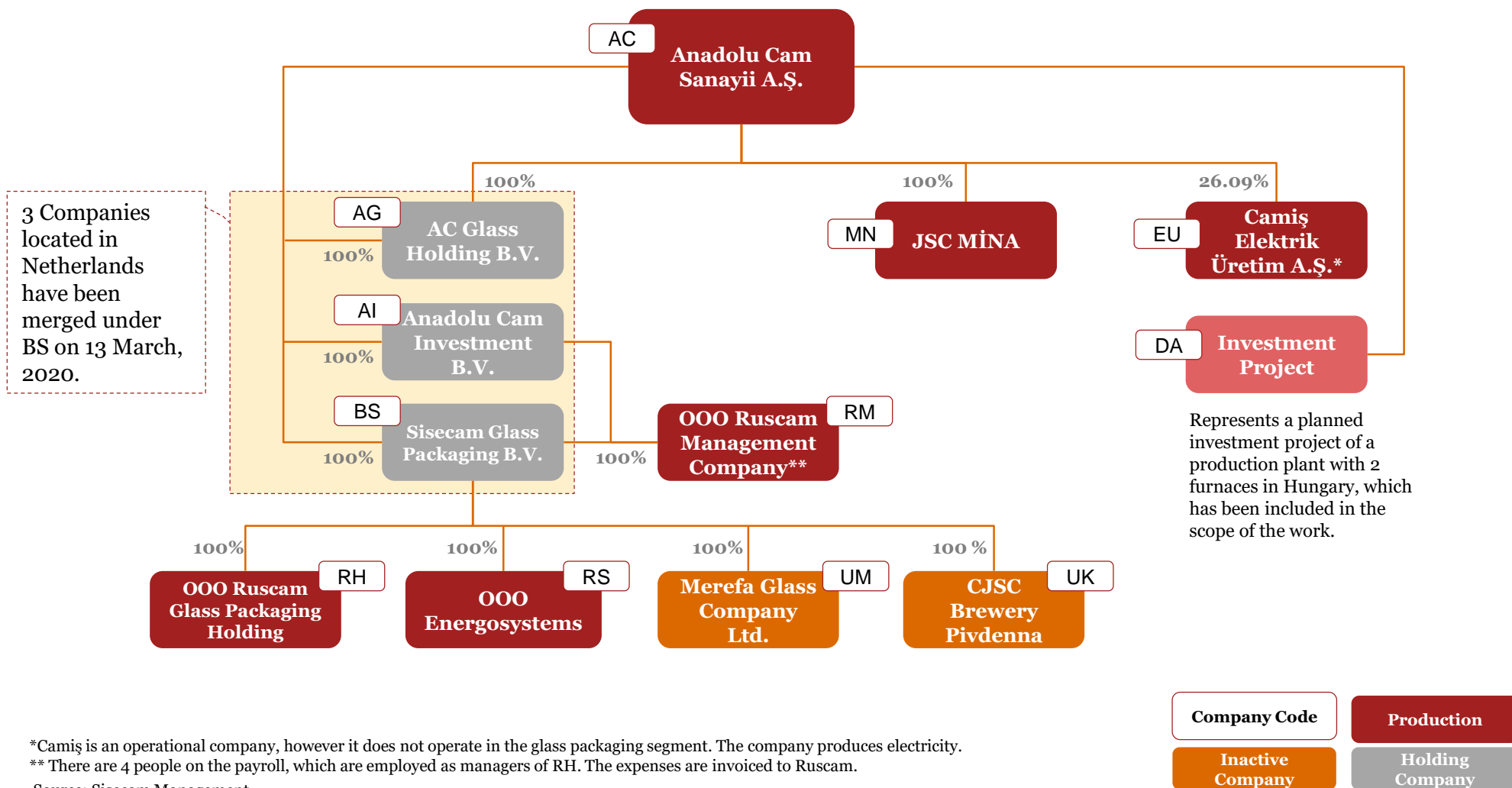


Source: CapitalIQ, PwC Analysis

ANACM

ANACM Shareholding Structure

ANACM operates in the glass packaging business segment with 3 production companies and 1 holding company. ANACM holds **100%** of shares in all of its subsidiaries, except for Camiř Elektrik Üretim A.ř.



*Camiř is an operational company, however it does not operate in the glass packaging segment. The company produces electricity.

** There are 4 people on the payroll, which are employed as managers of RH. The expenses are invoiced to Ruscam.

Source: řiřecam Management

Matters to be Considered

ANACM (1/4)

Glass Packaging Group	Production activities of the Glass Packaging Group are gathered under ANACM. Glass Packaging Group maintains its activities with a total of 9 plants (3 in Turkey, 5 in Russia, 1 in Georgia). ANACM is Turkey's leading glass packaging manufacturer with its Mersin, Yenişehir and Eskişehir factories. ANACM's subsidiaries engaged in production activities are Ruscam, which is the leader in the beer sub-market of the glass packaging industry in Russia, and Mina, which owns the only glass packaging factory of Georgia.
Investment Project	In addition to the existing production activities in three different countries, ANACM plans to establish a glass packaging factory in Eastern Europe ("Investment Project" or "YP"), if an agreement is reached with an international alcoholic beverage producer that it currently supplies. As of the Independent Expert Report date, the parties have not reached an agreement on the Investment Project. However, considering the level reached in the negotiations and by the expectations of the ANACM management, the Investment Project is taken into account in the Independent Expert Report. Based on the information provided by ANACM management on the cash flow projections, it is understood that ANACM management did not make any additional expenditures on top of the stated amount in the projections and the investments have not yet started as of the date of the Independent Expert Report.
Anadolu Cam Sanayii A.Ş. (AC)	Anadolu Cam Sanayii A.Ş. ("AC" or "Anadolu Cam"), has realized significant capacity increases in 2018-2019 by having high amounts of capex. Accordingly, a new furnace was built into the Eskişehir factory in 2018 and the Mersin factory in 2019, increasing the total number of furnaces to 12. As a result of the new furnace and cold repair investments, the production capacity, which was 1.1m tons in 2017, was increased to 1.4m tons at the end of 2019. According to the business plan prepared by ANACM management, the Company targets to increase its current production capacity gradually to 1.7 m tonnes by cold repairs and without the need for new furnace investment. According to the 5-year business plan, Turkey glass packaging sector will grow by an annual average of 4% until 2025 and Anadolu Cam is expected to maintain its market share of 58% in 2019 throughout the projection period without any significant change. Anadolu Cam's sales abroad are planned to reach 343k tons with and increase of 27% in 2020 compared to the previous year. Along with the expected increase in exports in 2020, Anadolu Cam is projected to increase its sales volume by an average of 5% per year between 2020 and 2025 during the business plan period.

Matters to be Considered

ANACM (2/4)

OOO Ruscam Glass Packaging Holding (RH)

The Russian glass packaging sector, which OOO Ruscam Glass Packaging Holding ("RH" or "Ruscam") operates in, experienced a contraction by 22% between 2011 and 2017. While 13 glass packaging facilities stopped production activities in that period, Ruscam temporarily suspended the operations of the Pokrovsky factory in 2013. Ruscam, has been able to increase its market share significantly following the exit of other manufacturers in the sector and has strengthened its position as the largest glass packaging manufacturer in Russia by reaching a market share of 31% in 2019. The Pokrovsky factory, which remained inactive in 2020, is planned to start production again. With the Pokrovsky plant restarting production, Ruscam's 5 plants in Russia are expected to have sales volume of around 1m tonnes during the projection period.

JSC MINA (MN)

JSC MINA ("MN" or "Mina"), is the only producer in Georgia, where it operates. The production facility, which has an annual production capacity of 60k tonnes with two furnaces owned by Mina, continues its activities mainly with production combinations for mineral water, wine and soft drinks. Within the scope of the business plan, Mina's sales are planned to remain constant during the projection period and no further investments for capacity increase are planned. It is foreseen that Mina will not pay corporate tax during the projection period, as the corporate tax is not implemented in Georgia since January 1, 2018.

Holding Companies

Holding companies, AC Glass Holding B.V., Anadolu Cam Investment B.V. and Şişecam Glass Packaging B.V., have been established in the Netherlands by ANACM to carry out financing and investment activities abroad. The companies are not operational and they are the subsidiaries of Şişecam Glass Packaging B.V.. As the related companies do not have income generating activities, only the value according to the Net Asset Approach is taken into consideration within the scope of the study. In the valuation studies carried out according to the Net Asset Approach, as of 31 December 2019, the net value of the assets (after subsidiary shares) and liabilities in the financial statements prepared in accordance with TAS / TFRS and in order to be submitted to the CMB has been taken into consideration. In addition to this, the information that the three companies merged under Şişecam Glass Packaging BV as of March 13, 2020 was shared by SISE management.

Other Companies in Russia

Ruscam Management Company and Energosystems have been established in Russia and undertake some of the personnel and production costs arising from Ruscam's activities. In this context, the companies generate revenue by reflecting the costs they incurred directly to Ruscam and do not aim to generate operational profits. Due to the lack of significant income generating activities, the companies are included in the Independent Expert Report only with the Net Asset Approach within the scope of the valuation study.

Merefa Plant

ANACM purchased the production facility in Merefa in Ukraine in 2011 and carries out its operations in Ukraine through Merefa Glass Company and CJSC Brewery Pivdenna companies. However, due to negative political and economic events in Ukraine in recent years, ANACM has decided to stop production in Merefa. Therefore, the companies have been included in the valuation study only with the Net Asset Approach in the Independent Expert Report, considering the difficulties of estimating their revenue generation capabilities.

Matters to be Considered

ANACM (3/4)

Camiş Elektrik Üretim A.Ş. (EU) ANACM is a 26.09% shareholder of **Camiş Elektrik**, which has electricity generation and sales activities. Camiş Elektrik is accounted for using the equity method in ANACM's financial statements. Within the scope of the valuation study, the ownership ratio of ANACM in Camiş Elektrik was taken into consideration, along with the equity values according to the Income Approach and Net Asset Approach methods for Camiş Elektrik which are selected by considering the different methods considered in the valuation study of ANACM.

Tax Assets It is understood that the companies within the Glass Packaging Group are entitled to tax assets for various reasons, which are understood to decrease corporate tax liabilities during the business plan periods. The table below provides information on tax assets on a Company basis:

Company	Currency	Previous Year Financial Loss (m)	Investment Incentives (m)
AC	TL m	n.a.	410
RH	RUB m	9,445	n.a.
MN	GEL m	n.a.	n.a.

Within the scope of the valuation studies carried out for companies, a projection has been made within the information provided by the Company management regarding how these tax assets can be used in years. Based on the projection made, the value of tax assets was estimated and taken into account in the valuation study as an equity value adjustment. During the study, local tax regulations of the companies in which the companies operate are also taken into consideration within the information provided by the relevant company management.

Matters to be Considered

ANACM (4/4)

Value Difference Between Share Groups

ANACM has three share groups (Group A, Group B and Founding Dividend Shares). Group B and Founding Dividend Shares have different privileges at profit distribution from Group A, which constitutes the majority shares. It is assumed that the Group B shares, which are not public and have profit distribution privileges, are more valuable than the Group A shares.

By analyzing the last 10-year period, it is understood that, thanks to the privileges provided by Group B shares in profit distribution, it is entitled to 4.70 times more dividend per share than Group A shares. Since Group B shares are more liquid compared to Group A shares, a 20% liquidity discount was applied to the coefficient calculated. It is assumed that the value of one Group B share will be 3.76 ($4.70 \times (1 - 20\%)$) times of one Group A share. Under different valuation methods, different values are reflected in Group A and B shares. For the calculation of the value difference between ANACM share groups, please see the calculation on pages 153, 154 and 155.

Effects of COVID-19 Outbreak on Valuation Results

In order to understand the effects of the COVID-19 pandemic, whose effects started to show especially after the second half of March in Turkey and other countries where Glass Packaging Group has operations, a meeting has been held with ANACM management, and the business plans provided by the management has been reviewed once more with this particular point of view.

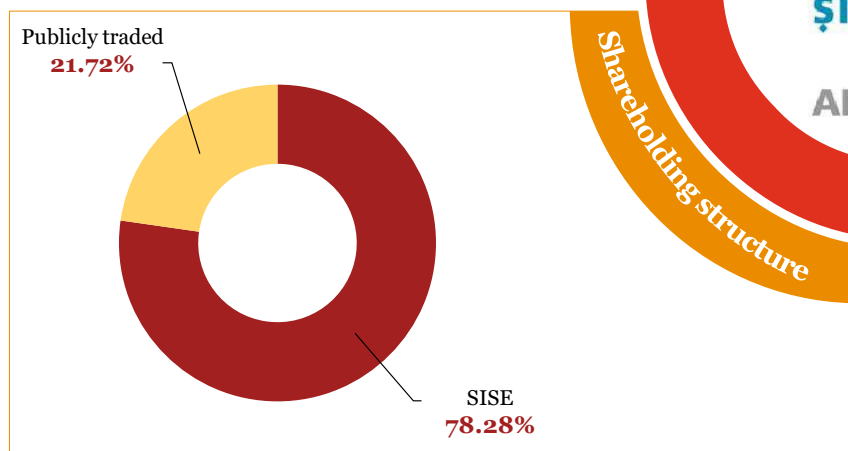
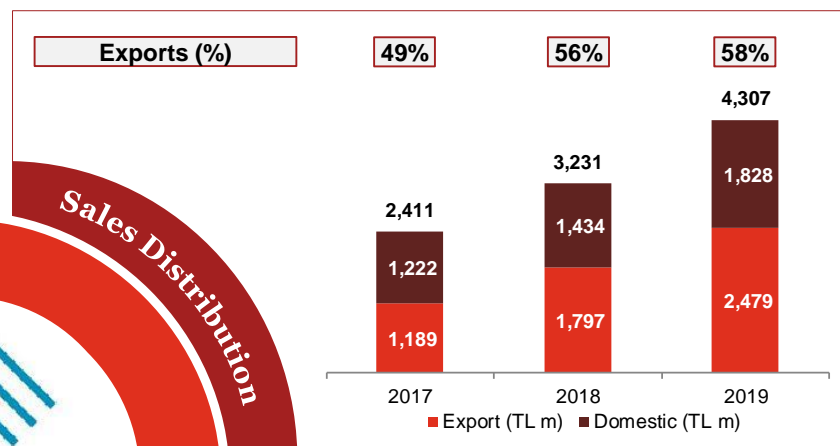
ANACM management has informed us that the activities of the Glass Packaging group will not be significantly affected by the COVID-19 outbreak, and that there is no need for a major revision in the 2020 budget and targets after the outbreak. ANACM management predicts that glass packaging consumption will not decrease with the epidemic. SISE management anticipates that glass packaging food and beverage consumption may increase faster than expected, during and after the pandemic period, with the awareness that the use of glass packaging is a better option for the protection and improvement of human health. Regarding the mentioned expectations, SISE management stated that there is no significant slowdown in sales and orders. In line with the information received in April, the 2020 budget that is used in our study is revised where necessary.

Therefore, unlike in other business segments, it is assumed that the COVID-19 outbreak will not have a negative impact on short-term projections provided for the Glass Packaging Group.

ANACM General Information

78.28% of ANACM is owned by SISE, while the remaining 21.72% is publicly traded. The Glass Packaging Group, which operates under ANACM, produces glass packaging for food, drink, pharmaceutical and cosmetics sectors. ANACM is the **5th largest** glass packaging producer with an annual production capacity of **2.4m tons**.

Factory	Country	Furnace Count	Line Count	Capacity ('000 tons)
Eskişehir	Turkey	4	17	435
Mersin	Turkey	4	13	390
Yenişehir	Turkey	4	17	550
Gorokhovets	Russia	3	12	300
Pokrovksy	Russia	1	3	70
Ufa	Russia	3	14	360
Kirishi	Russia	2	7	168
Kuban	Russia	1	4	120
Mina	Georgia	2	4	60
Total		24	91	2,453
Turkey		12	47	1,375
Russia		10	40	1,018
Georgia		2	4	60



Financial indicators*

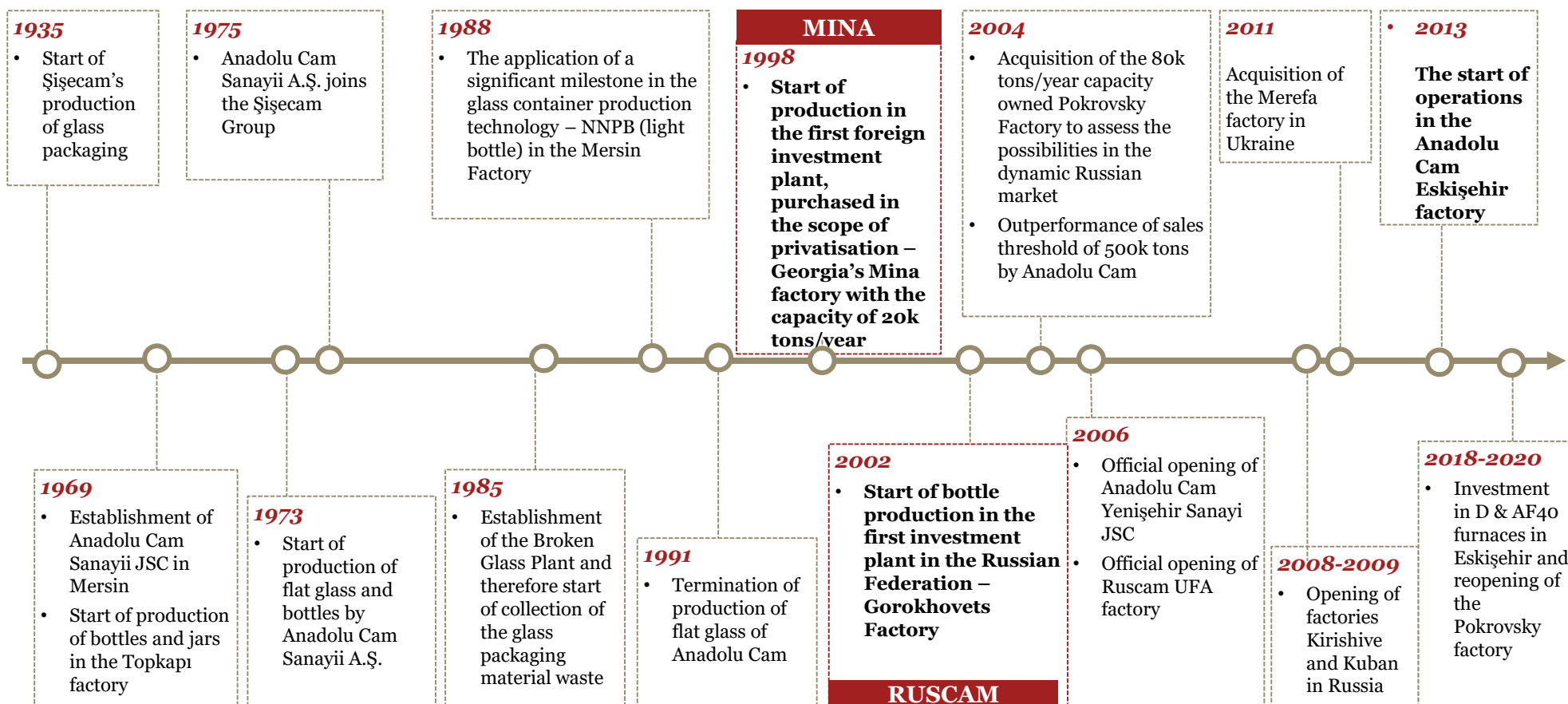
(TL m)	2017	2018	2019
Net Sales	2,411	3,231	4,307
Change, (%)	32%	%34	%33
EBITDA	544	801	1,129
EBITDA margin, (%)	23%	25%	26%
Equity of the Parent	1,892	2,309	2,826
Equity	1,892	2,309	2,826

* Historical Financial Indicators were based on TAS / TFRS financial statements.

Source: Şişecam Management

ANACM

Important Historical Milestones



Source: Şişecam Management

ANACM Operations and Key Indicators

ANACM operates with 3 factories in Turkey, 5 factories in Russia and 1 factory in Georgia. **TL 4.3 billion revenue** was generated in 2019 through sales to more than 100 countries worldwide.

Production



- Eskişehir, Yenişehir and Mersin factories in **Turkey**,
- Gorokhovets, Pokrovsky, Ufa, Kirishi and Kuban factories in **Russia**,
- Mina factory in **Georgia**, have an annual production capacity of **2.4m** tons all together.

Sales



- The largest market share in all the countries with the production operations – **58% in Turkey, 31% in Russia** and **57% in Georgia** in 2019,
- Total of **TL 4.3 billion** consolidated revenue with **58%** sales generated from sales outside of Turkey in 2019,
- Export sales from Turkey have increased by **60%** from 2018 to 2019 and have reached **269k tons**.

Employees



- Total of c. **4,250** employees, with 676 white-collar and 1,193 blue-collar employees in Turkey, and 773 white-collar and 1,606 blue-collar employees at the end of 2019.

Products



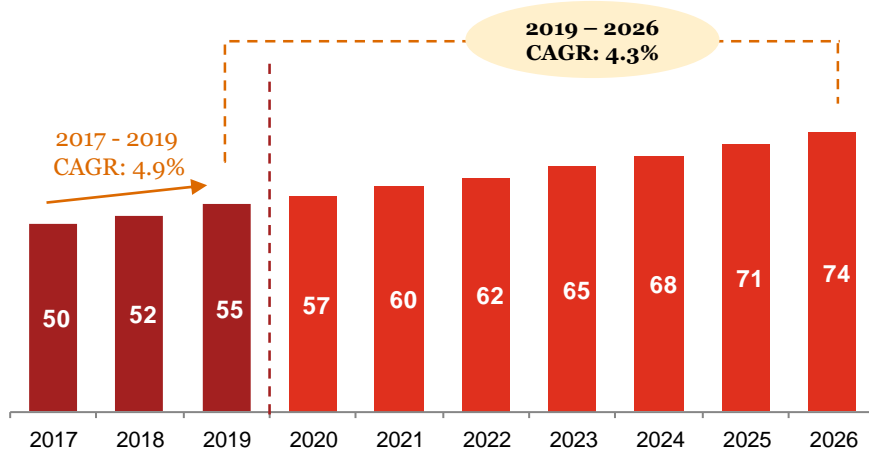
- Production of glass packaging of various volumes and colours for food, water, sparkling water, soft drinks, juices, milk, beer, wine and other highly alcoholic beverages, as well as for the cosmetics and pharmaceutical industries.
- Won various design awards in 2019, such as Turkish Exporters Assembly, World Packaging Organisation and Red Dot Brands & Communication Design awards for the outstanding designs of products.

Source: Şişecam Management

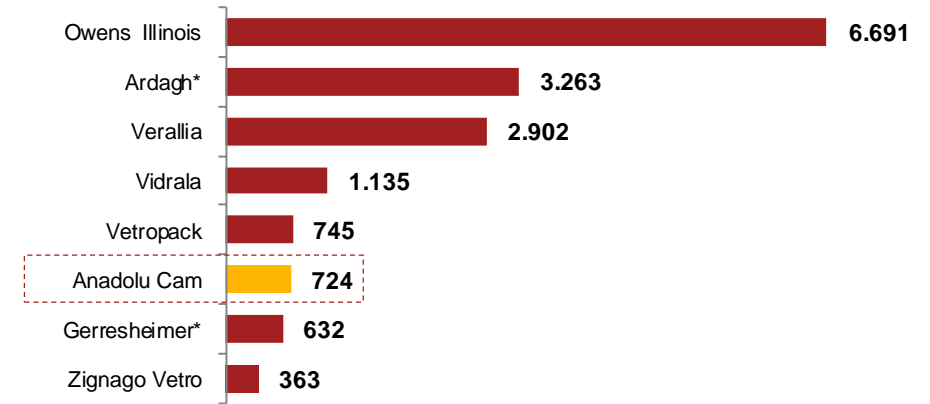
Global Glass Packaging Market

Global glass packaging market size is expected reach **\$74 billion** in 2026 up from **\$55 billion** in 2019, growing with a CAGR of **4.3%**.

Global Glass Packaging market (\$ billion)

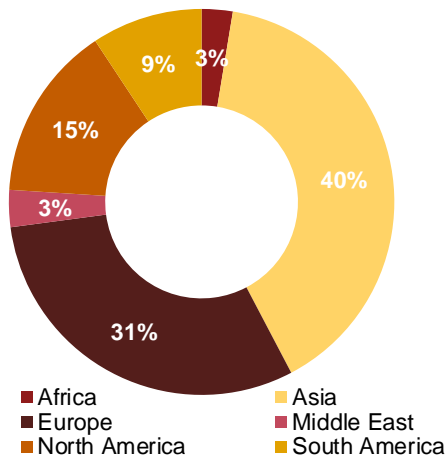


Revenue of the Global Players 2019 (\$ m)

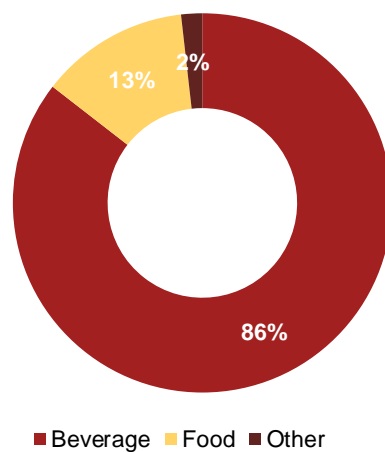


*Only the income from the glass packaging operations has been taken into consideration.

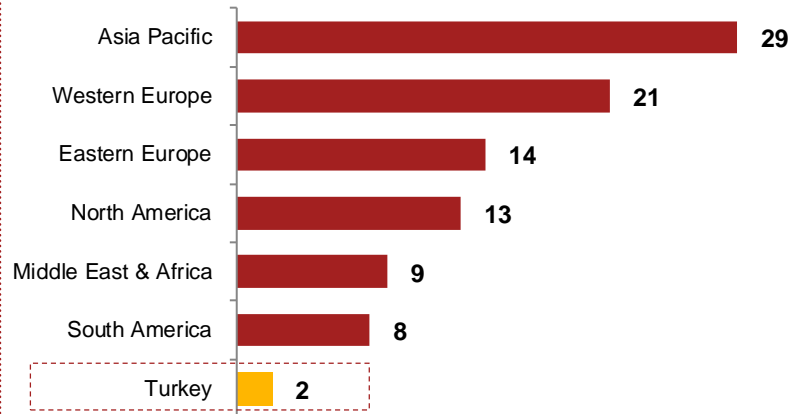
Geographical Breakdown (2019)



Industry-based breakdown (2019)



Regional production capacity (m tons)

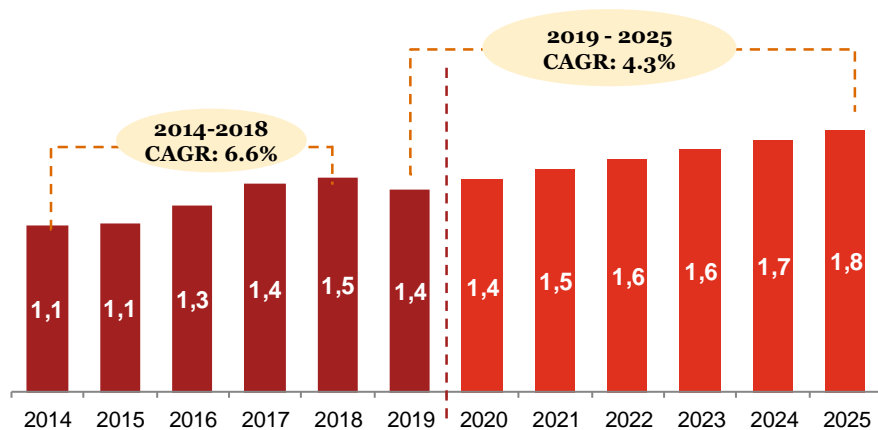


Source: Capital IQ, Şişecam Management, PwC Analysis

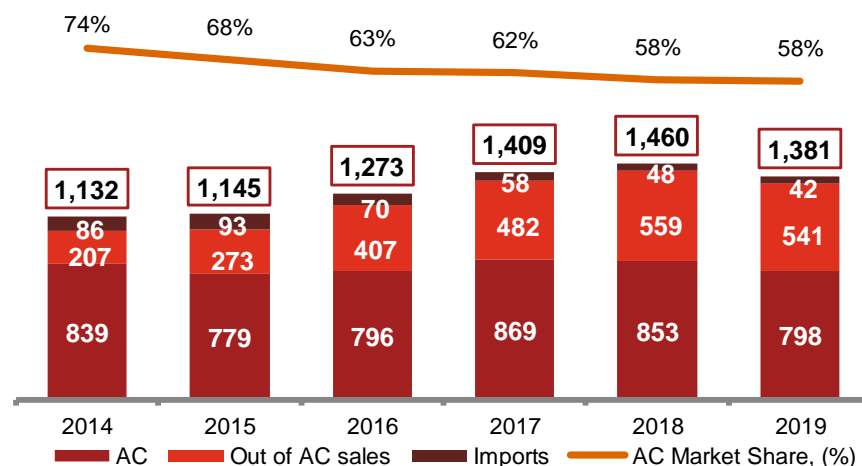
Turkish Glass Packaging Market

Glass packaging accounts for 15% of the total production (in tons) of the Turkish packaging sector. The size of the Turkish packaging sector reached \$23 billion in 2018. The packaging consumption per head is \$225 in Turkey, \$300-350 in Europe and \$450-500 in the USA in 2018.

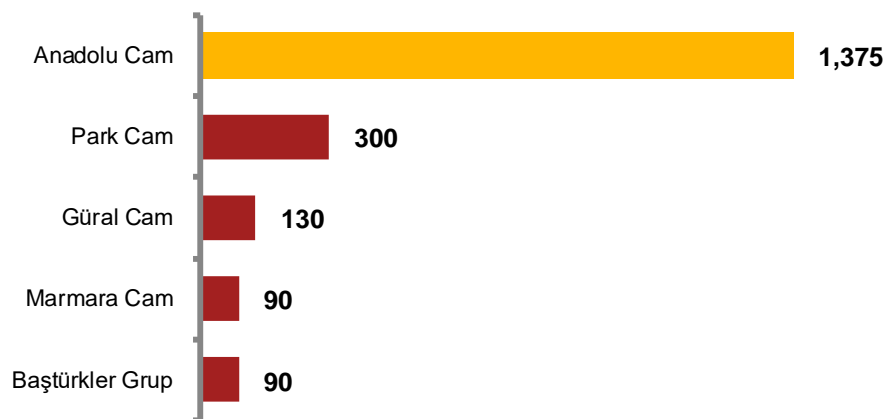
Turkish Glass Packaging Industry (m tons)



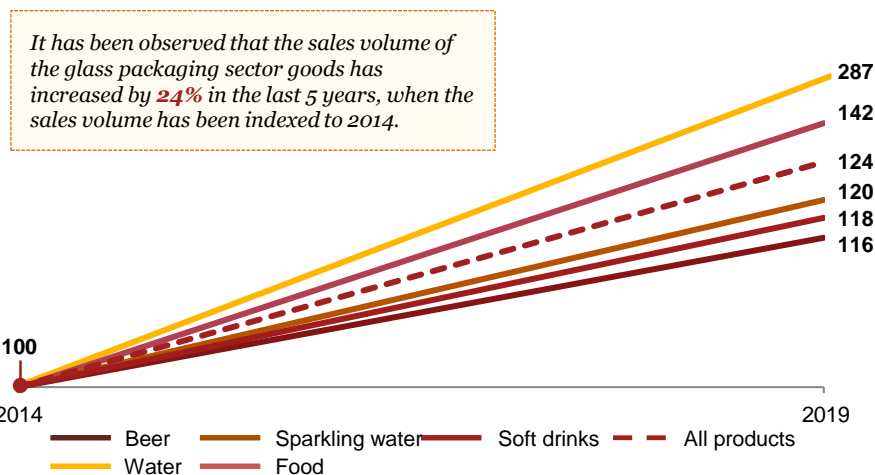
Turkish Glass Packaging Industry (k tons)



2019 Glass Packaging Production Capacity in Turkey (k tons)



Turkish Glass Packaging Market Product Index



Source: Şişecam Management, PwC analysis

ANACM

Historical Financial Statements

(1/2)

The consolidated financial statements of ANACM, have been prepared in accordance with the provisions of the CMB's "Communique on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Balance Sheet

TL m	31.12.2017	31.12.2018	31.12.2019
1 Cash and Cash Equivalents	583	175	1,038
2 Trade Receivables	558	776	1,045
3 Inventories	326	419	614
Other Receivables	7	50	99
Other Current Assets	48	65	79
Current Assets	1,522	1,486	2,876
Financial Investments	260	347	362
Derivative Assets	-	-	15
Investment Properties	-	78	74
4 Property, Plant and Equipment	2,192	2,737	3,476
Intangible Assets	4	5	8
Deferred Tax Assets	185	255	398
Other Non-Current Assets	21	94	65
Non-Current Assets	2,661	3,516	4,398
Total Assets	4,183	5,002	7,274
5 Short-Term Borrowings	832	819	1,252
Trade Payables	273	463	575
Employee Benefit Provision	2	3	4
Deferred Income	15	10	11
Other Current Liabilities	156	91	132
Current Liabilities	1,278	1,386	1,974
5 Long-Term Borrowings	956	1,240	2,398
Other Non-Current Liabilities	56	63	70
Deferred Income	-	4	-
Deferred Tax Liability	1	-	4
Non-Current Liabilities	1,013	1,307	2,473
Equity	1,892	2,309	2,826
Total Liability and Equity	4,183	5,002	7,274

1 SISE has transferred \$140m to ANACM from the \$700m bond issue that has been performed. Cash and cash equivalents have reached TL 1 billion after the financing. TL 938m of the cash and cash equivalents are held on short time deposits of less than 3 months, and the rest of the amount is held on a current account.

2 Trade receivables mostly consist of the trade receivables from Anadolu Cam and Ruscam. Due to the slowdown in the Turkish glass packaging market, the trade receivables collection days have increased. Trade receivable days related to Ruscam have been parallel to previous years, however due to the Ruscam sales increase in 2019 and due to devaluation of TL in terms of Ruble, the trade receivables have increased in TL denomination.

3 Due to the cold repair that has been performed in the Yenişehir factory in 2019, Anadolu Cam's production capacity has increased. The glass packaging sector has experienced a partial slowdown in 2019, in comparison to 2018. Therefore, the year-end stocks of 2019 are partially high in comparison to the 2018 level (which has been lower than normal).

4 ANACM's property, plant and equipment mainly includes the furnaces required for glass packaging production. ANACM's tangible assets have reached TL 3.5 bn as a result of large furnace investments realised in 2018 and 2019 by Anadolu Cam.

5 ANACM's financial borrowings reaching TL 3.6 bn in total, mostly include the bonds issued by SISE (TL 1.2 bn, c. \$ 200 m as at 31.12.2019).

Source: Şişecam Management, PwC Analysis

ANACM

Historical Financial Statements

(2/2)

The consolidated financial statements of ANACM, have been prepared in accordance with the provisions of the CMB's "Communique on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Income Statement

TL m	FY17	FY18	FY19
1 Revenues	2,411	3,231	4,307
Cost of Sales	(1,748)	(2,255)	(2,874)
Gross Profit	663	976	1,434
General Administrative Expenses	(170)	(218)	(261)
2 Marketing Expenses	(246)	(343)	(540)
Research and Development Expenses	(2)	(1)	(2)
Other Operating Income	73	184	100
3 Other Operating Expense	(71)	(138)	(41)
(+) Depreciation and Amortization	296	341	439
EBITDA	544	801	1,129
(-) Depreciation and Amortization	(296)	(341)	(439)
EBIT	248	460	689
Income from Investment Activities	68	121	80
Expense from Investment Activities	(5)	(26)	(4)
Financing Income	283	250	129
Financing Expenses	(418)	(416)	(475)
Dividends from Investments Accounted for using the Equity Method	-	3	2
Impairment Gains/ (Losses) arising from TFRS- 9	8	(3)	1
Profit Before Tax	183	390	422
Tax on (Expense)/ Income	(16)	(12)	(20)
Deferred Tax Income/ (Expense)	17	73	125
Profit/ (Loss) for the Period	184	451	527

1 ANACM's consolidated revenue has increased at an annual average rate of 34% between 2017-2019. The main reason behind this increase is the increase in unit prices that essentially reflect the increasing production costs. ANACM's price determination and management policy allows the changes in unit costs due to the currency rate and important expenses to be reflected on the product prices. When the Group's local and foreign operations have been analysed for the period between 2017-2019, no significant increase in sales volume has been observed.





2 Due to the slowdown in the glass packaging sector in Turkey in 2019, Anadolu Cam has given priority to increasing the foreign sales. The sales volume of 126k tons in 2017 and 168k tons in 2018 has increased to 268k tons in 2019, accordingly. The marketing expenses have increased by an average of 48% between 2017-2019 and have reached TL 540m, due to the fact that the shipment costs for the foreign sales are higher in comparison to local sales.

3 Other operational expenses and income mainly include the foreign exchange differences stemming from the trade receivables/payables, scrap sales and provisional expenses.

Source: Şişecam Management, PwC analysis

ANACM Valuation Results

ANACM's valuation results obtained with 4 different valuation approaches (Income Approach, Market Approach, Net Asset Approach and Stock Market Value) are summarized in the table below.

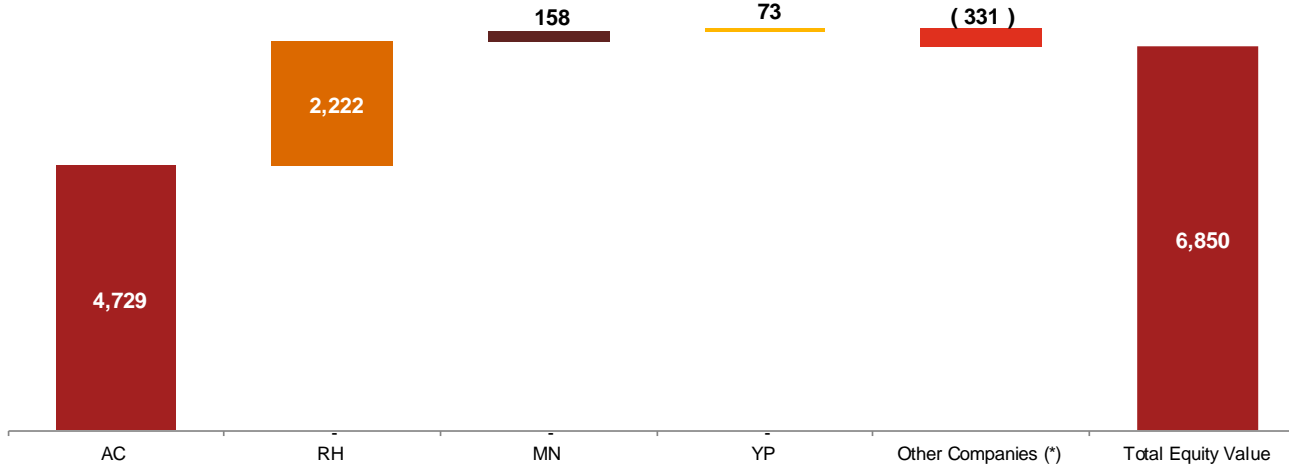
Valuation Method	Equity Value	Explanations
Income Approach 	TL 6,850 m	Consolidated equity value has been calculated from the stand-alone equity values via the "Sum of the Parts" method. "DCF" method has been used for the operational companies and the "NAA" method has been applied for the Holding and non-operational companies. Projections have been prepared in each company's operational currency for the years 2020-2025.
Market Approach 	TL 8,245 m	Companies with similar operational and financial structures have been identified as comparable companies. Average EV/EBITDA multiples of comparables companies covering the period between 2015-2019 have been taken into consideration. The relevant multiple has been applied to the 4 year average EBITDA (with 2019 values), which includes the period between 2019-2022.
Net Asset Approach 	TL 2,684 m	Net asset value have been estimated based on the consolidated equity amounts presented in the audited financial statements dated 31 December 2019 and prepared accordance with the TAS / TFRS with adjustments made if deemed necessary.
Stock Market Value 	TL 2,382 m	1 year average (31 January 2019- 30 January 2020) market value of ANACM's stock market price, reached by multiplying the daily weighted average stock price and the number of shares, has been taken into consideration. The dividends which have been planned to be distributed/collected as of the valuation date have been taken into consideration in the scope of Stock Market Value.

Source: Şişecam Management, PwC Analysis

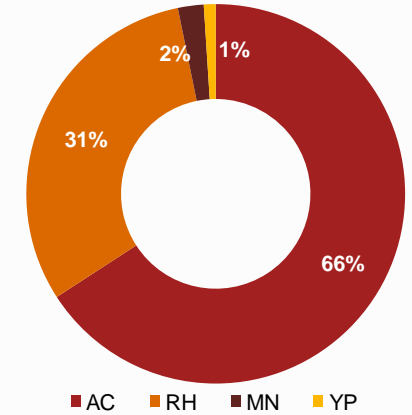
ANACM Income Approach

Based on the Income Approach, the total equity value of ANACM is estimated to be **TL 6.9bn** as of the valuation date.

Total Equity Value (TL m)



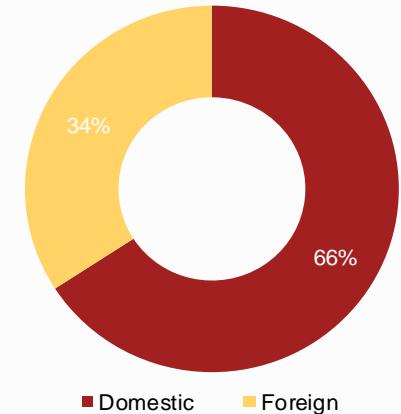
Equity Value Breakdown



TL m	AC	RH	MN	YP	Other Companies	Total
Enterprise Value	5,218	3,263	182	73	-	8,736
Net Cash/(Debt)	(694)	(1,132)	(24)	-	-	(1,850)
Tax Related Assets	273	90	-	-	-	364
Investment Properties	74	-	-	-	-	74
Dividend Payment (-)	(142)	-	-	-	-	(142)
Equity Value	4,729	2,222	158	73	(331)	6,850
Effective Shareholding Percentage	100%	100%	100%	100%	-	
Equity Value - ANACM	4,729	2,222	158	73	(331)	6,850

* Other Companies include Camiř Elektrik, SPVs and non-operational companies. The value estimates for SPVs and non-operational companies are estimated acc. To Net Asset Approach and exclude the impact of investments in subsidiaries, for SPVs.

Source: Holding Management, PwC Analysis



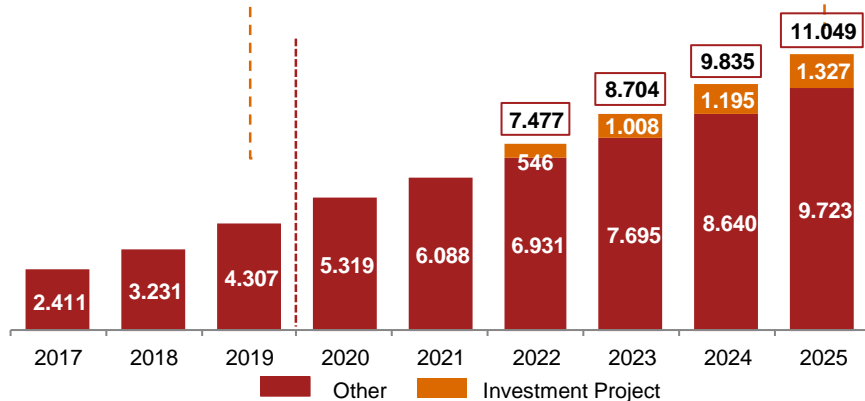
ANACM

Income Approach

It is expected that consolidated sales of ANACM will annually grow by an average of **14.5%** in the period between 2019-2025, excluding the effect of the investment project. The expected increase in the total sales volume is **3.2%**, when the Investment Project is left out.

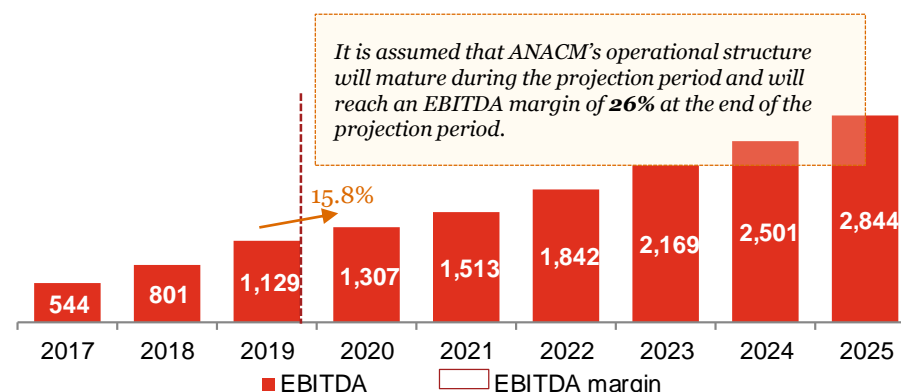
Consolidated Sales* (TL m)

CAGR:**
14.5%

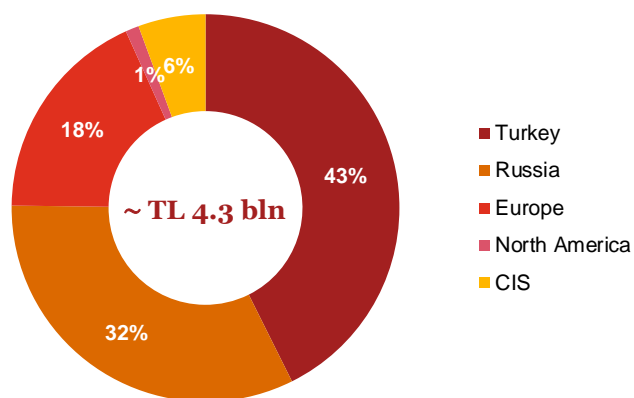


Consolidated EBITDA* (TL m)

22.6% 24.8% 26.2% 24.6% 24.9% 24.6% 24.9% 25.4% 25.7%



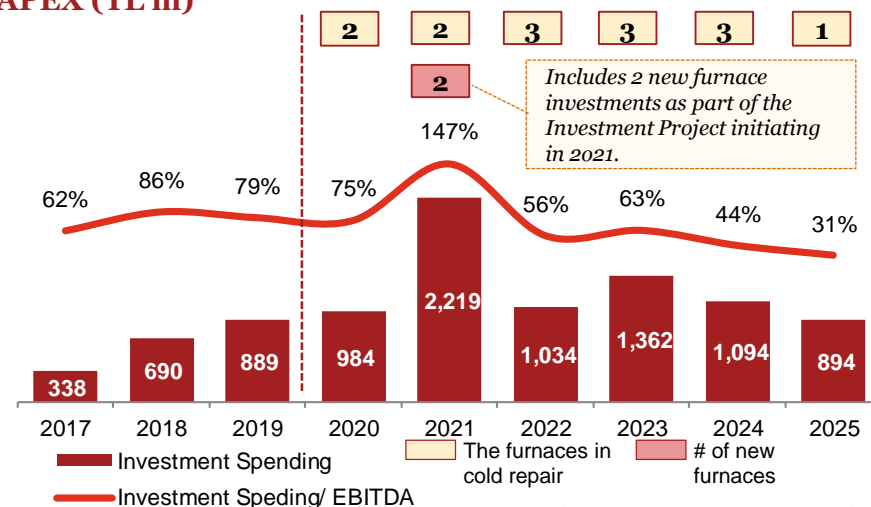
Geographical Breakdown of Sales - 2019



* For the 2017-2019 period, the consolidated sales figures, stated in the TMS/ TFRS reports have been presented.

** Excludes the effect of the investment project

CAPEX (TL m)

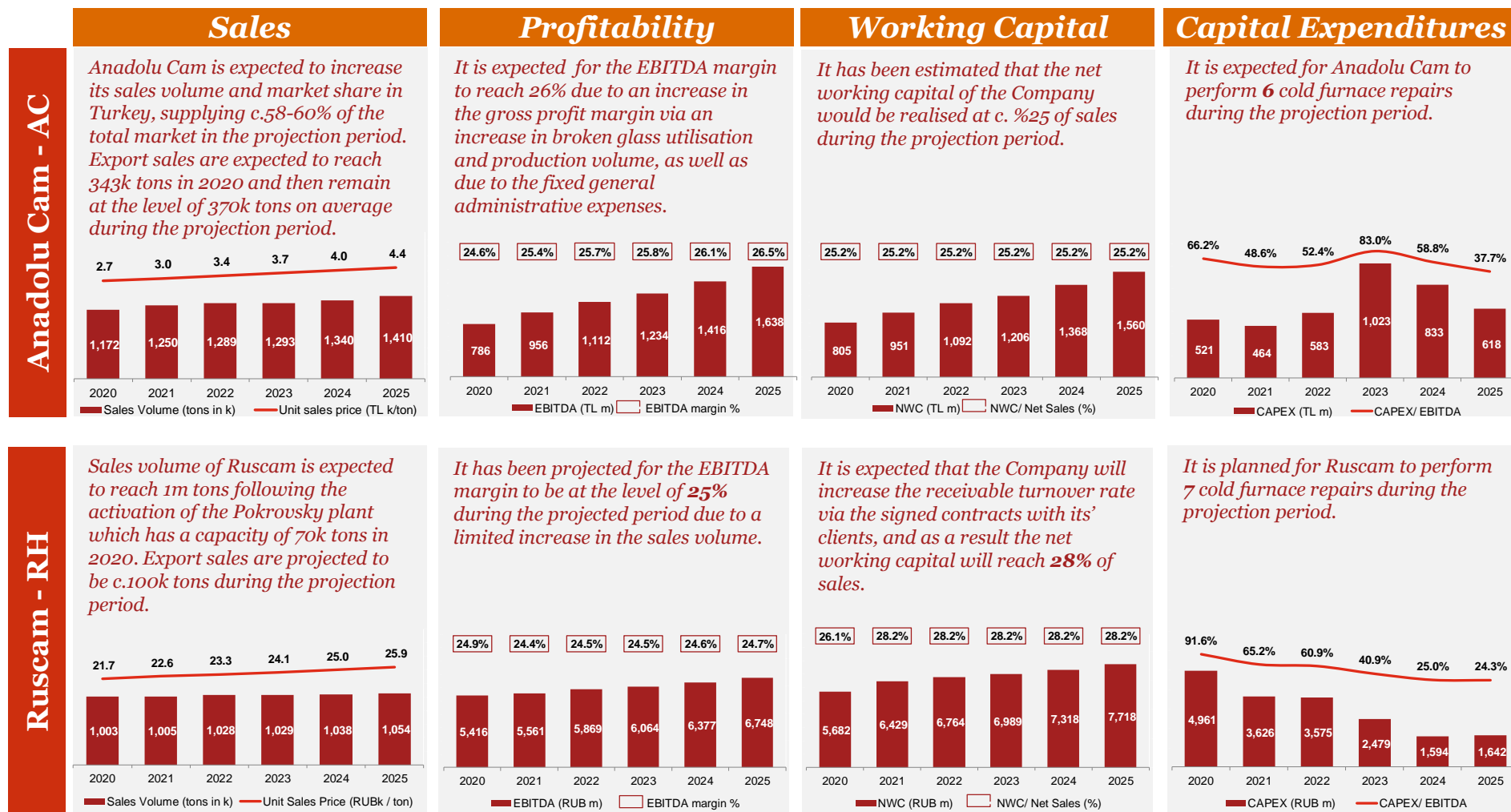


Source: Şişecam Management, PwC analysis

ANACM

Main Assumptions as the Basis of Valuation (1/2)

The main assumptions that have been taken into account when estimating the value of the companies under the Income Approach are presented below.

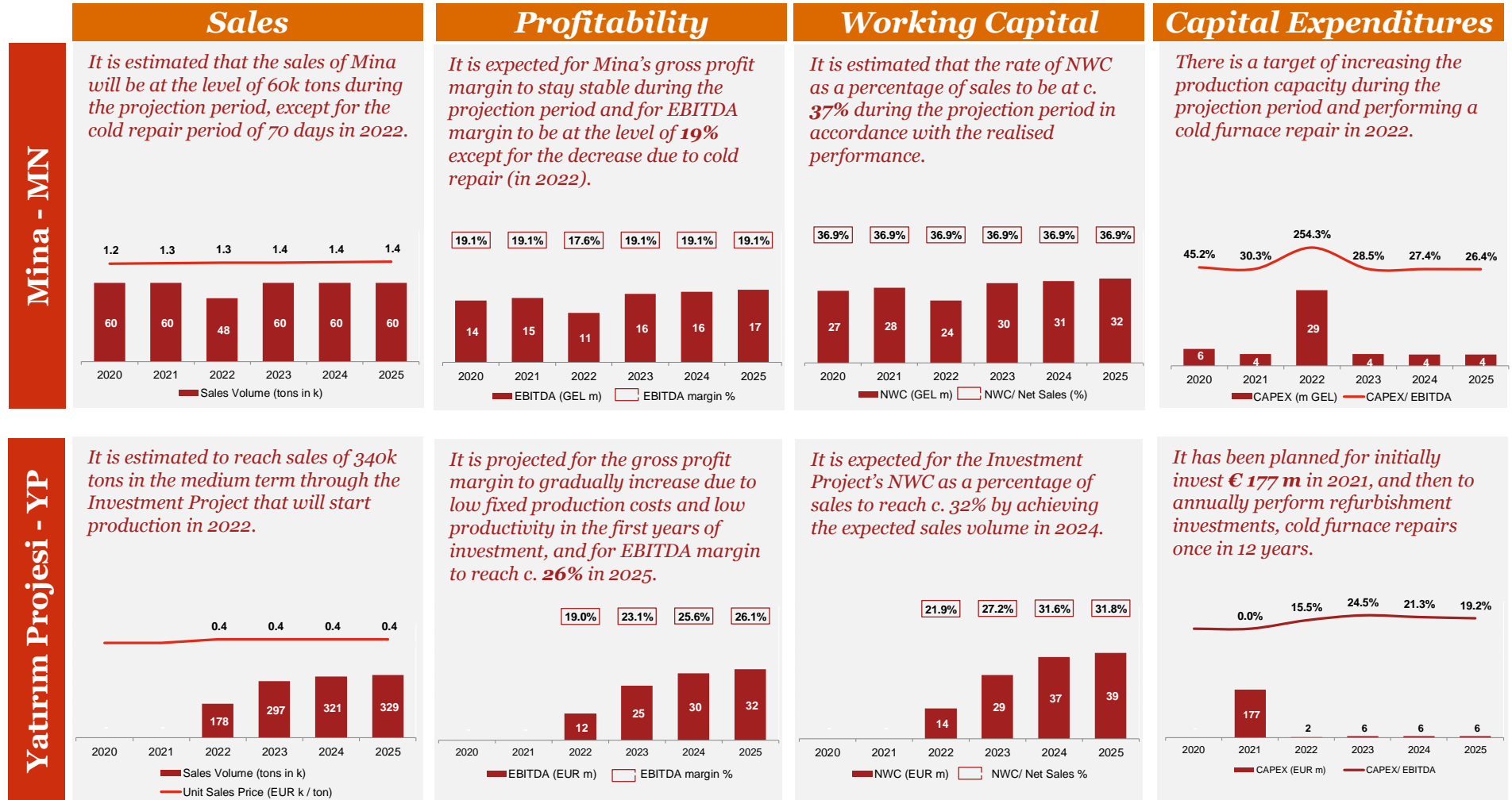


Source: Şişecam Management, PwC Analysis

ANACM

Main Assumptions as the Basis of Valuation (2/2)

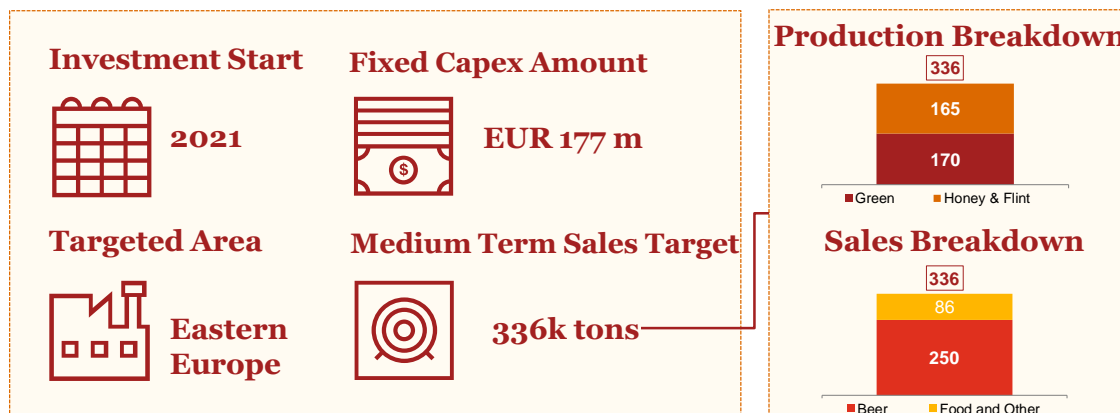
The main assumptions that have been taken into account when estimating the value of the companies under the Income Approach are presented below.



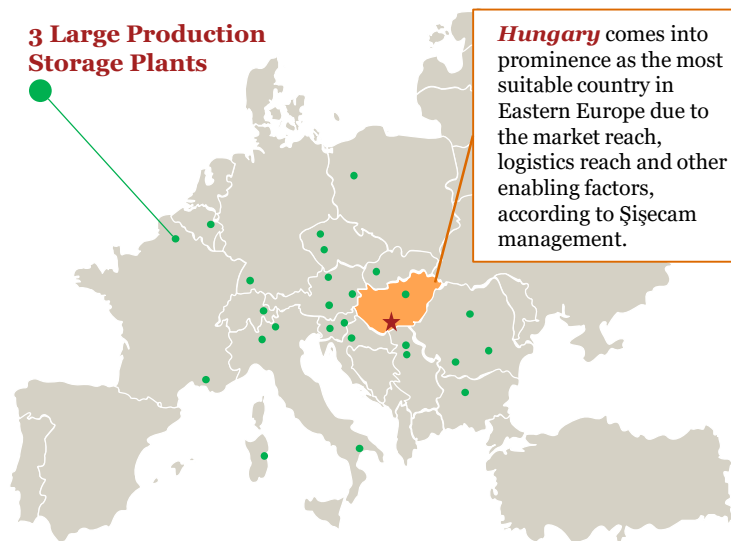
Source: Şişecam Management, PwC Analysis

ANACM Investment Project

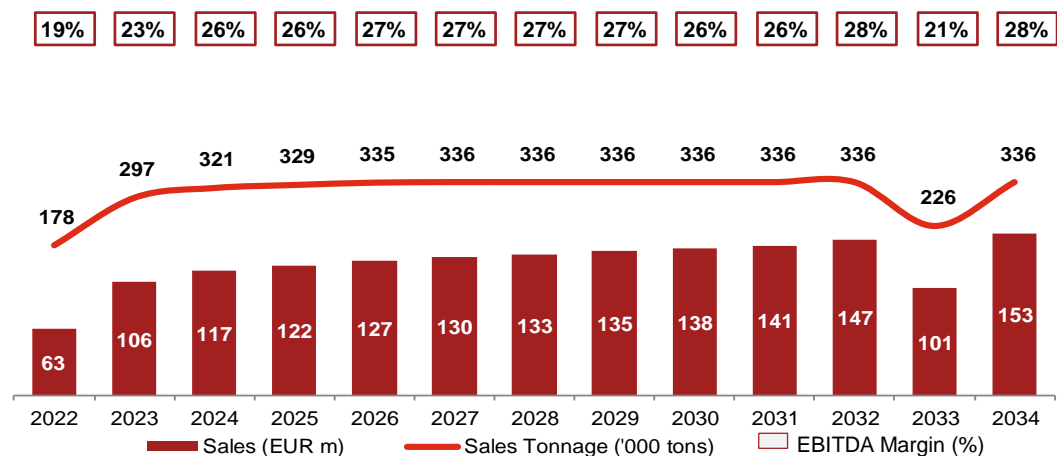
ANACM is planning to invest in a new production plant located in Eastern Europe in order to play a more active role in the European market. The plant is expected to specialise in beer and food packaging. **The investment is expected to go forwards regardless of the status of the ongoing negotiations with the target customers.**



3 Large Production Storage Plants



Capex Project- Sales and EBITDA Margin Estimation, (%)



ANACM, is planning to make a new plant investment in Southern Hungary if it signs a sales agreement of 150k tons purchase guaranteed for 10 years, with a multinational beverage producer which has a production plant in the region.

The Company is targeting to reach a sales volume of **340k tons** in the medium term. If it reaches the target volume, c. **250k tons** will be sold to the storage plants of drink producers in the region, and the rest will be primarily sold to food and other sector producers.

Source: Şişecam Management, PwC Analysis

ANACM Market Approach (1/2)

Based on the Market Approach, the total equity value of ANACM is estimated to be **TL 8.2bn** as of the valuation date.

TL m	FY19	FY20	FY21	FY22	Average*
EBITDA**	1,118	1,307	1,513	1,738	
① Effective EBITDA**	1,118	1,307	1,513	1,738	
<i>Inflation Indexation</i>	1.00	1.12	1.25	1.40	
② EBITDA (Discounted 2019 figures)	1,118	1,167	1,206	1,243	1,184
EV / EBITDA (X)					8.5x
③ Enterprise Value					10,058
Net Cash/(Debt)					(1,850)
Investment Properties					74
Tax Related Assets					364
Dividend Adjustments					(142)
⑤ Investments Accounted for using Equity Method					22
<i>Camiş Elektrik Üretim A.Ş.</i>					22
⑥ Other Companies					(353)
<i>AC Glass Holding B.V.</i>					(0)
<i>Anadolu Cam Investment B.V.</i>					(2)
<i>Sisecam Glass Packaging B.V.</i>					(316)
<i>OOO Ruscam Management Company</i>					0
<i>Merefa Glass Company Ltd.</i>					18
<i>CJSC Brewery Pivdenna</i>					(52)
<i>OOO Energosystems</i>					(1)
⑦ Investment Project					73
Equity Value					8,245

* EBITDA figure represents the average of FY19-FY22. Adjustment figures that are included in the EV-Equity bridge is year-end figures for the calendar year 2019.

** Anadolu Cam, Ruscam and Mina's EBITDA figures are taken into account in Market Approach. Investment Project's value estimated is considered not as part of enterprise value estimate but as an adjustment to the equity value estimate.

Market Approach has been applied following the steps discussed below:

- ① Actual and forecasted consolidated FY19-FY22 EBITDA figures for ANACM are taken into consideration after multiplying the respected figures with effective ownership percentages.
- ② The respective forecasted EBITDA figures have been discounted with TL inflation to 2019, in order to express forecast figures in 2019 prices.
- ③ EV/EBITDA multiple derived from the comparable companies analysis is applied to the average of discounted FY19-FY22 EBITDA figures to estimate the enterprise value.
- ④ In order to estimate the equity value; net cash/debt, investment properties, tax related assets and planned dividend payments are also considered. Such equity value adjustments are weighted by the effective ownership of the relevant entities at the ANACM level.
- ⑤ The equity values of investments accounted for using the equity method as of 31.12.2019 is taken into consideration for Camiş Elektrik Üretim A.Ş. Income Approach has been considered as the only method for the value of the shares in Camiş Elektrik Üretim A.Ş.
- ⑥ Other non-operational companies and SPVs have been included in the equity value estimation of ANACM, based on their respective values estimated via the Net Asset Approach as of 31.12.2019.
- ⑦ Investment Project's value estimated through Income Approach is also considered as part of the total equity value.

Source: CapitalIQ, PwC Analysis

ANACM Market Approach (2/2)

*In the scope of the market approach, the stock value of ANACM has been estimated as **TL 8.2 billion** as of the valuation date.*

Comparable Companies and Multiple Analysis

\$ m	Enterprise Value					Net Sales					EBITDA					EBITDA %				
	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19
Owens-Illinois, Inc.	8,522	7,307	8,035	7,340	6,942	6,156	6,702	6,869	6,877	6,691	917	1,040	976	1,090	1,054	15%	16%	14%	16%	16%
Ardagh Group S.A.	m.d.	m.d.	12,577	11,309	8,616	5,646	7,014	6,390	6,676	6,660	989	1,253	1,123	1,099	1,155	18%	18%	18%	16%	17%
Verallia Société Anonyme	m.d.	m.d.	m.d.	m.d.	5,561	-	2,417	2,877	2,766	2,902	-	489	708	695	716	m.d.	20%	25%	25%	25%
Gerresheimer AG	3,048	3,288	3,377	3,533	3,379	1,355	1,454	1,606	1,549	1,534	263	319	357	312	293	19%	22%	22%	20%	19%
Vidrala, S.A.	1,648	1,748	2,371	2,894	2,756	873	817	992	1,107	1,134	170	177	229	268	302	20%	22%	23%	24%	27%
Vetropack Holding AG	624	594	704	762	847	556	592	652	708	745	103	103	130	151	171	18%	17%	20%	21%	23%
Verallia Deutschland AG	549	635	730	789	748	537	533	605	599	640	73	98	113	119	131	14%	18%	19%	20%	21%
Cristalerías de Chile S.A.	549	641	816	790	720	389	432	472	438	392	83	93	99	86	74	21%	21%	21%	20%	19%
BG Container Glass	m.d.	m.d.	m.d.	488	628	303	284	344	325	380	67	72	57	67	74	22%	25%	17%	21%	19%
Zignago Vetro S.p.A.	582	588	813	956	1,155	268	266	314	332	363	59	59	79	84	97	22%	22%	25%	25%	27%

While determining comparable companies within the scope of the market approach, the fields of activity, profitability, indebtedness and operational structures of the selected companies were taken into consideration.

10 global glass packaging production companies have been used in the multiple analysis, considering the current global market share and sales volume of ANACM.

Financial metrics such as furnace count, market size, product range, sales volume, EBITDA margin, debt ratio, profitability level and others have been taken into consideration during the selection of the firms.

EV/EBITDA multiples of selected 10 publicly traded companies between the periods of 2015-2019 have been analysed.

The enterprise values presented in the table above are the average enterprise values that have been generated during the year.

The average multiples calculated for 2015-2019 for the selected 10 companies are between **8.0x – 8.7x**, as shown in the table above. **8.5x**, which is calculated as the average of the 2015-2019 period, has been taken into account under market approach.



	Enterprise Value / EBITDA (x)					
	FY15	FY16	FY17	FY18	FY19	Average
Owens-Illinois, Inc.	9.3x	7.0x	8.2x	6.7x	6.6x	7.6x
Ardagh Group S.A.	n.m.*	n.m.*	11.2x	10.3x	7.5x	9.6x
Verallia Société Anonyme	n.a.	n.a.	n.a.	n.a.	7.8x	7.8x
Gerresheimer AG	11.6x	10.3x	9.5x	11.3x	11.5x	10.9x
Vidrala, S.A.	9.7x	9.9x	10.4x	10.8x	9.1x	10.0x
Vetropack Holding AG	6.1x	5.8x	5.4x	5.0x	4.9x	5.4x
Verallia Deutschland AG	7.5x	6.5x	6.5x	6.6x	5.7x	6.5x
Cristalerías de Chile S.A.	6.7x	6.9x	8.2x	9.2x	9.7x	8.1x
BG Container Glass	n.m.*	n.m.*	n.m.*	7.3x	8.5x	7.9x
Zignago Vetro S.p.A.	9.9x	9.9x	10.4x	11.3x	12.0x	10.7x
Average	8.7x	8.0x	8.7x	8.7x	8.3x	8.5x

Source: Capital IQ, Management, PwC Analysis * Multiples that are considered to be outliers have not been taken into account.

ANACM

Net Asset Approach

Based on the Net Asset Approach, the total equity value of ANACM is estimated to be **TL 2.7bn** as of the valuation date.

TL m	31.12.2019
Paid Capital	750
Adjustment to Share Capital Differences	0
Gains /(Losses) on Revaluation	720
Accumulated Other Comprehensive Income/(Expense)	(182)
<i>Currency Translation Differences</i>	(203)
<i>Hedge Reserves</i>	22
Restricted Reserves	189
Retained Earnings	821
Net Profit or (Loss) for the Period	527
Total Equity	2,826
1 Divident Adjustment	(142)
Net Asset Value	2,684

The breakdown of the consolidated shareholders equity for ANACM, which is prepared in accordance with the CMB's Communiqué Serial II. No: 14.1 "Principles of Financial Reporting in Capital Markets¹", in line with Turkish Accounting Standards and Turkey Financial Reporting Standards and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. is presented in the adjacent table.

It has been assumed that the shareholders equity that is present in the consolidated and audited 31.12.2019 balance sheet of ANACM is an accurate representation of the equity value of the company, for the purposes of Net Asset Approach.

The consolidated shareholders equity of ANACM as of 31.12.2019 is TL 2,826m, the Net Asset Value is calculated as **TL 2,684m** after the adjustments are considered.

1 Divident Adjustment:

The figure represents the dividend payment of ANACM that is due after 31.12.2019. Divident adjustment is included in our assessment with respect to its effect on the net asset value of ANACM.

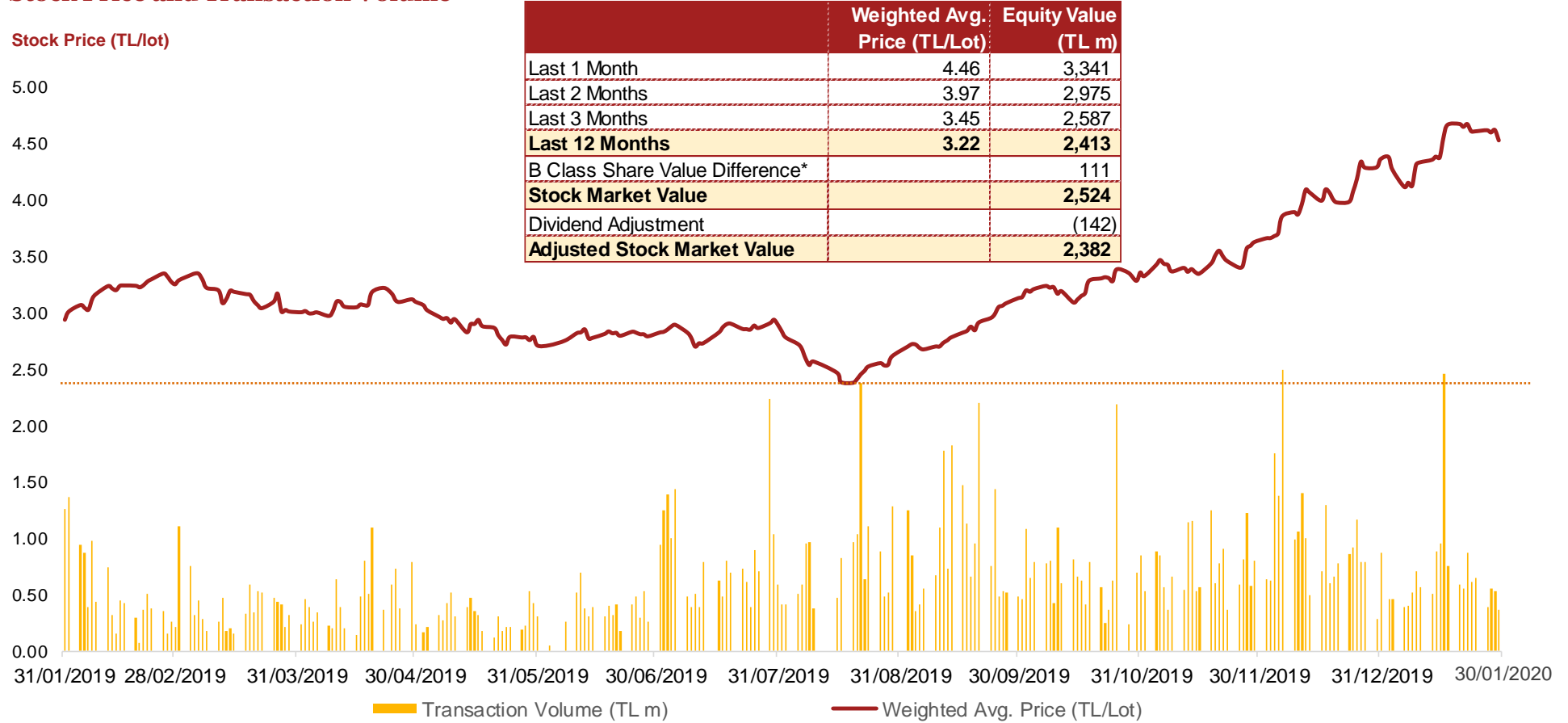
Source: Holding Management, PwC Analysis

¹ Sermaye Piyasasında Finansal Raporlamaya İlişkin Esaslar Tebliği

ANACM Stock Market Value

The Stock Market Value for ANACM is based on the weighted average stock market price of quoted ANACM shares for the trailing 12 months going back from the merger announcement date, 30.01.2020. The total equity value of ANACM derived from this method is estimated to be **TL 2.3bn.**

Stock Price and Transaction Volume



* A and B class share values are separately calculated due to an additional expected value arisen from B class shares that is not reflected through stock market prices. The details of the calculations are presented on pages 153, 154 and 155 of the report.

Source: CapitalIQ, PwC Analysis

ANACM

The Value Difference Between the Share Groups (1/3)

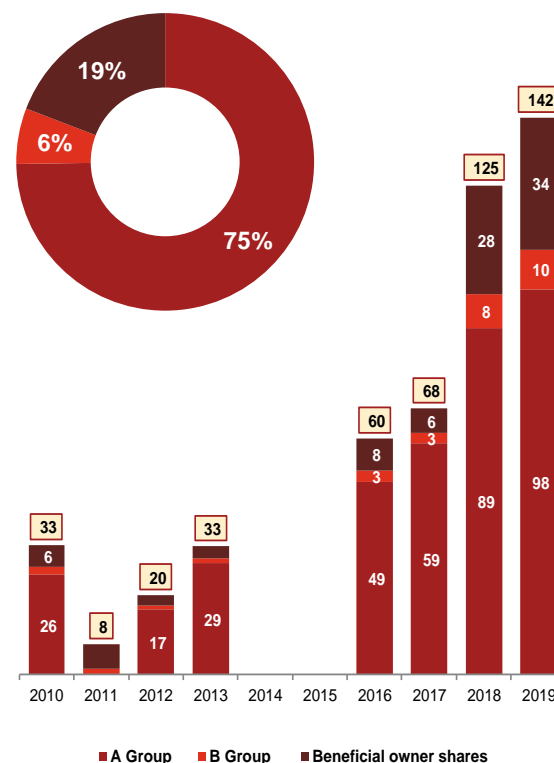
According to the company's shareholder's agreement, ANACM has 3 different share groups. B Group Shares and the Beneficial Owner Shares have different preferred stock rights from the A Group Shares, which constitute the majority of shares, at the dividend distribution level.

ANACM Share Groups

	A Group	B Group	Beneficial owner shares
SISE	76.89%	100.00%	58.14%
Other (Publicly listed)	23.11%	-	-
Other (Parent)	-	-	41.86%
Total issued share capital (TL 750m)			
Amount	73,751,389,432 shares TL 737,513,894.321 with a nominal value of 1 kurus	1,284,610,568 shares TL 12,486,105.679 with a nominal value of 1 kurus	4,709
Special provisions on profit distribution	<ul style="list-style-type: none"> Non-existent. 1st and 2nd dividends are distributed in line with the % of ownership in issued share capital. 	<ul style="list-style-type: none"> 1st and 2nd dividends are distributed in line with the % of ownership in issued share capital. 20% of the 10% of remaining distributable profit after the first dividend distribution is distributed to Group B, according to the Clause 9 of the shareholder's agreement. 	<ul style="list-style-type: none"> 80% of the remaining distributable profit after the first dividend distribution is distributed to the Beneficial Owner Shares, in accordance to the Clause 9 of the shareholder's agreement.
Capital representation rate	98.34%	1.66%	-

Source: Şişecam Management

Cash Dividend Distribution



75% of the dividend to be distributable in the following year, considering 2010 and 2019 has consisted of the A Group shares.

ANACM

The Value Difference Between the Share Groups (2/3)

The value of a B Group share is estimated to be **3.76x** of an A Group share.

A and B Group Dividend Analysis

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Total Cash Dividend (A + B Group)	(TL '000)	25,969	-	17,000	29,000	-	-	50,000	60,000	90,000	100,000	
B Group	(TL '000)	432	-	283	483	-	-	832	999	1,498	1,665	
B Group Priviledge	(TL '000)	1,434	1,547	663	743	-	-	2,059	1,577	6,972	8,439	
B Group Total Cash Dividend	(TL '000)	1,867	1,547	946	1,225	-	-	2,891	2,575	8,470	10,103	
A Group Total Cash Dividend	(TL '000)	25,536	-	16,717	28,517	-	-	49,168	59,001	88,502	98,335	
B Group Shares	(m units)	576	576	663	691	739	739	739	1,249	1,249	1,249	
A Group Shares	(m units)	34,048	34,048	39,156	40,809	43,661	43,661	43,661	73,751	73,751	73,751	
Total Shares	(m units)	34,625	34,625	39,819	41,500	44,400	44,400	44,400	75,000	75,000	75,000	
Dividend per 1 unit of B Group Share	Penny	0.324	0.268	0.143	0.177			0.391	0.206	0.678	0.809	
Dividend per 1 unit of A Group Share	Penny	0.075		0.043	0.070			0.113	0.080	0.120	0.133	
<i>Index</i>		2.3	2.2	2.0	1.9	1.7	1.6	1.5	1.3	1.2	1.0	
Dividend per 1 unit of B Group Share - 2019	Penny	0.759	0.591	0.289	0.334	-	-	0.583	0.276	0.781	0.809	4.422
Dividend per 1 unit of A Group Share - 2019	Penny	0.176	-	0.086	0.131	-	-	0.168	0.107	0.138	0.133	0.940
Coefficient - 10 Year Average												4.70
Coefficient - 10 Year Average		4.70										
B Group Stock Market Liquidity Discount		20.0%										
Coefficient after Applied Liquidity Discount		3.76										

The results of the analysis of the profit distributed per share by ANACM to the A and B Groups between 2010 and 2019 are presented above.

Even if it has been decided to perform bonus dividend distribution in 2011, B Group shares have received cash dividend.

Due to the fact that ANACM management has not made a decision on dividend distribution, it has not been distributed to A and B groups.

According to the shareholder's agreement of ANACM, both of the share groups have the same rights, except for the preferred stock rights in relation to the dividend.

When the last 10 year period is analysed, due to preferred dividend rights of B Group, it has received **4.70x** more dividend than Group A. Due to the fact that B Group shares are more liquid in comparison to A Group, 20% liquidity discount has been applied to the rate. Therefore, the value of a B Group share is estimated to be **3.76x** of an A Group share. When the value of the shares held by ANACM shareholders has been determined after the valuation work of the SISE owned and SISE excluding shares, the value of the shares in the various shareholder groups to be merged has been performed with the consideration of whether the share belongs to the A or B Group, as well as the relationship of the rate between.

Source: Şişecam Management, PwC Analysis

ANACM

The Value Difference Between the Share Groups (3/3)

Preferred dividend rights has been taken into account when considering the value of the A and B group shares held by SISE. The adjustments stated in the table below have been taken into account for the differences arising in the value of A and B group shares.

A and B Group Shares Value Difference Adjustments

	Value TL m	A Group TL/lot	B Group TL/lot	SISE TL m	Other TL m	Total TL m	SISE	Other	Total
Table I									
Income Approach	6,850	9.1	9.1	5,363	1,488	6,850	78.3%	21.7%	100.0%
Market Approach (CC)	8,245	11.0	11.0	6,454	1,791	8,245	78.3%	21.7%	100.0%
Net Asset Approach	2,684	3.6	3.6	2,101	583	2,684	78.3%	21.7%	100.0%
Stock Market Value	2,271	3.2	3.2	1,776	495	2,271	78.2%	21.8%	100.0%
Table II									
Income Approach		8.7	32.9	5,428	1,422	6,850	79.2%	20.8%	100.0%
Market Approach (CC)		10.5	39.5	6,533	1,712	8,245	79.2%	20.8%	100.0%
Net Asset Approach		3.6	3.6	2,101	583	2,684	78.3%	21.7%	100.0%
Stock Market Value		3.2	12.1	1,887	495	2,382	79.2%	20.8%	100.0%
Valuation Difference Adjustments									
Income Approach				65	(65)	-			
Market Approach (CC)				79	(79)	-			
Net Asset Approach				-	-	-			
Stock Market Value				111	-	111			

Table I, does not show the difference arising from the preferred dividend rights between Group A and B. Therefore, the value per share is equal for both groups.

The Table II however shows the value difference stemming from the preferred dividend right between the A and B Groups. When the distributed cash dividend throughout the last 10 years have been analysed, the B Group shareholders get 4.7x (3.8x after the liquidity discount) more dividend distribution in comparison to the A Group shareholders.

In some years, the dividend has not been distributed. In 2011, the dividend distribution has been completed as a bonus share distribution, but B Group shares have received a cash premium.

In the income approach and market approach, here is a value convergence between the shares of SISE owning A and B Group shares and the public shareholders of Group A.

However in the net asset approach, the share group differences could not be distinguished, and it is assumed that shareholders hold the shares in the rate of equity held.

In the Table I under the Stock Market Value, only the A Group shares value has been taken into consideration, because only A Group shares perform operations on stock exchange market and the realised market prices represent the value of A Group shares. When the Stock Exchange Value has been calculated in Table II, the B Group preference share differences have been reflected on the value. The total value calculated, has been adjusted upwards.

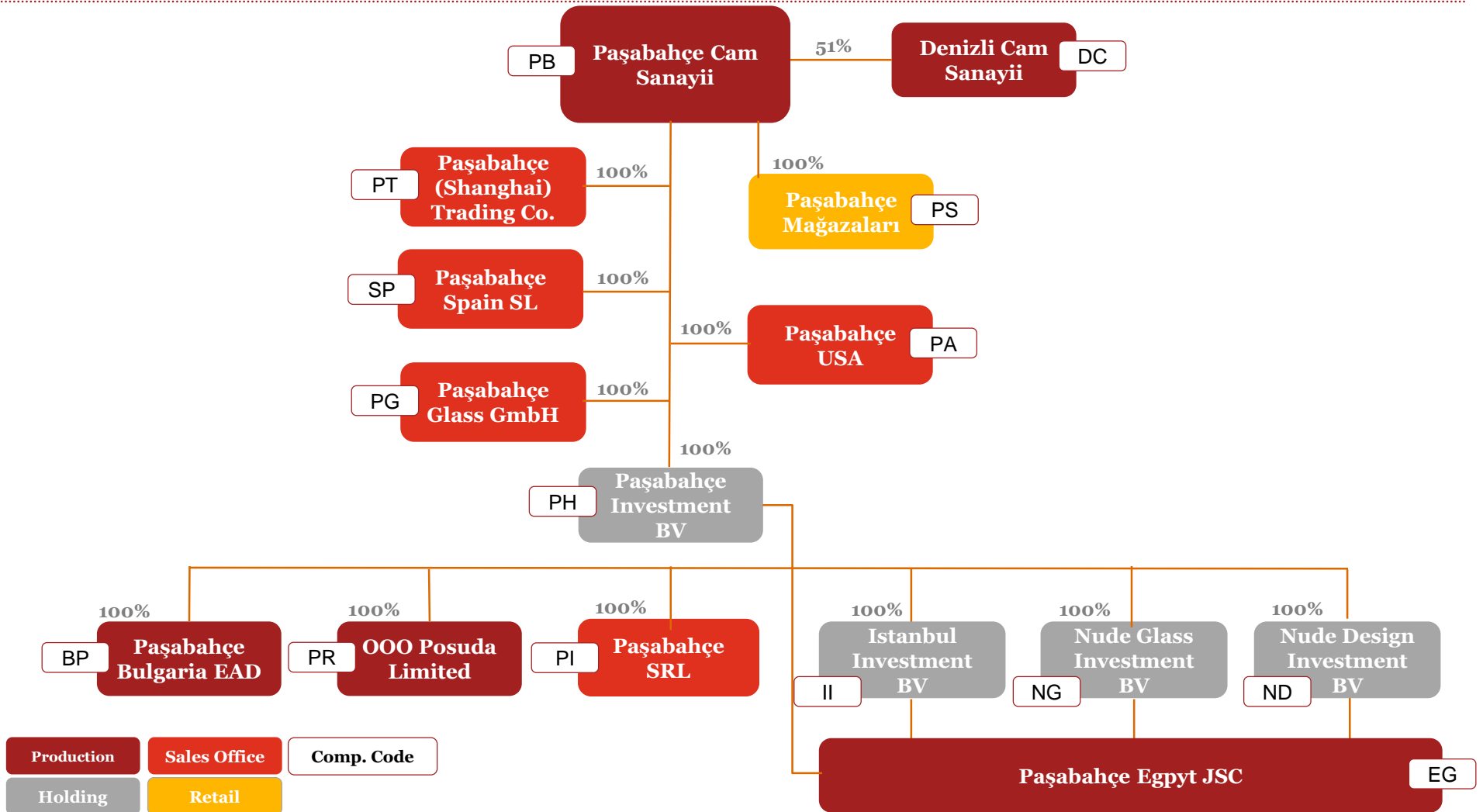
Source: Şişecam Management, PwC Analysis

PASAB

PASAB

Shareholding Structure

PASAB operates in the glassware sector with 4 production companies, 5 sales offices, 1 retail company and 4 holding companies. It has 100% shareholding in all of its subsidiaries except DENCM.



* Percentages represent effective shareholding rates.

Matters to be Considered

PASAB (1/6)

Glassware Group

The activities of the Glassware business segment are gathered under PASAB. Glassware Group maintains its activities with a total of 6 plants (3 in Turkey, 1 each in Bulgaria, Russia and Egypt). PASAB is the sector leader in Turkey with plants in Kırklareli, Eskişehir and Denizli. Denizli facility pursues hand manufacturing as the production method, while other facilities are automatic. PASAB has 5 sales offices abroad, which are located in Italy, China, USA, Germany and Spain. In addition, it conducts retail sales activities through its subsidiary, **Paşabahçe Stores A.Ş. ("PS")**.

PASAB management conducts the Glassware operations as an integrated operation as if all companies in the group have a consolidated structure. Therefore, while interpreting company-based past trends, prepared business plans, projections and strategies, a consolidated perspective was taken into account.

Paşabahçe Cam Sanayii A.Ş. (PB)

Paşabahçe Cam Sanayii ("PB"), carries out its production with a total of 5 furnaces in Kırklareli and Eskişehir in Turkey. The company currently operates at full capacity. The current design capacity of the 2 plants, which is 261 thousand tonnes in total, is foreseen to remain stable during the projection period, except for cold repairs.

PB's share in Turkey glassware market is about 70%. In 2017-2019 periods, approximately 50% of total sales were exports. It is expected that this ratio will remain at a similar level in the projection period. In the projection period, the growth in sales is foreseen to be realized through real price increases due to the full capacity in sales. In line with the plan of PASAB management to increase the share of products with higher added value among the products sold, real price increases are planned to occur between 2020-2025. In addition, due to the fact that approximately 50% of sales are realized through exports, expected increases in foreign exchange rates against the Turkish Lira are expected to have an increasing effect on the average unit sales prices of the PB in terms of Turkish Liras.

According to the business plans provided by PASAB management and used in the projections, the biggest investment item for PB between 2020-2025 is the cold repair of the furnaces. The management foresees to carry out a cold repair for the 5 existing furnaces of the PB. According to the information shared by the PASAB management, the cold repair cycle is about 7 years for each furnace. It is stated that these investments, which are foreseen to be made in the projection period, will not increase the production capacity. According to the information received from PASAB management, it is foreseen that the furnaces undergoing cold repair will remain non-operational for an average of 1 month.

Paşabahçe Bulgaria EAD (BP)

Paşabahçe Bulgaria EAD ("BP") carries out production activities in Bulgaria with 2 furnaces with a total capacity of approximately 150 thousand tonnes per year. Based on 2019 results, it achieved the highest sales after PB. The majority of sales in the 2017-2019 period were to EU countries. The company also sells part of its products to the PB as an indicator of its integrated group structure. It is assumed that this will continue in the projection period at a rate similar to the previous years. Currently, no capacity increase has been foreseen in the projection period for the facility, which produces close to full capacity. It is foreseen that the production and sales volume will remain stable except for the cold repairs in 2021 and 2022.

Matters to be Considered

PASAB (2/6)

OOO Posuda (PR)

OOO Posuda (“PR”) is the production company of the Glassware Group operating in Russia. It continues its production with 1 furnace with an annual design capacity of 75 thousand tonnes. Based on sales amounts, the PR is in the third position among the Glassware Group production companies. Between 2017 and 2019, 75% of its sales were made to domestic market. Exports were mostly made to CIS countries. It is foreseen that the same geographical distribution of sales will continue in the projection period.

Currently, no capacity increase has been foreseen in the projection period for the plant, which produces close to full capacity. It is foreseen that the production and sales volume will remain stable except for the cold repair in 2022.

Paşabahçe Egypt Glass Manufacturing S.A.E. (EG)

Paşabahçe Egypt Glass Manufacturing S.A.E. (“EG”) was established in Egypt in 2017 through the acquisition of the assets of a glassware manufacturer operating in Egypt. The annual design capacity of one existing furnace is 38 thousand tonnes. Since the company was in the establishment phase in 2017 and 2018, it took until 2019 for the company to start performing at full capacity and to fully integrate into the Glassware Group. Therefore, only the financial performance of the company in 2019 is considered to be a reasonable basis for the projection period. In the projection period, the operations of the company are expected to reach full efficiency and as a result, the gross profit margin will improve. Accordingly, the gross profit margin is expected to increase from 23% in 2020 to 34% in 2025 and reach a similar level with other production companies. With this improvement, it is estimated that EBITDA will increase from \$ 2m in 2020 to \$ 7m in 2025. No new furnace investment is foreseen in the projection period. However, it is expected that the cold repair to be carried out in 2021 will increase the total capacity by 6 thousand tonnes to 44 thousand tonnes with the increase in efficiency.

Denizli Cam (DC)

Denizli Cam Sanayii ve Ticaret A.Ş. (“DC” or “DENCM”) carries out hand-manufactured production activities in its facility in Denizli with 2 furnaces. The company operates as a contract manufacturer and has made all of its sales in 2018 and 2019 to PB within the group. It is assumed that the existing structure will continue in the projection period.

Due to hand-made production, the design capacity is much lower than that of automatic production facilities and it is around 16 thousand tonnes per year. On the other hand, the unit sales prices are higher compared to other companies of the group due to the added value of hand-made products.

According to the information received from the DENCM management, the company plans to close 1 of the 2 existing furnaces used at low capacity in 2020 and continue production with 1 furnace. In this way, it is predicted that the capacity utilization rate will increase from 56% to 80%. As a result of this plan, no increase or decrease in the number of budgeted production is expected in the coming years of the projection period, except for the decrease projected due to COVID-19 in 2020. It is foreseen that the production numbers realized in the previous periods will continue at a similar level after the new structure. In line with this plan, it is expected that the production efficiency will increase and decrease in costs will stimulate gross profitability. As a result of the restructuring, the average prices are expected to rise with the end of automatic production for certain products in the furnace to be closed and the increase in the share of hand-made products in sales. The realization of these projected increases in the profitability level of the company is directly dependent on the new production structure’s success at generating the expected efficiency. For DENCM, the major investment item in the projection period is the cold repair in 2020.

Matters to be Considered

PASAB (3/6)

Paşabahçe Mağazaları A.Ş. (PS)

Paşabahçe Mağazaları A.Ş. (“PS”) carries out retail activities under the Glassware Group. As of the end of 2019, it has a sales network with a total of 56 stores with 52 stores in Turkey and 4 stores abroad. The company delivers glass products from the production companies in the Glassware Group to the end consumer through stores. In addition to glass products, PS also sells non-glass household goods that are procured from non-group companies.

For the projection period, the company is expected to increase its sales mainly through new stores planned to open domestically and abroad. For 2020-2025, it is planned to open a total of 6-7 stores in Turkey and abroad every year. It is planned to open the stores domestically owned by PS and the stores abroad will be franchised. It is aimed to increase the number of franchise stores from 3 to 15 between 2019-2025. It is predicted that the product supply of franchise stores will be made by PS and with a lower profit margin compared to company owned store sales. However, since the number of franchised stores in the projection period is less than the company owned stores, it is expected to have a limited effect on the overall gross profit. In addition to sales revenue, a certain amount of royalty income is planned to be obtained from franchise stores every year. This income, which was around TL 1m at the end of 2019, is expected to reach approximately TL 10m in 2025. The effect of income on EBITDA margin is expected to be approximately 100 bps. The new stores that will be opened in Turkey will provide improvements in operational efficiency stemming from fixed costs and are expected to create a positive impact on the EBITDA margin.

As of the date of the report, the measures taken within the scope of the COVID-19 outbreak include temporarily closing all stores. According to the information received from the management, the rent payments during the shut down are an issue of discussion. In the valuation study, this period is assumed to be 1 month and the rent expenses are reduced accordingly. Considering COVID-19, opening dates of 2 franchise stores abroad are shifted to 2021 and 2022 and no new franchise stores are foreseen for 2020.

In the projections of the company, which are the basis of the valuation, considering the cash flows to be created from new stores that are not existing as of the valuation date, 1.0% business risk premium is included in the weighted average cost of capital calculation used in the valuation study.

Sales Offices (PI, PT, PA, SP, PG)

Paşabahçe Srl (“PI”) (Italy), Paşabahçe (Shanghai) Trading Co. Ltd. (“PT”) (China), Paşabahçe USA Inc. (“PA”) (USA), Paşabahçe Spain SL (“SP”) and Paşabahçe Glass GmbH (“PG”) (Germany); which are the sales offices of Glassware Group, are companies established to increase PASAB's presence abroad and to be closer to customers abroad. PI, PT and PA also carry out storage and inventory activities and sell products supplied by PASAB from the production companies. SP and PG, on the other hand, operate by taking commission from the sales processes they are involved in.

In the projection period, no increase in sales volume or real growth in prices was foreseen for these companies. It is assumed that companies will increase their sales in line with the inflation and the level of profitability in 2019 will be maintained.

Matters to be Considered

PASAB (4/6)

Sales Offices (PI, PT, PA, SP, PG) (cont'd)

As of the end of 2019, PT and PA have high and overdue intra-group trade payables in their balance sheets. It is assumed that companies will repay most of the payable amount in the projection period. Considering that the sales and profitability of PI, PT and PA largely depend on the performance of the production companies, additional business risk premium was included in the valuation study for these companies when calculating the weighted average cost of capital. This premium is 1.0% for PA and 3.0% for PI and PT, taking into account the effects of COVID-19.

Holding Companies (PH, II, ND, NG)

Holding companies **Paşabahçe Investment B.V. ("PH")**, **Istanbul Investment B.V. ("II")**, **Nude Design Investment B.V. ("ND")** and **Nude Glass Investment B.V. ("NG")** were established to carry out financing and investment activities abroad. Companies are not operational. As the related companies do not have income generating activities, only the value according to the Net Asset Approach is taken into consideration within the scope of the study. In the valuation studies carried out according to the Net Asset Approach, as of 31 December 2019, the net value of the assets (after subsidiary shares) and liabilities in the financial statements prepared in accordance with TAS / TFRS and in order to be submitted to the CMB has been taken into consideration.

Quantity/Tonne Ratio

PASAB management monitors the sales volume and unit sales price for the production companies (PB, BP, PR, EG and DC) by the quantity of products sold. On the other hand, unit cost is tracked per ton. For this reason, the tonnage amount corresponding to the quantity sold is important in terms of tracking profitability. In the projection period, the quantity/ton ratio (calculated by sales numbers & production volume) is assumed to remain stable for the production companies.

Reversal of the TFRS 16 Adjustment

PASAB started to apply TFRS 16 Rental Standards in 2019 as of January 1, 2019. Within the scope of this standard, certain lease expenses are classified as financial expenses and depreciation expenses instead of operating expenses, which reflected positively on the EBITDA of PASAB's subsidiaries.

In the valuation study, the TFRS 16 adjustment in 2019 financial statements has been reversed in order to accurately reflect operational cash flows. TFRS 16 standard is not applied on the projections.

After the adjustment of TFRS 16 correction, there was a decrease in 2019 EBITDA. The decrease on a company basis is **TL 23m** for PB, **TL 19m** for PS, **TL 7m** for BP, **TL 2m** for PR and **TL 0.1m** for DC.

Matters to be Considered

PASAB (5/6)

Call Option for EBRD Share

Şişecam management completed the transfer of PASAB shares, which corresponds to a total of **14.85%** of the shares owned by TRKCM, ANACM and SODA, to EBRD for **€ 125m** in October 2014. Within the scope of the call/put option contract of PASAB shares signed between Şişecam and EBRD on **November 10, 2014**, the amount of **€ 153m** was paid back to EBRD as purchase price for the call option of the relevant shares. The call option for PASAB shares is exercised. For the financing of this purchase, a loan of € 100m was taken from the EBRD, which will be repaid in 5 equal installments once in every 6 months after a 2 year grace period.

Şişecam management stated that before the share transfer to the EBRD, a total of 14.85% of the shares owned by TRKCM, ANACM and SODA were brought together and PASAB was intended to be directly owned by SISE. In this context, an alternative approach was followed while negotiating between Şişecam management and the EBRD for the funding and a sale was carried out in which the EBRD acquired the shares itself. When the conditions of the share transfer are analyzed, it is seen that the transaction is essentially similar to a collateralized loan obligation. Therefore, it is considered that the share price subject to the transfer made in November 2019 is not an indicator for the fair value of PASAB.

Tax Assets

It is understood that the companies within the Glassware Group are entitled to tax assets for various reasons, which are understood to decrease corporate tax liabilities during the business plan periods. The table below provides information on tax assets on a Company basis:

Company	Currency	Previous Year Financial Loss (m)	Investment Incentives (m)
PB	TL m	n.a.	84
PR	RUB m	2,633	n.a.
DC	TL m	11	n.a.
EG	EGP m	179	n.a.
PI	EUR m	1	n.a.
PT	CNY m	6	n.a.

Within the scope of the valuation studies carried out for companies, a projection has been made within the information provided by the Company management regarding how these tax assets can be used in years. Based on the projection made, the value of tax assets was estimated and taken into account in the valuation study as an equity value adjustment. During the study, local tax regulations of the companies in which the companies operate are also taken into consideration within the information provided by the relevant company management.

Matters to be Considered

PASAB (6/6)

Effects of COVID-19 Outbreak on Valuation Results

In order to understand the effects of the COVID-19 pandemic, whose effects started to show especially after the second half of March in Turkey and other countries where Glassware Group has operations, a meeting has been held with PASAB management, and the business plans provided by the management has been studied once more with this particular point of view.

After meeting with PASAB management, it is understood that, with the effect of COVID-19, the production and sales tonnages budgeted for the Glassware Group are expected to decrease with the effect of the contraction in demand in 2020 and 2021. As a result, decreases in the EBITDA margins are expected because of fixed costs. PASAB management stated that PR, which operates in Russia, will not be significantly affected by the COVID-19 outbreak, unlike other Glassware Group companies, and that there is no need for a major revision after the outbreak in the 2020 budget and targets. According to the information provided by the management, most of the glassware import in Russia is made from China. PR is thought to have an upside to meet the excess supply resulting from the imports falling after the COVID-19 outbreak. Therefore, it is expected that the COVID-19 effect will be limited for PR.

The recovery after COVID-19 is expected to continue in 2021, and the expected sales and profitability levels before COVID-19 are expected to be reached again. This effect was taken into account in company-based projections made within the scope of the Income Approach.

PASAB

General Information

99.5% of PASAB is owned by Şişecam, while the remaining part of it belongs to the Islamic Development Bank. It is the only legal entity under the merger scope, which is not publicly listed. It has a production capacity of 541k tons in 4 countries. Between the period of 2017-2019, 65% of the consolidated sales were made to abroad. In the same timeframe, the EBITDA margin has been between 13-17%.

Facility	Country	Manufacturing Type	Oven Count	Capacity (tons in k)
Kırklareli	Turkey	Automatic	3	122
Eskişehir	Turkey	Automatic	2	139
Targovişte	Bulgaria	Automatic	2	151
Nizhny Novgorod	Russia	Automatic	1	75
Kahire	Egypt	Automatic	1	38
Denizli	Turkey	Handcraft	2	16
Total			11	541

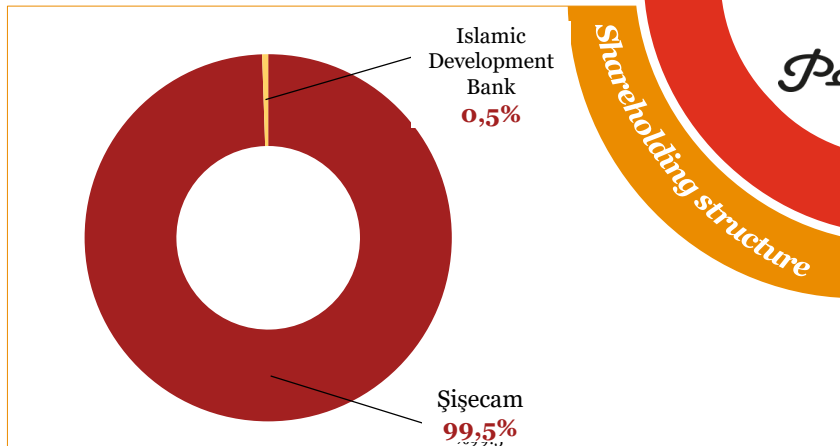
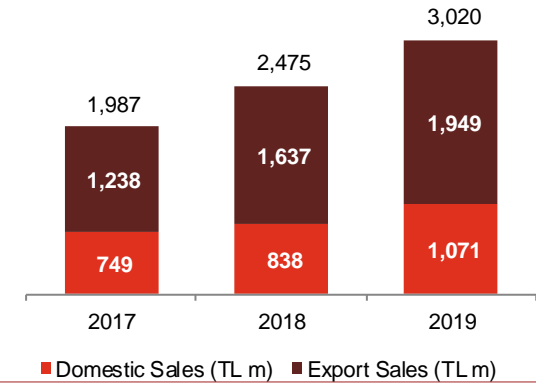


Foreign sales percentage

62%

66%

65%



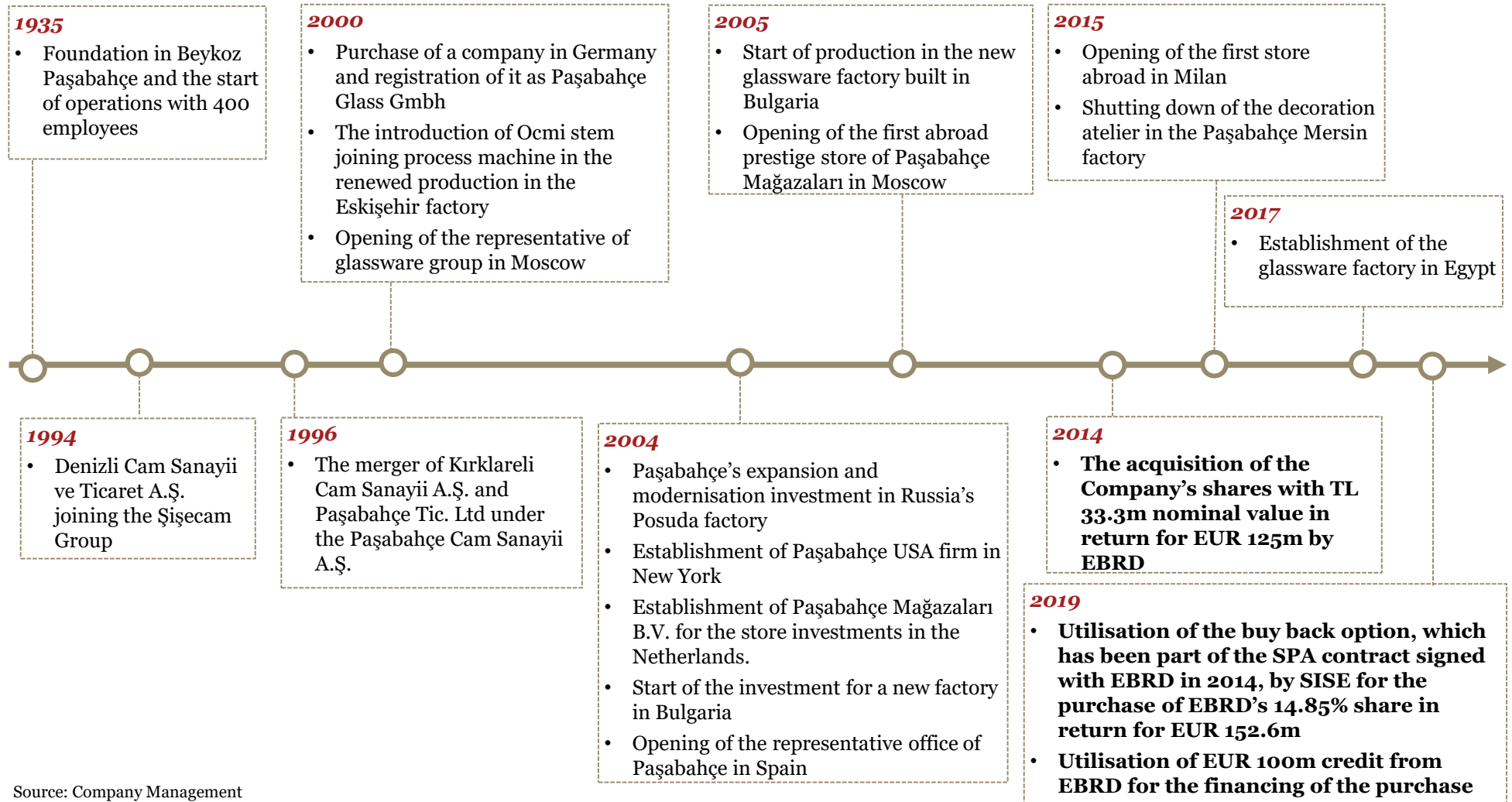
Financial indicators

TL m	2017	2018	2019
Net Sales	1,987	2,475	3,020
Change %	20.3%	24.6%	22.0%
EBITDA	257	418	427
EBITDA margin %	12.9%	16.9%	14.2%
Equity of the Parent	2,799	3,869	4,122
Non-Controlling Interests	16	22	23
Equity	2,814	3,892	4,145

Source: Company Management

PASAB

Important Historical Milestones



Source: Company Management

PASAB

Operations and Key Indicators

Production is performed in **6** factories in total: **3** factories owned by PB, and **1** factory owned by BP, PR and EG each. The Company has reached a revenue of **TL 3 billion** via sales made to more than 100 countries in 2019.

Production



- Production of glassware in **4 countries** (Turkey, Bulgaria, Russia and Egypt) and in **6 factories**
- **Foreign sales offices** in **6 countries** (Italy, Spain, Germany, China, USA and Russia)

Stores



- **56** retail stores (52 in Turkey – 4 abroad)
- 3 of 4 foreign stores operating as franchises

Employees



- 2,048 white-collar and 5,493 blue-collar employees – a total of **7,541 employees**
- The largest number of employees in the Şişecam Group

Sales



- **TL 3 billion** consolidated revenue with **70%** of sales being exports in 2019
- The **2nd** largest manufacturer of glassware products in Europe and the **3rd largest** in the world based on the revenue in 2019
- Sales of products to more than 100 countries

Brands



- Sales operations under **4** international brands in various areas (retail stores, e-commerce etc.)

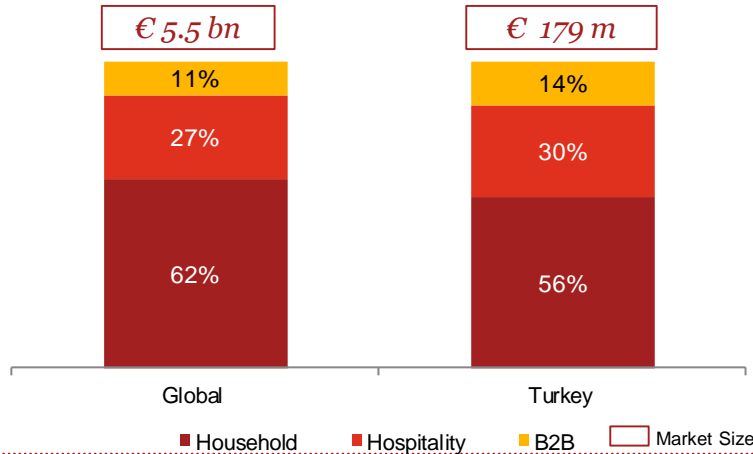
Source: Company Management

PASAB

Sales by Channel and Market Share

PASAB performs sales via 3 main sales channels as household, hospitality and B2B. Household has the largest share of sales. 62% of total sales has been achieved through this channel in 2019. The Company's market share globally has been 9%, while it has been 71% in Turkey.

Sales Channel Breakdown - 2019

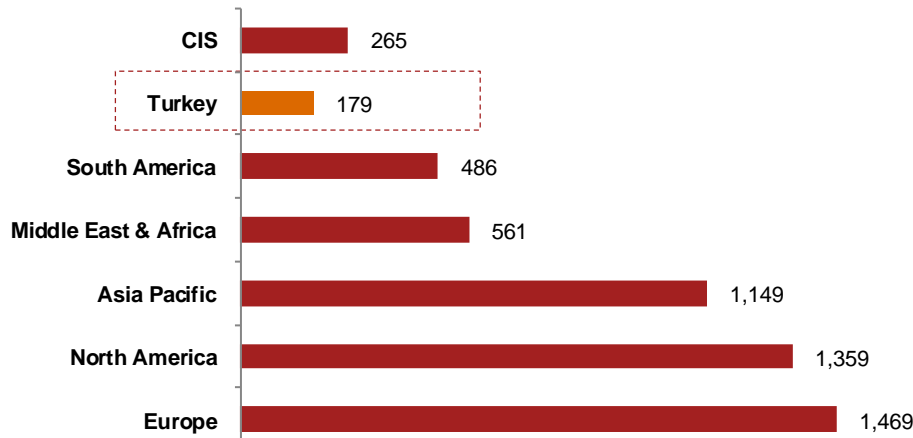


B2B represents sales made to corporate firms (Coca-Cola, McDonalds etc.). The glass products given by firms to their customers as promotion are followed under this channel.

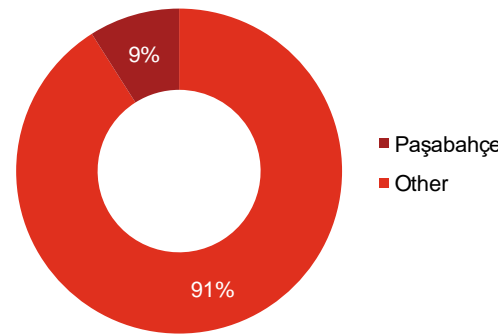
Hospitality channel's customer portfolio includes large hotel chains, restaurants and firms operating under food and beverage sector (Hilton, Divan, Rixos, Turkish Do&Co vb.).

Household has the largest share among the channels. The main channel customers are the large market chains (Migros, Tesco, IKEA etc.) and discount markets (Bim, Şok, Costco etc.).

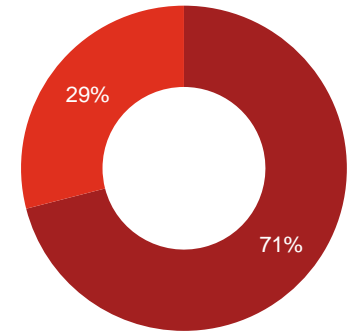
Glassware market size (€ m) - 2019



Global Market Share - 2019



Turkey Market Share - 2019









Source: Company Management

PASAB

Global and Local Competitors

The 3 largest players of the glassware sector (Arc, Libbey and Paşabahçe) compose c. 40% of the global market as at 2019.

Companies						
2019 Net Sales	~ EUR 935m	~ EUR 700m	~ EUR 475m	~ EUR 225m*	~ EUR 175m	~ EUR 60m**
Global Market Share %	17%	13%	9%	4,2*%	3,3*%	1*%
EBITDA margin %	5-6%	9%	14%	11*%	21%	-
Production place	FR, USA, SB, CN, RU	AB, MX, NL, POR, CN	TR, RUS, BUL, EG	Italy, Spain	BR	Turkey
Strong markets	EU, RU, ABD	ABD, MX, EU	TR, RU, EU	EU	South America	TR
Other competitors	Ocean Glassware (Thailand), Anchor (USA), Duralex (FR), Schott Zweisel (EU), Riedel (EU), Pyrex (USA)					

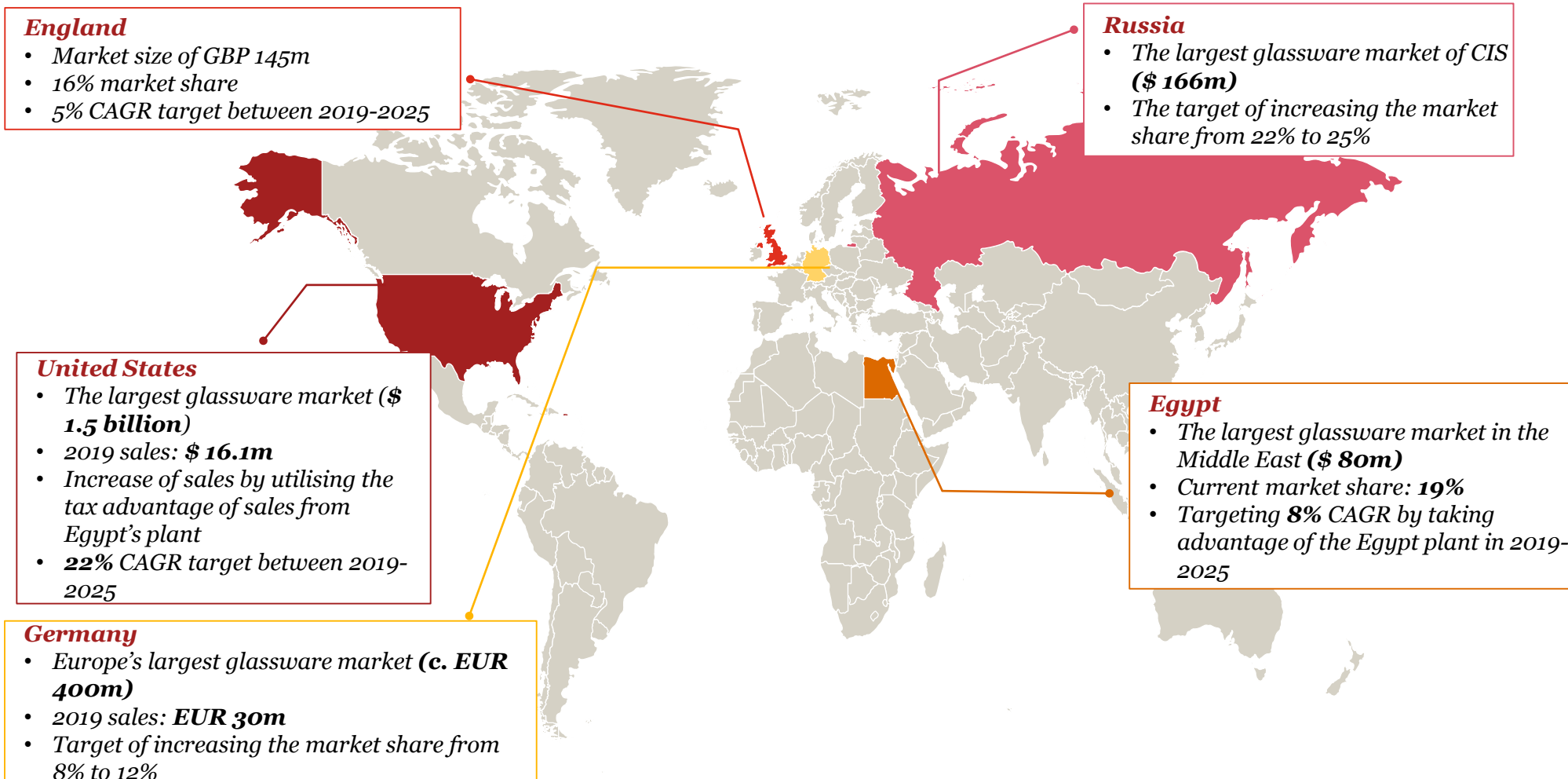
* 2018 approximate values

**The market value of Libbey on 31.12.2019 has been c. € 29m / \$ 32m.

Source: Company Management

PASAB Target Markets

PASAB management has identified 5 target markets (USA, Germany, Egypt, Russia and England) during the strategic planning for 2020-2025. It aims to achieve sales increase by implementing actions in these geographically important locations for the global glassware market.



Source: Company Management

PASAB

Historical Financial Statements

(1/2)

The consolidated financial statements of PASAB have been prepared in accordance with the provisions of the CMB's "Communiqué on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Balance Sheet

TL m	31.12.2017	31.12.2018	31.12.2019
1 Cash and Cash Equivalents	40	88	406
2 Trade Receivables	522	658	738
3 Inventories	817	1,084	1,169
Assets Related to Current Period Tax	0	8	4
Other Current Assets	40	97	184
Current Assets	1,419	1,935	2,501
Financial Investments	0	0	-
Derivative Assets	-	-	1
Investment Properties	-	8	8
4 Tangible Assets	1,536	1,902	2,068
Intangible Assets	5	4	3
Deferred Tax Assets	84	88	138
Other Non-Current Assets	2	4	133
Non-Current Assets	1,628	2,005	2,351
Total Assets	3,047	3,940	4,853
5 Short-term Borrowings	427	838	833
Trade Payables	204	272	305
5 Derivative Financial Instruments	-	-	24
Tax Liability for the Period Profit	3	1	2
Other Current Liabilities	440	451	120
Current Liabilities	1,075	1,561	1,283
5 Long Term Borrowings	323	84	1,093
Derivative Financial Instruments	-	-	91
Employee Benefit Provisions	112	133	154
Deferred Income	3	2	1
Deferred Tax	7	18	15
Non-Current Liabilities	445	237	1,354
Paid-In Capital	216	224	224
Other Equity Items	1,288	1,750	1,929
Net Profit/ (Loss) for the Period	8	145	39
Non-Controlling Interest	16	22	23
Total Equity	1,527	2,141	2,216
Total Liabilities and Equity	3,047	3,940	4,853

- 1 Şişecam Holding transferred \$ 140m of its \$ 700m issued bond to PASAB in 2019. After this financing, cash and cash equivalents increased to TL 406m. While part of this amount corresponding to TL 336m is in the deposit accounts with a maturity of less than 3 months, the remaining amount is kept in demand deposit accounts.
- 2 Most of the group's trade receivables consist of customers' current accounts (31.12.2019 – TL 682m). The remaining part consists of notes receivables. Although receivable turnover days of the group companies vary, it remained stable at 90-95 days in the past at the consolidated level. As of the end of 2019, the Group collected TL 326m of collateral by means of letters of guarantee, mortgages, etc. against the risk of collection.
- 3 In 2019, PASAB carried out planned production stops and increased sales from inventory in order to decrease its high inventory levels. As a result, the number of inventory turnover days has decreased compared to previous years.
- 4 The Group's most significant fixed assets include furnaces, which are the most important equipment for glassware production. The group has not invested in new furnaces in 2018 and 2019. As of the end of 2019, the net book value of PASAB's fixed assets was TL 2.1 billion.
- 5 The largest component of the group's total financial debt is the \$ 140m transferred to Paşabahçe from the bond issued by Şişecam. The Group also benefited from derivative instruments by signing a "cross currency swap" contract to protect itself from the cash flow risk arising from bonds. As of 31.12.2019, net liability position from derivative instruments has been calculated as TL 113m.

Source: Company Management

PASAB

Historical Financial Statements (2/2)

The consolidated financial statements of PASAB were prepared based on Turkey Financial Reporting Standards ("TFRS"), which is enacted by the Public Oversight Accounting and Auditing Standards Board ("KGK") and they are independent audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Income Statement

TL m	FY17	FY18	FY19
1 Revenues	1,987	2,475	3,020
Cost of Sales	(1,143)	(1,471)	(1,909)
Gross Profit	844	1,004	1,111
2 General Administrative Expenses	(173)	(153)	(142)
Marketing Expenses	(445)	(539)	(624)
Research and Development Expenses	(8)	(10)	(11)
3 Other Operating Income	93	185	155
Other Operating Expenses	(54)	(68)	(61)
EBITDA	257	418	427
(-) Depreciation and Amortization	(165)	(121)	(178)
EBIT	92	297	249
Income from Investing Activities	7	19	10
Expense from Investing Activities	(2)	(10)	(5)
Financial Income	75	48	324
Financial Expense	(201)	(200)	(553)
Profit Before Tax	(28)	155	25
Tax on (Expense) / Income	(4)	(17)	(6)
Deferred Tax Income / (Expense)	35	7	17
Profit / (Loss) for the Period	2	145	36

1 The group increased its consolidated net sales by 23% annually on average between 2017 and 2019. Since there was no increase in production capacity in 2018 and 2019, the main sources of growth in sales were the unit price increase and the export revenues in foreign currency gaining value against TL.





2 The ratio of general administrative expenses and sales marketing expenses to net sales remained constant in 2018 and 2019, around 28% - 29%. The main expense items are transportation expenses and personnel expenses. Due to the fact that the glassware production process has a higher labour share compared to other business lines in the group, personnel expenses are among the highest expense items.

3 Other income / expenses mainly consist of FX gains / losses from trade receivables / payables, gains from scrap sales and provision expenses. After the depreciation of TL against foreign currencies in 2018 and 2019, FX gains from exports caused an increase in other revenues.

Source: Company Management, PwC Analysis

PASAB Valuation Results

Valuation results of SODA obtained with 4 different valuation approaches (Income Approach, Market Approach, Net Asset Approach and Stock Market Value) are summarized in the table below.

Valuation Method	Equity Value	Explanations
Income Approach 	TL 405 m	Consolidated equity value was calculated based on the stand-alone equity values of the subsidiaries and associates, using “Sum of the Parts” method. “DCF” method was applied to production companies, while “NAA” method was applied for holding companies and non-operational companies. The projections were prepared for each company in its own functional currency for the years 2020-2025.
Market Approach 	TL 1,175 m	Comparable companies with similar operational and financial structure have been identified. The average 5-year EV / EBITDA multiple covering the 2015-2019 periods obtained from these companies has been taken into account. The relevant multiple was applied to the 4-year average EBITDA (indexed to 2019) covering the period 2019-2022.
Net Asset Approach 	TL 2,193 m	Net asset value have been estimated based on the consolidated equity amounts presented in the audited financial statements dated 31 December 2019 and prepared in accordance with the TAS / TFRS with certain adjustments made if deemed necessary.
Stock Market Value (Estimation) 	TL 252 m	Due to PASAB shares not being publicly traded, a discount rate was calculated based on the comparison between the stock market value of publicly traded Companies to be Merged and the values estimated with Market Approach. The discount rate was applied to the value of PASAB estimated with Market Approach to find an estimated stock market value for PASAB.

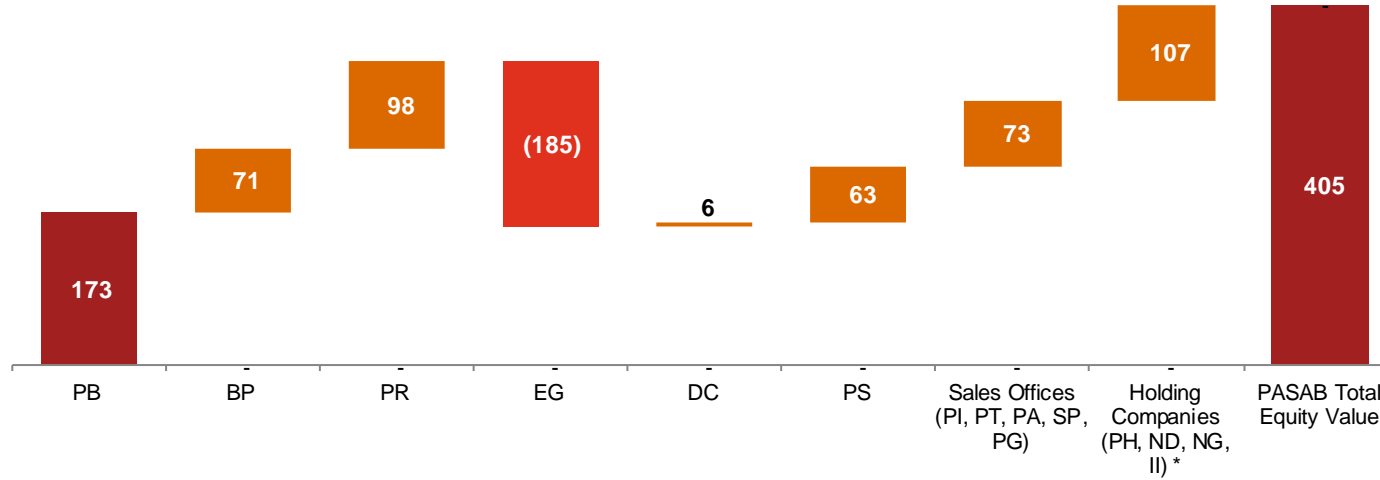
Source: Şişecam Management, PwC Analysis

* Total effective company values of the companies included in the revenue approach

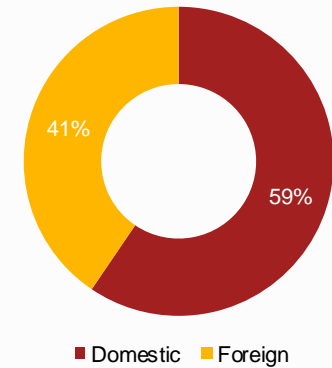
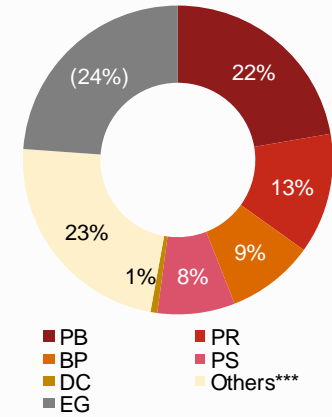
PASAB Income Approach

Based on the Income Approach, the total equity value of PASAB is estimated to be **TL 405m** as of the valuation date.

Total Equity Value (TL m)



Equity Value Breakdown



*** Sales Offices and Holding Companies

TL m	PB	BP	PR	EG	DC	PS	Sales Offices	Holding Companies	Total PASAB
Enterprise Value	823	282	347	99	31	84	54	-	1,720
Net Cash/(Debt)	(712)	(212)	(266)	(284)	(20)	(21)	17	-	(1,498)
Investment Properties	8	0	0	0	0	0	0	-	8
Tax Related Assets	53	0	17	0	0	0	3	-	73
Equity Value	173	71	98	(185)	11	63	73	107	410
Effective Shareholding Percent	100.0%	100.0%	100.0%	100.0%	51.0%	100.0%	100.0%	100.0%	
Equity Value- PASAB	173	71	98	(185)	6	63	73	107	405

* Refers to assets and liabilities excluding financial investments.

** Tax assets consisting of tax incentives from investments and carry-forward losses

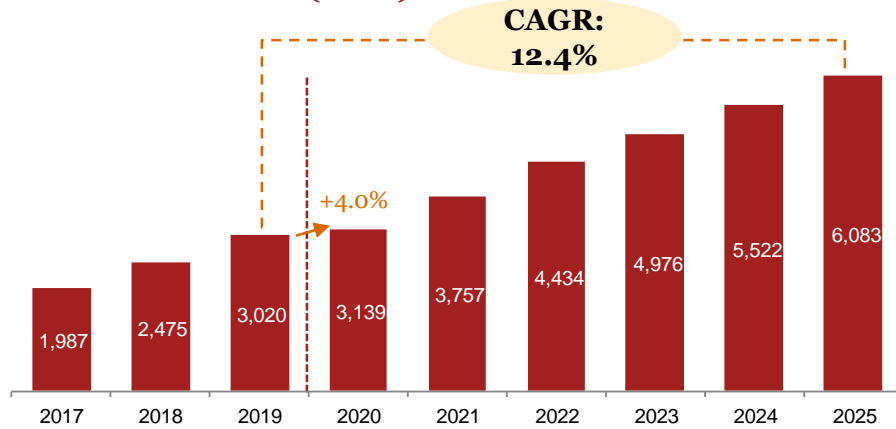
Source: Holding Management, PwC Analysis

PASAB

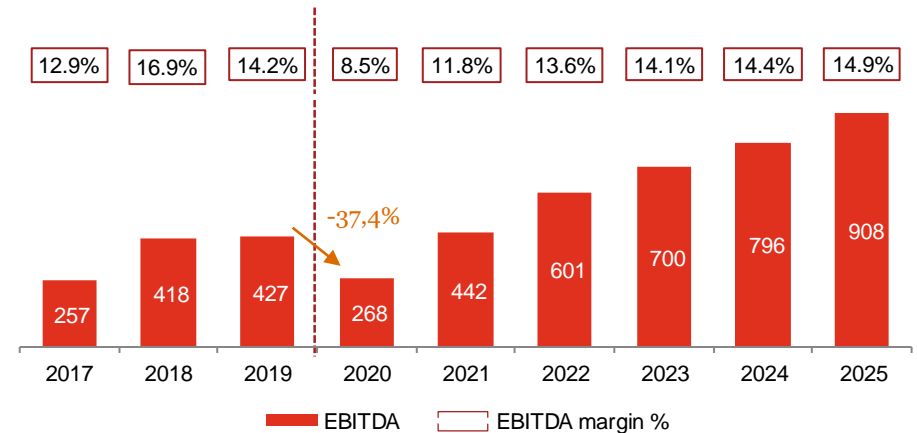
Income Approach

PASAB's consolidated sales are projected to grow at an average annual rate of **12.4%** between 2020-25, mainly through price increases. It is predicted that the EBITDA margin will gradually increase to **14.9%** with the increase in the share of more profitable and value-added products after **8.5%** decrease with the effect of COVID-19. Between 2020-25, all existing furnaces are planned to undergo cold repairs.

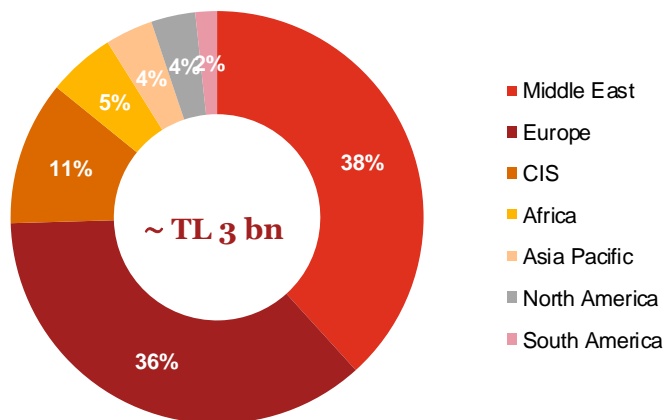
Consolidated Sales* (TL m)



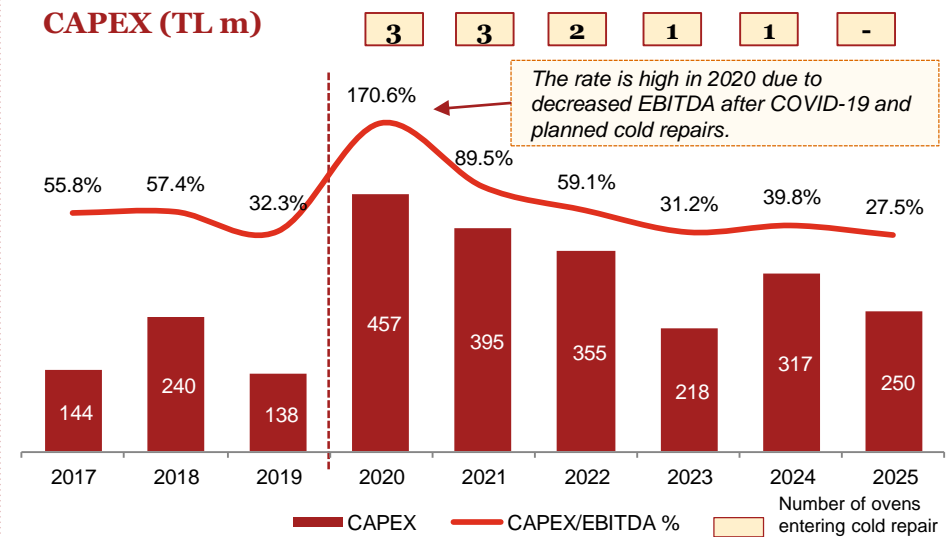
Consolidated EBITDA* (TL m)



Geographical Distribution of Sales- 2019



CAPEX (TL m)



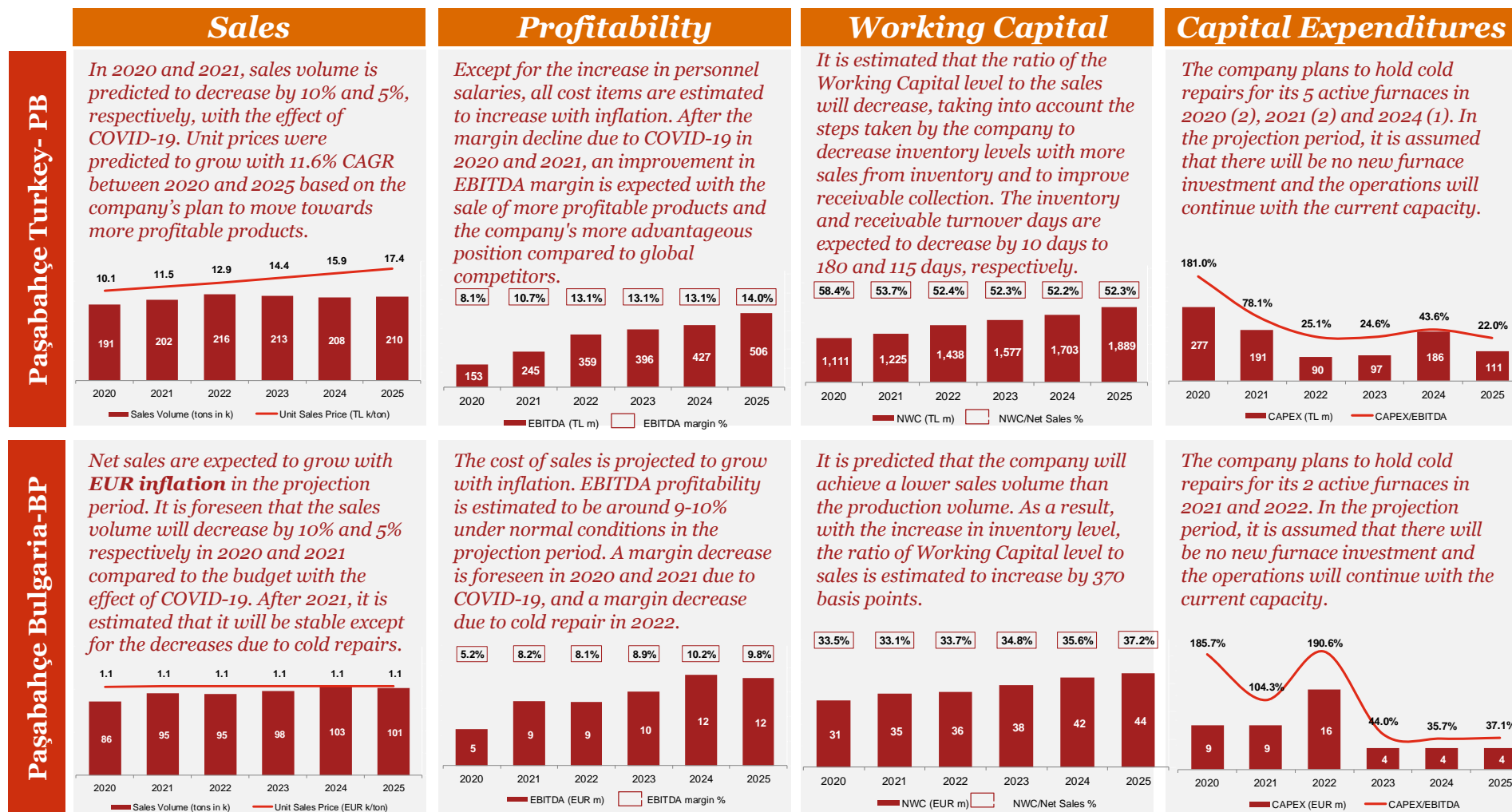
Source: Company Management, PwC Analysis

* Consolidated amounts presented in TAS / TFRS reports for 2017-2019 periods are presented.

PASAB

Main Assumptions as the Basis of Valuation (1/4)

The table below presents the main assumptions for the companies subject to valuation with the discounted cash flow method.

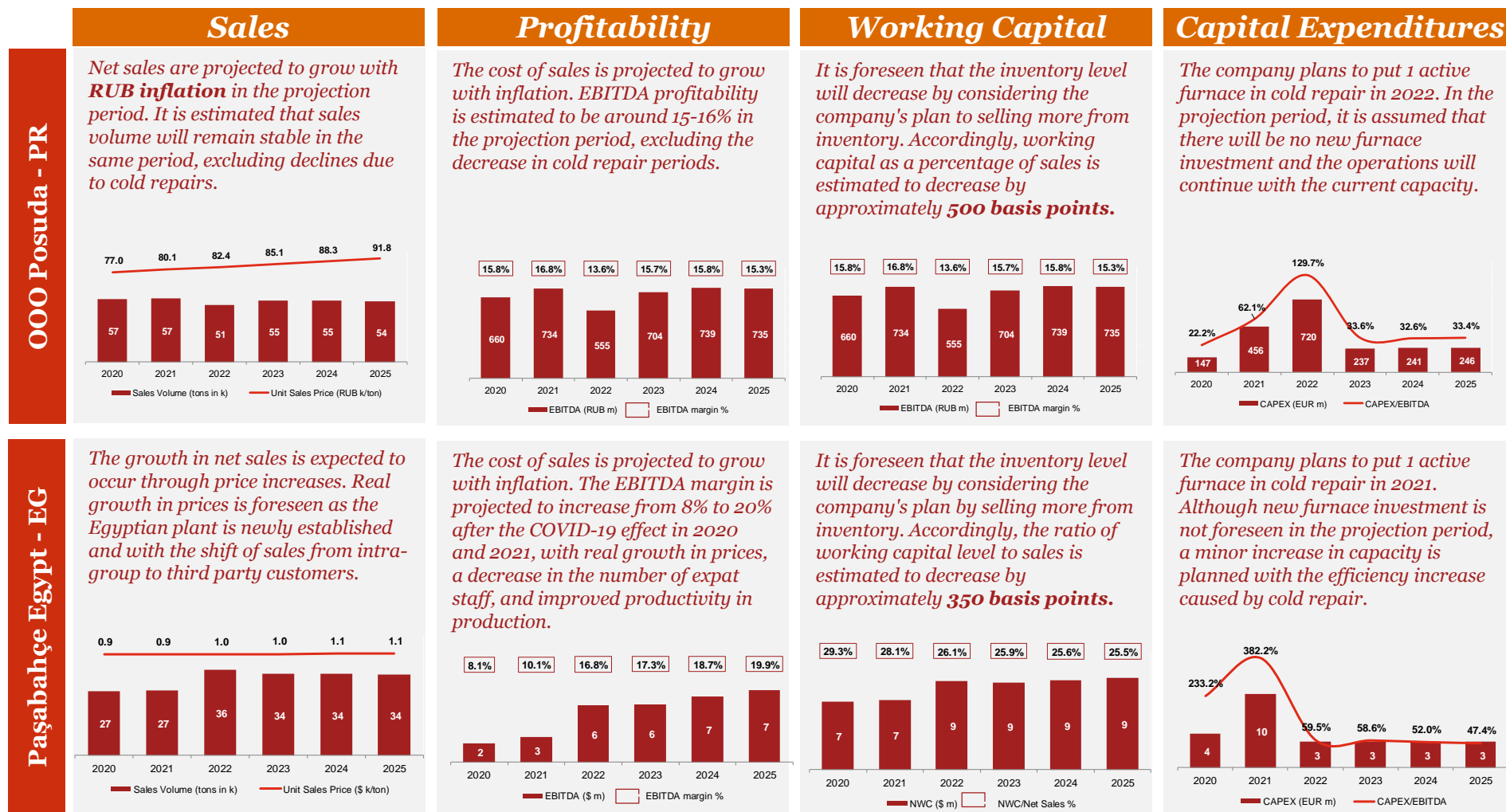


Source: Company Management, PwC Analysis

PASAB

Main Assumptions as the Basis of Valuation (2/4)

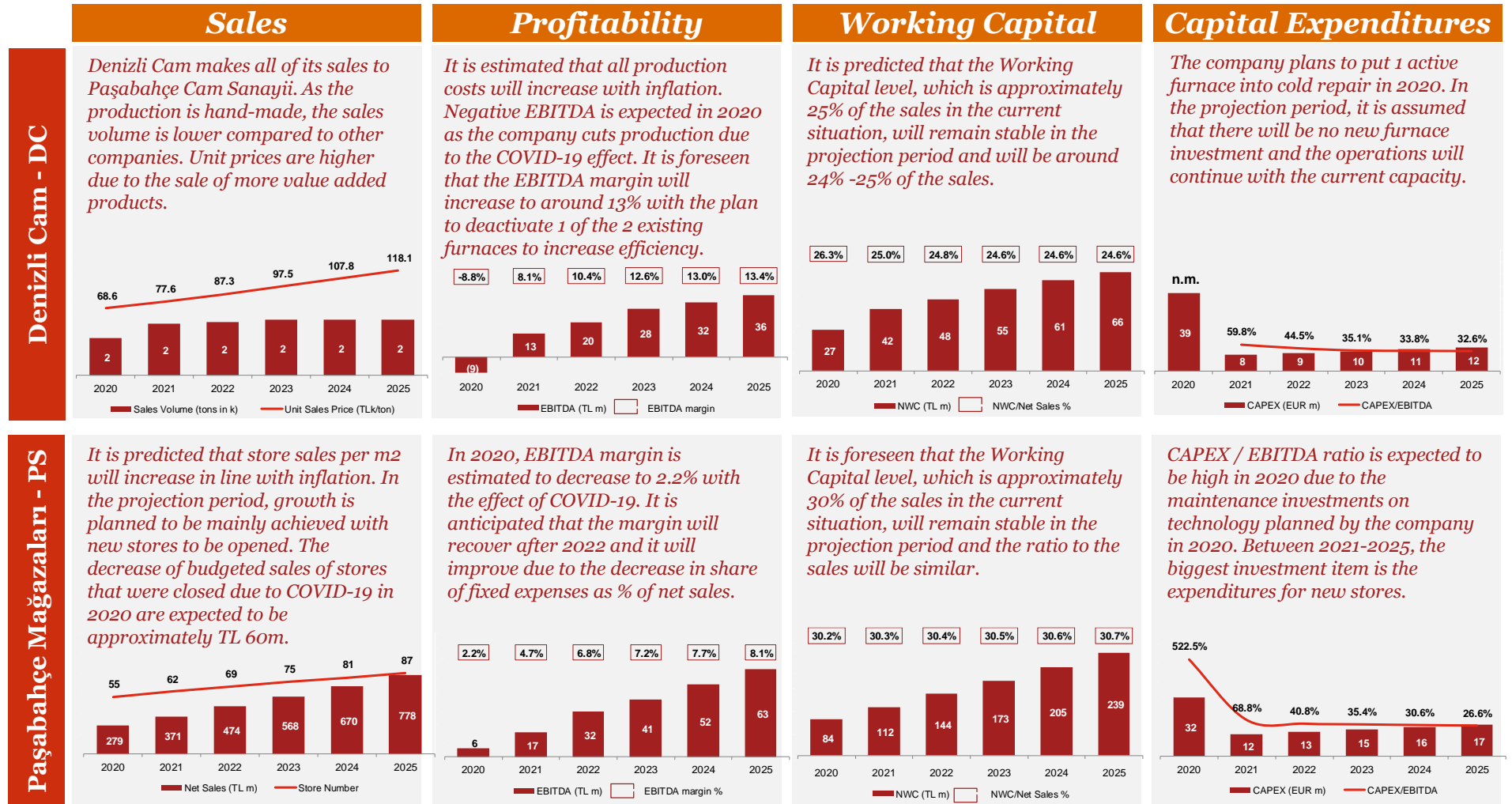
The table below presents the main assumptions for the companies subject to valuation with the discounted cash flow method.



Source: Company Management, PwC Analysis

PASAB**Main Assumptions as the Basis of Valuation (3/4)**

The table below presents the main assumptions for the companies subject to valuation with the discounted cash flow method.



Source: Company Management, PwC Analysis

PASAB**Main Assumptions as the Basis of Valuation (4/4)**

The table below presents the main assumptions for the companies subject to valuation with the discounted cash flow method.

	Sales	Profitability	Working Capital	Capital Expenditures
Sales Offices - PI - PT - PA	<p>Sales offices operate with 2 different business models. In the first model, there are offices that have warehouses and buy products from production companies and sell them to the end customer (PI, PT, PA). In the second model, there are companies (SP, PG) whose only source of income is the commission obtained over the sales made by the production companies.</p> <p>It is foreseen that revenues will grow with the relevant inflation rate for all offices.</p>	<p>The EBITDA margins of the sales offices are expected to remain at the same level as in 2019. A decrease in sales volume is foreseen with the effect of COVID-19. The recovery of the sales volume to pre-COVID-19 levels is expected to occur after partial improvements in 2021 and 2022.</p>	<p>For sales offices other than PT and PA, the ratio of Working Capital to sales will be similar to the 2019 level. It is assumed that PT and PA will repay most of their high and overdue intra-group trade payables in the projection period. Therefore, it is predicted that the NWC levels will increase in the relevant period.</p>	<p>The amount of investment required for sales offices to continue their activities is low. Therefore, a major investment plan is not expected for the projection period.</p>

Source: Company Management, PwC Analysis

PASAB

Market Approach (1/2)

Based on the Market Approach, the total equity value of PASAB is estimated to be **TL 1.2bn** as of the valuation date.

TL m	FY19	FY20	FY21	FY22	Average*
EBITDA	373	268	442	601	
1 Effective EBITDA**	369	272	435	591	
Inflation Indexiation	1.00	1.12	1.25	1.40	
2 EBITDA (Discounted 2019 Figures)	369	243	347	423	345
EV / EBITDA (x)					7.2x
3 Enterprise Value					2,475
Net Cash/(Debt)					(1,488)
Investment Properties					8
Tax Related Asset					73
5 Other Companies					107
Paşabahçe Investment B.V.					101
Nude Design Investment B.V.					5
İstanbul Investment B.V.					0
Nude Glass Investment B.V.					0
Equity Value					1,175

Market Approach has been applied following the steps discussed below:

- Actual and forecasted consolidated FY19-FY22 EBITDA figures for PASAB are taken into consideration after multiplying the respected figures with effective ownership percentages.
- The respective forecasted EBITDA figures have been discounted with TL inflation to 2019, in order to express forecast figures in 2019 prices.
- EV/EBITDA multiple derived from the comparable companies analysis is applied to the average of discounted FY19-FY22 EBITDA figures to estimate the enterprise value.
- In order to estimate the equity value; net cash/debt, investment properties and tax related assets of PASAB are also considered. Such equity value adjustments are weighted by the effective ownership of the relevant entities at the PASAB level.
- Other non-operational companies have been included in the equity value estimation of PASAB, based on their respective values estimated via the Net Asset Approach as of 31.12.2019.

*EBITDA amount represents the average of FY19-FY22 periods. The amounts added while coming to the share value are the figures for the end of 2019.

** Includes EBITDA amounts multiplied by ownership rates of companies included in the Enterprise Value calculation in the Income Approach.

PASAB

Market Approach (2/2)

Based on the Market Approach, the total equity value of PASAB is estimated to be **TL 1.2bn** as of the valuation date.

Comparable Companies and Multiple Analysis

\$ m	Enterprise Value					Net Sales					EBITDA					% EBITDA				
	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19
Libbey Inc.	1,147	732	589	538	476	825	796	785	801	786	113	108	74	72	73	13.7%	13.6%	9.4%	9.0%	9.3%
Nadir Figueiredo Ind. e Com. S.A.	98	88	100	159	268	144	184	200	198	197	23	28	41	45	41	15.9%	15.4%	20.3%	22.8%	20.8%
Average																				


While determining comparable companies within the scope of the market approach, the fields of activity, profitability, indebtedness and operational structures of the selected companies were taken into consideration.

Considering the current global market share and sales volume of PASAB, 2 companies producing global glassware were used in the multiple analysis. Although the number of companies eligible for comparison is limited, the 2 selected companies are considered to be an appropriate indicator as they are in direct competition with PASAB.

In selecting companies, the number of furnaces, market size, product range, sales volume, EBITDA margin, indebtedness ratio, profitability level and similar financial metrics were taken into consideration.

The EV/ EBITDA multiples that occurred in the public markets between the years 2015-2019 were examined. The enterprise values shown in the table above are the average enterprise values of the selected companies during the relevant year.

The average multiples of the 2 selected companies calculated for the period 2015-2019 are between **5.4x - 7.8x** as shown in the table above. **7.2x**, which is calculated as the average of the 2015-2019 period, has been taken into account under market approach.



\$ m	Enterprise Value / EBITDA (x)					
	FY15	FY16	FY17	FY18	FY19	Average
Libbey Inc.	10.1x	6.8x	7.9x	7.4x	6.5x	7.8x
Nadir Figueiredo Ind. e Com. S.A.	4.2x	n.m.*	n.m.*	n.m.*	6.5x	5.4x
Average	7.2x	6.8x	7.9x	7.4x	6.5x	7.2x

Source: Capital IQ, PwC Analysis

* Multiples that appear as extreme values are not considered within the scope of the study.

PASAB

Net Asset Approach

Based on the Net Asset Approach, the total equity value of PASAB is estimated to be **TL 2.2bn** as of the valuation date.

TL m	31.12.2019
Paid Capital	224
Accumulated Other Comprehensive Income/(Expense)	70
Impact of Transactions Including Entities Under Common Control	(12)
Share Premiums (Discount)	166
Gains and (Losses) Revaluation	706
Restricted Reserves	378
Retained Earnings	620
Net Profit or (Loss) for the Period	39
Non Controlling Interests	23
Total Equity	2,216
1 Adjustment for Non Controlling of Interest	(23)
Net Asset Value	2,193

The breakdown of the consolidated shareholders equity for PASAB, which is prepared in accordance with Turkish Accounting Standards and Turkish Financial Reporting Standards issued by POB and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. is presented in the adjacent table.

It has been assumed that the shareholders equity that is present in the consolidated and audited 31.12.2019 balance sheet of PASAB is an accurate representation of the equity value of the company, for purposes of Net Asset Approach.

The consolidated shareholders equity of PASAB as of 31.12.2019 is TL 2,216m the Net Asset Value is calculated as **TL 2,193m** after the adjustments are considered.

1 Adjustment for Non-Controlling Interests:

The non-controlling interests that are presented as part of the consolidated shareholders equity are excluded from the consideration as part of the Net Asset Approach.

Source: Holding Management, PwC Analysis

1 Communiqué on Principles Regarding Financial Reporting in the Capital Markets

PASAB

Estimated Stock Market Value

Due to the fact that PASAB shares are not publicly traded in the stock market, an estimated stock market value is calculated based on the outcome from Market Approach. As a result of related calculations, PASAB's estimated stock market value is calculated as **TL 252m**.

Discount Rate

	Companies to Merge		Comparable Companies		Discount Rate
	EV / EBITDA (x)		EV / EBITDA (x)		
	FY15-FY19 Average		FY15-FY19 Average		
SISE	5.4x		7.5x		28%
TRKCM	4.8x		7.3x		34%
ANACM	4.6x		8.5x		46%
SODA	4.7x		8.0x		42%
DENCM	a.d.		7.2x		a.d.
Average					37%

Although PASAB is not a publicly listed company, an estimate has been made for the stock market value, in order to be consistent in terms of the valuation methods used. For the calculation of the estimated stock market value of PASAB, the market multiples calculated based on the stock market values of the publicly traded Companies to Merge were compared with the multiples obtained from comparable companies. The ratios of these multiples with each other are considered as the **discount rate** between the value obtained from the Market Approach and the Stock Market Value. The arithmetic average of the discount rates of the Companies to Merge is applied to the multiple obtained from comparable companies with the Market Approach for PASAB and the stock market value for PASAB was estimated.

The discount rate was calculated as **37%** by applying the specified calculation method for the publicly traded Companies to Merge. The discount rate was applied to PASAB's EV/ EBITDA multiple obtained from comparable companies and estimated stock market value was calculated as **TL 252m**.

Estimated Stock Market Value (*)

TL m	FY19	FY20	FY21	FY22	Average*
EBITDA	373	268	442	601	
Effective EBITDA**	369	272	435	591	
Inflation Indexiation	1.00	1.12	1.25	1.40	
EBITDA (Discounted 2019 Figures)	369	243	347	423	345
Comparable Companies - EV/ EBITDA Avr.					(A) 7.2x
Discount Rate					(B) 37%
Discounted EV/ EBITDA Avr.					(A) x (1 - (B)) 4.5x
Enterprise Value					1,552
Net Cash/(Debt)					(1,488)
Investment Properties					8
Tax Related Asset					73
Other Companies					107
Estimated Stock Market Value					252

(*) The estimated stock market value of PASAB does not represent a benchmark in any condition for the stock market value of the company in the case of a public offering. The sole purpose of the estimation is to be used in the merger study.

Source: PwC Analysis

DENCM

DENCM

Historical Financial Statements

(1/2)

The consolidated financial statements of DENCM have been prepared in accordance with the provisions of the CMB's "Communiqué on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Balance Sheet

TL m	31.12.2017	31.12.2018	31.12.2019
1 Cash and Cash Equivalents	0	0	9
2 Trade Receivables	15	21	15
3 Inventory	21	20	17
Other Current Assets	1	12	15
Current Assets	38	53	56
4 Tangible Assets	51	68	68
Intangible Assets	0	0	-
Other Non-Current Assets	3	3	2
Non-Current Assets	54	71	70
Total Assets	92	124	126
Short-Term Borrowings	15	-	0
Trade Payables	5	7	8
5 Other Current Liabilities	15	45	39
Current Liabilities	35	52	47
Employee Benefit Provisions	8	10	13
Non-Current Liabilities	8	10	13
Paid-In Capital	6	6	15
Other Equity Items	46	57	56
Net Profit/ (Loss) for the Period	(3)	(0)	(6)
Equity	49	63	65
Total Liabilities and Equity	92	124	126

1 As a result of the capital increase of TL 9m which was realized in 2019, cash and cash equivalents increased as of 31.12.2019 compared to the previous year-end. The company stores a large part of its cash in banks as time deposits.

2 Trade receivables of the company fully consist of receivables arising from sales made to PB (31.12.2019 – TL 15m). The collection days of trade receivables, all of which are from related parties, has been between 2-3 months historically.

3 The inventory level is lower compared to the companies that operate with automated production, as DENCM manufactures hand-made products and works as the subcontractor of PB. The inventory turnover rate has been 3-4 months in the past, and has decreased as of the end of 2019 and has become c. 60-70 days.

4 The company's largest fixed assets include furnaces, which are the most important equipment for glassware production. The group has not invested in new furnaces in 2018 and 2019. The cold repair repairs of the existing furnaces constituted the largest investment item. As of the end of 2019, the net book value of DC's fixed assets was TL 68m.

5 "Other Payables to Related Parties" is the largest item under Other Short Term Liabilities. DC incurs interest expense for these payables which were obtained from Şişecam for financing purposes. As of 31.12.2019, there is a balance of TL 33m payable to Şişecam.

Source: Company Management, PwC Analysis

DENCM

Historical Financial Statements

(2/2)

The consolidated financial statements of DENCM have been prepared in accordance with the provisions of the CMB's "Communiqué on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Income Statement

TL m	FY17	FY18	FY19
1 Revenues	82	107	132
Cost of Sales	(70)	(91)	(115)
Gross Profit	12	15	18
2 General Administrative Expenses	(6)	(7)	(10)
Marketing Expenses	(5)	(4)	(3)
Research & Development Expenses	(0)	(0)	(0)
Other Operating Income	2	2	1
Other Operating Expenses	(2)	(1)	(1)
(+) Depreciation and Amortisation	4	4	4
EBITDA	5	9	7
(-) Depreciation and Amortisation	(4)	(4)	(4)
3 EBIT	1	5	3
Income from Investing Activities	0	0	-
Expense from Investing Activities	-	(0)	-
Shares of Investments Accounted for Using the Equity Method	0	-	-
Financial Income	1	0	0
Financial Expense	(4)	(7)	(8)
Profit Before Tax	(2)	(2)	(5)
Tax on (Expense) / Income	-	-	-
Deferred Tax Income / (Expense)	(0)	2	(1)
Profit / (Loss) for the Period	(3)	(0)	(6)

1 The group increased its consolidated net sales by 27% annually on average between 2017 and 2019. Since there was no increase in production capacity in 2018 and 2019, the main source of growth in sales was the unit price increases due to the transfer pricing.





2 The ratio of general administrative expenses and sales marketing expenses to net sales remained stable in 2018 and 2019 and realized as 10%. Main expense items are personnel expenses and holding service expenses. Due to the fact that the production process is hand-made, personnel expenses constitute the highest expense item.

3 The largest part of the financing expenses consists of interest expenses arising from financial debts received from related parties. Interest expenses were realized as TL 6.6m and TL 8m respectively in FY18 and FY19.

Source: Company Management, PwC Analysis

DENCM Valuation Results

Valuation results of DENCM obtained with 4 different valuation approaches (Income Approach, Market Approach, Net Asset Approach and Stock Market Value) are summarized in the table below.

Valuation Method	Equity Value	Explanations
Income Approach 	TL 11 m	Calculated based on projections prepared to cover the years 2020-2025 over TL, the functional currency of DENCM, using the 'Discounted Cash Flow' method.
Market Approach 	TL 23 m	Comparable companies with similar operational and financial structure have been identified. The average 5-year EV / EBITDA multiple covering the 2015-2019 periods obtained from these companies has been taken into account. The relevant multiple was applied to the 4-year average EBITDA (indexed to 2019) covering the period 2019-2022.
Net Asset Approach 	TL 65 m	Net asset value have been estimated based on the consolidated equity amounts presented in the audited financial statements dated 31 December 2019 and prepared in accordance with the TAS / TFRS with certain adjustments made if deemed necessary.
Stock Market Value 	TL 83 m	The Stock Market Value for DENCM has been calculated based on the weighted average stock market price of the trailing 12 months going back from the merger announcement date, 30.01.2020. Dividends planned to be distributed / collected as of the valuation date have also been considered within the scope of the Stock Market Value.

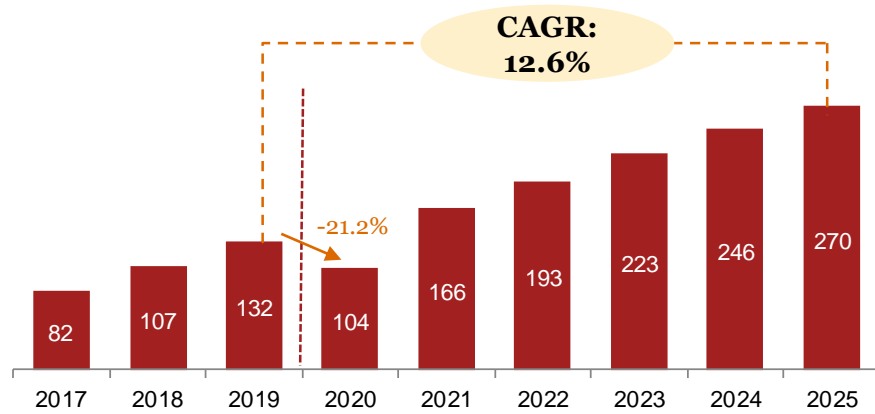
Source: Şişecam Management, PwC Analysis

DENCM

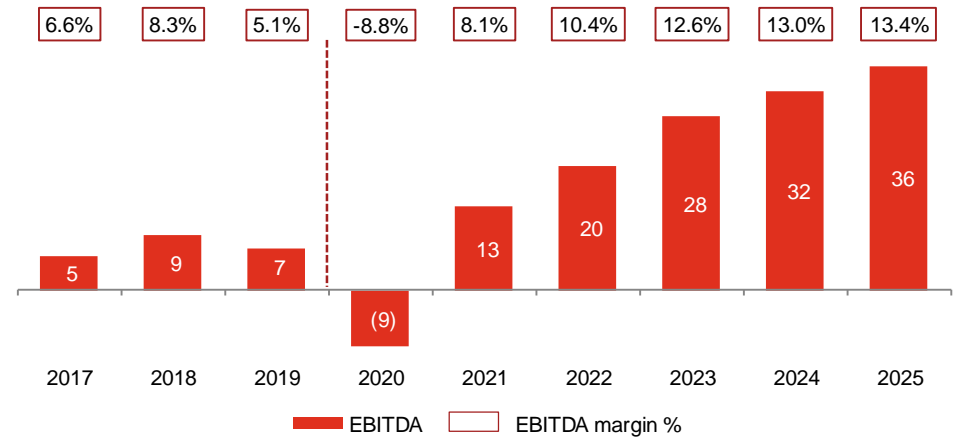
Income Approach

It is anticipated that DENCM's total sales will increase by 12.6% annually on average between 2019 and 2025, entirely through increases in unit prices. In the same period, EBITDA margin is estimated to rise from 8-9% to 13%, in line with management's plans to increase efficiency in production process and capacity management. Due to COVID-19, the company is expected to incur negative EBITDA in 2020.

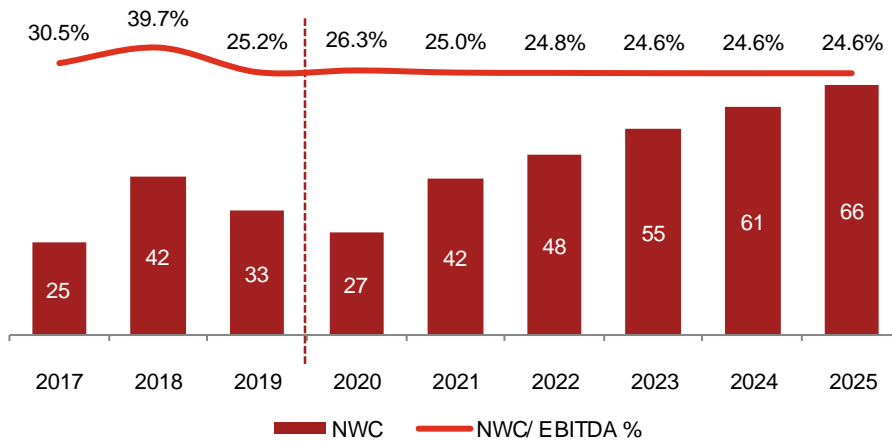
Net Sales* (TL m)



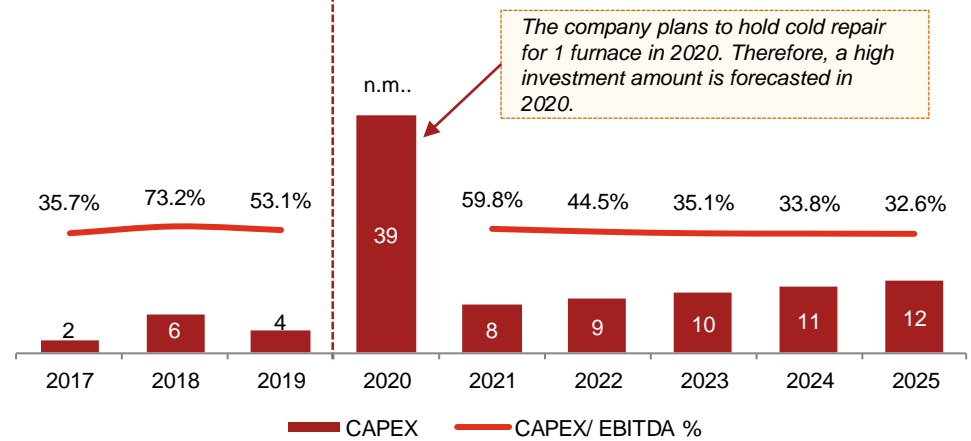
EBITDA* (TL m)



Working Capital (TL m)



CAPEX (TL m)



* Consolidated amounts presented in TAS / TFRS reports for 2017-2019 periods are presented.

Source: Company Management, PwC Analysis

DENCM Market Approach

Based on the Market Approach, the total equity value of DENCM is estimated to be **TL 23m** as of the valuation date.

TL m	FY19	FY20	FY21	FY22	Average*
1 EBITDA	7	(9)	13	20	
Inflation Indexiation	1.00	1.12	1.25	1.40	
2 EBITDA (Discounted 2019 Figures)	7	(8)	11	14	6
EV / EBITDA (x)					7.2x
3 Enterprise Value					43
Net Cash/(Debt)					(20)
4 Equity Value					23

* EBITDA amount represents the average of FY19-FY22 periods. The amounts added while coming to the share value are the figures for the end of 2019.

Market Approach has been applied with the following the steps discussed below:

- 1 Actual and forecasted consolidated FY19-FY22 EBITDA figures for DENCM are taken into consideration after multiplying the respected figures with effective ownership percentages.
- 2 The respective forecasted EBITDA figures have been discounted with TL inflation to 2019, in order to express forecast figures in 2019 prices.
- 3 EV/EBITDA multiple derived from the comparable companies analysis is applied to the average of discounted FY19-FY22 EBITDA figures to estimate the enterprise value. Since DENCM manufactures hand-made products only and works directly for PASAB as a subcontractor, there aren't any reasonable peer companies for DENCM. Due to this, comparable peer companies and multiples used for PASAB were taken into account for DENCM as well, considering DENCM sells all of its' products to PASAB as a subcontractor.
- 4 In order to estimate the equity value; net cash/debt of DENCM is also considered.

DENCM ***Net Asset Approach***

*Based on the Net Asset Approach, the total equity value of DENCM is estimated to be **TL 65m** as of the valuation date.*

TL m	31.12.2019
Paid Capital	15
Adjustment Share Capital Differences	21
Share Premiums (Discount)	0
Accumulated Other Comprehensive Income/(Expense)	42
<i>Currency Translation Difference</i>	44
<i>Hedge Reserves</i>	(1)
Restricted Reserves	1
Retained Earnings	(8)
Net Profit or (Loss) for the Period	(6)
Net Asset Value	65

The breakdown of the consolidated shareholders equity for DENCM, which is prepared in accordance with the CMB's "Principles of Financial Reporting in Capital Markets¹", in line with Turkish Accounting Standards and Turkey Financial Reporting Standards and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. is presented in the adjacent table.

It has been assumed that the shareholders equity that is present in the consolidated and audited 31.12.2019 balance sheet of DENCM is an accurate representation of the equity value of the company, for purposes of Net Asset Approach.

The consolidated shareholders equity of **TL 65m** as of 31.12.2019 is considered as Net Asset Value of DENCM as of the valuation date.

Source: Company Management, PwC Analysis

DENCM Stock Market Value

The Stock Market Value for DENCM has been based on the weighted average stock market price of the trailing 12 months going back from the merger announcement date, 30.01.2020. The total equity value of DENCM derived from this method is **TL 83 m TL**.

Stock Price and Transaction Volume

Stock Price (TL/lot)

18.00

16.00

14.00

12.00

10.00

8.00

6.00

4.00

2.00

31/01/2019 28/02/2019 31/03/2019 30/04/2019 31/05/2019 30/06/2019 31/07/2019 31/08/2019 30/09/2019 31/10/2019 30/11/2019 31/12/2019 30/01/2020

	Adjusted Avg.Price(TL/lot)	Equity Value (TL m)
Last 1 Month	8.85	133
Last 3 Months	7.63	114
Last 6 Months	6.50	97
Last 12 Months	5.54	83
Adjusted Stock Market Value		83

Due to the fact that DENCM has increased its paid capital, the average equity values were calculated by using the equity values obtained by multiplying the weighted average share price of each transaction day with the number of issued shares available on that transaction day.

Daily equity values before 16.09.2019, the date on which the paid capital increase is valid, were adjusted by adding the increased capital amount of TL 9m to the equity value.

The weighted average price presented in the table is obtained by dividing the average equity value by the current number of shares, 15m.

Denizli Cam has made a paid capital increase in accordance with the decision of the board of directors approved by the CMB on 05.09.2019. The issued capital of the company has increased from TL 6m to TL 15m.

Source: Capital IQ, PwC Analysis

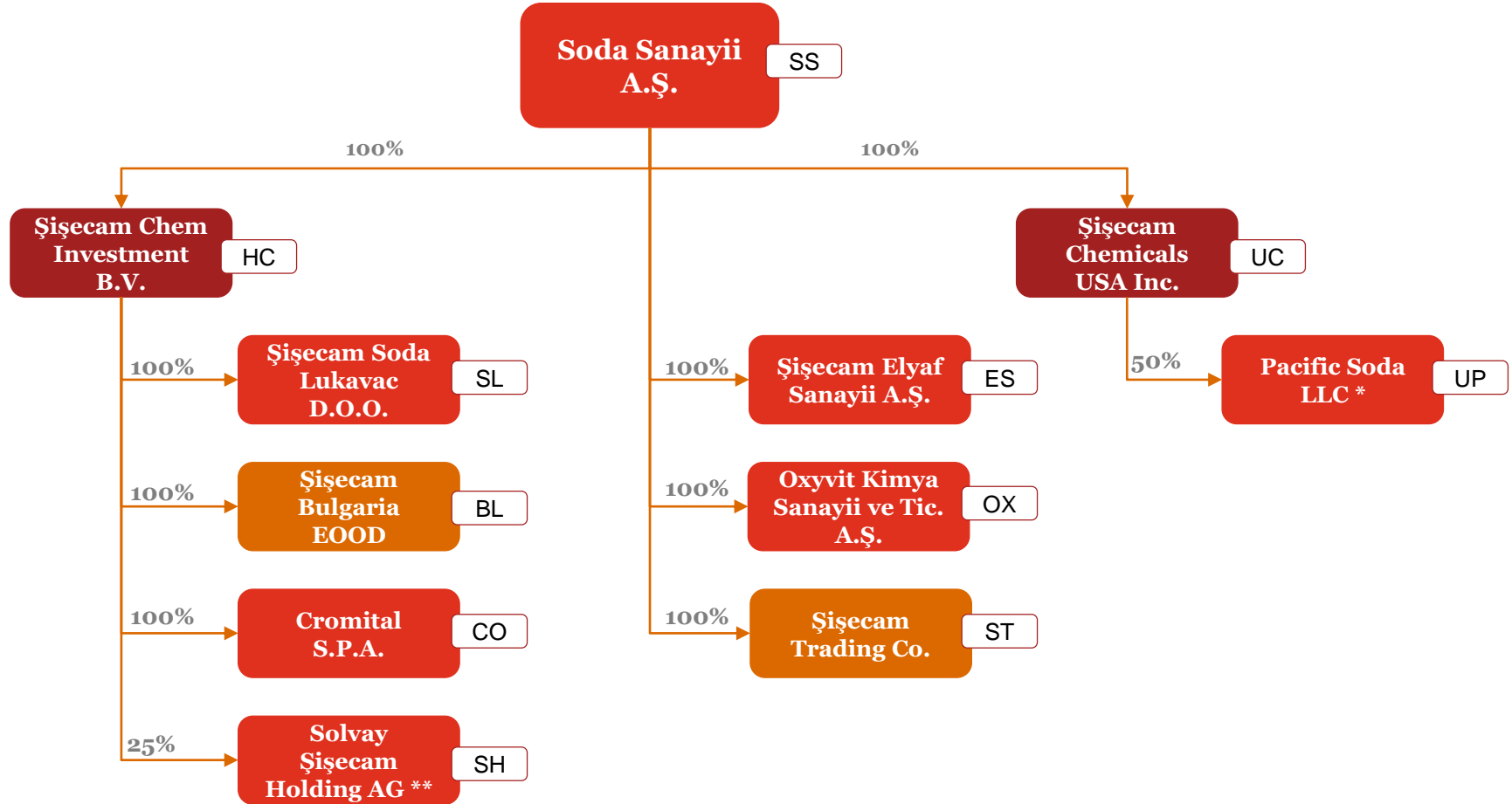
Transaction Volume (TL m) Adjusted Avg.Price(TL/lot)

SODA

SODA

Shareholding Structure

SODA operates with 7 manufacturing companies, 2 trading companies and 2 holding companies in soda, chrome, glass fiber, vitamin K and various other chemical industries.



Production Company	Trading Company
Company Code	Holding Company

* Subsidiary

** Associate

Source: Company Management

Matters to be Considered

SODA (1/7)

Chemicals Group Apart from its main fields of activity, soda and chromium chemicals, Şişecam Chemicals Group operates in the fields of glass fiber, Vitamin K3 derivatives, electricity generation and sodium metabisulfite. The productions are held by 4 plants in Turkey, 1 plant each in Bulgaria, Bosnia and Herzegovina and Italy; and commercial activities are maintained via the office in China. The production activities of all Chemicals Group companies, excluding companies that continue their mining activities ("MD", "MT", "ME", "VM"), are gathered under SODA.

Soda Sanayi A.Ş. (SS) Soda Sanayi A.Ş. ("SS" or "Soda Sanayii") maintains its activities in 3 plants in Turkey which are Mersin Soda Factory ("MSF"), Cogeneration Facility ("Kojen") and Mersin Krom Factory ("MKF").

Soda production capacity, which was 1.4m tonnes in MSF as of 2019, is expected to reach 1.5m tonnes in 2021. For the rest of the projection period, production capacity has been assumed constant with the foresight that there will be no capacity increase as of 2021.

MKF operates with a production capacity of 250 thousand tonnes of chrome chemicals and a capacity utilization rate of approximately 80% in 2019. While no capacity increase is planned during the projection period, it is predicted that the capacity utilization rate will gradually reach 100%.

With the cogeneration facility, the energy required for the production of soda and chromium is met, and the excess product is sold to the market via Şişecam Enerji A.Ş.. In addition to meeting its own energy needs, SS sold approximately 850 million kWh of electricity in 2019. It is anticipated that the excess electricity sales will continue in the projection period. In line with the information obtained from the SS management, the revenues and costs generated in the Kojen within the scope of the valuation study were analyzed and reported together with the MSF facility.

Within the scope of the Neutralization of Old Technology Wastes ("NOTW") project, the transportation and disposal of the wastes that occurred in the past and accumulated in the facility as a result of chrome production activity continues. The project, which started in 2017, aims to clear all wastes by the end of 2025. In this context, it is projected that the expenses of the NOTW included in the cost projections will not be in the terminal value calculation. Costs for process waste consisting of new production are estimated separately within the cost of sales. It is foreseen that there will be approximately and improvement of 100 bps in gross profit margin as a result of NOTW expiring costs.

Soda Sanayii's dividend payment of 245m TL, planned to be made in 2020 over 2019 profits, is taken into account in the valuation study as an equity value adjustment.

Matters to be Considered

SODA (2/7)

Şişecam Elyaf A.Ş. (ES)

Şişecam Elyaf A.Ş. ("ES" or "Şişecam Elyaf"), was established in January 2017 as a 100% subsidiary of Soda Sanayii. The glass fiber production plant in Balıkesir became operational at the beginning of 2019.

Established with an annual capacity of 70 thousand tons, the facility can reach up to 80 thousand tons of production with various efficiency parameters in the glass flow process. For this reason, according to the information obtained from Şişecam Elyaf management, the capacity of the facility was considered as 80 thousand tons within the scope of the valuation study. As Şişecam Elyaf is a newly established company, it is understood that the sales and profitability levels in 2019 are not an indicator of the sustainable level for the company. It is predicted that Şişecam Elyaf will be in the process of optimization and recovery during the projection period and will reach the level of sustainable profitability in 2025.

The investment of the glass fiber production facility is approximately TL 890m, which is considered within the scope of strategic investment and thus obtained the company an incentive certificate. Within the scope of this incentive, there is an incentive that can be deducted from 100% corporate tax of TL 578.5m with a 65% investment contribution rate. In addition, as a result of previous capex and financing costs, as of the end of 2019, there is a previous year loss of TL 94.8m. Within the scope of the valuation study, a projection has been made with the information provided by Şişecam Fiber management regarding how these tax assets, which are understood to have a reducing effect on corporate tax liabilities, can be used in years. Based on the projection made, the value of tax assets was estimated and taken into account in the valuation study as an equity value adjustment.

According to the information provided by Şişecam Elyaf management, within the scope of the strategic incentive certificate, there is a 17.5% SSI premium incentive for 7 years starting from 2021. It is anticipated that personnel costs will increase due to the termination of the incentive in the terminal value calculation.

It is understood that the risk of realization in future projections is higher than other companies since ES started its activities in 2019. Considering this, 1.0% additional business risk premium was included in the calculation of the weighted average cost of capital of ES.

Şişecam Soda Lukavac D.O.O. (SL)

Şişecam Soda Lukavac D.O.O. ("SL" or "Lukavac"), soda production facility in Bosnia and Herzegovina, acquired in 2006, has a capacity of 585 thousand tonnes as of 2019 after additional investments. As the plant is utilized 100% by 2019, a capacity increase of 40 thousand tonnes is planned for heavy soda product as of 2021. At the end of the projection period, SL is expected to continue its activities with a capacity of 625 thousand tonnes.

Due to the location of Lukavac, the overseas sales are not attractive as the logistics costs to be incurred to reach the port are high. Assuming that the current situation will continue in the projection period, sales are expected to be made by road transportation. Compared to Mersin Soda factory, it is foreseen that the ex-factory prices of soda products will approximately be 10% lower than MSF since the logistics costs for reaching the end customer are higher.

Matters to be Considered

SODA (3/7)

Cromital S.P.A. (CO) **Cromital S.P.A. ("CO" or "Cromital"):** produces chromium chemicals, which are the basic input for the leather industry, and markets its products mainly in Italy. Soda Sanayii became a 50% shareholder of the Italian Cromital operating in chromium chemicals in 2005, and in 2011, purchased the remaining shares to fully own the company.

Apart from the production of chromium chemicals, Cromital has been collecting and decomposing chrome wastes with the chrome recovery license it had until 2019 and reduced the need for bichromate to be used by reusing the chemical output. It has been stated that the waste decomposition has ended as some recovered substances are classified as hazardous after a regulation effectuated in Italy in 2019. With this regulation, EBITDA margin decreased to 2.5% as a result of loss of customers and sales. Within the scope of the Cromital Restructuring Project launched in 2019, it is planned to stop the production of powder chromium chemicals in Italy. The related production operations include both the production carried out by Cromital at its own facility and the powder chromium chemicals produced by a sub-contractor. It is planned that the production activities will cease in 2020 and only dissolving activities will continue. In this case, it is planned to sell the powder chromium chemicals to be bought from MKF after dissolving them and also to sell some products to be bought from MSF and Oxyvit.

With the project, it is aimed to achieve a decrease especially in fixed costs. In addition, personnel optimization will be realized since production operations will be stopped. In this context, Cromital is expected to operate with 18-19% gross margin and 8% EBITDA margin during the projection period. Moreover, it is foreseen that CO will not have a high capex amount during the projection period, as with the changing structure of operations, it will become a plant that works in the liquidation of powder chromium chemicals, instead of operating as a production factory.

In addition to the fact that CO started a new activity in 2020, it is understood that the risk of realization in future projections is higher than other companies due to the current uncertainties. Taking that into consideration, an additional business risk premium of 5.0% is included in the weighted average cost of capital calculation of CO.

Oxyvit Kimya Sanayii ve Tic. A.Ş. (OX) **Oxyvit Kimya Sanayii ve Tic. A.Ş. ("OX" or "Oxyvit"):** The field of activity of the company, which was established in 1996, is the production and marketing of Vitamin K3, sodium metabisulfite (SMBS) and their derivatives. Oxyvit, which is one of the important manufacturers in the sector and has a large share in the global production, exports more than 90% of Vitamin K3 production.

According to the information provided by Oxyvit management, it is understood that the unit prices are highly prone to change depending on developments in competing companies and in the industry, as the global market is more narrow compared to other products. The downward trend in prices falling in 2019 due to destocking efforts of Brother company which is the global competitor in OX's basic product Vitamin K activities, is expected to continue in 2020. As for the SMBS product, it is predicted that prices will decrease in 2020 due to the expected contraction in the mining sector, where it is the main input.

According to the information received from the Oxyvit management, after the completion of the NOTW project, there is a possibility of moving Oxyvit to the area discharged from waste and a decrease in operational expenses. However, since the NOTW project will be completed in 2025 and there is no clear plan for moving, it is not taken into consideration in the study.

Matters to be Considered

SODA (4/7)

Solvay Şişecam Holding A.G. (SH)

Solvay Şişecam Holding A.G. ("SH" or "Solvay Holding"): Solvay Holding, headquartered in Austria, is a company established in 1997 to participate in Solvay Sodi AD in Bulgaria. The indirect partnership share in the company is 25% and the share of Solvay Group is 75%. Within the scope of the offtake agreement made by the company, 375 thousand tonnes of annual 1.5m tonnes of soda volume produced by Solvay Sodi AD are sold through Soda Sanayii and Şişecam Bulgaria.

Solvay Holding is accounted for by the equity method in the consolidated IFRS financial statements of Soda Sanayii. Soda Sanayii has no administrative control over the company. Soda Sanayii earned approximately EUR 15-20m of dividend income annually from Solvay Holding in 2017-2019. With the change in the transfer pricing policy in 2020, it is estimated that the profit share of the production company (Solvay Sodi AD) will decrease. In this context, it is planned that Solvay Sodi AD will sell to Şişecam Bulgaria at a lower price. The decreasing profit from Solvay Sodi AD is expected to be re-gained from companies that have intra-group sales via Şişecam Bulgaria.

According to the information received from the SODA management regarding the future dividend amounts, the annual dividend amount is expected to remain constant at EUR 13m. The expected future dividend amounts of Solvay Holding have been discounted and included in the estimated equity value in SODA's valuation study within the scope of Income Approach.

In the valuation study carried out for the SH, considering the lack of administrative control of Soda Sanayii over Solvay Holding, the lack of a detailed business plan and the uncertainty in the future dividend amounts, an additional business risk premium of 3.0% was included in the calculation.

Şişecam Bulgaria EOOD (BL)

Şişecam Bulgaria EOOD ("BL" or "Şişecam Bulgaria") has trade operations of soda products in Bulgaria. Almost 250 thousand tonnes of soda products purchased annually from Solvay Sodi provide soda raw materials to group's flat glass plants. Within the scope of transfer pricing, the EBIT margin is expected to remain constant at 3.2% during the projection period. Since Şişecam Bulgaria is a trading company, its sales and profitability are largely dependent on the production volume of Solvay Sodi, and since it does not involve in production activities, an additional business risk premium of 3.0% was included in the weighted average cost of capital calculation of BL.

Şişecam Trading CO (ST)

Şişecam Trading CO ("ST" or "Şişecam Trading"): Şişecam Trading Co., which was established as a representative office in 2000 and was incorporated in 2002, continues its activities in order to increase the effectiveness in the Far East chromium markets. Basic chromium sulfate (BCS) is purchased from Soda Sanayii and sold to leather tanneries in Asia. It is anticipated that related activities will continue throughout the projection period and the EBITDA margin will remain stable at around 19%.

Since ST does not hold significant importance in financial statements, it used to be accounted by cost approach until January 1, 2018. Since that date, full consolidation method is used for the accounting of ST. Due to the fact that ST is a trading company, its sales and profitability are largely dependent on Soda Sanayii and it does not have its own production, an additional business risk premium of 5.0% was included in the average weighted average cost of capital calculation of ST in the valuation study.

Matters to be Considered

SODA (5/7)

Pacific Soda LLC (UP)

- Natural Soda Ash Investment

A production partnership (Pacific Soda LLC) with an equal shareholding structure was established in 2019 to invest in natural soda between **Sisecam Chemicals USA Inc.** and Imperial Natural Resources Trona Mining Inc., one of Ciner Resources LP (“Ciner Group”) companies.

Business Development Fee: Joint Venture and Operation Agreement was signed between Soda Sanayii and Imperial Natural Resources Trona Mining Inc on 3 June 2019. On the same date, a Business Development Agreement was signed between Soda Sanayii and Park Holding A.Ş. In this context, Soda Sanayii A.Ş. paid Park Holding A.Ş. a business development fee of \$ 75m (+ VAT) in exchange for an invoice. As of 31.12.2019, the related amount has been classified as a tangible fixed asset in SODA's consolidated audited financial statements. If the necessary permits and licenses are not obtained in five years following the contract date, Ciner Group will repay the \$ 75m \$ business development fee it received to Soda Sanayii. Following the completion of some prerequisites in the Contract, the Contract became valid with all its provisions on 21 June 2019 and the Contract was transferred to Şişecam Chemicals US Inc., a 100% subsidiary of Soda Sanayii.

Necessary Permits: Some permits and licenses are mandatory for the initiation of the investment. Following the completion of the necessary permits and tests in the first 2 years, a total investment period of 6.5 years is planned, including 4.5 years of construction. The investment, which is planned to start in 2020, is planned to be operational at the beginning of 2026. An unexpected situation to be experienced in obtaining the permits required until the first half of 2022 may cause changes in the net present value of the project, which is taken into account in the project timing and valuation study. In accordance with the partnership agreement, if these permits and licenses are not obtained within five years from the date of the contract, Ciner will reimburse the \$ 75m business development fee it has received to Soda Sanayii.

Capacity and Activation: It is understood that within the scope of the investment, 2.5m tonnes of soda and 200 thousand tonnes of sodium bicarbonate production capacity will consist of 5 lines with equal capacity. It is foreseen that the first line will become operational in 2026 and the capacity utilization rate will be around 28%; and as the other lines will become operational, the utilization rate will gradually reach 100%.

Reserve Life: In previous feasibility studies and meetings with SODA management, it was stated that the potential reserve life could be over 60 years. In the valuation study, it is assumed that the mine reserve life will last for 60 years from 2026 with a conservative approach by producing 2.5 million tons of soda and 200 thousand tons of sodium bicarbonate annually. As a result, within the scope of the valuation study, an estimate was made until 2085 and the terminal value was not taken into account.

Trona density: The density of trona mine that will come out of the location where the facility will be established is important for the project. Technical studies on the density of the Trona mine will be conducted in September / October 2020. It is expected that the profitability of the project will be relatively low if the results will be lower than 16%, which is the optimum level for trona mineral density. On the contrary, a density higher than 16% is expected to significantly increase project profitability.

Matters to be Considered

SODA (6/7)

Pacific Soda LLC (UP) (Con'd)

- Natural Soda Ash Investment

Mining Technology: According to the information received from the SODA management, although the mine extraction technology to be used in US is a technique that SODA has not applied before, it will be a technology that has already been applied and experienced in the facility of Ciner Group in Kazan. On the other hand, in terms of the quality of the mine, it is similar to Ciner Group's mine in Beypazarı facility. Therefore a hybrid structure is aimed in terms of the quality of natural soda ash mine and the technology used.

Profitability: While determining the sales prices in the business plan of UP, the ex-factory prices are estimated at first and then the internal transportation and packaging costs are added. The gross profit margin appears to be high, as the relevant transportation and packaging costs are included in operating expenses and are netted-off at the EBITDA level. Therefore, the EBITDA margin is a more meaningful indicator rather than the gross profit margin for the profitability of the investment. In line with SODA management expectations and profitability levels in comparable companies, EBITDA margin is expected to be around 50% during the projection period, after full capacity is reached.

Capex: Since there is no technical advisory report on capex, information provided by SODA management is taken into consideration. It is stated that for some part of capex, co-purchases with Ciner Group are planned to be used in another project located nearby, thereby cutting some costs. According to the information provided by the SODA management, capex in USA are planned pre-VAT, assuming that VAT will not be applied.

An additional maintenance capex is not taken into account, as the facility is to be newly built and maintenance and repair costs are already included in the operating expenses at a high level.

Tax: According to the information provided by SODA management, it is understood that there will be no corporate tax liability of Pacific Soda LLC but the holding companies which are shareholders of UP will pay corporate tax.

Considering the possible changes and uncertainties that may occur in plan until 2026, which is the first year in which corporate tax is forecasted to be paid, the assumption that the corporate tax will be paid through the production company Pacific Soda LLC instead of holding companies is deemed appropriate. In this context, a 21% corporate tax has been calculated on operating profits.

Discount Rate: According to the information provided by SODA management, it is understood that the financing method of the investment is not determined yet and there is no engagement with any credit agency. It is stated that negotiations for financing can start only after obtaining the mining license. Therefore, assumptions provided by SODA management are used for the cost of debt in the discount rate calculation. With the assumption that a 15-year loan will be used for investment, it is assumed that the debt premium will be 3% in 2020-2035, and the same rate with Şişecam Group (0.5%) at the end of 2035 after the loan.

In addition to the fact that the investment has not started yet and the revenue will be generated only in 2026, an additional business risk premium of 5.0% has been included in the weighted average cost of capital calculation in the valuation study, taking into account the investment process and operational uncertainties.

Matters to be Considered

SODA (7/7)

Holding Companies

Holding companies **Şişecam Chem Investment B.V.** are **Sisecam Chemicals USA Inc.** are established by Soda Sanayii to carry out financing and investment activities abroad. The companies are not operational. As the related companies do not have income generating activities, only the value according to the Net Asset Approach is taken into consideration within the scope of the study. In the valuation studies carried out according to the Net Asset Approach, as of 31 December 2019, the net value of the assets (after subsidiary shares) and liabilities in the financial statements prepared in accordance with TAS / TFRS and in order to be submitted to the CMB has been taken into consideration.

Effects of COVID-19 Outbreak on Valuation Results

In order to understand the effects of the COVID-19 pandemic, whose effects started to show especially after the second half of March in Turkey and other countries where Chemicals Group has operations, a meeting has been held with SODA management, and the business plans provided by the management has been studied once more with this particular point of view.

After the meeting with SODA management, it is understood that the projections will be negatively affected by COVID-19, especially in the first years of the projection period due to the decreasing demand and supply chain issues in the sectors (flat glass, glass packaging, leather, automotive and construction) where SODA provides input. In this context, the average effect of 2020 prices was reflected in the Soda products, taking into account the average 3-month unit prices in January-March 2020. It is predicted that the volume and price decrease experienced in 2020 will gradually return to their previous levels in 2-3 years. As for chrome products, it is predicted that average prices, which are in a downward trend due to sector dynamics, will be higher with the effect of COVID-19.

It is understood that in 2020, a 20% decrease in consolidated EBITDA was forecasted compared to 2019. It is expected that the recovery will continue in 2021, and the sales and profitability levels expected before COVID-19 will be regained in 2022 and beyond.

Tax Assets

It is understood that the companies within the Chemicals Group are entitled to tax assets for various reasons, which are understood to decrease corporate tax liabilities during the business plan periods. The table below provides information on tax assets on a Company basis:

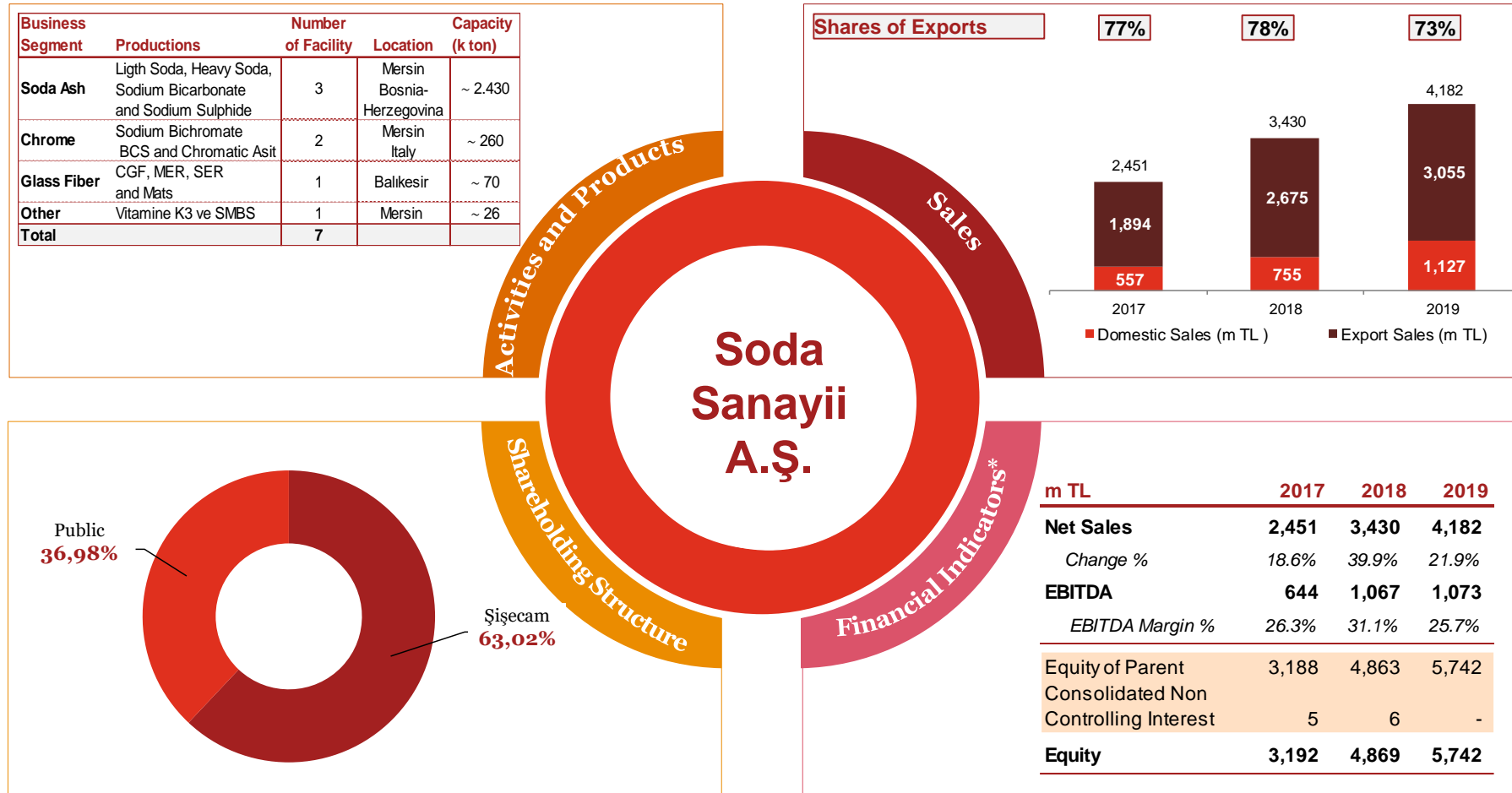
Company	Currency	Previous Year Financial Loss	Investment Incentives
SS	TL m	n.a.	1
ES	TL m	95	579

Within the scope of the valuation studies carried out for companies, a projection has been made within the information provided by SODA management regarding how these tax assets, which will decrease the corporate tax base, can be used in years. Based on the projection made, the value of tax assets was estimated and taken into account in the valuation study as an equity value adjustment.

SODA

General Information

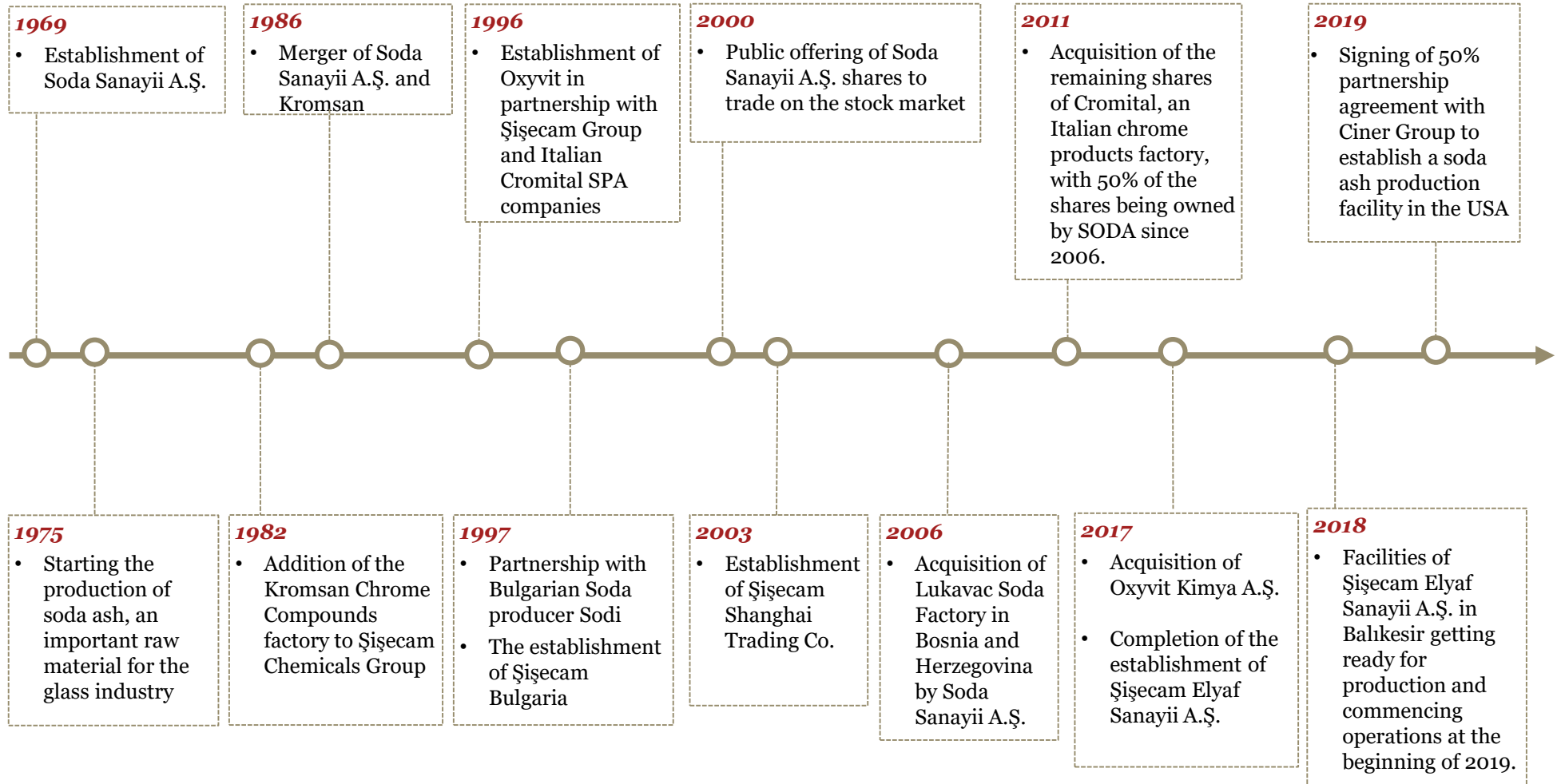
63.02% of SODA is owned by SISE and the remaining 36.98% of shares are publicly traded. It has a production capacity of 2,4m tons of soda, 260 k tons of chrome and 70k tons of glass fiber. Between 2017 and 2019, 76% of its consolidated net sales were generated from exports. During the same period, the EBITDA margin was realized between 25-30%.



* Historical Financial Indicators based on TAS / TFRS financial statements.

SODA

Important Historical Milestones



SODA

Fields of Activity and Products

Soda comprises the largest business segment among chemicals group, with its products mostly being used in the flat glass, glass packaging and detergent sectors. Chrome, which represents the second largest business segment, has its products mainly used in leather, automotive and construction sectors. In addition to these, glass fiber, vitamin K3 and SMBS products supply various sectors as production inputs.

Soda

- **Heavy Soda:** It is used in the production of glass, detergent, chemical industry and other sodium compounds.
- **Light Soda:** It is used in the production of detergent, chemical industry, soap, textile, paper, food and other sodium compounds.
- **Sodium Bicarbonate:** It is used in the fields of textile, detergent, chemical industry, water treatment and electrolytic coating as well as in the food and feed industries.
- **Sodium Sulphate:** It is used in the glass, paper and chemical industries, especially in detergents as well as dyestuff in the textile industry.

Capacity

**2,4m
tons
#4
in Europe
#8
in the
world**

Chrome Chemicals

- **Sodium Bichromate:** It is the main chemical used in the production of chromium chemicals. It is used in textile dyes, chrome pigments, pharmaceuticals, etc..
- **Chromic Acid:** It is used for the production of metal coating, wood protection etc..
- **Leather Chemicals:** Basic chromium sulfate (BCS) is used in leather tanning process.

Capacity (BCS)

**127
thousand
ton**



**The Biggest
BCS
producer**

Glass Fiber

- **Trimming:** Trimming products are used in the automotive industry as engineering plastics.
- **Multi-End Wick:** Transparent plate, cold storage panels are used in the production of automotive, GRP pipes, acrylic bathtubs, rail systems, aircraft interior design parts.
- **Single End Roving:** It is used in pultritional and weaving processes, GRP pipes, tanks, profiles, wind plant wings and marine vehicles sectors.
- **Felt:** It is used in the interior of the tank, watercraft and automotive by molding method.

Capacity

**70
thousand
tons**

Vitamin K3 ve SMBS

- Launched as a joint venture with Italian Cromital, Oxyvit produces high value-added Vitamin K3 and derivatives used in the feed industry and premix production, as well as sodium metabisulfite products used in the food and textile industries.
- Vitamin K3, which is important for the prevention of bleeding in farm animals, is one of the necessary vitamin premix for animal feed. It is added to the feeds of farm animals as veterinary medicine.

**Europe's
only
Vitamin K3
producer**

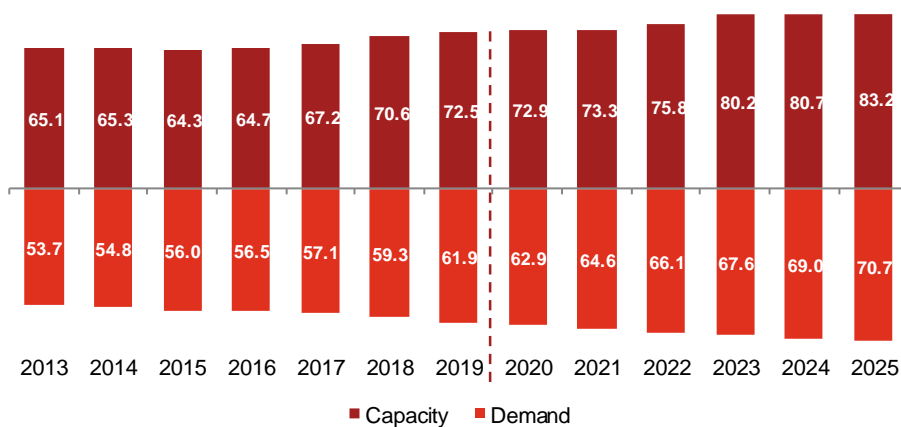


Source: Company Management

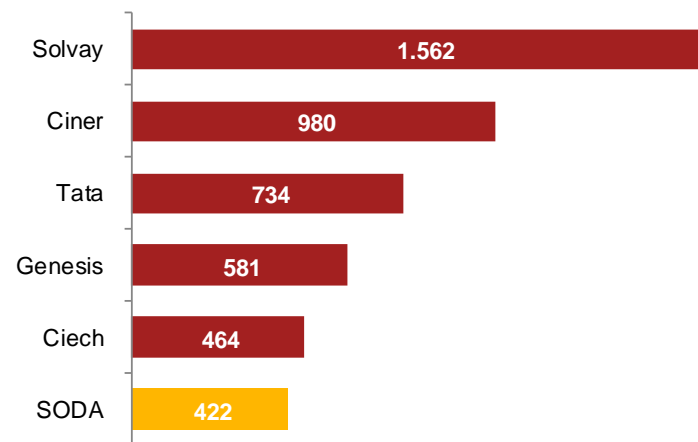
Global Soda Market

The global soda sector and the industries that use soda run in parallel with economic, demographic, political and environmental developments, and the growth rate of soda chemicals in the world is approximately **2%** per year. As of the end of 2019, Global soda sector has a production capacity of approximately **72.5 million tons**, compared to **61.9 million tons** of soda demand.

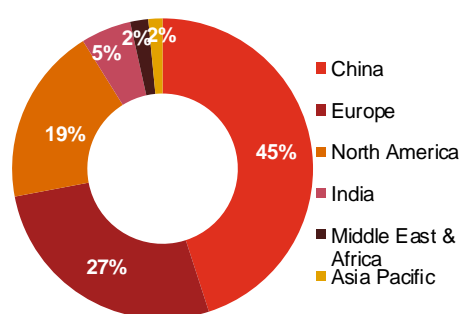
Global Soda Ash Capacity and Demand (m ton)



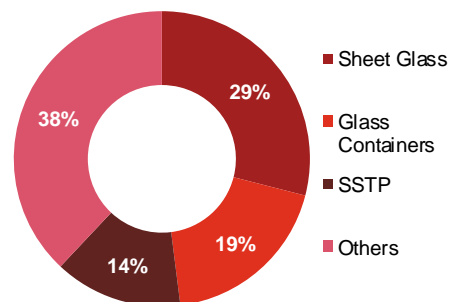
2018 Soda Revenues (m EUR)



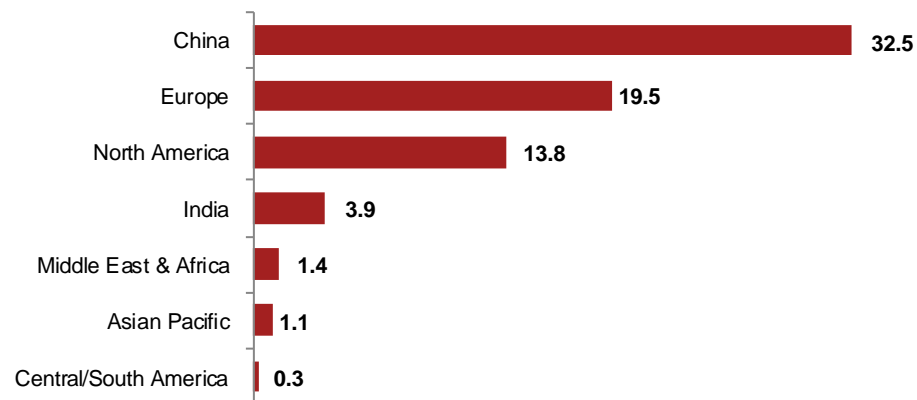
Regional Capacity Distribution, 2019



Industrial Distribution, 2019



Regional Production Capacity 2019 (m ton)



Source: Company Management

Global and Regional Competitors

Operating in various different business lines under chemicals other than soda, Solvay and Tata have closed some of their facilities within the scope of capacity optimization in previous years. Ciner has become the second largest producer of soda and the largest producer of natural soda after the increase of its capacity. On the other hand, SODA is the **8th largest producer** in the world with **2.4m ton** capacity.

Companies	Solvay SA	Ciner Resources	Tata Chemicals	Genesis Alkali	Ciech S.A.	SODA*
2018 Revenues	EUR 1.562 m	EUR 980 m	EUR 734 m	EUR 581 m	EUR 464 m	EUR 422 m
EBIT Margin %	20%	31%	20%	22%	14%	27%
Share of Soda Business in Consolidated Income%	15%	100%	53%	23%	54%	60%
Production Capacity - 2019	7,9m ton	6,6m ton	4,4m ton	3,7m ton	2,5m ton	2,4m ton
Capacity Expansion Plans	1,1m tons soda – 300 k tons s.bicarbonate	1.1m tons soda – 2,7m tons new investment 1,35m tons USA natural soda ash investment	700 k tons soda – 35 k tons s.bicarbonate	750 k tons soda	50 k tons s.bicarbonate	140 k tons soda (MSF + SSL) 1,35m tons USA natural soda ash investment
Other Competitors	Tangshan Sanyou Chemical Industries, Shandong Jinjing Science and Technology Stock Co. Ltd., Chengdu Wintrue Holding Co. Ltd., GHCL Limited					

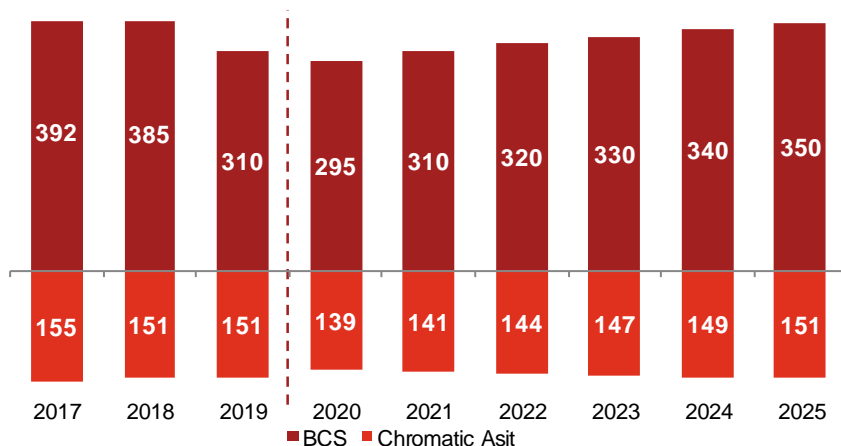
* Figures represent soda business.

Source: Company Management

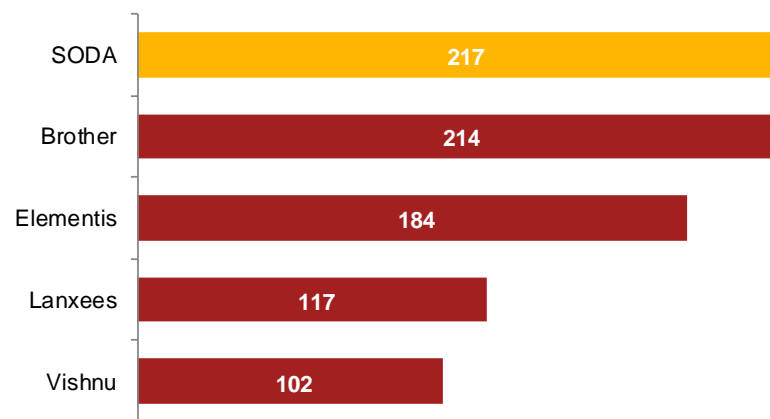
Global Chrome Market

The global market demand for chrome products has been **310k tons** and approximately **150k tons** for basic chromium sulfate and chromic acid as of the end of 2019. China stands out as the biggest chrome chemicals producer and consumer in the global market.

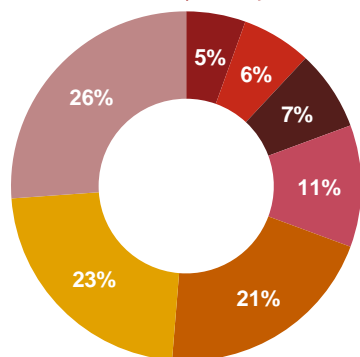
BCS and Chromic Acid Market Sizes (k tons)



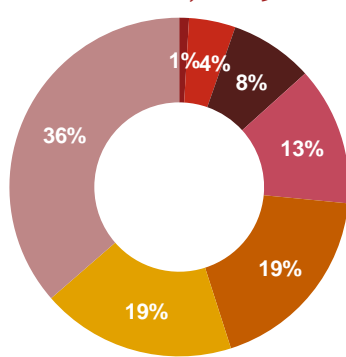
Chrome Revenue of Regional Competitors 2018 (m \$)



BCS Regional Demand Distribution, 2019

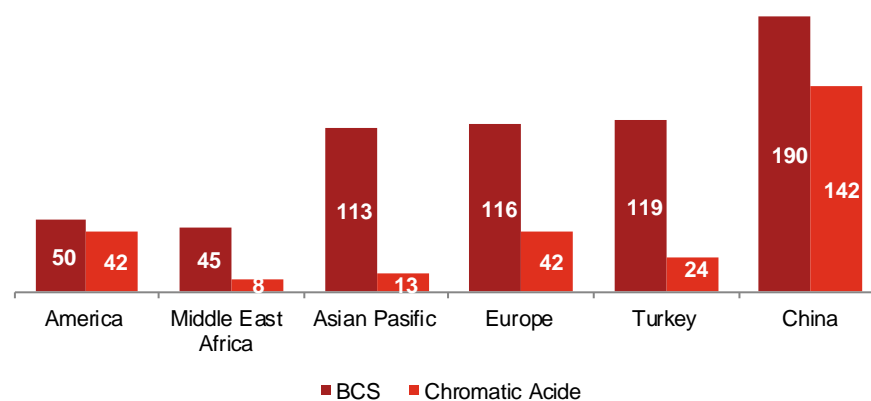


C.Acid Regional Demand Distribution, 2019



■ Turkey ■ Middle East & Africa ■ North America ■ Europe ■ Asian Pacific ■ China ■ South America

BCS and Chromic Acid Regional Production Capacity 2019 (thousand tons)



■ BCS ■ Chromatic Acide

Source: Company Management

Global and Local Competitors

From a financial perspective, it is observed that the chromium business of SODA has a more profitable structure compared to its competitors, and it is aimed to maintain the strong position in BCS and chromic acid products.

Companies	SODA ¹	Brother ²	Elementis	Lanxess ⁴	Vishnu
2018 Revenues	\$ 217m	\$ 214m	\$ 184m	\$ 1.148m	\$ 102m
EBIT Margin %	37%	7%	18%	10%	7%
Bichromate Production	✓	✗	✓	✓	✓
Bichromate Capacity (k ton)	105	✗	110	70	70
BCS Capacity (k ton)	127	50	20	45	80
Chromic Acid Capacity (k ton)	24	✗	42	8	7
Number of Facilities	2	1	4 ³	2	2

¹ Figures represent Chrome business

² Brother, who bought Lanxess in 2019, has inorganic BCS and sodium bichromate production since 2020.

³ Elementis has 4 separate facilities allocated to Chrome Chemicals business. However, only 2 of those are production facilities.

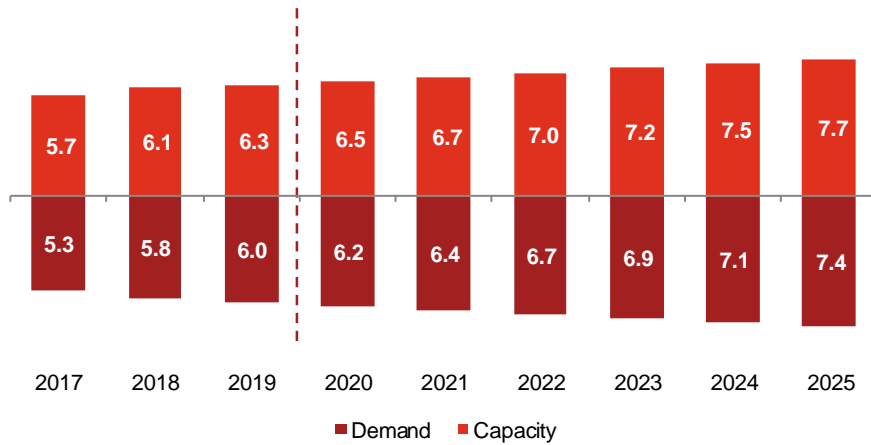
⁴ Figures represent the financial results of the "Performance Chemicals" segment.

Source: Company Management

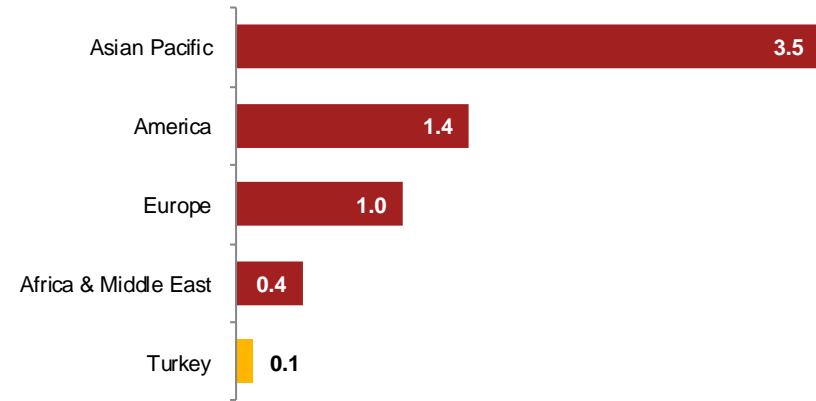
Global Fiber Glass Market

As of the end of 2019, global capacity and demand were **6.3m tons** and **6.0m tons**, respectively. The global demand / capacity ratio was around **90-95%** on average as of 2017-2019, and it is anticipated that this ratio will be maintained in the coming periods. In terms of capacity, it is known that the top 5 producers make up **80%** of the total global capacity.

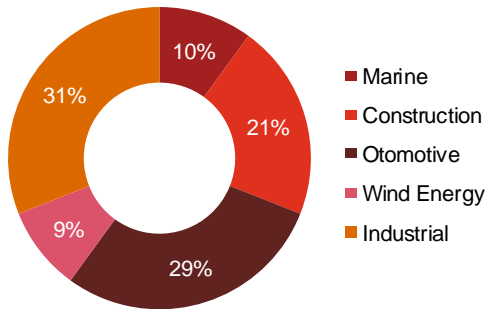
Glass Fiber Capacity and Demand (m ton)



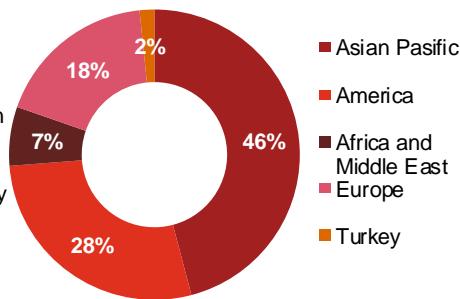
Regional Capacity Distribution - 2019 (m ton)



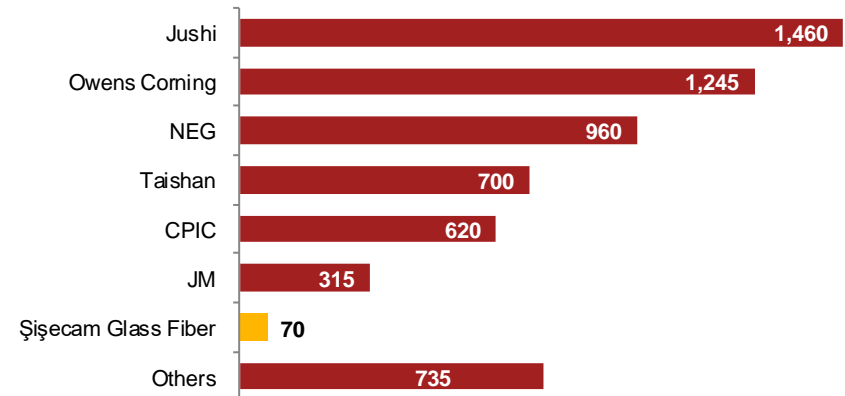
Industrial Distribution, 2019



Regional Capacity Distribution, 2019



Regional Competitor Capacity (k ton)



Source: Company Management

SODA

Historical Financial Statements

(1/3)

The consolidated financial statements of SODA have been prepared in accordance with the provisions of the CMB's "Communiqué on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Balance Sheet

TL m	31.12.2017	31.12.2018	31.12.2019
1 Cash and Cash Equivalents	783	1,193	2,300
Financial Investments	28	66	93
2 Trade Receivables	480	736	902
3 Inventories	240	320	553
Prepaid Expenses	17	73	30
Other Current Assets	83	224	176
Current Assets	1,631	2,612	4,053
Financial Investments	524	684	731
Investments Valued by Equity Method	328	413	460
4 Tangible Fixed Assets	1,295	2,094	2,250
Intangible Assets	32	152	152
Deferred Tax Assets	5	358	475
5 Other Fixed Assets	66	54	473
Long Term Assets	2,250	3,757	4,574
Total Assets	3,881	6,369	8,627
Short Term Borrowing	49	221	411
Short Term Portion of Long Term Borrowings	45	221	341
Trade Payables	276	447	506
6 Other Payables	9	363	501
7 Other Short-Term Liabilities	45	56	107
Short-Term Liabilities	379	1,087	1,525
Long Term Borrowings	265	321	1,309
Other Payables	2	1	1
Long Term Expenses	33	38	43
Deferred Tax	10	53	8
Long-Term Liabilities	309	413	1,361
Equity	3,192	4,869	5,742
Total Liabilities and Shareholders Equity	3,881	6,369	8,627

- 1 Şişecam Holding transferred \$ 47m of its \$ 750m bond issued in 2019 to SODA. The total bond balance is \$ 77m along with the remaining \$ 30m balance from the bond issued in 2013. Cash and cash equivalents increased to TL 2.3bn following the funding from issued bond, additional bank loans and cash generated from operations. While part of this amount corresponding to TL 2,260m is stored as deposit accounts with a maturity of less than 3 months, the remaining amount is kept as demand deposit notes.
- 2 Most of the group's trade receivables consist of customers' current accounts (31.12.2019 - 766m TL). The remaining part consists of notes receivables and receivables from related parties. The group collected TL 631m of collaterals in the form of letter of guarantees, pledges etc. as of the end of 2019.
- 3 Şişecam Elyaf, which started its production activities in the first quarter of 2019, produced 46 k tons of glass fiber until the end of the year and accumulated 19 thousand tons of inventory (31.12.2019 - 137m TL). Due to this, an increase in consolidated stock level is observed as of 31.12.2019.
- 4 In 2019, the Group made significant investments for Soda Sanayii and 100k tons of capacity increase and new salt field investments were held for Soda Sanayii and new production facility investment was made for Şişecam Elyaf, classified as construction in progress.
- 5 An agreement has been signed on between Şişecam and Ciner Group, in the context of a partnership with equal ownership to produce 2.7m tons of natural soda annually, using solution mining method, in the Green River region of Wyoming, USA. TL 440m (TL equivalent of \$ 75m) was paid by Şişecam to Ciner Group as business development fee. This fee is classified under other non-current assets in the consolidated financial statements.

Source: Company Management

SODA

Historical Financial Statements

(2/3)

The consolidated financial statements of SODA have been prepared in accordance with the provisions of the CMB's "Communiqué on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Balance Sheet

TL m	31.12.2017	31.12.2018	31.12.2019
1 Cash and Cash Equivalents	783	1,193	2,300
Financial Investments	28	66	93
2 Trade Receivables	480	736	902
3 Inventories	240	320	553
Prepaid Expenses	17	73	30
Other Current Assets	83	224	176
Current Assets	1,631	2,612	4,053
Financial Investments	524	684	731
Investments Valued by Equity Method	328	413	460
4 Tangible Fixed Assets	1,295	2,094	2,250
Intangible Assets	32	152	152
Deferred Tax Assets	5	358	475
5 Other Fixed Assets	66	54	473
Long Term Assets	2,250	3,757	4,574
Total Assets	3,881	6,369	8,627
Short Term Borrowing	49	221	411
Short Term Portion of Long Term Borrowings	45	221	341
6 Trade Payables	276	447	506
7 Other Payables	9	363	501
Other Short-Term Liabilities	45	56	107
Short-Term Liabilities	379	1,087	1,525
Long Term Borrowings	265	321	1,309
Other Payables	2	1	1
Long Term Expenses	33	38	43
Deferred Tax	10	53	8
Long-Term Liabilities	309	413	1,361
Equity	3,192	4,869	5,742
Total Liabilities and Shareholders Equity	3,881	6,369	8,627

6 The majority of the group's trade payables consist of suppliers' current accounts (31.12.2019 - 304m TL). The remaining portion consists of payables to related parties.

7 Almost all of the short-term other payables are related to non-operational payables to related parties. The group borrowed TL 407m from its subsidiaries to finance the investment for Şişecam Elyaf. The amount and the capitalized interest expense of it are classified as part of the short-term other payables.

Source: Company Management, PwC analysis

SODA

Historical Financial Statements

(3/3)

The consolidated financial statements of SODA have been prepared in accordance with the provisions of the CMB's "Communiqué on Principles Regarding Financial Reporting in the Capital Markets" and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş.

Audited Historical Income Statement

TL m	FY17	FY18	FY19
1 Net Sales	2,451	3,430	4,182
Cost of Sales	(1,597)	(2,114)	(2,750)
Gross Profit	854	1,316	1,432
2 General Administration Expenses	(80)	(107)	(139)
Marketing Expenditures	(291)	(398)	(474)
Research and Development Expense:	(3)	(4)	(6)
3 Other Operating Real Income	100	267	190
Other Real Operating Expenses	(72)	(158)	(135)
(+) Depreciation	136	151	204
EBITDA	644	1,067	1,073
(-) Depreciation	(136)	(151)	(204)
Gross Real Operating Profit/Loss	508	917	868
Income from Investment Activities	76	448	214
Expense from Investment Activities	(34)	(201)	(68)
Financing Income	270	734	594
Financing Expense	(182)	(503)	(606)
Profit Before Tax	639	1,395	1,002
Period Tax (Expense) Income	(57)	(229)	(132)
Deferred Tax (Expense) Income	(12)	318	164
Profit for the Period (Loss)	570	1,485	1,034

1 SODA increased its consolidated net sales by 31% annually between 2017 and 2019. Revenue reached TL 4.2bn in 2019 due to increase in soda product sales both in Turkey and at abroad, increase in soda ash prices and the addition of new Şişecam Elyaf facility.

2 General administrative expenses and marketing expenses as % of revenues remained stable in 2018 and 2019 at around 14-15%. Transportation and personnel expenses comprise the main expense items.





3 Other income / expenses mainly consist of FX gains / losses from trade receivables/payable scrap sales profit / (loss) and provision expenses.

Source: Company Management, PwC analysis

SODA

Valuation Results

Valuation results of SODA obtained with 4 different valuation approaches (Income Approach, Market Approach, Net Asset Approach and Stock Market Value) are summarized in the table below.

Valuation Method	Equity Value	Explanation
Income Approach 	TL 12,074 m	Consolidated equity value was calculated based on the stand-alone equity values of the subsidiaries and associates, using “Sum of the Parts” method. “DCF” method was applied to production companies, while “NAA” method was applied for holding companies and non-operational companies. The projections were prepared for each company in its own functional currency for the years 2020-2025.
Market Approach 	TL 11,158 m	Comparable companies with similar operational and financial structure have been identified. The average 5-year EV / EBITDA multiple covering the 2015-2019 periods obtained from these companies has been taken into account. The relevant multiple was applied to the 4-year average EBITDA (indexed to 2019) covering the period 2019-2022.
Net Asset Approach 	TL 5,497 m	Net asset value have been estimated based on the consolidated equity amounts presented in the audited financial statements dated 31 December 2019 and prepared accordance with the TAS / TFRS with certain adjustments made if deemed necessary.
Stock Market Value 	TL 6,294 m	The Stock Market Value for SODA has been calculated based on the weighted average stock market price of the trailing 12 months going back from the merger announcement date, 30.01.2020. Dividends planned to be distributed / collected as of the valuation date have also been considered within the scope of the Stock Market Value.

Source: Company Management, PwC analysis

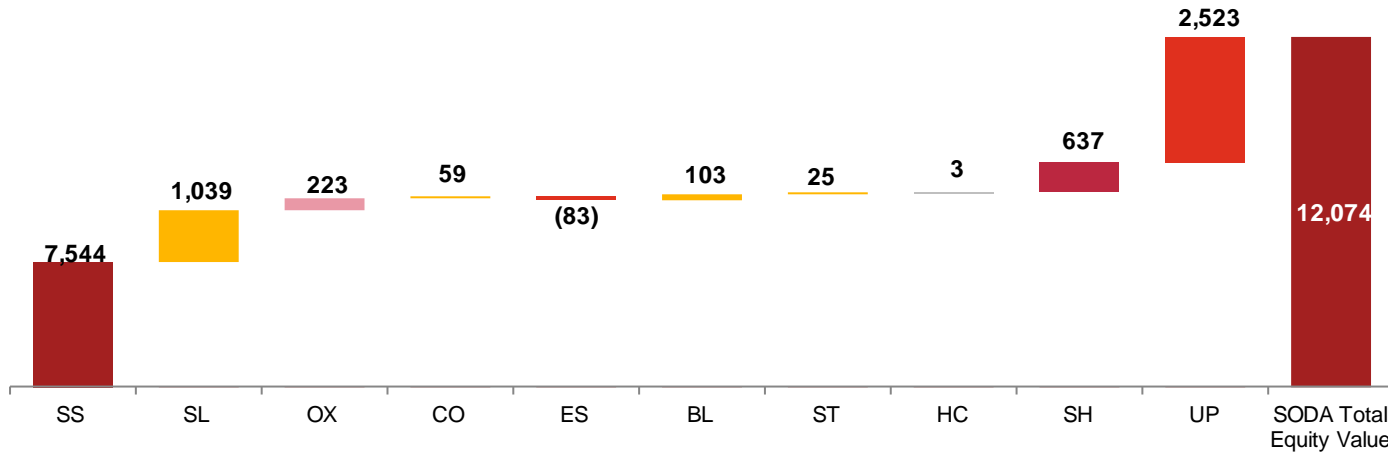
* Total effective company values of companies included in the revenue approach

SODA

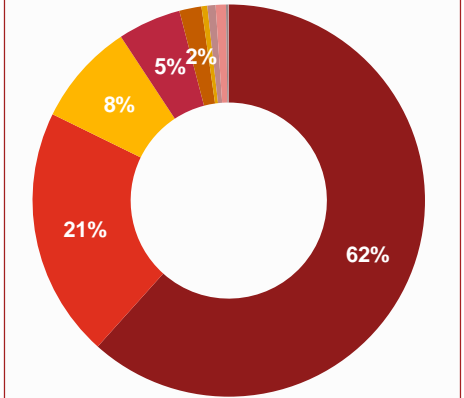
Income Approach

Based on the Income Approach, the total equity value of SODA is estimated to be **TL 12.1bn** as of the valuation date.

Total Equity Value (TL m)

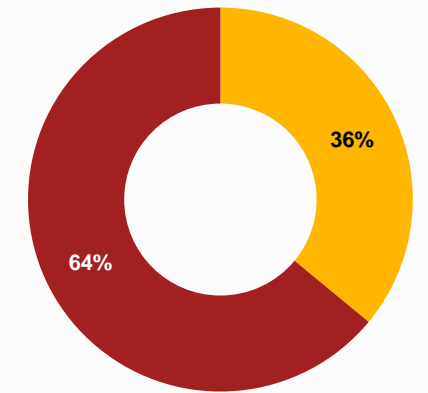


Equity Value Breakdown



■ SS ■ UP ■ SL ■ SH ■ OX
■ CO ■ ES ■ BL ■ ST ■ HC

TL m	SS	SL	OX	CO	ES	BL	ST	HC	SH	UP	Total SODA
Enterprise Value	5,967	1,115	212	51	736	92	16	-	-	-	8,190
Net Cash/(Debt)	1,788	(76)	36	8	(907)	19	8	-	-	-	876
Tax Related Assets	1	-	-	-	88	-	-	-	-	-	89
Dividend Payment (-)	(245)	-	(25)	-	-	(7)	-	-	-	-	(277)
Dividend Income (+)	32	-	-	-	-	-	-	-	-	-	32
Equity Value	7,544	1,039	223	59	(83)	103	25	3	2,548	5,046	16,508
Effective Shareholding Percentage	%100	%100	%100	%100	%100	%100	%100	%100	%25	%50	
Equity Value- SODA	7,544	1,039	223	59	(83)	103	25	3	637	2,523	12,074



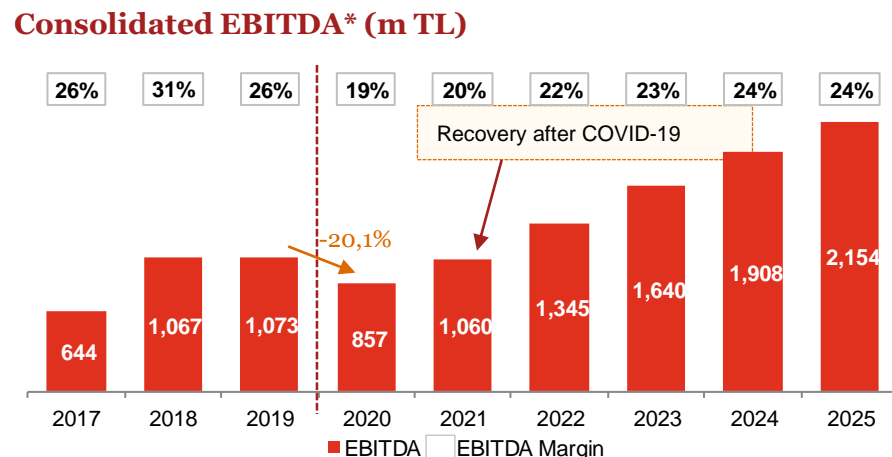
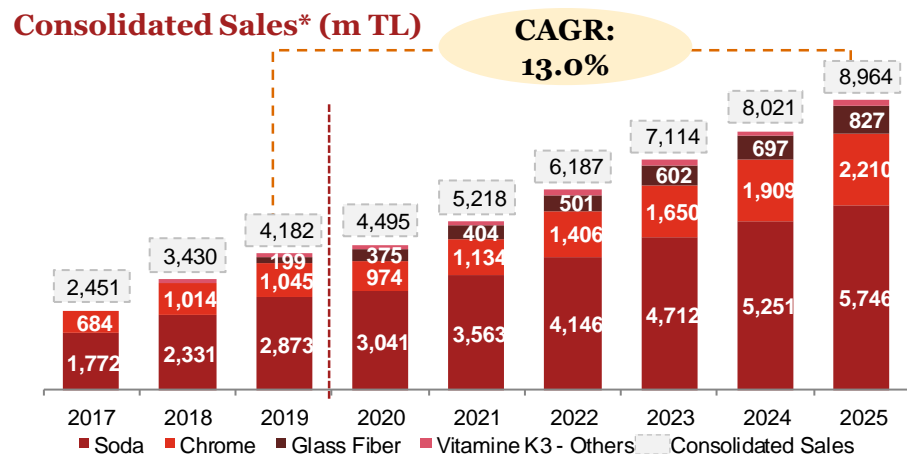
■ Domestic ■ Foreign

Source: Holding Management, PwC Analysis

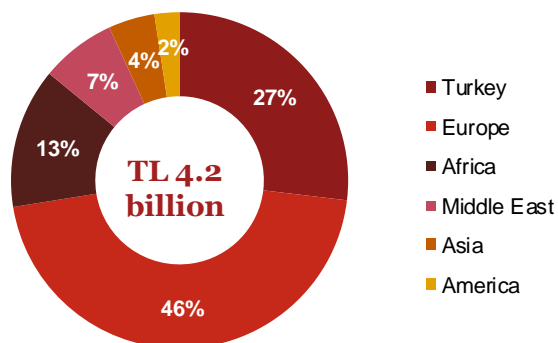
SODA

Income Approach

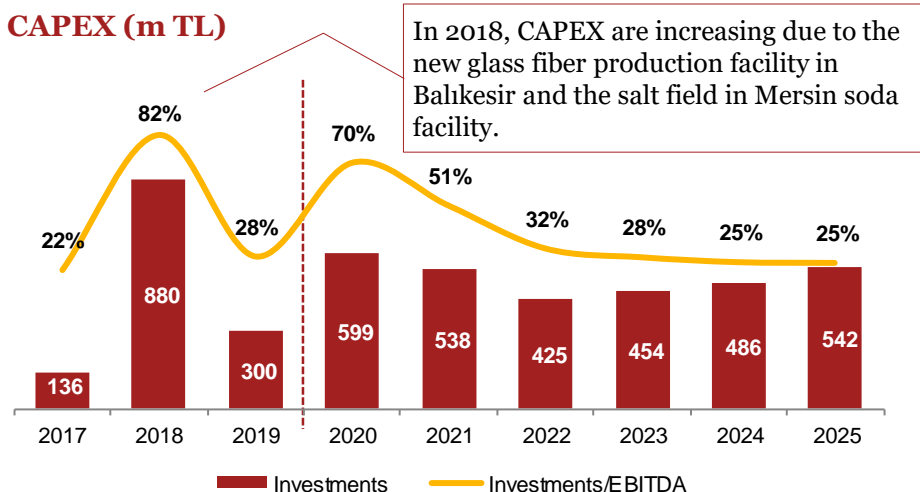
Consolidated revenue is expected to grow by 13.0% CAGR, with planned capacity increases in Mersin and Bosnia and Herzegovina and with the introduction of glass fiber sales. The consolidated EBITDA margin is expected to decrease to 19.1% in 2020 with the effect of COVID-19. In the subsequent projection period, it is expected to gradually recover back to the levels in the past.



Geographical Distribution of Revenues - 2019



CAPEX (m TL)



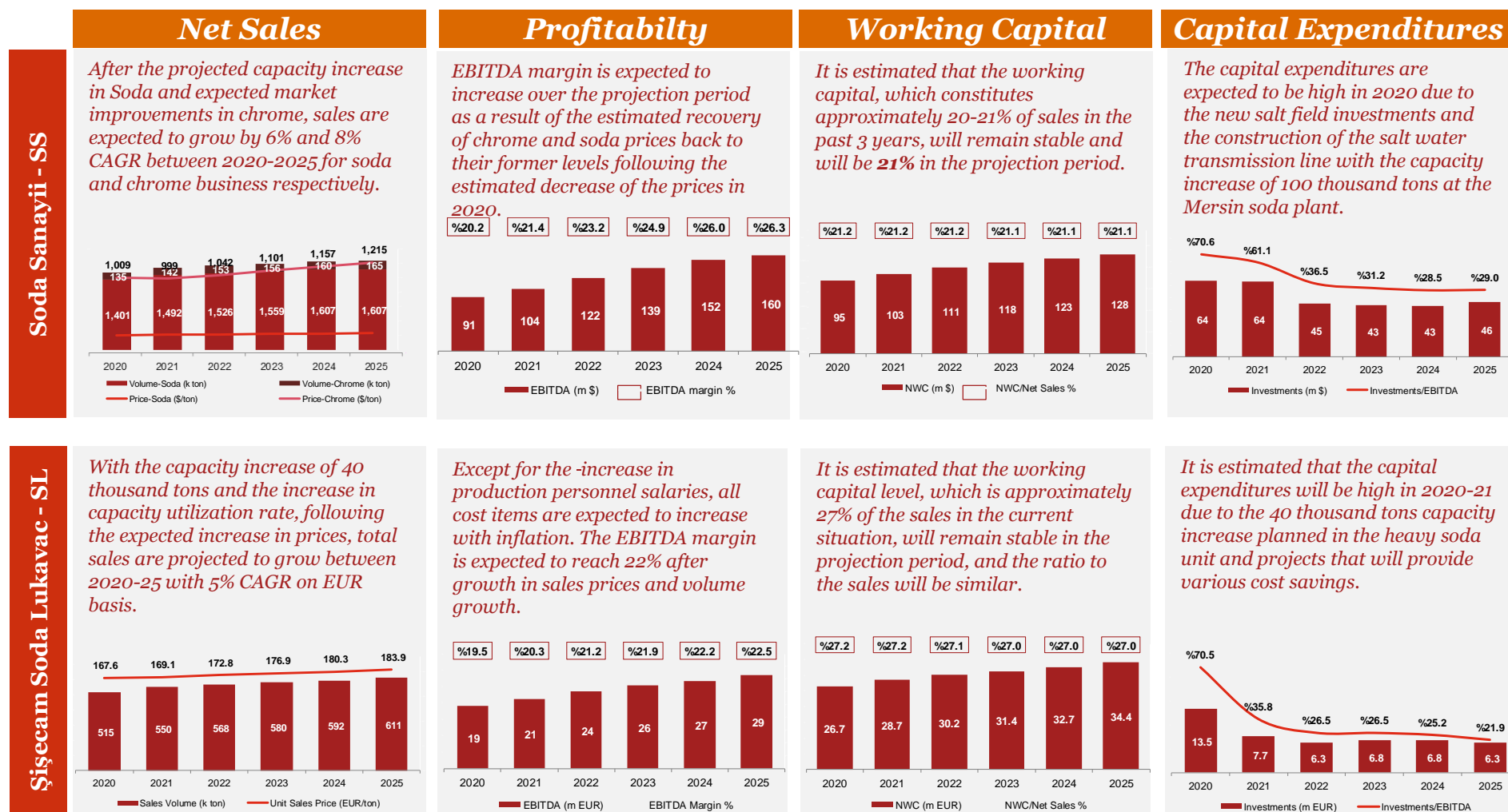
* Consolidated amounts presented in TAS / TFRS reports for 2017-2019 periods are presented.

Source: Company Management, PwC analysis

SODA

Main Assumptions as the Basis of Valuation (1/3)

The table below presents the main assumptions for the companies subject to valuation with the discounted cash flow method.

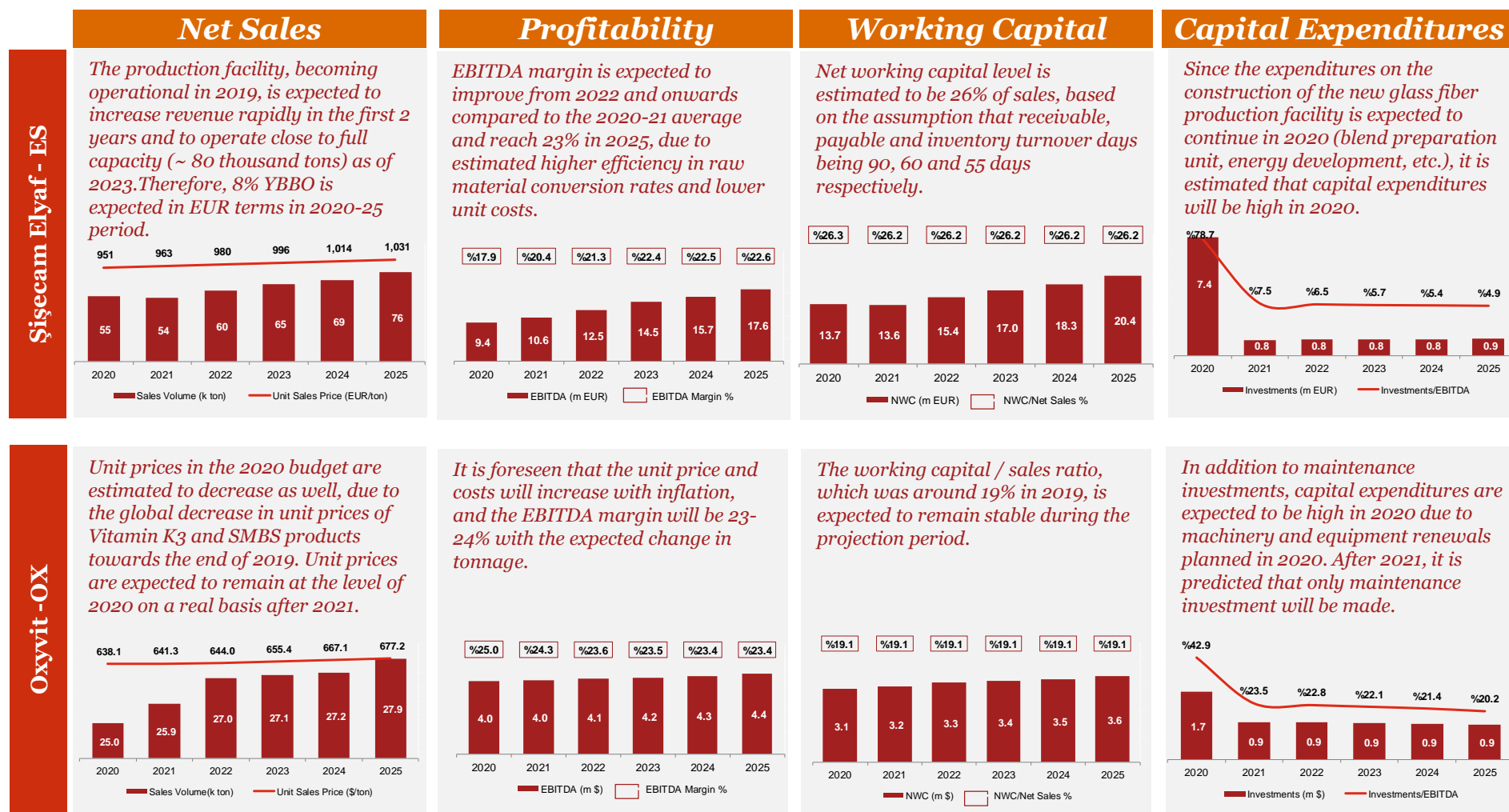


Source: Company Management, PwC analysis

SODA

Main Assumptions as the Basis of Valuation (2/3)

The table below presents the main assumptions for the companies subject to valuation with the discounted cash flow method.

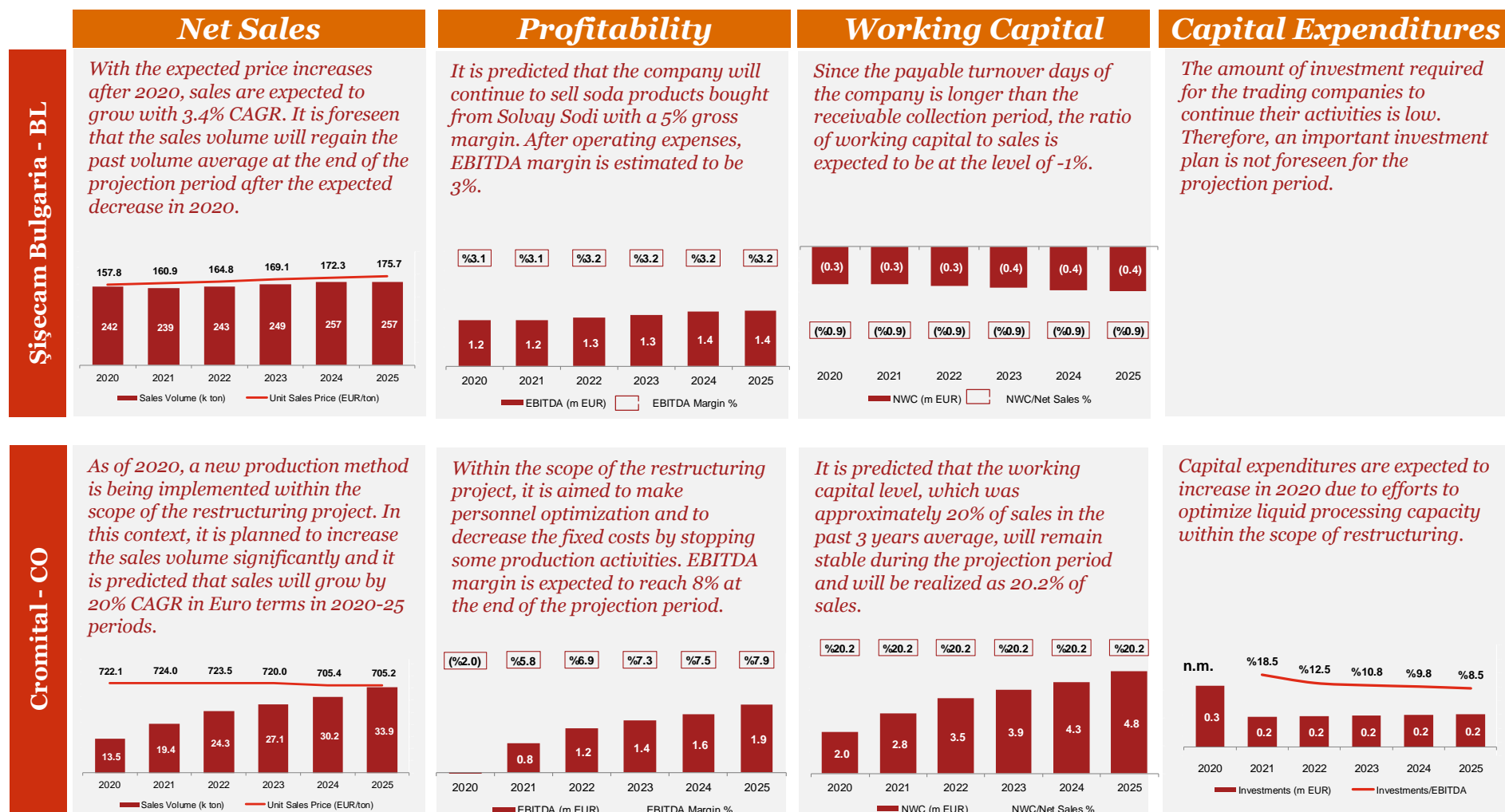


Source: Company Management, PwC analysis

SODA

Main Assumptions as the Basis of Valuation (3/3)

The table below presents the main assumptions for the companies subject to valuation with the discounted cash flow method.



Source: Company Management, PwC analysis

SODA

Market Approach (1/3)

Based on the Market Approach, the total equity value of SODA is estimated to be **11.2 bn TL** as of the valuation date.

m TL	MY19	MY20	MY21	MY22	Average*
EBITDA	1,071	857	1,060	1,345	
1 Effective EBITDA	1,071	857	1,060	1,345	
<i>Inflation Indexiation</i>	1.00	1.12	1.25	1.40	
2 EBITDA (Discounted 2019 Figures)	1,071	765	845	961	911
EV/ EBITDA (x)					8.0x
3 Enterprise Value					7,274
Net Cash/(Debt)					876
Tax Related Asset					89
Dividend Adjustment, net					(245)
5 Investment Accounted for using Equity Method					3,160
<i>Solvay Şişecam Holding AG</i>					637
<i>Pacific Soda LLC</i>					2,523
6 Other Companies					3
<i>Şişecam Chem Investment B.V.</i>					3
Equity Value					11,158

* EBITDA figure represents the average of FY19-FY22. Adjustment figures that are included in the EV-Equity bridge is year-end figures for the calendar year 2019.

** Consists of EBITDA figures of companies that are included in the Enterprise Value calculation through the Income Approach, which are multiplied by their effective ownership percentages.

Several steps have been taken into consideration for the derivation of the Market Approach:

- Actual and forecasted consolidated FY19-FY22 EBITDA figures for SODA are taken into consideration after multiplying the respected figures with effective ownership percentages.
- The respective forecasted EBITDA figures have been discounted with TL inflation to 2019.
- Relevant EV/EBITDA multiples derived from the comparable company analysis is applied to the average of discounted FY19-FY22 EBITDA figures to come up with the enterprise value.
- In order to derive the equity value, net cash/debt, investment properties, tax related assets and planned dividend income and expenses of operational companies that are included in the Market Approach calculation through EBITDA are taken into consideration. The figures are weighted by the effective ownership of the relevant entities at the SODA level.
- The equity values of investments accounted for using the equity method as of 31.12.2019 is taken into consideration. Income Approach has been considered for Solvay Şişecam Holding AG and Pacific Soda LLC.
- Other non-operational companies have been included in the equity value derivation based on their respective values calculated by the Net Asset Approach as of 31.12.2019.

SODA

Market Approach (2/3)

Based on the Market Approach, the total equity value of SODA is estimated to be **11.2 bn TL** as of the valuation date.

Comparable Companies and Multiple Analysis

Soda \$ m	Enterprise Value					Net Sales					EBITDA					EBITDA %				
	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19
Solvay SA	15,141	14,659	16,932	15,780	14,291	10,443	10,100	13,189	12,937	12,599	1,815	1,997	2,580	2,449	2,491	17.4%	19.8%	19.6%	18.9%	19.8%
Tangshan Sanyou Chemical Ind.	3,904	3,247	4,031	3,478	2,651	2,065	2,224	3,104	2,933	2,898	310	371	603	531	341	15.0%	16.7%	19.4%	18.1%	11.8%
Genesis Energy, L.P.	6,874	6,493	6,861	5,802	5,988	2,247	1,712	2,028	2,913	2,481	316	425	443	568	591	14.1%	24.8%	21.9%	19.5%	23.8%
Chengdu Wintrue Holding Co., Ltd.	2,059	2,607	1,696	1,165	1,080	863	833	1,190	1,144	1,208	130	119	137	137	128	15.0%	14.3%	11.5%	12.0%	10.6%
Ciech S.A.	1,210	1,157	1,172	1,176	989	829	828	1,029	979	937	183	209	236	171	157	22.0%	25.2%	23.0%	17.4%	16.7%
Shandong Jinjing Science and Tech.	1,450	1,091	1,088	761	540	506	476	669	745	726	83	115	169	141	112	16.4%	24.2%	25.2%	18.9%	15.4%
Ciner Resources LP	672	748	768	727	648	486	475	497	487	523	134	117	119	107	134	27.5%	24.6%	23.8%	22.0%	25.6%
Tata Chemicals Limited	2,859	2,923	3,271	2,878	2,088	2,752	2,244	1,597	1,578	1,638	376	328	327	340	321	13.7%	14.6%	20.5%	21.6%	19.6%
Average																				
Chrome \$ m	Enterprise Value					Net Sales					EBITDA					EBITDA %				
	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19
Elementis plc	1,799	1,322	1,994	2,180	1,684	677	617	783	822	874	147	120	150	175	167	21.6%	19.4%	19.2%	21.3%	19.2%
Nippon Chemical Industrial Co., Ltd.	186	160	165	271	193	307	292	314	333	335	51	49	48	56	44	16.6%	16.6%	15.2%	16.8%	13.1%
Hubei Zhenhua Chemical Co.,Ltd.	m.d.	698	607	432	349	119	125	182	204	199	22	23	27	36	33	18.8%	18.4%	15.1%	17.7%	16.5%
Brother Enterprises Holding Co.,Ltd.	485	895	1,101	832	656	139	153	239	206	173	25	39	91	29	20	18.1%	25.4%	38.1%	14.2%	11.5%
Vishnu Chemicals Limited	82	78	103	104	61	67	72	78	99	105	12	13	10	12	14	18.0%	17.5%	12.6%	12.2%	13.2%
Wata Chemicals Limited	20	19	25	45	90	4	4	5	5	11	1	1	1	1	4	31.2%	29.2%	18.8%	28.7%	34.1%
Average																				
Fiber Glass \$ m	Enterprise Value					Net Sales					EBITDA					EBITDA %				
	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19
LANXESS Aktiengesellschaft	6,150	8,283	10,867	8,484	7,162	8,582	8,127	7,841	7,813	7,633	925	1,016	1,081	1,095	1,056	10.8%	12.5%	13.8%	14.0%	13.8%
Owens Corning	6,776	7,732	9,822	10,625	9,067	5,350	5,677	6,384	7,057	7,160	841	1,072	1,134	1,276	1,216	15.7%	18.9%	17.8%	18.1%	17.0%
Nippon Electric Glass Co., Ltd.	1,766	1,742	2,911	2,471	1,864	2,090	2,051	2,508	2,737	2,367	475	424	533	498	404	22.7%	20.7%	21.3%	18.2%	17.1%
China Jushi Co., Ltd.	4,330	4,646	5,540	7,388	6,315	1,074	1,062	1,330	1,459	1,507	437	473	581	557	568	40.7%	44.5%	43.7%	38.2%	37.7%
Taiwan Glass Ind. Corp.	2,219	1,811	2,147	2,322	1,907	1,252	1,330	1,512	1,506	1,396	89	203	267	244	138	7.1%	15.3%	17.7%	16.2%	9.9%
Jiangsu Changhai Composite Materials Co.	921	1,025	869	604	494	232	253	312	320	319	54	60	53	57	63	23.2%	23.8%	17.1%	17.8%	19.9%
Average																				
Vitamin K3 \$ m	Enterprise Value					Net Sales					EBITDA					EBITDA %				
	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19
Bluestar Adisseo Company	7,311	5,373	4,438	4,781	4,055	2,310	1,539	1,598	1,660	1,599	799	578	468	389	347	34.6%	37.6%	29.3%	23.4%	21.7%
China Chemical & Pharmaceutical Co., Ltd.	209	206	215	234	232	171	178	211	248	266	15	17	18	19	22	8.8%	9.3%	8.5%	7.8%	8.1%
Hubei Zhenhua Chemical Co.,Ltd.	m.d.	698	607	432	349	119	125	182	204	199	22	23	27	36	33	18.8%	18.4%	15.1%	17.7%	16.5%
Brother Enterprises Holding Co.,Ltd.	485	895	1,101	832	656	139	153	240	206	173	25	39	91	29	20	18.1%	25.4%	37.9%	14.2%	11.5%
Genebiotech Co., Ltd.	26	35	28	25	26	44	46	52	56	50	2	4	4	7	2	4.9%	8.9%	6.9%	12.4%	4.3%
Eagle Veterinary Technology Co.,Ltd	60	67	64	57	65	21	24	32	27	30	3	2	4	3	3	12.5%	9.7%	13.4%	9.7%	10.9%
Average																				

Source: Company Management, Capital IQ,PwC analysis

SODA Market Approach (3/3)

Based on the Market Approach, the total equity value of SODA is estimated to be **11.2 bn TL** as of the valuation date.

Soda \$ m	Enterprise Value / EBITDA (x)					
	FY15	FY16	FY17	FY18	FY19	Average
Solvay SA	8.3x	7.3x	6.6x	6.4x	5.7x	6.9x
Tangshan Sanyou Chemical Ind.	12.6x	8.7x	6.7x	6.6x	7.8x	8.5x
Genesis Energy, L.P.	n.m	n.m	n.m	10.2x	10.1x	10.2x
Chengdu Wintrue Holding Co., Ltd.	n.m	n.m	12.4x	8.5x	8.4x	9.8x
Ciech S.A.	6.6x	5.5x	5.0x	6.9x	6.3x	6.1x
Shandong Jinjing Science and Tech.	n.m	9.5x	6.4x	5.4x	4.8x	6.5x
Ciner Resources LP	5.0x	6.4x	6.5x	6.8x	4.8x	5.9x
Tata Chemicals Limited	7.6x	8.9x	10.0x	8.5x	6.5x	8.3x
Average	8.0x	7.7x	7.7x	7.4x	6.8x	7.5x
Chrome \$ m	Enterprise Value / EBITDA (x)					
	FY15	FY16	FY17	FY18	FY19	Average
Elementis plc	12.3x	11.0x	n.m	12.5x	10.1x	11.5x
Nippon Chemical Industrial Co., Ltd.	n.m	n.m	n.m	4.9x	4.4x	4.6x
Hubei Zhenhua Chemical Co.,Ltd.	n.m	n.m	n.m	12.0x	10.6x	11.3x
Brother Enterprises Holding Co.,Ltd.	n.m	n.m	12.1x	n.m	n.m	12.1x
Vishnu Chemicals Limited	6.8x	6.2x	10.4x	8.6x	4.4x	7.3x
Wata Chemicals Limited	n.m	n.m	n.m	n.m	n.m	n.m
Average	9.5x	8.6x	11.2x	9.5x	7.4x	9.2x
Glass Fiber \$ m	Enterprise Value / EBITDA (x)					
	FY15	FY16	FY17	FY18	FY19	Average
LANXESS Aktiengesellschaft	6.6x	8.2x	10.1x	7.8x	6.8x	7.9x
Owens Corning	8.1x	7.2x	8.7x	8.3x	7.5x	7.9x
Nippon Electric Glass Co., Ltd.	n.m	4.1x	5.5x	5.0x	4.6x	4.8x
China Jushi Co., Ltd.	9.9x	9.8x	9.5x	n.m	11.1x	10.1x
Taiwan Glass Ind. Corp.	n.m	8.9x	8.0x	9.5x	n.m	8.8x
Jiangsu Changhai Composite Materials Co., Ltd	n.m	n.m	n.m	10.6x	7.8x	9.2x
Average	8.2x	7.6x	8.3x	8.2x	7.6x	8.0x
Vitamin K3 \$ m	Enterprise Value / EBITDA (x)					
	FY15	FY16	FY17	FY18	FY19	Average
Bluestar Adisseo Company	9.1x	9.3x	9.5x	12.3x	11.7x	10.4x
China Chemical & Pharmaceutical Co., Ltd.	n.m	12.4x	12.0x	12.1x	10.8x	11.8x
Hubei Zhenhua Chemical Co.,Ltd.	n.m	n.m	n.m	12.0x	10.6x	11.3x
Brother Enterprises Holding Co.,Ltd.	n.m	n.m	12.1x	n.m	n.m	12.1x
Genebiotech Co., Ltd.	11.8x	8.5x	7.8x	a.d.	11.9x	10.0x
Eagle Veterinary Technology Co.,Ltd	n.m	n.m	n.m	n.m	n.m	n.m
Average	10.5x	10.1x	10.3x	12.1x	11.3x	10.9x

Business Segment	Gross Profit Distribution (2019-2025 avr.)	Gross Profit Distribution				
		FY15	FY16	FY17	FY18	FY19
Soda	69.9%	5.6x	5.4x	5.3x	5.2x	4.8x
Chrome	20.4%	1.9x	1.8x	2.3x	1.9x	1.5x
Glass Fiber	7.4%	0.6x	0.6x	0.6x	0.6x	0.6x
Vitamin K3 and Others	2.3%	0.2x	0.2x	0.2x	0.3x	0.3x
Total	100.0%	8.4x	8.0x	8.5x	8.0x	7.1x
Average (2015-2019)						8.0x

While determining comparable companies within the scope of the market approach, the fields of activity, profitability, indebtedness and operational structures of the selected companies were taken into consideration. Considering the current global market share and sales volume of SODA, 8 companies producing soda globally, 6 companies producing chrome globally, 6 companies producing glass fiber globally and 6 companies producing vitamin K3 globally were used in the multiple analysis. When choosing companies, market size, product range, sales volume, EBITDA rate, indebtedness ratio, profitability level and similar financial metrics were taken into consideration. The EV / EBITDA multiples of the selected 26 publicly listed companies between 2015-2019 were analyzed. The enterprise values shown in the table above are the average enterprise values of the selected companies during the relevant year. The average multiples of the 26 selected companies for the 2015-2019 periods are between **7.5x - 10.9x** as shown in the table above. The average multiples found for each business segment were taken into consideration by weighting the multiples according to the distribution of the 2019-2025 average gross profit of SODA by business segments. **8.0x**, which is calculated as the average of the 2015-2019 period, is taken into account under market approach.

Source: Company Management, Capital IQ, PwC analysis

SODA

Net Asset Approach

Based on the Net Asset Approach, the total equity value of SODA is estimated to be **5.5 bn TL** as of the valuation date.

TL m	31.12.2019
Paid Capital	1,000
Accumulated Other Comprehensive Income/(Expense)	951
<i>Currency Translation Difference</i>	760
<i>Hedge Reserves</i>	7
<i>Tangible Asset Revaluation Increases (Decreases)</i>	184
<i>Gains (Losses) on Remeasurements of Defined Benefit Plans</i>	0
Restricted Reserves	230
Retained Earnings	2,452
Net Profit or (Loss) for the Period	1,109
Non Controlling Interests	-
Total Equity	5,742
1 Dividend Adjustment, net*	(245)
Net Asset Value	5,497

* Represents the net effect of dividend adjustments at the consolidated level for SODA. The dividend payments made to SS by the subsidiaries are netted off at the SODA level. The resulting 245m TL consists of the dividend payment that will be made by SODA to non-group companies and Şişecam.

The breakdown of the consolidated shareholders equity for SODA, which is prepared in accordance with the CMB's "Principles of Financial Reporting in Capital Markets¹", in line with Turkish Accounting Standards and Turkey Financial Reporting Standards and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. is presented in the adjacent table.

It has been assumed that the shareholders equity that is present in the consolidated 31.12.2019 balance sheet of SODA, that has been prepared in accordance with TMS/IFRS is an accurate representation of the equity value of the company.

The consolidated shareholders equity of SODA as of 31.12.2019 is 5,742m TL, the Net Asset Value is calculated as **5.497m TL** after the adjustments considered.

1 Dividend Adjustment:

The figure represents the net dividend payment of SODA that is due after 31.12.2019. Net dividend adjustment is included in our assessment with respect to its effect on the net asset value of SODA.

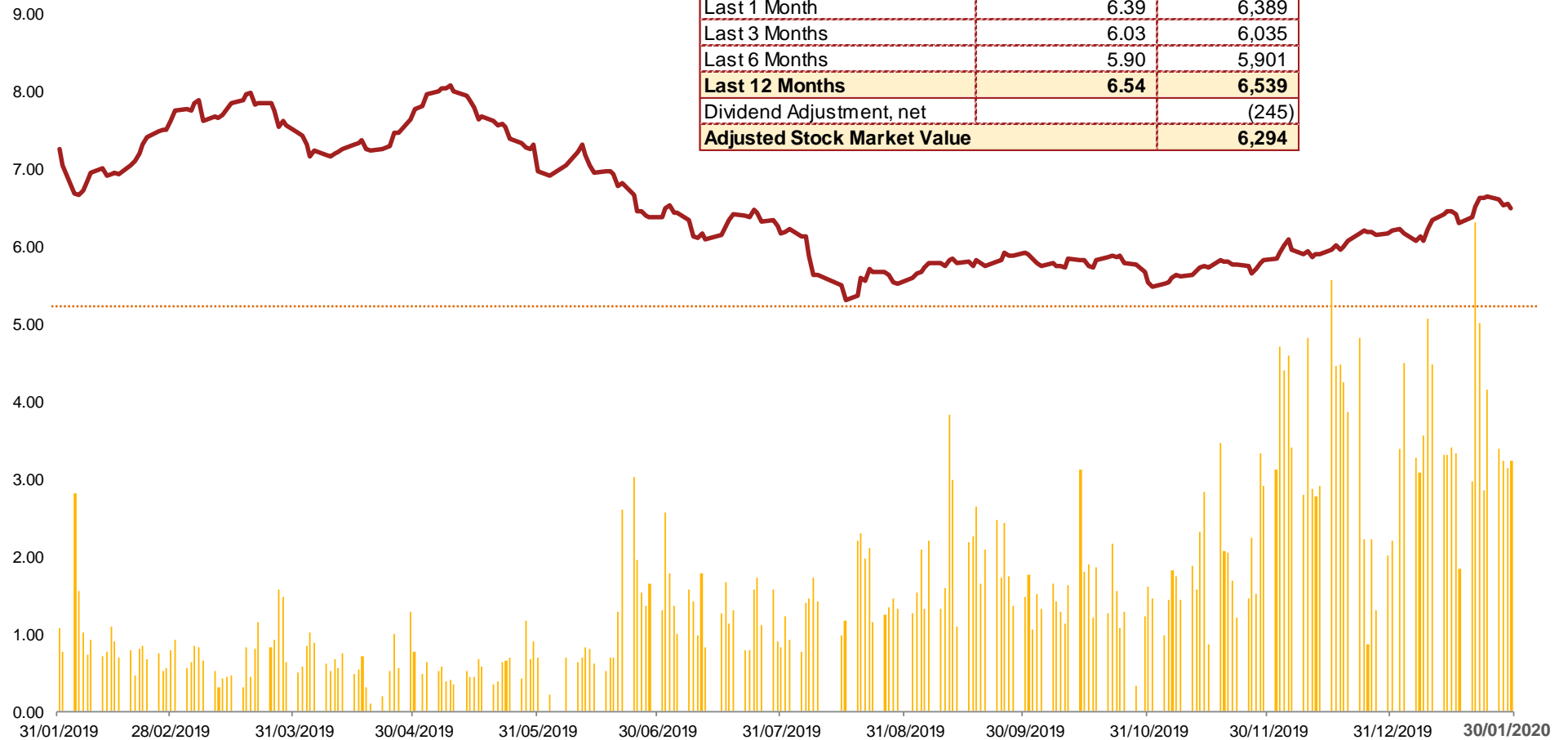
SODA

Stock Market Value

The Stock Market Value for SODA has been based on the weighted average stock market price of the trailing 12 months going back from the merger announcement date, 30.01.2020. The total equity value of SODA derived from this method is **6.3 bn TL**.

Stock Price and Transaction Volume

Stock Price (TL/lot)



Source: CapitalIQ, PwC Analysis

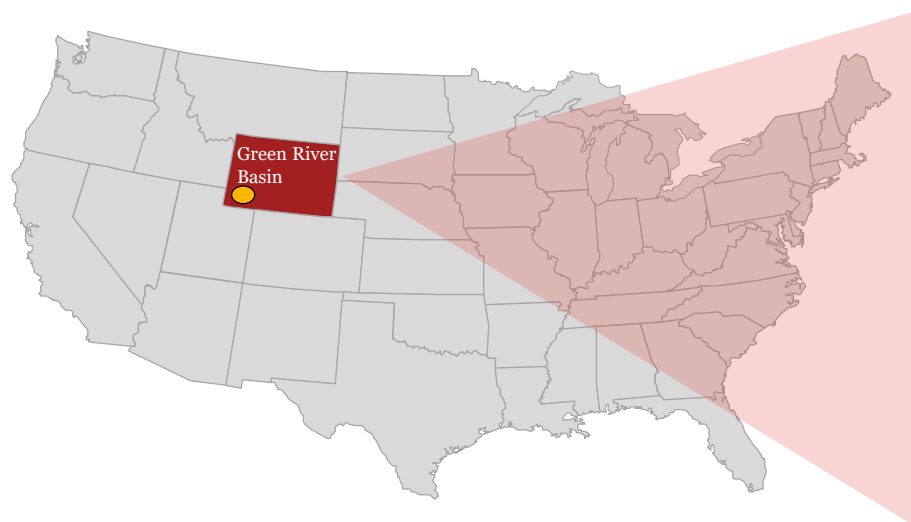
Transaction Volume (m TL) Weighted Avg.Price (TL/lot)

Natural Soda Ash Investment

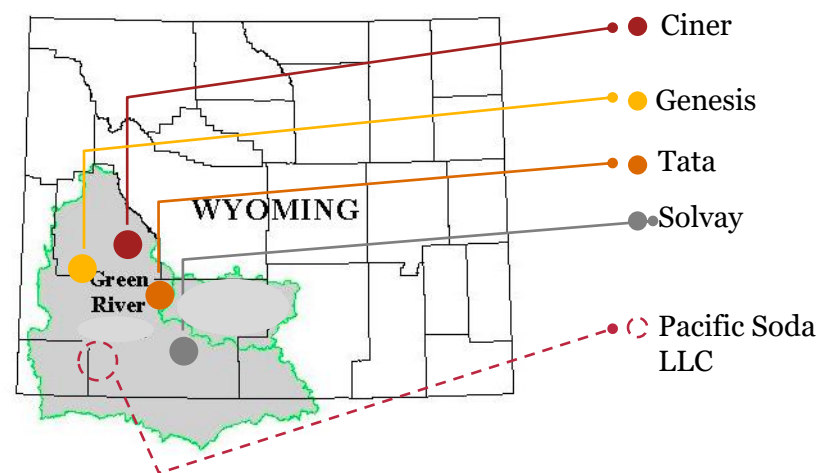
General Information about the Investment

A joint venture agreement has been signed to invest in a natural soda ash production facility using the solution mining method, with an annual production capacity of **2.7m tons**, divided as **2.5m tons** of soda and **200k tons** of sodium bicarbonate, in the Green River region of Wyoming, USA.

Investment Area



Wyoming – Green River Basin



General Information

Investment area	USA – Wyoming
Sponsors	Şişecam & Ciner
Description	Natural Soda Ash Investment
Investment Start/ End	2020 / 2026
Start of operations	2026 - 2028 (partial) – 2029 (full c.)
Total production capacity	2,500k tons of Soda 200k tons of sodium bicarbonate
Total investment amount	\$ 1.6 billion

Investment motives

It is believed that this investment project will be a significant growth project from the perspective of strengthening the global position of the Group in the soda sector, introduction of a more profitable production method in comparison to synthetic soda production, and an opportunity to sell more to the markets with limited market presence.

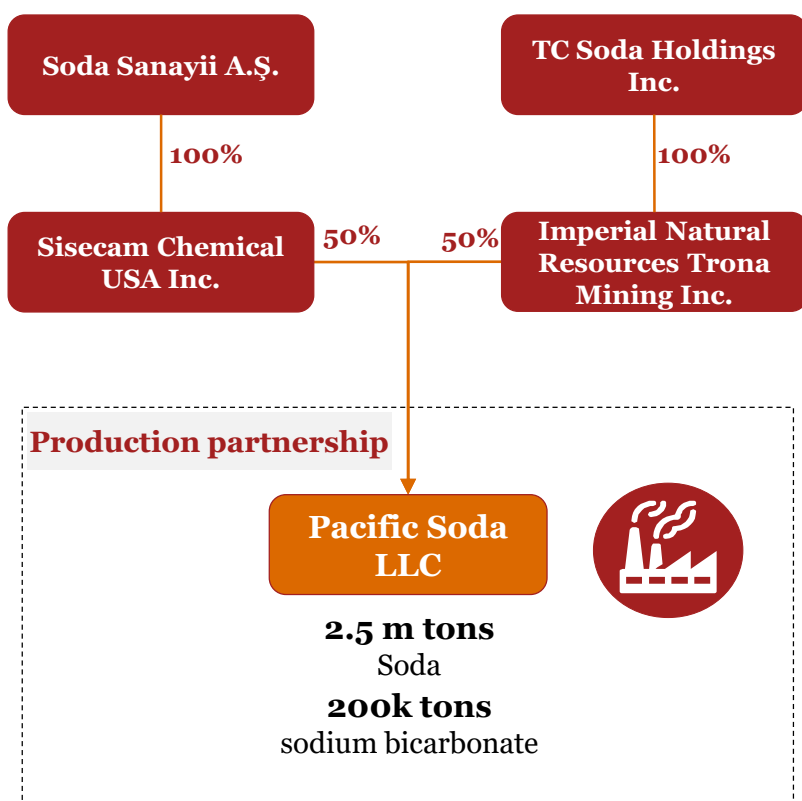
- **Global position:** The target of becoming the 5th largest soda producer in the world
- **Cost advantage:** The opportunity to perform production with solution mining method which has the lowest cost of soda production
- **New markets:** An easier access to the markets with lower sales opportunities currently, such as North, Central and South America
- **Environmental impacts:** The production of natural soda being environmentally friendlier than production of synthetic soda

Source: Comoany Management

Natural Soda Ash Investment Shareholding Structure

Production and marketing operations of the joint venture project with Ciner Group with equal production partnership, will be undertaken by separate companies. The partnership will be initiated in a production company, in which the parties will hold an equal amount of shares.

Shareholding structure

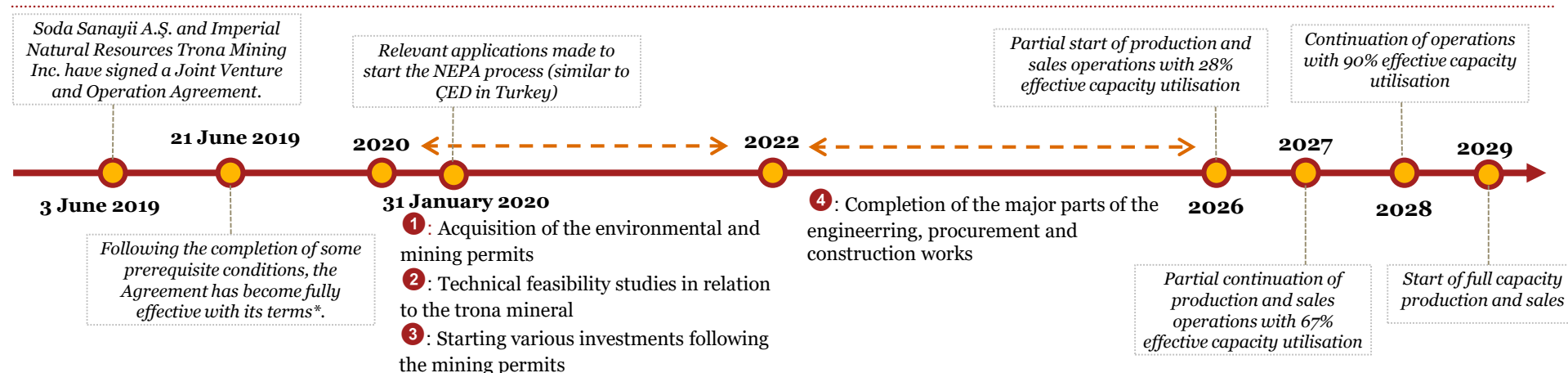


- Soda Sanayii A.Ş. and Imperial Natural Resources Trona Mining Inc. have signed a Joint Venture and Operation Agreement on **3 June 2019**.
- On the same date, a Business Development Contract has been signed between Soda Sanayii and Park Holding A.Ş.. Under the scope of the Business Development Contract, Soda Sanayii has paid \$ 75m (+VAT) as a business development fee in return for the invoice from Park Holding A.Ş.. The aforementioned cost has been classified as a tangible asset in the SODA's consolidated audited financial statements as at 31.12.2019.
- Following the completion of some prerequisite conditions, the Joint Venture and Operation Agreement has become effective with all its clauses on **21 June 2019** and has been transferred to Şişecam Chemicals US Inc., which is a 100% subsidiary of Soda Sanayii A.Ş.. As of closing, Imperial has transferred the existing licences to Pacific Soda LLC and since Şişecam Chemicals has gained 50% of the Pacific's shares, a joint venture has been established.

Source: Company Management

Natural Soda Ash Investment Project Timeline

A total of 6.5 years of investment period are foreseen with the first 2 years spent on completion of relevant permits and tests, followed by the next 4.5 years of construction. The investment is aimed to be started in 2020 and completed at the beginning of 2026.



①: The list of the permits required to be obtained is listed below. In case of any unexpected situation during the acquisition of the permits, the \$ 75m shareholder fee will be returned to Soda Sanayi A.Ş.

1-Competitive Rental Period	5-Water Supply Feasibility	9-Well Construction Test	13-Gas Pipeline Design	17-Commercial Air Emission Right
2-Private Lease Negotiations	6-Mining Planning and NI	10-Engineering Facility Road	14-BLM Extensive NEPA_EIS	18-WY Industrial Settlement
3-Ground Water Monitoring	7-Pilot Well Water Provision	11-Railway Route Selection	15-Commercial Water Rights	
4-Search – Section 25 and 27	8-DEQ In - Situ R&D Licence	12-Water Line Route Selection	16-Commercial Mining Rights	

②: The technical studies related to the concentration of trona in the planned geographical location of the project (Green River Basin at Wyoming, USA) will be made and completed in **September/October 2020**. Based on the results, if the concentration of trona turns out lower than the optimal 16% level, then the project profitability is expected to be lower. On the contrary, if the concentration turns out higher than 16%, it is expected to significantly increase the project profitability.

③: Following the mining permits, basic and detailed engineering and design studies are expected to start and costs relating to project management, as well as transportation, insurance and financing expenses are expected to occur.

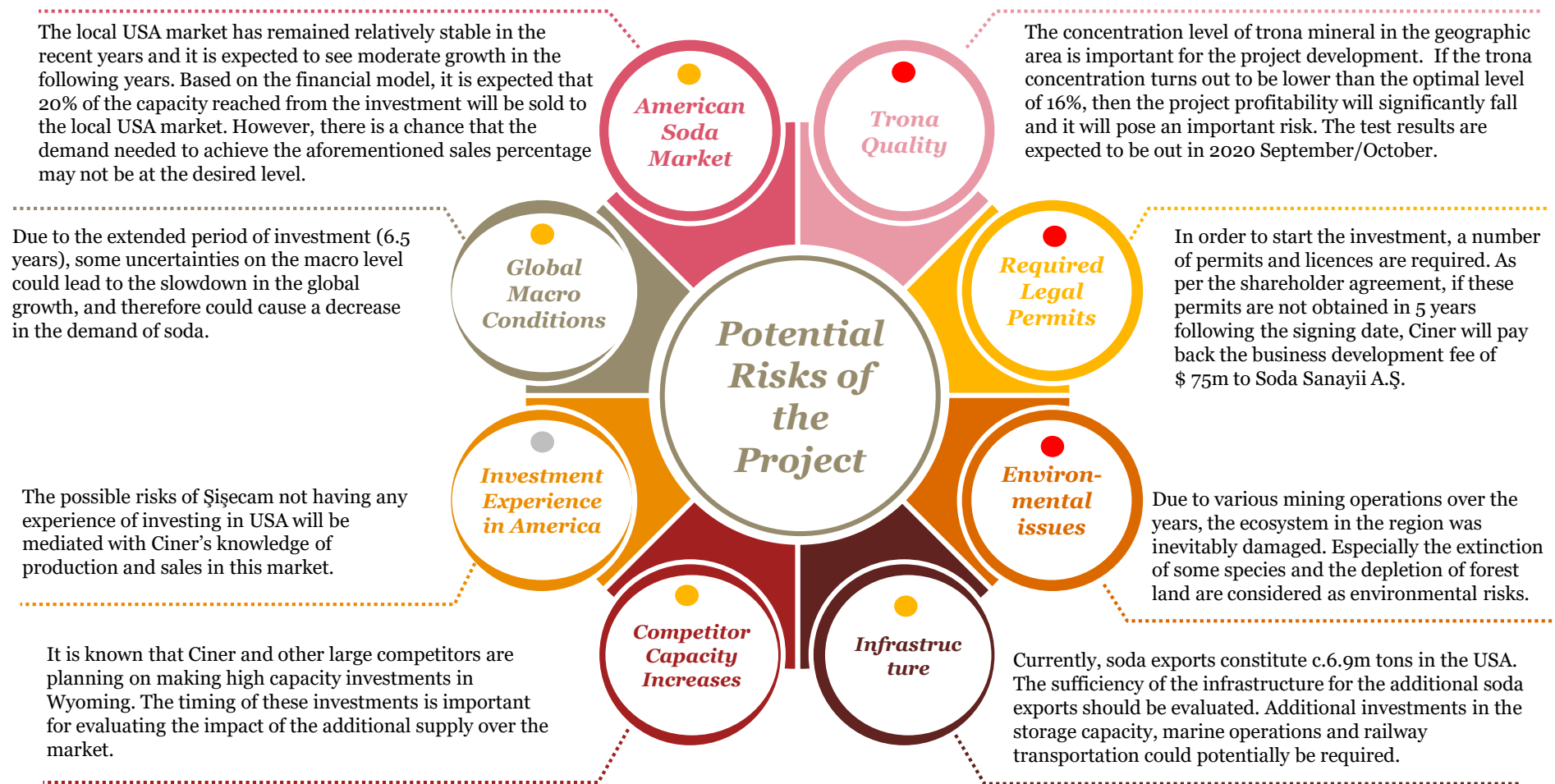
④: Major part of the engineering, procurement and construction works is expected to be completed from 2022 onwards. Details are presented on the capital expenditures page.

*: There is an addendum to the agreement which states that if the agreement becomes effective after 31 July 2019, the \$ 75m business development fee paid to Park Holding A.Ş. will be returned to Soda Sanayi A.Ş.

Source: Company Management

Natural Soda Ash Investment Risks of the Project

The potential risks of the planned natural soda ash investment by Şişecam and Ciner partnership in USA are stated below.



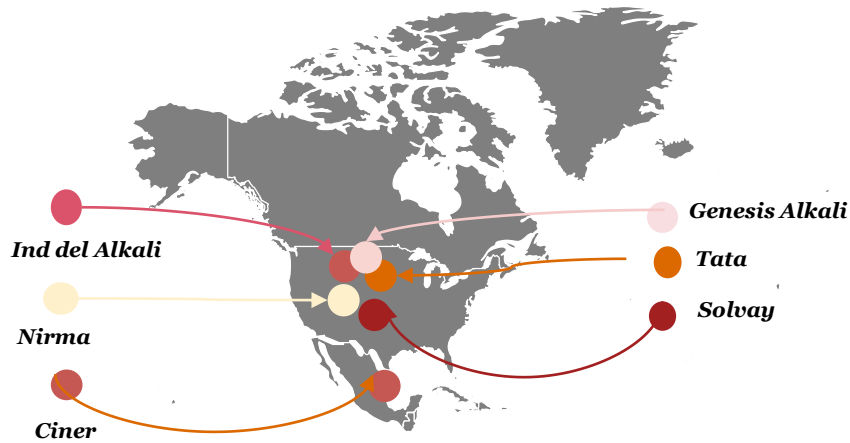
Risk Level	High
	Medium
	Low

Source: Compnay Management

Natural Soda Ash Investment American Soda Market

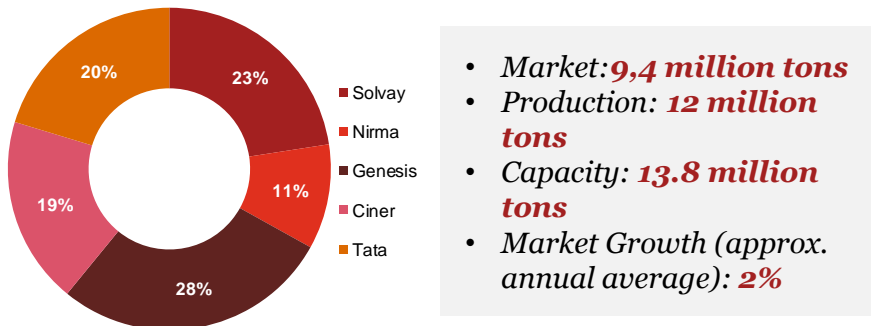
There are plans of new investments to increase capacity in Wyoming, which holds the largest trona reserve in the world. Considering the growth of global soda sector, there is a potential for increase in exports from USA, which currently exports 59% of its production.

Market Capacity and Competitors



In 2018, USA has produced 12m tons of soda and had an export market of c. 7m tons (Mexico, Brazil, Indonesia, Chili and Malaysia).

Capacity Breakdown, 2018 USA General Information, 2018



- Market: **9,4 million tons**
- Production: **12 million tons**
- Capacity: **13.8 million tons**
- Market Growth (approx. annual average): **2%**

Source: Company Management

Developments in the market

Competitor	Developments and increases in capacity
Solvay¹	<ul style="list-style-type: none"> • Capacity increase of 1m tons of soda ash and 300k tons of sodium bicarbonate in the existing plants
Ciner	<ul style="list-style-type: none"> • Capacity increase of c. 1m tons in the existing plants • New investment: 2.7m tons (Şişecam %50) • New investment: 2.7m tons (a possibility of partnership with another producer)
Genesis Alkali	<ul style="list-style-type: none"> • Plan of an increase in capacity of 750k tons • Organic and inorganic growth plans
Tata	<ul style="list-style-type: none"> • Capacity increase of 750k tons • Capacity increase of 200k tons in soda and 35k tons in sodium bicarbonate on the Mithapur plant • Capacity increase of 400k tons in the salt production

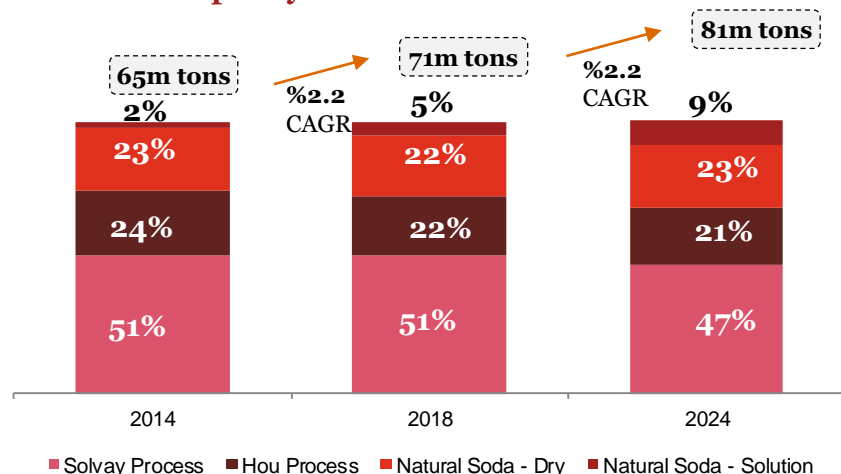
¹ Also includes capacity increases outside of the American market.

Natural Soda Ash Investment

Natural Soda/ Synthetic Soda

Global soda production's breakdown is as follows: 75% is synthetic and 25% is natural. There is natural soda production especially in the USA (12m tons) and Turkey (4m tons). It is predicted that as the natural soda production (which has lower production costs than the synthetic soda) capacity increases, the competition will also increase.

Global Soda Capacity Based on the Production Method



Most of the capacity increases planned in the period between 2018-2024 are from natural soda. Therefore, it is expected for the natural soda share to increase to 32% with the upcoming projects.

The production of natural soda with solution mining which has the lowest cost of production is expected to reach and exceed the capacity of 3m tons.

As a result of the aforementioned capacity increases, it is expected for Hou and Solvay methods to lose share in production due to their high cost structure.

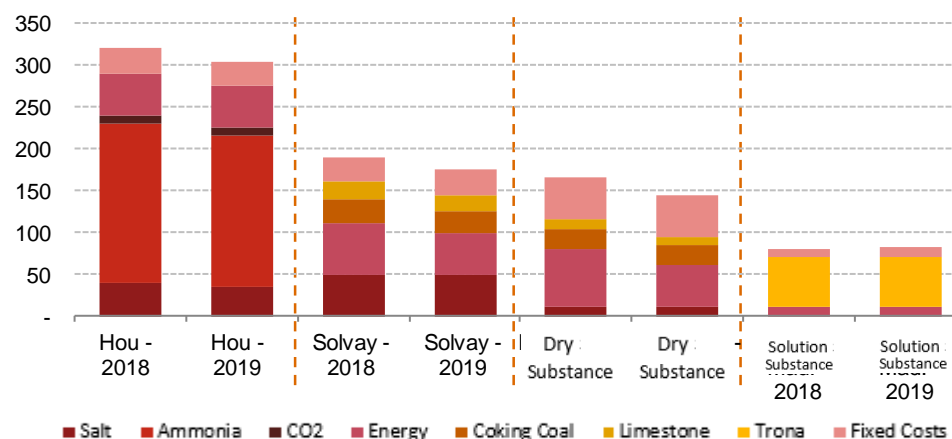
Synthetic Soda

- Production is conducted through Hou Proses and Solvay Proses methods
- The raw material used is salt and limestone
- High energy utilisation (10-14 MMBtu/ton)
- High production cost

Natural Soda

- The methods used in production are dry mining and solution mining
- Trona mineral is used as a raw material
- Low energy utilisation (4-6 MMBtu/ton)
- Low production cost

Costs of production of natural and synthetic soda (\$ / ton)



Source: Management's information

Natural Soda Ash Investment Capital Expenditures

The engineering, construction and other operations within the scope of the investment are expected to take **6.5 years** in total (with the assumption that the necessary legal permits will be obtained by the first half of 2022). Total cost of investment, excluding VAT and financing costs, is expected to be **\$ 1,583m**.

m \$	2020	2021	2022	2023	2024	2025	2026	Total
Anadarko Rent Payments	8	4	4	4	5	0	0	27
Soda Plant	-	-	-	144	289	289	-	722
Equipment	-	-	-	46	93	93	-	232
Supply Equipment	-	-	-	70	140	140	-	350
Construction	-	-	-	28	56	56	-	140
Cogeneration Unit	-	-	-	34	68	68	-	171
Equipment	-	-	-	16	32	32	-	80
Construction and Supply Equipment	-	-	-	18	36	36	-	91
Well Drilling	-	-	-	82	110	82	-	274
Equipment	-	-	-	26	34	26	-	85
Construction and Supply Equipment	-	-	-	57	76	57	-	189
Indirect Cost	42	42	24	17	17	10	44	198
Basic Detailed Engineering Design	26	26	-	-	-	-	-	52
Project Management Expenses	5	5	5	5	5	5	5	35
Establishment Costs	-	-	-	-	-	-	21	21
Audit and Surveillance Costs	3	3	3	3	3	-	-	15
Transport & Shipping	4	4	4	4	4	-	-	22
Insurance	0	0	0	1	1	1	1	5
Finance	0	0	8	0	0	0	0	9
Spare part	-	-	-	-	-	-	14	14
Prudence Costs	4	4	4	4	4	4	4	27
Surface Preparation	-	-	-	12	16	12	-	40
Water Pipeline (20 miles)	-	-	-	-	-	23	23	46
Electric Transmission Line	-	-	-	-	-	9	9	18
Railway and Transportation	-	-	-	-	-	25	25	50
Natural Gas Pipeline	-	-	-	-	-	9	9	18
Other	-	-	-	5	5	5	5	20
Total	51	46	29	299	510	533	115	1,583

Total investment cost of the project is estimated as \$ 1,583m. Under the partnership agreement, this amount will be shared equally between the two groups.

It is forecasted that the processes related to soda plant, cogeneration plant and well digging, which are the most important elements of the investment, will start in 2023.

These 3 important investment items are expected to realize at \$ 1,167m and constitute approximately 73% of the total investment amount.

According to the information provided by Şişecam management, there is no VAT obligation for capital expenditures in the State of Wyoming, USA. For this reason, capital expenditures are taken into account excluding VAT in our studies.

* In the event that there is a delay in obtaining the necessary legal permits and resulting in the main investment items being postponed, an increase in the estimated investment amounts (especially related to construction and equipment expenditures) can be observed.

Source: Company Management

Natural Soda Ash Investment

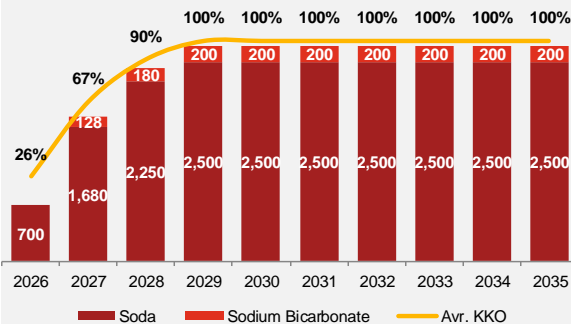
Basic Assumptions (1/3)

Sales

Sales Volume

- Production and sales activities are expected to start partially in 2026. While sodium bicarbonate sales are not expected, soda sales are expected to be around 700 thousand tons (26% avg. CUR).
- In 2027 and 2028, with the commissioning of other production lines, 67% and 90% CUR is targeted to be achieved respectively.
- In 2029 and the following years, it is assumed that the production will be at full capacity (2,500 thousand tons of soda and 200 thousand tons of sodium bicarbonate).

Total Sales Volume (k ton)



Sales Price

- While determining the sales prices, ex-factory prices were estimated first and calculations were made by adding the domestic transportation and packaging expenses on top of ex-factory prices.
- Factory prices (ex-works) were provided by SODA management. The provided management price data was based on the soda price estimates of a market research firm called IHS until 2024. After 2024, soda prices are projected to grow with \$ inflation (2%).
- While determining the prices, the distinction of soda and sodium bicarbonate, domestic and international sales prices have also been taken into consideration.

Sales Price (\$/ton)

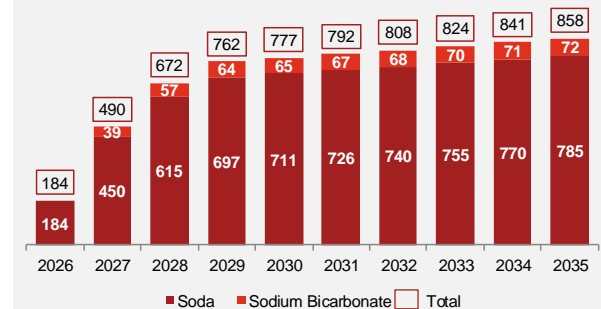
\$/ton	2026	2027	2028	2029	2030
Soda - America	210	214	219	223	227
Soda - International	190	194	198	202	206
Sodium Bicarbonate - America	258	263	268	274	279
Sodium Bicarbonate - International	190	194	198	202	206

\$/ton	2031	2032	2033	2034	2035
Soda - America	232	237	241	246	251
Soda - International	210	214	219	223	228
Sodium Bicarbonate - America	285	290	296	302	308
Sodium Bicarbonate - International	210	214	218	223	227

Sales Revenues

- The estimated distribution of sales based on volume, location and packaging were provided by the Company management.
- 20% of soda sales are sold to America and the rest to international customers; In sodium bicarbonate, domestic and international sales are projected to be distributed equally (50% - 50%).
- It is assumed that 25% of Soda's domestic sales and 15% of international sales; and 60% of sodium and bicarbonate sales of America will be packaged.

Total Sales Revenues (\$ m)



Source: Company Management

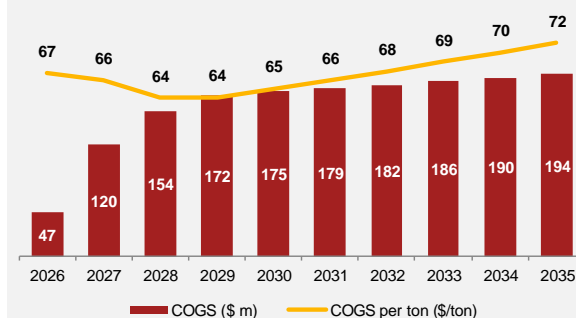
Natural Soda Ash Investment

Basic Assumptions (2/3)

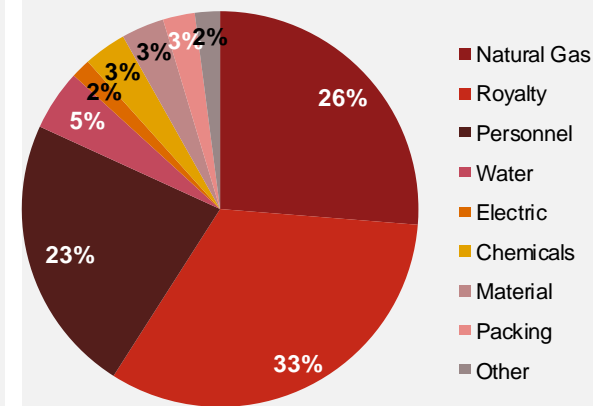
Cost of Sales

- Technical cost projections for the investment were prepared by discussing with SODA management and technical teams responsible. The cogeneration plant, which is planned to be built next to the soda production facility, will be established mainly to meet some of the facility's electricity needs. For the electricity to be produced, one of the largest cost items will be natural gas. After taking the amount of electricity taken from outside into account, the total natural gas need of the facilities is foreseen to be **345 million m³** per year.
- In addition, the abundance of rock gas as a reserve in North America, and the fact that it is difficult to transmit it to the geographies outside the USA by pipeline, creates an abundance of supply in the region. For this reason, natural gas, which is the main input in energy, is used as a cheaper energy source compared to other continents.
- With the planned water pipe infrastructure and pumping station, it is planned to draw water from the water beds in the Green River basin. Hourly water demand for the whole production is expected to be approximately **700 m³**.
- The installed power of the cogeneration plant, which is planned to be established, will be **110 MW**. However, it is expected that this capacity will not be sufficient for the whole facility and 5% of the total electricity need is estimated to be procured from outside.
- While the whole facility is operating at full capacity, it is expected to have approximately **215 personnel** to work in production.
- Packaging expenses for packaged sales were followed separately for soda and sodium bicarbonate products. For the packaging costs, assumptions were made by discussing with the SODA management and sales team, comparing current operations and considering the dynamics of the American market. The unit cost, which is expected to be **\$ 7 per ton** for today's packaged soda sales, is estimated at **\$ 9** for sodium bicarbonate.
- State Right (royalty) expense is estimated as **8%** of the total sales income.
- Material and maintenance and repair costs are projected as **\$ 2 per ton** with 2020 prices, and various other chemicals planned to enter into production process are estimated the same at **\$ 2 per ton**.

Cost of Sales (\$ m)



Breakdown of Cost of Sales



Source: Company Management

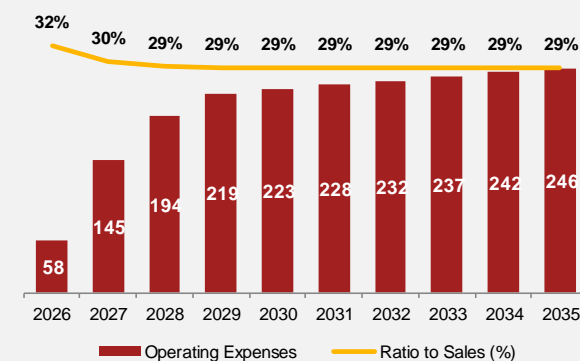
Natural Soda Ash Investment

Basic Assumptions (3/3)

Operating Expenses

- Cost items that may arise from sales activities and basic assumptions were provided by SODA management and sales team. Domestic transportation expenses are calculated separately for American and international sales of soda and sodium bicarbonate products. The domestic transportation costs of the Soda product per ton in the USA and internationally are determined as \$ 85 and \$ 53, respectively, at 2020 real prices. The same prices for sodium bicarbonate product are set at \$ 75 and \$ 53, respectively.
- For the periods with the production activities at full capacity, the number of personnel in sales marketing department was determined as 51, while the number of personnel in the general management department was determined as 25.
- It is foreseen that 75% of the sales will be made directly or through the distributor and no commission will be paid for this portion of the sales. For the remaining 25%, it is foreseen that 4% broker commission will be paid. In addition, a \$ 0.25 customs clearance expense per ton was estimated to cover declaration and port charges for international sales.
- In addition, bank expenses and other expenses are estimated to be 0.1% and 0.5% of total sales, respectively.

Operating Expenses (\$ m)



Tax

- According to the information provided by the company management, it is understood that there will be no corporate tax at Pacific Soda LLC level, rather the corporate tax will be paid by the holding companies over the income generated from their shares in Pacific Soda LLC.
- Considering the possible changes and uncertainties in this structure until 2026, which is projected to be the first year of corporate tax payments, it is deemed more appropriate to assume that the corporate tax to be paid by Soda Pacific LLC instead of holding companies. In this context, 21% corporate tax on operating profit is calculated.

NWC

- In line with the information received from SODA management, the ratio of net working capital to sales revenues was taken into account as 14% during the projection period.

Reserve

- According to the information provided by SODA management, it is assumed that the mineral reserve will last 60 years from 2026 with an annual production of 2.5 m tons. As a result, projections were made until 2085 within the scope of the valuation study.

Source: Company Management

Appendix

7	Letter of Engagement	233
8	Contacts	238
9	Information Sources	244
10	Macroeconomic Assumptions	251
11	Discounted Cash Flows	254
12	Investment Properties	301
13	Comparable Companies	302
14	Beta and WACC Analysis	348
15	Glossary	390

Letter of Engagement (1/5)

PwC Yatırım Danışmanlığı A.Ş.
Süleyman Şeha Cad. RSK Plaza No:48
B Blok, Kat:4 Akaretler
34357 Beşiktaş, İstanbul - Turkey
www.pwc.com.tr
Telefon: +90 (212) 326 6000
Faks: +90 (212) 326 6030
Merkez No: 073394405440006

GİZLİ & ÖZEL

Türkiye Şişe ve Cam Fabrikaları A.Ş.
İçmeler Mahallesi, Divan Karayolu,
34494, Tuzla/İstanbul
İstanbul

Sayın Yönetim Kurulu Üyeleri,

Konu: Uzman Kuruluş Raporu Hazırlanmasına İlişkin Danışmanlık Sözleşmesi

Bu sözleşme, Türkiye Şişe ve Cam Fabrikaları A.Ş. ("Şişecam") Şirket'inin talebi üzerine Sermaye Piyasası Kurulu'nun "Birleşme ve Bölünme Tebliği (II-23-2)" çerçevesinde, hedeflenen birleşme işleminde Şirket'in ortaklık hesabında kullanılacak üzere hazırlanacak olan Uzman Kuruluş Raporu'nun kapsamının, danışmanlık ücretinin ve tarafların yükümlülüklerinin açıklanması amacıyla hazırlanmıştır.

1. Hizmetin Kapsamı

Uzman Kuruluş Raporu'nun hazırlanmasında, 31 Aralık 2019 itibarıyla geçerli olan bağışma denetimden geçmiş yıl sonu mali tablolar ve değerlendirme tarihi itibarıyla en güncel finansal ve operasyonel bilgiler dikkate alınarak birleşecek:

- 1) Türkiye Şişe ve Cam Fabrikaları A.Ş.
- 2) Traşya Cam Sanayi A.Ş.
- 3) Anadolu Cam Sanayi A.Ş.
- 4) Paşabağçe Cam Sanayi ve Ticaret A.Ş.
- 5) Denizli Cam Sanayi A.Ş.
- 6) Soda Sanayi A.Ş.

Şirketlerin ("Şirketler") toplam hisse değerleri tahmin edilecektir.

Uzman Kuruluş Raporu çalışması gizlilik içinde yürütülecek ve çalışma bittikten sonra raporun teslim edileceği kişiler dışında gizlilik korunacaktır. Çalışma da Şirketlerin değerleme tarih itibarıyla en az üç yonteme göre ayrı ayrı mali hisse değerlerinin ve Türkiye Şişe ve Cam Fabrikaları A.Ş. altında birleşmesi durumunda oluşması gereken birleşme oranlarının yer aldığı Sermaye Piyasası Kurulu'nun "Birleşme ve Bölünme Tebliği (II-23-2)" çerçevesindeki esaslara uygun Türkiye bir rapor hazırlanacaktır.

Değerleme çalışması niteliği gereği bir bilim olarak yapılan mali ve sonuçta elde edilen değerler kesin ve tam olmadığı düşünülmektedir. Elde edilen sonuçları sübjektif olması ve birleşme değerlendirilmesinde içerdiği göz önünde bulundurulmalıdır.

2. Değerleme Yöntemleri

Değerleme çalışmasında uygulanacak yöntemler "Birleşme ve Bölünme Tebliği (II-23-2)" nin 7. Maddesi dikkate alınarak belirlenmiştir. Bu kapsamda ilgili şirketlerin nitelikleri göz önünde bulundurulmuş ve en az üç değerlendirme yöntemi kullanılacaktır. Şirketlerin değerlendirme çalışmalarında aşağıda belirtilen, Gelir Yaklaşımı / İndirgenmiş Nakit Akımları (INA), Piyasa Yaklaşımı, Net Varlık Yaklaşımı ve Halka Açık Şirketlerin Borsa Yaklaşımı kullanılacaktır.

PwC

1/4

© 2020 PwC Türkiye. Tüm hakları saklıdır. Bu belgeye PwC ifadesi, PwC logosu veya PwC logosu taşıyan diğer işaretler ve farklı tıkalı kısıtlıdır ve sadece PwC Türkiye için kullanılmalıdır. Daha detaylı bilgi için www.pwc.com/structure adresinden ayrıntı edilebilir.

2.1 Gelir Yaklaşımı – İndirgenmiş Nakit Akımları (INA) Yöntemi

Bu yöntemde göre bir şirketin veya varlığın değeri, hâlihazırda maliyeti portföyü, pazar payı, hizmet potansiyeli, organizasyonu ve yönetim kadrosu ile gelecekte ortaya çıkması beklenen nakit akımların analizi sonucu elde edilmiştir. Gelir Yaklaşımı'na göre Şirketlerin hisse değerleri tahmin edilmiştir. İktisadî ve Şirketlerin kendilerinin solo değerleri indirgenmiş Nakit Akımları Yöntemine ayrıca belirlenmiştir. Solo değerlerin belirlenmesi sırasında Şirketlerin ihracatındaki pay oranları da dikkate alınarak Parçaların Toplamı Yöntemi ("Sum of the Parts")'ne göre Şirketlerin toplam hisse değeri tahmin edilmiştir. Hisse değeri tahmin edilirken, Şirketlerin ait operasyonel olmayan varlıklar ve yükümlülüklerinin mevcut olması durumunda bunlar da dikkate alınacaktır.

İndirgenmiş Nakit Akımları Yöntemi (İNAY), bir şirketin veya varlığın gelecekte yaratacağı nakit akımlarının değerlendirilmesine indirgenmiş olarak ifade edilebilir. İndirgeme işlemi, piyasa koşullarına paralel ve şirketin risk profiline uygun bir iskonto oranının kullanılmasıyla gerçekleştirilir. İNAY yöntemi uygulamaları sırasında Şirketlerin gelecek dönemlerde elde edecek nakit akımlarını belirleyen finansal modeller geliştirilecektir. Finansal modellerin oluşturulması ve projeksiyonlar Şirket Yönetimi tarafından sağlanacaktır ve tarafımızca sorgulanacaktır.

2.2 Piyasa Yaklaşımı – Karşılaştırılabilir Şirketler ve İşlemler

Piyasa Yaklaşımı'na göre bir şirketin değeri, benzer şirketlerin menkul kıymetler borsalarında olduğu gibi değerlendirilmesinin göz önünde bulundurulması ya da gerçekleştirilen satış işlemlerinin bir sonucu olarak değerlendirilmesidir. Piyasa Yaklaşımı'na göre bir şirketin değeri, benzer şirketlerin menkul kıymetler borsalarında olduğu gibi değerlendirilmesinin göz önünde bulundurulması ya da gerçekleştirilen satış işlemlerinin bir sonucu olarak değerlendirilmesidir. Bu kapsamda değerlendirilmesinde kullanılan şirketler ile aynı veya benzer sektörlerde faaliyet gösteren karşılaştırılabilir halka açık şirketler ve satın alma işlemleri incelenmektedir. Bu yöntemin kullanımındaki en büyük zorluk, benzer karşılaştırılabilir işlem ve şirketlerin bulunmamasıdır.

Piyasa Yaklaşımı kapsamında yapılacak değerlendirme çalışmalarında Şirketlerin 31 Aralık 2019 tarihi itibarıyla bağışma denetimden geçmiş mali tabloların sonuçları üzerinden uygun olduğu düşünülen değerlendirme sonuçları ile ilişkilendirilerek Şirketlerin toplam hisse değerleri tahmin edilecektir.

2.3 Net Aktif Değer Yöntemi

Net Aktif Değer Yöntemi, bir işletmenin bir işletmeyi almak için ödeyeceği paranın en az işletmenin bütün varlıklarının belirli bir tarihte nakledevilmesiyle elde edilecek miktara veya yeniden aynı konuma getirilmesi kapsamında oluşabilecek maliyetlere eşit olarak varsayımında yapılmaktadır. Bu kapsamda değerlendirilmesinde elde edilebilecek potansiyel gelirlerin ve yarılanacak değerler dikkate alınmaktadır, fakat işletmenin olağan tasfiye değerleri veya yeniden aynı konuma getirmeye yönelik olarak, şirketin değerleri tahmin edilmiştir.

Net Aktif Değer Yöntemi kapsamında yapılacak değerlendirme çalışmalarında Şirketlerin 31 Aralık 2019 tarihi itibarıyla bağışma denetimden geçmiş mali tabloların sonuçları üzerinden uygun olduğu düşünülen değerlendirme sonuçları tahmin çalışmalarına esas olacaktır.

2.4 Borsa Yöntemi

Bu yöntem kapsamında değer hesaplanırken; halka açık bir şirketin günlük işlem hacmine göre son bir yıl ya da ağırlıklı ortalamaya göre hisse fiyatı hesaplanmaktadır. Borsa Yöntemi sadece halka açık şirketler için dikkate alınacaktır.

3. Yönetim Tarafından Sağlanan Bilgilerin Doğruluğu

Değerleme çalışması sırasında, Şirket Yönetimi tarafından sağlanan, 31 Aralık 2019 tarihine kadar olan süreyi kapsayan mali tablolar, finansal veriler ve projeksiyonlar ile çalışılacaktır. Bu finansal bilgilerin denetim çalışması gerçekleştirilmeyecek olup, ilgili finansal verilerin doğruluğu bu sözleşmenin kapsamında yer almamaktadır. Dolayısıyla çalışmada kullanılan finansal verilerde sonuçları etkileyecek yanlışlıklar dolayısıyla sorumluluk kabul etmemiz beklenmemiştir.

Değerleme çalışması sırasında kullanılan projeksiyonların sorumluluğu tamamen Şirket Yönetimi'ne aittir. Bu kapsamda PwC, çalışmada kullanılan projeksiyonların geçerliliği veya gerçekleştirilmesini konusunda herhangi bir sorumluluk kabul etmemektedir.

PwC

2/4

© 2020 PwC Türkiye. Tüm hakları saklıdır. Bu belgeye PwC ifadesi, PwC logosu veya PwC logosu taşıyan diğer işaretler ve farklı tıkalı kısıtlıdır ve sadece PwC Türkiye için kullanılmalıdır. Daha detaylı bilgi için www.pwc.com/structure adresinden ayrıntı edilebilir.

4. Çalışma Planı ve Süresi

Çalışmamız 9 Şubat 2020 tarihinde başlayacaktır. Taslak raporumuz bilgileri zamanında gelmesini bağlı olarak çalışmamız 2020 Mart ayı son haftası içerisinde tamamlanacaktır. Taslak rapor teslim edildikten sonra iki hafta içinde bizimle paylaşacağınız görüş ve önerilerimizin dikkate alındığı SPK yasası anlamak üzere hazırlanmış nihai rapor hazırlanacaktır.

Nihai raporun paylaşılması sürecinde tarafımızla temsil mektubu imsalanacaktır. Temsil mektubunun imzalanmasından sonra nihai rapor teslim edilecektir.

Değerleme çalışmalarına başlamadan önce Şirket Yönetimi'ne ihtiyaç duyduğumuz bilgilerin bir dökümü gönderilerek gerekli hazırlıkların yapılması sağlanacaktır. Yukarıda belirtilen zaman planı doğrultusunda çalışmamız yapılabilmesi gerekli bilgilerin Şirket Yönetimi'ne sağlanmasına bağlıdır.

Şirket, PwC'nin hazırladığı hiçbir belge, bilgi, doküman ve rapor PwC'den başka bir kişiye imzalanmadıkça, kişilere sunulamaz. Bununla beraber rapor için nitelikli olmayan birleşim 3. kişiler (Bağımız denetçi, BDDK, SPK, kredi kuruluşları, yatırımcılar) size konuşurken, bu raporun ve diğer bilgilerin gizliliğini korumak ve paylaşım için her türlü sorularınıza Şirket'e ait olması kaydıyla; Şirket bu belge, bilgi, doküman ve raporun, sizinle ilgili kişilere paylaşılabilir. Bununla beraber rapor, sizinle ilgili kişilere paylaşılması durumunda, herhangisi bir kişiyi tarafımıza PwC'ye karşı herhangi bir hak, alacak, dava, edisiz, iddia vb. doğurmayacaktır. Şirket PwC'nin ugrunluğuna/yayacağı her türlü kayı, zarar, masraf veya üçüncü şahıs tarafından tazminat etmeye PwC'ye bu iddialardan varesi tutmayı şimdiden kabul ve taahhüt etmektedir.

5. Proje Ekibi

Bu projede Serkan Aşkın Sorumlu Ortak olarak çalışan çalışanlar arasında oluşan bir takım liderlik edecek ve size sağlanacak hizmetlerden sorumlu olacaktır.

6. Ücret

7. Sorumluluğun Sınırlaması

PwC, hizmetlerinin ifasını sırasında, doğrudan doğruya sözleşme hükümlerinin ihlali veya kusuru dolayısıyla biriminde meydana gelen zarar veya kayıpla ilgili sorumluluğu yükümlülüğünü kabul etmezdir. Ancak, görevin kasıtlı şekilde kötüye kullanılması hali ya da ağır kusuru olması durumunda hariç olmak üzere, verilen hizmetlere ilişkin olarak PwC'nin (gerek sözleşmeden kaynaklı olarak, gerekse hata veya diğer durumlarda) yükümlülüğü hiçbir koşul altında, bu iş için istenilen ücreti ödendikten sonra sorumluluğundan vazgeçmesi veya tazminatın katılanları fiili zarardan dolayı oluşmuş bir zarar katması, Kararında kalması hükümlerini, fiili zarar katmayı içermez.

8. Danışmanlık Sözleşmesi Analizine Genel Şartlar ("Anlaşma Genel Şartları")

İş bu sözleşme ve ekleri yer alan Anlaşma Genel Şartları, taraflar arasında daha önce yapılmış veya sözü tüm anlaşılabilir veya taahhütler olmadan kağıt üzerinde ("Sözleşme") tamamlanmıştır.

Sözleşme, Hizmetler ile ilgili olarak taraflar arasında bir anlaşma ile sonuçlanmış sözleşme, taahhüt, yamama veya mektupların yerine geçer. Bu nedenle Anlaşma Genel Şartları işbu sözleşme ile birleşecek bir bütün olarak kullanılmalıdır.

PwC

3/4

© 2020 PwC Türkiye. Tüm hakları saklıdır. Bu belgeye PwC ifadesi, PwC logosu veya PwC logosu taşıyan diğer işaretler ve farklı tıkalı kısıtlıdır ve sadece PwC Türkiye için kullanılmalıdır. Daha detaylı bilgi için www.pwc.com/structure adresinden ayrıntı edilebilir.

Letter of Engagement (2/5)


9. Gizlilik ve Bağımsızlık

PwC Türkiye olarak mesleğimiz ve firmamızın ahlak kurallarıyla tam anlamıyla bağlıyız. Çalışmamız her safhasında PwC çalışanları olarak Anlaşma Genel Şartları'ndaki 4. Madde kapsamında gizlilik esasına uygun davranacağımızı ve bize verilen bilgiler konusunda gizliliğin muhafaza edilmesini taahhüt ederiz.

10. Diğer Konular

Denetim vergisi mükellefiyeti Şişecam tarafından yerine getirilecektir.

Bu sözleşme 31.01.2020 tarihinde İstanbul'da düzenlenmiş, birlikte imza edilmiş ve yürürlüğe konulmuş olup daha önce yapılmış olan tüm sözleşme ve haberleşmeleri geçersiz kılar. Taraflar yukarıda belirtilen maddeleri kabul etmişlerdir.

Imza: 
Yetkili İsim: Talga İnan
Görev: Beşiktaş Davası
Türkiye Şişe ve Cam Fabrikaları A.Ş.
Tarih: 31.01.2020

Imza: PwC Yürütme Danışmanlığı A.Ş.
Yetkili İsim: Serkan Aslan
Görev: Ortak
PwC Yürütme Danışmanlığı A.Ş.
Tarih: 31.01.2020

*Beşiktaş Davası
Mali Kontrol ve Raporlama Direktörü
31/1/2020*

PwC 4/4

© 2020 PwC Türkiye. Tüm hakları saklıdır. Bu belgeye PwC'den başka PwC çalışanı veya PwC çalışanı ile ilişki olmayan bir üçüncü şahsa ifşa edilmeden ulaşamaz. Bu belgeye PwC'den başka PwC çalışanı veya PwC çalışanı ile ilişki olmayan bir üçüncü şahsa ifşa edilmeden ulaşamaz.

Anlaşma Genel Şartları

1. Giriş

1.1 Bu anlaşma genel şartları, hizmet sözleşmesinde belirtilen hizmetler için geçerli olacaktır. Şartlardaki herhangi bir hususun hizmet sözleşmesi ile çelişmesi halinde, sözleşme metninde bu hususlardan herhangi biri özel olarak tadil edilmediği sürece bu hüküm ve şartlar geçerli olacaktır.

1.2 İşbu Sözleşme, tarafların her ikisi tarafından da imzalandığı tarihte yürürlüğe girecek ve hizmet sözleşmesinde belirtilen kapsam ile sınırlı olmak üzere, Hizmetin yerine getirilip tamamlanması veya işbu sözleşmede kararlaştırılan raporun Müşteri'ye teslimi ve Tarafların yükümlülüklerinin tamamını karşılıklı ifa ettikleri tarihte kendiliğinden son bulacaktır.

2. Hizmetler

2.1 Hizmetler – Hizmet sözleşmesinde tarif edilen hizmetler sağlanırken, gerekli özen gösterilecektir. Hizmet kapsamının, Müşteri amaçları için yeterli olduğu kabul edilmektedir. Hizmetler (modeller / raporlar dahil), sadece hizmet sözleşmesinde veya ilgili rapor/modellerde belirtilen amaçlar doğrultusunda sadece Müşteri'ye sunulmaktadır.

2.2 Bağımsızlık – PwC, Taahhüdü yerine getirirken tarafsız ve bağımsız olarak hareket edecek; Müşteri'ye karşı yükümlülükleri ile adli veya idari mercilere karşı yükümlülükleri arasında bir uyumsuzluk olması halinde adli veya idari mercilere karşı yükümlülükleri öncelik verecektir.

2.3 Raporlar ve Modeller – PwC'nin çalışmasındaki rapor ve modeller Hizmet sözleşmesi ve Anlaşma Genel Şartlarında aksi kararlaştırılmadığı takdirde taraflarca üçüncü bir şahsa ifşa edilmez ya da üçüncü bir şahsın kullanımına sunulamaz. Ayrıca bu rapor ve modeller başka bir çalışmada referans olarak gösterilemez. Ancak aşağıdaki durumlarda hükümden istisnadır: (i) hizmet sözleşmesinde aksine bir hüküm olması halinde (ii) PwC'den yazılı onay alınması halinde, (iii) kanun ve yönetmeliklerin bu tür bir durumda gerektirmesi halinde veya (iv) önceden ifşa edilecek kişi ya da kuruluşa PwC olarak herhangi bir yükümlülük kabul edilmeyeceğinin ve bu kişi ya da kuruluşların da başkalarına ifşa etmemeleri gerektiğini belirten bir yazının (sorumsuzluk mektubu vb) imzalanması koşuluyla üçüncü şahıslara (grup şirketleri dahil) ifşa edilmesi durumunda.

2.4 Sadece Müşteri'ye karşı yükümlülük - PwC, aksi yazılı olarak belirtilmediği sürece sunulan hizmetlere (rapor/model) ilişkin olarak Müşteri dışında herhangi bir üçüncü şahsa, herhangi bir yükümlülük kabul etmemektedir. Hizmetlerin Müşteri'ye sunulması nedeniyle üçüncü bir şahsın PwC'ye karşı iddia ettiği haklar sonucunda uğranılan zarar ve üstenilen giderler Müşteri tarafından tazmin edilecektir.

2.5 Değişiklikler – Hizmetlerin kapsamında veya sözleşme içeriğinde bir değişiklik taraflarca kabul edilerek, yazılı şekilde yapılacaktır.

2.6 Hizmetlerin kapsamı – Hizmetleri ifa ederken, (i) geçerli mesleki standartlar uyarınca herhangi bir denetim/güvence hizmeti sunulmayacak veya (ii) sistemin/sahibesinin ya da hatalı ve gerçek dışı uygulamaların tespit edilmesine yönelik çalışma yapılmayacak ve bunlarla ilgili sorumluluk kabul edilmeyecektir.

2.7 Taslak raporların bağımsızlığı – Müşteriye sözlü ya da yazılı olarak sunulan taslak raporlar ve modeller nihai olmayıp nihai rapor ve tavsiyelerden esas bakımından farklılıklar gösterebileceğinden, taslak rapor ve modellerin taraflarca bağımsızlığı bulunmamaktadır.

PwC

3

Anlaşma Genel Şartları

2.8 Bilgi – Danışmanlık hizmetlerinin verilmesi için Müşteri veya Müşteri için çalışan herhangi bir şahsın PwC'ye verilen bilgilerin (a) zamanında verilmesi, (b) doğru olması ve (c) eksiksiz olması gerekmektedir. Hizmetlerle ilgili olarak Müşteri tarafından verilen herhangi bir bilginin doğruluğu kabul edilmeyeceğinin ve bu kişi ya da kuruluşların da başkalarına ifşa etmemeleri gerektiğini belirten bir yazının (sorumsuzluk mektubu vb) imzalanması koşuluyla üçüncü şahıslara (grup şirketleri dahil) ifşa edilmesi durumunda.

3. Ücretin ödemesi

3.1 Ücret ve masrafların (proje süresince personel tarafından projeye ilişkin yapılan yemek ve ulaşım harcamaları) zamanında ödemesi esastır. Fatura tüm Müşteri'ye tebliğinden itibaren 1 ay içerisinde ödenmesi halinde, PwC'nin diğer tüm hakları saklı kalmak kaydıyla ücret yabancı para cinsinden kararlaştırılmışsa aylık %1, Türk Lirası cinsinden kararlaştırılmışsa aylık %2 vade farkı uygulanacaktır. Fatura tarihi üzerinden 30 gün geçmesine rağmen ödeme yapılmadığı takdirde, ücretin tümü ödene kadar, verilmekte olan hizmetler askya alınabilecektir.

4. Gizlilik ve Kişisel Veriler

4.1 Müşteri'nin, özellikle, faaliyet konusu ile ilgili kamuya açıklanmamış, genel piyasa koşulları içinde sektör analizleri, oda, dernek vb. yapılar kanalı ile elde edilemeyecek nitelikte ve faaliyetine özel olan tüm bilgileri ve Müşteri'nin gizli olduğunu özellikle belirttiği bilgileri Müşteri'nin gizli bilgilerini oluşturur ("Gizli Bilgiler").

4.2 Kimliği belirli veya belirsizlenebilir gerçek kişiye ilişkin her türlü bilgi ise Kişisel Veriyi oluşturur.

4.3 Tarafalar,

- yapacakları veri paylaşımına ilişkin olarak 6698 sayılı Kişisel Verilerin Korunması Kanunu ve sözleşmenin ifası kapsamında uygulanabilir diğer tüm veri koruma mevzuatına uymayı;
- diğer taraftan ait Kişisel Verileri işbu sözleşmede kararlaştırılanlar hariçinde; başka bir amaçla kullanmayacaklarını, üçüncü kişilere açıklamayacaklarını ve yurtdışı/yurtdışına aktarmayacaklarını, elde edilebilir hale getirmeyeceklerini;
- elde ettikleri kişisel verilerin yasadışı şekilde işlenmesini veya bu verilere yasadışı şekilde erişimin önlenmesini için ilgili mevzuatta belirtilen gerekli tüm teknik ve idari önlemleri almayı kabul ve taahhüt eder.

4.4 Müşteri, PwC ile yapılan işin mahiyeti uyarınca gerektiği haller dahilinde ve hukuka ve dürüstlük kuralına uygun, işleme amacı ile bağlantılı, sınırlı ve ölçülü olacak şekilde kişisel veri içeren belge/bilgi paylaşımını kabul ve taahhüt eder. Müşteri, PwC'ye göndereceği bilgi veya belgeler içerisinde işbu sözleşme ile kararlaştırılan hizmetin yerine getirilmesi için işin mahiyetinin gerektirdiğinden ötesinde kişisel veri olması halinde, söz konusu bilgi veya belgeden ilgili kişisel veriyi silmek, anonim hale getirmek, karartmak veya maskeleyerek suretiyle paylaşacaktır. PwC'nin işin mahiyeti uyarınca gerektirmiyor olmasına rağmen paylaşılması olan kişisel verilere ilişkin hiçbir sorumluluğu bulunmamaktadır.

4.5 Gizliliğe ilişkin yükümlülüklerin kapsamı:

PwC, Müşteri tarafından sağlanan bilgilerden; (i) Müşteri tarafından kendisine sunulmadan önce PwC tarafından hukuka uygun olarak hal hazırda bilinen bilgileri; (ii) Müşteri tarafından herhangi bir kısıtlamaya tabii tutulmaksızın diğer herhangi bir gerçek ya da tüzel kişiye sunulmuş olan bilgileri; (iii) Gizli Bilgiler kullanılmadan ya da Gizli Bilgi'ye dayanmaksızın PwC tarafından bağımsız

PwC

3

Letter of Engagement (3/5)

Anlaşma Genel Şartları

4.6 Müşteri, PwC'nin aşağıdaki amaçlardan herhangi biri için kişisel verileri ve gizli bilgileri işleme sine şimdiden onay verir: (i) hizmetlerin ifası, (ii) dışardan Bilgi Teknolojileri (BT) hizmet tedarikçilerinin kullanımı da dahil olmak üzere PwC ikları veya müşterisi ilişkileri yönetim sistemlerinin tutulması veya güncellenmesi, (iii) kalite ve risk yönetimi incelemeleri, ve (iv) Müşteriye PwC ve hizmetleri hakkında bilgi sunulması (v) her türlü yasa, yönetmelik veya tabii olmayan herhangi bir düzenleyici kurum karar.

4.7 PwC Kuruluşları gerekli olduğu takdirde Gizli Bilgileri ve Kişisel Verileri, birden fazla PwC Kuruluşu'nun dahil olduğu uluslararası işler veya denetimler kapsamında olduğu gibi, hizmetlerinin verilmesinde dahil olan yüklenicilerle, alt yüklenicilerle ve temsilcilerle paylaşabilir. Örneğin, grup denetiminin PwC Kuruluşları tarafından grup raporlaması amaçlarıyla bağlı şirketlerin mali tabloları üzerinde gerçekleştirilmiş denetim işinin sonuçları hakkında bilgilerin paylaşılması gerekebilir. Benzer şekilde, birden fazla PwC Kuruluşu'nun katılmış olduğu denetim dışı işlerde de Gizli Bilgiler ve Kişisel veriler belirtilen şekilde paylaşılabilir.

4.8 PwC, Müşteriye ait hassas bilgiler de dahil olmak üzere Gizli Bilgileri ve Kişisel verileri, her türlü celp, davetیه, keşif talimatı ya da benzeri diğer dava süreçleri, mesleki standartlar ve sorumluluklar ve bir PwC Kuruluşu'nun uygulanabileceğine karar verilmiş olduğu süreçte herhangi bir yabancının kanun, mevzuat, kural ve düzenleme de dahil olmak üzere ve bu düzenlemelerin gerektirmesi halinde üçüncü kişilere, ulusal ve uluslararası

4.9 PwC, denetçi bağlamında, risk yönetimi ve kalite kontrol amaçları kapsamında Gizli Bilgileri ve Kişisel Verileri diğer PwC Kuruluşları ile paylaşabilir. Gizli Bilgiler ve Kişisel Verileri işleme sine, hesap yönetimi, ifa, finansal raporlama, bilgi işleme ve dış kaynak kullanımı (outsourcing) hizmetlerinin sağlanması da dahil olmak (depolama, bilgilerin muhafazası, bakım, destek ve diğer hizmetler mahfuz) üzere PwC Kuruluşları'na ve kullanılan hizmet sağlayıcılara bir çok mesleki nedenle transfer edilebilmektedir.

4.10 Taraflar arasındaki sözleşmeden doğan iş ilişkisi sebebiyle Müşteri'nin bağlı ortaklıkların ve şirketleri tarafından sahip olunan bilgilerin doğrudan PwC ya da herhangi bir PwC Kuruluşu'na ifasının gerektiği durumlarda, Müşteri yukarıda öngörülmesi biçiminde bu bilgi paylaşımına izin verir. Ayrıca Müşteri, ilgili bilgilerin PwC'ye yapılması öngörülen bilgi ifası ve PwC tarafından yürütülen bilgi işleme sürecine ilişkin amaç ve kapsamı bildirilerek söz konusu kişilerin rızalarının alınması da dahil ve fakat bununla sınırlı olmamak üzere tüm yasal zorunlulukları yerine getirmesini teyit etmektedir.

4.11 Müşteri, kişisel verilerin korunmasına ilişkin mevzuata uygun olmak ve işbu sözleşmede belirtilen koşullara bağlı olarak kaydıyla, PwC'nin, Müşteri'nin kendisi, çalışanları, tasevronları, müşterileri ve diğer ilgili kişilere ilişkin kişisel verileri toplayabileceğini, depolayabileceğini, üçüncü şahıslara açıklayabileceğini ve uluslararası boyutta transfer etme faaliyetlerini yürütebileceğini kabul etmektedir.

4.12 Müşteri, PwC ile özel nitelikli kişisel veriler dahil olmak üzere, çalışanlarına, yüklenicilerine, müşterilerine ve diğer kişilere ilişkin kişisel verilerini paylaşmışında, PwC'ye yapılması öngörülen bilgi işleme sürecine ilişkin amaç ve kapsamı bildirilerek söz konusu kişilerin rızalarının alınması da dahil ve fakat bununla sınırlı olmamak üzere tüm yasal gereklilikleri yerine getirmesini teyit etmektedir. Müşteri, PwC'nin [<https://www.pwc.com.tr/tr/hakkimizda/kisis-el-verilerin-korumasi.html>] linkinde yer alan Aydınlatma Metni ve PwC Türkiye Kişisel Verilerin Korunması ve İşlenmesi Politikası ve diğer metinlerde belirtilen şekilde gizli bilgileri ve kişisel verileri işleyebileceğini kabul etmektedir.

4.13 PwC tarafından sağlanan hizmetlerin etkinliğini ve verimliliğini artırmak için kullanılan farklı hizmet sağlayıcılara ilişkin bilgi almak için lütfen [<http://www.pwc.com.tr/tr/hakkimizda/iste-bilgis/haric-hizmet-saglayicisi.html>] linkine başvurunuz.

4.14 Gizli bilgiler ifası edilmeliği ve etik yükümlülükleri yükümlüğü sürecinde, Müşteri'nin rakiplerine ya da menfaatleri Müşteri ile çelişebilecek diğer kişilere PwC tarafından hizmet verilebileceğini kabul etmesiniz. PwC çok sayıda müşteriye, geniş bir yelpazede yer alan çeşitli hizmetler sunmaktadır. Bazı şirket veya kuruluşlara verilen hizmetler Müşteri açısından çıkar çatışması olarak değerlendirilebilir.

Böyle durumlarda belirmek açısından gerekli prosedürler PwC tarafından kararlaştırılmaya çalışılmaktadır, hangi durumların bu şekilde değerlendirilebileceğini önceden tahmin etmek her zaman mümkün olmayabileceğinden, Müşteri'nin çıkar çatışması olarak nitelendirilebileceği ve gelecekte doğabilecek, tüm hususların tespit edildiği konusunda garanti veremeyecektir.

4.15 Müşteri, PwC'nin verdiği hizmetlerle ilgili olarak var olan veya daha sonra ortaya çıkabilecek çıkar çatışması olarak nitelendirildiği durumları PwC'ye bildirmeyi kabul etmektedir.

4.16 Böyle bir çıkar çatışmasının belirlenmesi halinde ilgili prosedürlerin uygulanması suretiyle Müşteri'nin çıkarlarının korunabilmesi PwC tarafından mümkün görünüşte, gizliliğin ve verilen görsellerin nesnellüğünün sağlanması için yapılacak düzenlemeler Müşteri ile müzakere edilerek karara bağlanacaktır.

4.17 Bu sözleşmedeki hiçbir hüküm, PwC'nin başka müşterilere hizmet verme hakkını engellemeye veya bu hakkı kısıtlamaya.

5. Fikri mülkiyet hakları

5.1 PwC, raporlar/modeller ve sözleşme kapsamında üretilen tüm materyallere ait fikri mülkiyet haklarına sahiptir. Müşteri, bunları şirket içi amaçları için kullanmak üzere münhasır olmayan ve devredilemeyen yetkilere sahiptir.

5.2 İşbu sözleşmedeki hiçbir hüküm, PwC'nin çalışması sırasında edinilen teknikler, fikirler ve diğer teknik uzmanlıklar diğer müşterilere verilen hizmetlerde kullanılması ya da diğer PwC şirketlerinin kullanılması engellenemez şekilde yorumlanmayacaktır. Söz konusu kullanım gizli bilgilerin ifası edilmesine sebebiyet vermez.

5.3 Veri gizliliği hususlarında yasal danışmanlık isteyen Müşteri sorumluluğundadır. İlgili mevzuatın ihlaliyle ilişkin masrafları Müşteriye ait olmak üzere PwC ya da herhangi bir PwC alt yüklenicisi Müşteri tazmin edecek, zararlarını karşılayacaktır. PwC ya da PwC'nin herhangi bir alt yüklenicisine yapılabilecek hasar taleplerine karşı savunacaktır.

Anlaşma Genel Şartları

6.1 PwC'nin Yükümlülükleri - PwC; hizmetlerinin ifası sırasında, doğrudan doğruya sözleşme hükümlerini ihlali veya kusuru dolayısıyla bünyesinde meydana gelen zarar veya kayıpları karşılamakla yükümlülüğünü kabul etmektedir. Ancak, görevin kastlı şekilde kötüye kullanılmasına hali ya da ağır kusuru olması durumunda hariç olmak üzere, verilen hizmetlere ilişkin olarak PwC'nin (gerek sözleşmeden kaynaklanan, gerekse hata veya diğer durumlarda) yükümlülüğü hiçbir koşul altında bu hizmet için faturalanmış ücret istisnadan tarafından yapılan ödeme veya taraflardan katılan fiili zarardan düşük olan bir katını aşamaz. Kanunda aksine hüküm bulunmadıkça, fiili zarar kar kaybını içermez.

Bu madde kapsamında önerilebilecek görüşler ve kabul edilen sorumluluk, kanunun izin verdiği ölçüde ve diğer PwC kuruluşlarının işbu Sözleşme ile ilgili olarak nihai ve mutlak sorumluluğunu ifade etmektedir. Yine kanunun izin verdiği ölçüde diğer tüm sorumluluklar (özellikle beklenen tasarruf veya faydaların gerçekleştirilmesi durumu dahil olmak ve fakat bununla sınırlı olmamak üzere) açtıkça kapsam dışı tutulmuştur.

Kârdan zarar, serfeye, ifa sıfatı, elde edilmesi öngörülen tasarruf veya faydaların kaybı ya da delaylı veya bağlantılı zararlardan PwC sorumluluk kabul etmemektedir.

6.2 Üçüncü taraflar - PwC ortağı ya da personeli olmayan üçüncü tarafların PwC tarafından verilen hizmetlerle ilgili işlerde Müşteri'nin görevlendirilmesi durumunda, PwC bu kişilerin PwC tarafından tahkim edilmiş olduğuna bakılmaksızın, söz konusu kişiler tarafından verilen tavsiyeler ya da gerçekleştirilen işler için sorumlu ya da yükümlü olmayacaktır.

6.3 Üçüncü taraf yükümlülüklerine karşılık tazmin edilmesi - PwC'nin kastlı suistimalı ya da ağır ihmali dışında, hizmetlerle bağlantılı

6.4 Sınırsız yükümlülük - Sözleşmedeki hiçbir hüküm (i) bir şahıs ihmali sonucu vuku bulan ölüm ya da yaralanma, (ii) bir şahıs suistimalı veya (iii) kanunlar ile sınırlanmayan herhangi bir başka konuda ilgili şahıs yükümlülüğünü sınırlandırmayacaktır.

6.5 Bireylere karşı hak iddiasında bulunulmaması ve/veya dava açılmaması - Hizmetler ile bağlantılı olarak tüm hak iddiaları ve açılacak davalar (fımal durumunda yapılanlar dahil) bireylere karşı değil sadece PwC'ye karşı yöneltilmelidir. PwC ile bağlantılı bu bireyler; ortaklar ve diğer PwC çalışanları, PwC adına hareket etmemektedir.

7. Diğer PwC Kuruluşları veya Atyükleniciler

7.1 Alt yükleniciler - PwC, ayrı ve bağımsız şirket ve kuruluşlardan oluşan global bir ağıdır. Bu hizmetleri sunabilmek adına Türkiye dışında (her biri ayrı ve bağımsız tüzel kişiliğe sahip olan) diğer PwC şirketleri veya atyükleniciler kullanılmaktadır.

7.2 Hak iddialarına ilişkin kısıtlama - Müşteri tarafından, diğer PwC kuruluşları (ortaklar, üyeleri, yöneticileri veya çalışanları dahil) veya PwC'nin alt yüklenicileri aleyhine herhangi bir hak iddiasında (ihmal durumu dahil) bulunulmayacak, dava açılmayacaktır. Bu şirketlerin sunduğu hizmetler bakımından münhasıran işbu sözleşmenin tarafı olan PwC sorumlu tutulacaktır.

7.3 Grup şirketleri - Müşteri, hiçbir grup şirketinin, ilişkili şirketin veya bir holding şirketinin (sözleşmeye taraf olmadıkları durumlarda hariç) hizmetler veya sözleşme ile

Anlaşma Genel Şartları

6. Yükümlülük

6.1 PwC'nin Yükümlülükleri - PwC; hizmetlerinin ifası sırasında, doğrudan doğruya sözleşme hükümlerini ihlali veya kusuru dolayısıyla bünyesinde meydana gelen zarar veya kayıpları karşılamakla yükümlülüğünü kabul etmektedir. Ancak, görevin kastlı şekilde kötüye kullanılmasına hali ya da ağır kusuru olması durumunda hariç olmak üzere, verilen hizmetlere ilişkin olarak PwC'nin (gerek sözleşmeden kaynaklanan, gerekse hata veya diğer durumlarda) yükümlülüğü hiçbir koşul altında bu hizmet için faturalanmış ücret istisnadan tarafından yapılan ödeme veya taraflardan katılan fiili zarardan düşük olan bir katını aşamaz. Kanunda aksine hüküm bulunmadıkça, fiili zarar kar kaybını içermez.

Bu madde kapsamında önerilebilecek görüşler ve kabul edilen sorumluluk, kanunun izin verdiği ölçüde ve diğer PwC kuruluşlarının işbu Sözleşme ile ilgili olarak nihai ve mutlak sorumluluğunu ifade etmektedir. Yine kanunun izin verdiği ölçüde diğer tüm sorumluluklar (özellikle beklenen tasarruf veya faydaların gerçekleştirilmesi durumu dahil olmak ve fakat bununla sınırlı olmamak üzere) açtıkça kapsam dışı tutulmuştur.

Kârdan zarar, serfeye, ifa sıfatı, elde edilmesi öngörülen tasarruf veya faydaların kaybı ya da delaylı veya bağlantılı zararlardan PwC sorumluluk kabul etmemektedir.

6.2 Üçüncü taraflar - PwC ortağı ya da personeli olmayan üçüncü tarafların PwC tarafından verilen hizmetlerle ilgili işlerde Müşteri'nin görevlendirilmesi durumunda, PwC bu kişilerin PwC tarafından tahkim edilmiş olduğuna bakılmaksızın, söz konusu kişiler tarafından verilen tavsiyeler ya da gerçekleştirilen işler için sorumlu ya da yükümlü olmayacaktır.

6.3 Üçüncü taraf yükümlülüklerine karşılık tazmin edilmesi - PwC'nin kastlı suistimalı ya da ağır ihmali dışında, hizmetlerle bağlantılı

6.4 Sınırsız yükümlülük - Sözleşmedeki hiçbir hüküm (i) bir şahıs ihmali sonucu vuku bulan ölüm ya da yaralanma, (ii) bir şahıs suistimalı veya (iii) kanunlar ile sınırlanmayan herhangi bir başka konuda ilgili şahıs yükümlülüğünü sınırlandırmayacaktır.

6.5 Bireylere karşı hak iddiasında bulunulmaması ve/veya dava açılmaması - Hizmetler ile bağlantılı olarak tüm hak iddiaları ve açılacak davalar (fımal durumunda yapılanlar dahil) bireylere karşı değil sadece PwC'ye karşı yöneltilmelidir. PwC ile bağlantılı bu bireyler; ortaklar ve diğer PwC çalışanları, PwC adına hareket etmemektedir.


7. Diğer PwC Kuruluşları veya Atyükleniciler

7.1 Alt yükleniciler - PwC, ayrı ve bağımsız şirket ve kuruluşlardan oluşan global bir ağıdır. Bu hizmetleri sunabilmek adına Türkiye dışında (her biri ayrı ve bağımsız tüzel kişiliğe sahip olan) diğer PwC şirketleri veya atyükleniciler kullanılmaktadır.

7.2 Hak iddialarına ilişkin kısıtlama - Müşteri tarafından, diğer PwC kuruluşları (ortaklar, üyeleri, yöneticileri veya çalışanları dahil) veya PwC'nin alt yüklenicileri aleyhine herhangi bir hak iddiasında (ihmal durumu dahil) bulunulmayacak, dava açılmayacaktır. Bu şirketlerin sunduğu hizmetler bakımından münhasıran işbu sözleşmenin tarafı olan PwC sorumlu tutulacaktır.

7.3 Grup şirketleri - Müşteri, hiçbir grup şirketinin, ilişkili şirketin veya bir holding şirketinin (sözleşmeye taraf olmadıkları durumlarda hariç) hizmetler veya sözleşme ile

Letter of Engagement (4/5)

Anlaşma Genel Şartları 

başlanış olarak herhangi bir yükümlülük konusunda bir PwC Kararlığı (ortakları, üyeleri, yöneticileri veya çalışanları dâhil) veya alt yüklenicileri aleyhine herhangi bir hak iddiasında bulunmayacağı ve dava açmayacağı kabul ve taahhüt etmektedir.

8. Feshih

8.1 Derhal ihbar yoluyla – Taraflardan herhangi biri aşağıdakilerden birinin vuku bulması halinde diğer tarafa yazılı ihbarda bulunmak suretiyle sözleşmeyi derhal feshedebilir: (i) diğer tarafın sözleşmeyi esasla ilişkin koşullar bakımından ihlal etmesi ve bu ihlal 7 gün içerisinde telafi etmemesi, (ii) diğer tarafın borca batık durumda olması ya da olağanın halin icabından anlaşılması, veya (iii) sözleşmenin ifasını (ücrete ilişkin herhangi bir düzenlemenin uygulanması dahil) kamu veya yönetmeliklerde yer alan bir gerekliliği/ hükümü ihlal etmesi.

8.2 Öncüder günlük ihbar yoluyla – Taraflardan herhangi biri sözleşmeyi 14 gün önceden yazılı olarak ihbar etmek suretiyle feshedebilir.

8.3 Askıya alma – Taraflardan herhangi biri, aşağıdaki durumlarda sözleşme kapsamındaki yükümlülüklerinin ifasını askıya alabilir: (i) sözleşme kapsamındaki görev ve yükümlülüklerinin yerine getirilmesini ya da getirilebilmesini önemli ölçüde ve olumsuz şekilde etkileyen koşulların var olması ya da ortaya çıkması; veya (ii) taraflardan birinin, sözleşme kapsamındaki görev ve yükümlülüklerinin yerine getirilmesi için önemli olan bilgiyi diğer taraftan vermediğinden haberdar olması (sözleşme tarihinden önce ya da sonra); veya (iii) PwC'nin herhangi bir fatura tarihinden sonra 20 gün içinde ilgili ödemeyi almaması.

Askıya alma döneminin 30 günü aşması halinde, PwC'ya da müşteri sözleşmeyi derhal yazılı olarak feshedebilir.

8.4 Feshih ile ödenecek ücretler – Feshih tarihine kadar PwC tarafından ifa edilen tüm hizmetler için PwC'ye ödeme yapılacaktır. Hizmetler için sabit bir ücretin olduğu durumlarda, sabit ücret tutarına kadar, saatlik ücretler üzerinden harcanan zamana göre ifa edilen hizmetler için ödeme yapılacaktır.

9. Anlaşmazlık Çözümü

9.1 Uygulanacak hukuk ve yetki – Sözleşme ve sözleşmeden doğan herhangi bir ihtilaf, sözleşmeden kaynaklı olsun ya da olmasın, Türk kanunlarına tabi olacak ve İstanbul (Çağlayan) Mahkemeleri ve İcra Daireleri münhasaran yetkili olacaktır.


10. Genel Hükümler

10.1 Saklama Yükümlülüğü – PwC, Müşteri tarafından ya da üçüncü şahıslardan Müşteri adına verilen materyaller dahil olmak üzere hizmetlerle ilgili tüm materyallerin nüshalarını saklayabilir. Müşteri'nin yazılı talebi üzerine, mesleki standart ve mevzuatın gerektirdiği şekilde materyallerin bir nüshasının saklanması yükümlülüğü saklı kalmak kaydıyla, tüm varlık ve dokümanları Müşteri'ye iade edilecektir.

10.2 Yetkiler – Taraflar bu sözleşmeyi geçerli ve yasal olacak şekilde akdetmek için gerekli tüm izin, onay ve yetkilerin alındığı teyit edilmiştir.

10.3 İş ve Etik Kuralları – İşbu sözleşmedeki hiçbir hüküm, PwC'yi veya PwC'nin herhangi bir ortağı, çalışanı veya temsilcisini, herhangi bir yazsaya veya üye oldukları ya da olacakları ilgili profesyonel kurumun iş veya etik kuralları ya da kılavuzlarına uygun hareket etmek için gerekli adamları atılmaktan alıkoymaz.

10.4 Hizmetin Sonuçlanması – Müşteri PwC'nin, hizmetlere, taahhüdün başarıyla bir şekilde sonuçlanmasıyla ya da karşı karşıya kalabileceği ekonomik, finansal ya da diğer



Anlaşma Genel Şartları 

sonuçlarına ilgili hiçbir garanti ya da güvence vermediğini kabul etmektedir.

10.5 Denetçi Bağımsızlığı – Denetçi bağımsızlığına ilişkin düzenlemeler çerçevesinde, Müşteri'nin aynı zamanda PwC denetim müşterisi veya bunların iştiraki olması halinde, Müşteriye hizmet sağlamadan önce, hizmetin verilmesi sırasında veya hizmeti sağladıktan sonra işlenmesi gereken bazı prosedürler (Müşteriden veya Müşterinin bağlı bulunduğu grubun denetim komitesinden ön izin alınması ve denetim dışı ücretlerin ifası vb. gibi) bulunmaktadır.

Müşteri'nin, PwC'nin denetim müşterisi veya böyle bir müşterisinin iştiraki olması halinde Müşteri'ye sunulamayacak bazı hizmetler vardır. Müşteri, hizmet sözleşmesini imzalarken, PwC'nin denetim müşterisi veya böyle bir müşterinin iştiraki olup olmadığını bildirmeyi taahhüt etmektedir.

Müşteri ayrıca sözleşmenin imzalanmasından sonra, halka açık bir şirket haline gelmesi veya böyle bir şirketin iştiraki olması ya da herhangi bir iştirakinin, ortağının veya kendisinin bir PwC firmasının denetim müşterisi olması durumunda PwC Türkiye'ye bilgi verme sorumluluğunu kabul etmektedir.

PwC Türkiye, denetçi bağımsızlığı kuralları ve mevzuat çerçevesinde Müşteri'ye hizmet verilmesi izninin kalkması halinde, en az 10 (on) gün önceden ihtar vererek işbu Sözleşme'yi feshetme hakkını saklı tutmaktadır.

10.6 Suç Getirilerinin Aklanması - İşbu Sözleşme, suç gelirlerinin aklanmamasını engellemesi konusundaki PwC'nin global politikasına ve bu konudaki global mesleki uygulamalara tabidir. Bunlar, özellikle Türk Ceza Kanunu ile birlikte ilgili diğer mevzuat, tüzük ve uygulamaları mesleki kuralları kapsamaktadır. Bu çerçevede, Müşteri gerektirdiğinde, makul ve gerekli olan ekonomik kaynakları ve bu kaynaklardaki

herhangi bir değişikliği ve nihai ortaklarını bildirmeye yükümlüdür.

10.7 Elektronik Posta (e-posta) – Taraflar hizmetlerin verilmesi sırasında elektronik ortamda iletişim kurmayı tercih edebilir. Bununla birlikte, bilgilerin elektronik transferinin güvenli olduğu, virüs veya hata içermediği garanti edilemez; elektronik olarak transfer edilen bilgiler kesilebilir, bozulabilir, kaybolabilir, yok olabilir, geç veya eksik gelebilir, önemli ölçüde hasar görülebilir veya kullanımını güvenilmez hale gelebilir. Taraflar sistem ve prosedürlerin, elektronik iletişimin bu tehlikelerini bertaraf etmeyi garantiemediğini kabul etmektedir.

Taraflar bu riskleri bilerek elektronik iletişime izin verir ve elektronik bilgi transferi yapmadan önce, iletişim amacına genel olarak bilinen virüsleri kontrol etmek için ticari olarak makul yöntemleri kullanmayı taahhüt etmektedir.


Kendi sistemlerinin ve elektronik iletişim ile ilgili menfaatinin korunması Taraflar'dan her birinin kendi sorumluluğunda olacaktır. Tarafların (ilgili ortaklar, çalışanlar, tedarikçiler ve acenteleri de kapsamlıdır) birbirlerine karşı, elektronik bilgi transferinden ya da bu bilgiler güvenmekten kaynaklanan her türlü hata, zarar veya kayıp nedeniyle, anlaşma veya haksız fiilden doğan (ihmal dahil) veya başka bir şekilde herhangi bir sorumluluğu bulunmayacaktır.

Taraflar elektronik posta mesajlarının kullanımında, aşağıdaki yöntemleri uygularlar:

(i) aciliyet arz eden işlerde, gönderici elektronik postaya ek olarak gerekli aksiyonun alınmasına dair teyit için telefon eder.

(ii) gizli bilgilerin elektronik posta ile gönderilmesi durumunda, gönderici iştirakinin gizliliğini belirler ve cevabın elektronik ortamda gönderilmesini istemiyorsa bunu açıkça ifade eder.



Anlaşma Genel Şartları 


10.8 Müchir Sebep - Bir "Müchir Sebep Olayı" Etkilenen Taraf'ın makul kontrolünün dışındaki koşulları ve durumları ifade edecektir; örnek olarak ancak bunlarla sınırlı olmamak üzere doğal afetler, hükümet faaliyetleri, savaş halleri (ilan edilmiş olsun veya olmasın), askeri hareket, yangın, sel, terör, veya darbeler. Eğer bir Müchir Sebep Olayı, hizmetler'in ifasını açık ve olumsuz bir şekilde engelliyorsa veya geciktiriyorsa, Etkilenen Taraf, diğer Taraf'ı bilgilendirecektir. Müchir Sebep Olayı sonucunda hizmetler'in makul bir süre içinde ifası imkansız hale gelirse veya Müchir Sebep Olayı birbiri'nin izleyen Öncüder (14) Gün'ü geçerse, tarafların yazılı bildirimde bulunarak Sözleşme'yi feshetme hakkı olacaktır.

10.9 Sözleşmenin bütünlüğü – Mevcut sözleşme, hizmetlere ilişkin olarak taraflar arasındaki sözleşmenin bütünlüğünü teşkil etmektedir. Bu sözleşme, işbu sözleşmede kararlaştırılan hizmetlere ilişkin önceden yapılan tüm sözleşmeleri, verilen beyan, taahhüt ve yazışmaları geçersiz kılmaktadır. Taraflardan biri diğer tarafa karşı ihmal kaynaklı olsa dahi sorumlu tutulmayacaktır.





10.10 Uygulanabilirlik – Sözleşmenin herhangi bir hükümü veya hükümleri geçerli, yasa dışı veya uygulanamaz olursa, bu hükümler diğer hükümlerin uygulanabilirliğine hâlel getirmeksizin sözleşmenin purvası olarak kabul edilmeyecektir. Bu hükümlerin çıkarılması, sözleşmenin ticari temellerini ciddi ölçüde etkiler veya değiştirirse sözleşme, PwC ile iyi niyet çerçevesinde görüşülerek koşullara göre gerekli veya istenen şekilde tadil edilecektir.

10.11 Müşterilerin Sorumluluk – Sözleşmeye birden fazla Müşteri'nin taraf olması halinde, bahsi geçen taraflar müşterilerin ve müteselsilen sorumlu olacaktır.

10.12 Temlik – Taraflardan hiçbirisi, sözleşme kapsamındaki hak veya yükümlülüklerini diğerinin önceden yazılı izni olmadan devir veya temlik edemez.



Letter of Engagement (5/5)

Anlaşma Genel Şartları		
<p>11. Tanımlar</p> <p>11.1 Sözleşmede aşağıdaki kelime ve ifadeler yanlarında yer alan anlama sahip olacaktır:</p> <p>PwC Kuruluşu - dünya çapındaki PricewaterhouseCoopers şirketleri ve kuruluşları ağı içindeki herhangi bir kuruluş ya da ortaklık</p> <p>Hizmetler - hizmet sözleşmesinde belirtilen hizmetler</p> <p>Sözleşme - bu koşullar ve ilgili oluştukları hizmet sözleşmesi (varsa çizelgeler dahil)</p> <p>PwC - BJK Plaza, Süleyman Seha Caddesi No: 48 B Blok Kat 10 Akaretler Beşiktaş 34357</p>	<p>Istanbul-Türkiye adresinde kayıtlı ve PricewaterhouseCoopers üyesi PwC Yönetim Danışmanlığı A.Ş.,</p> <p>Müşteri - sözleşmenin tarafı ya da tarafları (PwC hariç).</p> <p>Fikri mülkiyet - patentler, ticari markalar, hizmet markaları, tasarımlar hakları (tescilli olsun olmasın), yukarıdakilerin herhangi biriyle ilgili bağavurular, telif hakları, know-how, ticaret sırları ve herhangi bir ülkede tescil edilmiş veya edilmemiş tüm diğer benzer mülkiyet hakları.</p> <p>Materyal - yazılı, sözlü, görüntülü, kaydedilmiş her türlü belge</p>	
<p>İmza: </p> <p>Yetkili İsim: Tolga İnceoğlu</p> <p>Ünvanı: Baş Mühür Müdürü</p> <p>Türkiye Şişe ve Cam Fabrikaları A.Ş.</p> <p>Tarih: 31/1/2020</p> <p> Gözetim Kurulu Mali Kontrol ve Raporlama Bölümü 31/1/2020</p>	<p>İmza: </p> <p>Yetkili İsim: Serkan Aslan</p> <p>Ünvanı: Ortak</p> <p>PwC Yönetim Danışmanlığı A.Ş.</p> <p>Tarih: 31.01.2020</p>	

Contacts (1/6)**SISE**

Contact person	Company name	Position
Görkem ELVERİCİ	SISE	Chairman, Financial Affairs
Gökhan GÜRALP	SISE	Financial Control and Reporting Director
Tolga İŞMEN	SISE	Chief Legal Counsel
Özlem VERGON	SISE	Chairman, Strategy
Başak ÖGE	SISE	Coordinator, Corporate Governance & Compliance
Murat Ardıç YILMAZ	SISE	Strategic Planning and Portfolio Management Director

Contacts (2/6)

SISE – Other Companies

Contact person	Company name	Position
Ahmet ÇELİK	Şişecam Holding	Financial Control and Statutory Reporting Executive
İlker ALBAYRAK	Şişecam Dış Ticaret	General Accounting Chief
Nihal TOPÇUOĞLU	Çayırova Cam Sanayii	Accounting Manager
Hasan SAÇAN	Şişecam Sigorta	Accounting Chief
Namık BAYDEMİR	Şişecam Enerji / Camiș Elektrik	CEO of Şişecam Enerji A.Ş.
Batu BİLGE	Şişecam Enerji / Camiș Elektrik	Energy Trading Manager
Güler GÜRSES	Şişecam Enerji / Camiș Elektrik	Accounting Director
Osman KORALAY	Şişecam Çevre Sistemleri	CEO
Pınar ÜNAL	Şişecam Çevre Sistemleri	Financial Affairs Executive
Tarkan ÜZMEZ	Camiș Ambalaj	Accounting Manager
Mutlu YÜKSEL	Camiș Ambalaj	Factory Manager
Mehmet AKGÜN	Camiș Madencilik	Mine Search and Development Manager
Burak EKER	Camiș Madencilik	Production Planning Chief
Özgür BALCI	Camiș Madencilik	Business Development Chief
Tarık ELMALI	Camiș Madencilik	Health, Safety and Environment Manager
Burcu ÖNER	Camiș Madencilik	Accounting Manager
İlknur KOZCAZ	Soda	Strategic Planning Specialist
Saynur DAĞLI	Soda	Budget and Financial Controlling Specialist

Contacts (3/6)

TRKCM

Contact person	Company name	Position
Ebru ŞAPOĞLU	TRKCM	Sales and Marketing Vice President
Bülent AYDIN	TRKCM	Strategic Planning Director
Bünyamin ARSLAN	TRKCM	Budget and Financial Controlling Manager– Architectural Glass
Ufuk YAMAK	TRKCM	Budget and Financial Controlling Manager– Automotive Glass
Ahmet DERViŞ	TRKCM	Business Development Director
Ege ÖZGÜVEN	TRKCM	Senior Strategic Planning Specialist
Orçun KAHYAOĞLU	TRKCM	Senior Strategic Planning Specialist
Tansu AKALIN	TRKCM	Senior Budget and Financial Controlling Specialist
Ahmet ÖZTÜRK	TRKCM	Budget and Financial Controlling Specialist
Ezgi UÇAR	TRKCM	Strategic Planning Assistant Specialist
Fatih TAVMAN	TRKCM	Strategic Planning Assistant Specialist
Melek AK	TRKCM	Business Development Assistant Specialist

Contacts (4/6)

ANACM

Contact person	Company name	Position
Sibel KOÇ KARACAOĞLU	ANACM	Financial Affairs Director
Selim KALKAN	ANACM	Strategic Planning Director
İlker GÜVEN	ANACM	Budget and Financial Controlling Manager
Hasan TUNÇ	ANACM	Strategic Planning Specialist
Sibel TEMURLENK	ANACM	Strategic Planning Assistant Specialist

Contacts (5/6)

PASAB & DENCM

Contact person	Company name	Position
Başar TIRPANCI	PASAB	Strategic Planning Director
Erkan TAŞDEMIRCI	PASAB	Budget and Financial Controlling Manager
Deniz KILIÇDERE	PASAB	Business Development Manager
Burak DURMAZ	PASAB	Strategic Planning Assistant Specialist
Serpil BEŞBAŞ	PASAB	Financial Affairs Manager -Paşabahçe Stores
Semra YAZKAN	PASAB	Budget Control Executive - Paşabahçe Stores

Contacts (6/6)**SODA**

Contact person	Company name	Position
Fehmi ALANLI	SODA	Sales and Marketing- Vice President
Hidayet ÖZDEMİR	SODA	Production Vice President - Advisor
Umut Barış DÖNMEZ	SODA	Financial Affairs Director
Selma AKYOL	SODA	Supply Chain Director
Nedim KULAKSIZOĞLU	SODA	Financial Affairs Director- Pacific LLC
Tuğrul ERHAN	SODA	Sales and Marketing Group Manager - Soda
Aylin ERENTÜRK	SODA	Foreign Sales Manager
Gülay TEZCAN	SODA	Budget and Financial Controlling Specialist
Ece Keklik ÖLMEZ	SODA	Strategic Planning Specialist
Serra NEMUTLU	SODA	Strategic Planning Specialist
Azize DEMİR	SODA	Strategic Planning Assistant Specialist

Information Sources (1/7)

TRKCM

Financial information	Company name	Description
Consolidated Financial Statements	TRKCM	Consolidated financial statements, relevant consolidation work and audit reports prepared and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. in accordance to TMS and TFRS, dated 31.12.2017, 31.12.2018 and 31.12.2019
Solo Financial Statements	TRKCM	Financial reporting packages of solo, company-based TMS/TFRS financial statements for all the companies under the Flat Glass Group, undergone independent auditing by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. dated 31.12.2017, 31.12.2018 and 31.12.2019, which serve as a basis for the consolidated financial statements preparation
Business Plans	TRKCM	Detailed business plans including information regarding price, volume, sales, cost, investment spending, capacity and working capital prepared by the TRKCM Management for all of the Companies in the Flat Glass Group for the period between 2020-2025
Corporate Income Tax Returns and Tax Incentive Certificates	TRKCM	Corporate Income Tax returns and tax incentive certificates have been obtained in order to determine the deductible tax incentives from the Corporate Income Tax and the previous years' losses deductible from the tax base
Strategic Plan Presentation and Other Key Information	TRKCM	<ul style="list-style-type: none"> • Production capacity, furnace count, personnel count, brands • Current shareholding structure • Fixed asset movement tables • Historical developments and current state of TRKCM and solo companies • Key information and forecasts in relation to the architectural glass and automotive glass markets • Details on the receivables and payables of a financing nature for the companies within the Flat Glass Group • Non-operational assets and liabilities and information on one-off income and expenses for the Companies within the Flat Glass Group

Information Sources (2/7)

ANACM

Financial information	Company name	Description
Consolidated Financial Statements	ANACM	Consolidated financial statements, relevant consolidation work and audit reports prepared and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. in accordance to TMS and TFRS, dated 31.12.2017, 31.12.2018 and 31.12.2019
Solo Financial Statements	ANACM	Financial reporting packages of solo, company-based TMS/TFRS financial statements for all the companies under the Glass Packaging Group, undergone independent auditing by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. dated 31.12.2017, 31.12.2018 and 31.12.2019, which serve as a basis for the consolidated financial statements preparation
Business Plans	ANACM	Detailed business plans including information regarding price, volume, sales, cost, investment spending, capacity and working capital prepared by the ANACM Management for all of the Companies in the Glass Packaging Group for the period between 2020-2025
Corporate Tax Returns and Tax Incentive Certificates	ANACM	Corporate Income Tax returns and tax incentive certificates have been obtained in order to determine the deductible tax incentives from the Corporate Income Tax and the previous years' losses deductible from the tax base.
Strategic Plan Presentation and Other Key Information	ANACM	<ul style="list-style-type: none"> • Production capacity, furnace count, personnel count • Income and cost calculations related to the 2020 budget • Current shareholding structure • Fixed asset movement tables • Historical developments and current state of the Glass Packaging Group and solo companies • Key information and forecasts in relation to the glass packaging market • Key information, presentations and detailed feasibility works in relation to the Eastern Europe investments • Details on the receivables and payables of a financing nature for the companies within the Glass Packaging Group • Non-operational assets and liabilities and information on one-off income and expenses for the Companies within the Glass Packaging Group

Information Sources (3/7)

PASAB

Financial information	Company name	Description
Consolidated Financial Statements	PASAB	Consolidated financial statements, relevant consolidation work and audit reports prepared and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. in accordance to TMS and TFRS, dated 31.12.2017, 31.12.2018 and 31.12.2019
Solo Financial Statements	PASAB	Financial reporting packages of solo, company-based TMS/TFRS financial statements for all the companies under the Glassware Group, undergone independent auditing by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. dated 31.12.2017, 31.12.2018 and 31.12.2019, which serve as a basis for the consolidated financial statements preparation
Business Plans	PASAB	Detailed business plans including information regarding price, volume, sales, cost, investment spending, capacity and working capital prepared by the PASAB Management for all of the Companies in the Glassware Group for the period between 2020-2025
Corporate Tax Returns and Tax Incentive Certificates	PASAB	Corporate Income Tax returns and tax incentive certificates have been obtained in order to determine the deductible tax incentives from the Corporate Income Tax and the previous years' losses deductible from the tax base.
Strategic Plan Presentation and Other Key Information	PASAB	<ul style="list-style-type: none"> • Production capacity, furnace count, personnel count • Income and cost calculations related to the 2020 budget • Current shareholding structure • Fixed asset movement tables • Historical developments and current state of the Glassware Group and solo companies • Key information and forecasts in relation to the glassware market • Details on the receivables and payables of a financing nature for the companies within the Glassware Group • Non-operational assets and liabilities and information on one-off income and expenses for the Companies within the Glassware Group

Information Sources (4/7)

DENCM

Financial information	Company name	Description
Consolidated Financial Statements	DENCM	Consolidated financial statements, relevant consolidation work and audit reports prepared and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. in accordance to TMS and TFRS, dated 31.12.2017, 31.12.2018 and 31.12.2019
Solo Financial Statements	DENCM	Financial reporting packages of solo, company-based TMS/TFRS financial statements for DENCM, undergone independent auditing by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. dated 31.12.2017, 31.12.2018 and 31.12.2019, which serve as a basis for the consolidated financial statements preparation
Business Plans	DENCM	Detailed business plans including information regarding price, volume, sales, cost, investment spending, capacity and working capital prepared by the DENCM Management for DENCM for the period between 2020-2025
Corporate Tax Returns and Tax Incentive Certificates	DENCM	Corporate Income Tax returns and tax incentive certificates have been obtained in order to determine the deductible tax incentives from the Corporate Income Tax and the previous years' losses deductible from the tax base.
Strategic Plan Presentation and Other Key Information	DENCM	<ul style="list-style-type: none"> • Production capacity, furnace count, personnel count • Income and cost calculations related to the 2020 budget • Current shareholding structure • Fixed asset movement tables • Historical developments and current state of DENCM • Key information and forecasts in relation to the glassware market • Details on the receivables and payables of a financing nature of DENCM • Non-operational assets and liabilities and information on one-off income and expenses of DENCM

Information Sources (5/7)

SODA

Financial information	Company name	Description
Consolidated Financial Statements	SODA	Consolidated financial statements, relevant consolidation work and audit reports prepared and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. in accordance to TMS and TFRS, dated 31.12.2017, 31.12.2018 and 31.12.2019
Solo Financial Statements	SODA	Financial reporting packages of solo, company-based TMS/TFRS financial statements for all the companies under the Chemicals Group, undergone independent auditing by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. dated 31.12.2017, 31.12.2018 and 31.12.2019, which serve as a basis for the consolidated financial statements preparation
Business Plans	SODA	Detailed business plans including information regarding price, volume, sales, cost, investment spending, capacity and working capital prepared by the SODA Management for all of the Companies in the Chemicals Group for the period between 2020-2025
Corporate Tax Returns and Tax Incentive Certificates	SODA	Corporate Income Tax returns and tax incentive certificates have been obtained in order to determine the deductible tax incentives from the Corporate Income Tax and the previous years' losses deductible from the tax base.
Strategic Plan Presentation and Other Key Information	SODA	<ul style="list-style-type: none"> • Production capacity, furnace count, personnel count • Income and cost calculations related to the 2020 budget • Current shareholding structure • Fixed asset movement tables • Historical developments and current state of the Chemicals Group and solo companies • Key information and forecasts in relation to the chemicals market • Key information, presentations and detailed feasibility works in relation to the USA investment • Details on the receivables and payables of a financing nature for the companies within the Chemicals Group • Non-operational assets and liabilities and information on one-off income and expenses for the Companies within the Chemicals Group

Information Sources (6/7)

SISE – Consolidated

Financial information	Company name	Description
Consolidated Financial Statements	SISE	Consolidated financial statements, relevant consolidation work and audit reports prepared and audited by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. in accordance to TMS and TFRS, dated 31.12.2017, 31.12.2018 and 31.12.2019
Solo Financial Statements	SISE	Financial reporting packages of solo, company-based TMS/TFRS financial statements for the Other Companies with SISE shareholding, undergone independent auditing by Güney Bağımsız Denetim ve S.M.M.M. A.Ş. dated 31.12.2017, 31.12.2018 and 31.12.2019, which serve as a basis for the consolidated financial statements preparation
Business Plans	SISE	Detailed business plans including information regarding price, volume, sales, cost, investment spending, capacity and working capital prepared by the SISE Management for all the Other Companies, including SC for the period between 2020-2025
Corporate Tax Returns and Tax Incentive Certificates	SISE	Corporate Income Tax returns and tax incentive certificates have been obtained in order to determine the deductible tax incentives from the Corporate Income Tax and the previous years' losses deductible from the tax base.
Dividend Distribution Table	SISE	The exercises related to the details of dividend distributions of the Group Companies that will take place after 31.12.2019, prepared by the SISE Management
Other Key Information	SISE	<ul style="list-style-type: none"> • Current shareholding structure • Fixed asset movement tables • Appraisal reports for the Investment Properties • Copyright and central services income works and detailed investment plans for SC • R&D centre spending briefing for SC • Aging table for the investment credit of CV • Details on the receivables and payables of a financing nature for all Other Companies • Non-operational assets and liabilities and information on one-off income and expenses for all Other Companies • The documentation prepared for the existing land and the land sold in 2020 for CY • The amount of precious metal owned by CE and the valuation works

Information Sources (7/7)

Publicly Available Sources

- IMF World Economic Outlook
- Bloomberg
- PDP
- Capital IQ
- CBRT (TCMB)
- Automotive Industry Association (Otomotiv Sanayii Derneđi)

Macroeconomic Assumptions

Inflation

Year-end inflation

Country/Region	Currency	2017	2018	2019	2020	2021	2022	2023	2024	2025
Turkey	TL	11.92%	20.30%	13.50%	12.00%	12.00%	11.00%	10.00%	9.00%	8.00%
USA	\$	2.17%	1.92%	2.18%	0.78%	2.42%	2.00%	2.00%	2.00%	2.00%
Euro Zone	EUR	1.35%	1.52%	1.41%	-0.08%	1.28%	1.50%	1.75%	2.00%	2.00%
Russia	RUB	2.52%	4.27%	4.85%	3.79%	2.89%	3.00%	3.50%	4.00%	4.00%
China	CNY	1.80%	1.90%	2.20%	0.95%	2.98%	2.90%	3.00%	3.00%	3.00%
Bulgaria	BGN	1.80%	2.31%	2.20%	1.00%	2.40%	2.30%	2.30%	2.30%	2.30%
Georgia	GEL	6.72%	1.52%	3.02%	3.50%	3.04%	3.02%	2.98%	3.02%	3.02%
Bosnia-Herzegovina	BAM	1.62%	1.64%	1.61%	-0.64%	1.24%	1.58%	1.71%	3.83%	3.83%
Romania	RON	3.32%	3.26%	3.53%	1.39%	1.94%	2.55%	2.55%	2.55%	2.55%
India	INR	4.59%	2.67%	4.09%	2.73%	3.85%	4.00%	4.00%	4.00%	4.00%

Average inflation

Country/Region	Currency	2017	2018	2019	2020	2021	2022	2023	2024	2025
Turkey	TL	11.14%	16.33%	15.68%	12.00%	12.00%	11.50%	10.50%	9.50%	8.50%
USA	\$	2.14%	2.44%	1.82%	0.62%	2.24%	2.21%	2.00%	2.00%	2.00%
Euro Zone	EUR	1.54%	1.76%	1.31%	0.23%	0.98%	1.39%	1.63%	1.88%	2.00%
Russia	RUB	3.67%	2.88%	4.99%	3.09%	2.99%	2.94%	3.25%	3.75%	4.00%
China	CNY	1.56%	2.10%	2.28%	3.05%	2.55%	2.94%	2.95%	3.00%	3.00%
Bulgaria	BGN	1.19%	2.63%	2.42%	1.03%	1.95%	2.35%	2.30%	2.30%	2.30%
Georgia	GEL	6.04%	2.62%	2.51%	4.64%	3.69%	3.03%	3.00%	3.00%	3.02%
Bosnia-Herzegovina	BAM	1.25%	1.37%	1.47%	-0.64%	1.37%	1.41%	1.64%	2.77%	3.83%
Romania	RON	1.34%	4.63%	3.28%	2.25%	1.46%	2.24%	2.55%	2.55%	2.55%
India	INR	3.60%	3.48%	3.88%	3.34%	3.62%	3.92%	4.00%	4.00%	4.00%

Source: IMF, PwC Analysis, Publicly Available Sources

Macroeconomic Assumptions

Foreign Exchange Rates (1/2)

Recent developments, which occurred within the first 4 months of 2020, have been taken into account in the assumptions made for the year 2020. For the other years, the exchange rate differences have been estimated based on the expected inflation difference (Fisher method).

Year-end Foreign Exchange Rates

Parity	2017	2018	2019	2020	2021	2022	2023	2024	2025
USD/TL	3.77	5.26	5.94	6.95	7.60	8.27	8.92	9.53	10.09
EUR/TL	4.52	6.03	6.65	7.54	8.34	9.12	9.85	10.53	11.15
EUR/RUB	69.39	80.01	69.63	83.51	84.83	86.09	87.57	89.28	91.03
EUR/CNY	7.84	7.91	7.87	7.70	7.83	7.94	8.04	8.11	8.19
EUR/BGN	1.96	1.96	1.96	1.98	2.00	2.01	2.03	2.03	2.04
EUR/GEL	3.10	3.07	3.21	3.50	3.56	3.61	3.66	3.69	3.73
EUR/BAM	1.96	1.96	1.96	1.94	1.94	1.95	1.94	1.98	2.02
EUR/RON	4.69	4.69	4.81	4.88	4.91	4.96	5.00	5.03	5.05
EUR/INR	76.53	79.97	79.80	83.51	85.63	87.73	89.68	91.43	93.23
TL/RUB	15.37	13.27	10.47	11.08	10.18	9.44	8.89	8.48	8.16
TL/CNY	1.74	1.31	1.18	1.02	0.94	0.87	0.82	0.77	0.73
BGN/TL	2.31	3.08	3.40	3.81	4.17	4.52	4.87	5.18	5.47
GEL/TL	1.46	1.97	2.07	2.15	2.34	2.52	2.69	2.85	2.99
BAM/TL	2.31	3.08	3.40	3.88	4.29	4.69	5.07	5.32	5.53
RON/TL	0.96	1.29	1.38	1.54	1.70	1.84	1.97	2.09	2.21
TL/INR	16.95	13.27	12.00	11.08	10.27	9.62	9.10	8.68	8.36
EUR/EGP	21.17	20.47	17.91	<i>The companies operating under these currencies are not considered under Income Approach. Accordingly, forward looking projections were not required.</i>					
EUR/UAH	33.60	31.73	26.52						
TL/EGP	4.69	3.40	2.69						
TL/UAH	7.44	5.26	3.99						

Source: IMF, PwC Analysis, Publicly Available Sources

Macroeconomic Assumptions

Foreign Exchange Rates (2/2)

Recent developments, which occurred within the first 4 months of 2020, have been taken into account in the assumptions made for the year 2020. For the other years, the exchange rate differences have been estimated based on the expected inflation difference (Fisher method).

Average Foreign Exchange Rates

	2017	2018	2019	2020	2021	2022	2023	2024	2025
\$/TL	3.64	4.83	5.67	6.74	7.28	7.94	8.60	9.23	9.81
EUR/TL	4.12	5.68	6.35	7.33	7.94	8.73	9.48	10.19	10.84
EUR/RUB	66.28	74.66	72.81	80.98	84.17	85.46	86.83	88.43	90.16
EUR/CNY	7.67	7.86	7.78	7.70	7.76	7.88	7.99	8.07	8.15
EUR/BGN	1.96	1.96	1.96	1.97	1.99	2.01	2.02	2.03	2.03
EUR/GEL	2.83	2.98	3.16	3.44	3.53	3.59	3.64	3.68	3.71
EUR/BAM	1.96	1.96	1.96	1.95	1.94	1.94	1.95	1.96	2.00
EUR/RON	4.60	4.68	4.77	4.84	4.89	4.94	4.98	5.01	5.04
EUR/INR	73.54	80.42	78.81	82.60	84.57	86.68	88.71	90.55	92.33
TL/RUB	16.10	13.15	11.47	11.04	10.61	9.79	9.15	8.68	8.32
TL/CNY	1.86	1.38	1.22	1.05	0.98	0.90	0.84	0.79	0.75
TL/BGN	0.48	0.34	0.31	0.27	0.25	0.23	0.21	0.20	0.19
TL/GEL	0.69	0.52	0.50	0.47	0.44	0.41	0.38	0.36	0.34
TL/BAM	0.48	0.34	0.31	0.27	0.25	0.22	0.21	0.19	0.18
TL/RON	1.12	0.82	0.75	0.66	0.62	0.57	0.53	0.49	0.46
TL/INR	17.87	14.16	12.41	11.26	10.66	9.93	9.35	8.88	8.52
EUR/EGP	20.09	20.89	18.77	<i>The companies operating under these currencies are not considered under Income Approach. Accordingly, forward looking projections were not required.</i>					
EUR/UAH	30.03	31.98	28.92						
TL/EGP	4.88	3.68	2.96						
TL/UAH	7.30	5.63	4.56						

Source: IMF, PwC Analysis, Publicly Available Sources

Discounted Cash Flows

Discounted Cash Flows

Trakya Cam Sanayii A.Ş. (Solo)

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	4,967	4,967	4,967	4,967	4,967
	-25 bp	5,089	5,089	5,089	5,089	5,089
	-	5,218	5,218	5,218	5,218	5,218
	+25 bp	5,355	5,355	5,355	5,355	5,355
	+50 bp	5,502	5,502	5,502	5,502	5,502

m TL	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	2,004	2,364	2,883	2,750	3,319	4,088	4,861	5,530	6,203	6,699
Change (%)		18.0%	21.9%	-4.6%	20.7%	23.2%	18.9%	13.8%	12.2%	8.0%
Cost of Sales	(1,162)	(1,372)	(1,648)	(1,641)	(1,947)	(2,339)	(2,737)	(3,099)	(3,459)	(3,736)
Gross Profit	843	992	1,235	1,109	1,371	1,749	2,124	2,431	2,744	2,963
GP Margin (%)	42.0%	42.0%	42.8%	40.3%	41.3%	42.8%	43.7%	44.0%	44.2%	44.2%
Operating Expenses	(358)	(433)	(569)	(608)	(656)	(798)	(946)	(1,070)	(1,206)	(1,303)
Other Operating Income / Ex	75	143	178	154	196	243	290	302	341	368
EBITDA	560	703	843	654	912	1,194	1,468	1,664	1,878	2,028
EBITDA Margin (%)	27.9%	29.7%	29.2%	23.8%	27.5%	29.2%	30.2%	30.1%	30.3%	30.3%
Depreciation and Amortizatic	(58)	(60)	(116)	(193)	(218)	(274)	(296)	(329)	(371)	(752)
EBIT	502	643	727	461	694	920	1,171	1,334	1,507	1,276
EBIT Margin (%)	25.0%	27.2%	25.2%	16.8%	20.9%	22.5%	24.1%	24.1%	24.3%	19.0%
Tax				(101)	(139)	(184)	(234)	(267)	(301)	(255)
Tax Rate (%)				0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Depreciation and Amortization (+)				193	218	274	296	329	371	752
Operational Cash Flows				553	773	1,010	1,233	1,397	1,577	1,773
Change in NWC				68	(114)	(156)	(156)	(135)	(135)	(99)
Capex				(810)	(710)	(938)	(479)	(657)	(450)	(752)
Free Cash Flows				(190)	(52)	(84)	598	605	991	921
Discount Rate				21.5%	19.9%	19.4%	18.7%	17.7%	16.7%	16.2%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.91	0.75	0.63	0.53	0.45	0.38	0.38
Discounted Cash Flows				(172)	(39)	(53)	316	270	378	4,278

	TL m
DCF (2020-25)	700
Terminal Value (>2025)	4,278
Enterprise Value	4,977
Net Cash/(Debt)	121
Other Adjustments	120
Adjusted Equity Value	5,218
Other Adjustments	
Investment Property	1
Tax Incentive Assets	119
Total	120

Source: Management, PwC Analysis

Discounted Cash Flows

Trakya Glass Bulgaria EAD

Sensitivity Analysis (BGN m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	222	208	195	182	171
	-25 bp	232	217	203	190	178
	-	243	227	212	198	185
	+25 bp	254	237	221	207	193
	+50 bp	267	249	232	216	202

BGN m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	233	218	205	228	240	265	271	278	284	290
Change (%)		-6.7%	-5.9%	11.3%	5.3%	10.4%	2.3%	2.3%	2.3%	2.3%
Cost of Sales	(136)	(121)	(118)	(139)	(141)	(153)	(157)	(160)	(164)	(168)
Gross Profit	98	97	87	89	99	112	115	117	120	123
GP Margin (%)	41.9%	44.4%	42.2%	39.1%	41.4%	42.3%	42.3%	42.3%	42.3%	42.3%
Operating Expenses	(49)	(51)	(53)	(51)	(55)	(56)	(60)	(61)	(63)	(64)
Other Operating Income / Ex	1	3	4	2	3	3	3	3	3	3
EBITDA	50	49	37	40	47	59	57	59	60	62
EBITDA Margin (%)	21.5%	22.3%	18.2%	17.7%	19.7%	22.1%	21.2%	21.2%	21.2%	21.2%
Depreciation and Amortizatic	(27)	(27)	(32)	(36)	(36)	(36)	(36)	(36)	(36)	(27)
EBIT	23	22	6	4	11	22	21	22	24	34
EBIT Margin (%)	10.0%	10.0%	2.8%	1.8%	4.6%	8.4%	7.8%	8.1%	8.4%	11.8%
Tax				(0)	(1)	(2)	(2)	(2)	(2)	(3)
Tax Rate (%)				10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Depreciation and Amortization (+)				36	36	36	36	36	36	27
Operational Cash Flows				40	46	56	55	57	58	58
Change in NWC				(9)	(3)	(7)	(2)	(2)	(2)	(2)
Capex				(22)	(28)	(16)	(16)	(16)	(16)	(27)
Free Cash Flows				9	15	33	37	39	40	29
Discount Rate				9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.96	0.88	0.81	0.74	0.68	0.62	0.62
Discounted Cash Flows				9	13	27	28	26	25	267

	m BGN	m TL
DCF (2020-25)	128	434
Terminal Value (>2025)	267	907
Enterprise Value	394	1,341
Net Cash/(Debt)	(182)	(620)
Adjusted Equity Value	212	720

Source: Management, PwC Analysis

Discounted Cash Flows

Trakya Glass Rus AO

Sensitivity Analysis (RUB m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LGTR	-50 bp	11,360	11,106	10,867	10,642	10,429
	-25 bp	11,551	11,283	11,031	10,795	10,572
	-	11,755	11,472	11,206	10,957	10,724
	+25 bp	11,974	11,673	11,393	11,131	10,884
	+50 bp	12,208	11,890	11,593	11,315	11,056

RUB m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	4,454	4,515	3,915	3,626	3,884	4,356	4,484	4,653	4,839	5,033
Change (%)		1.4%	-13.3%	-7.4%	7.1%	12.1%	2.9%	3.8%	4.0%	4.0%
Cost of Sales	(2,208)	(2,369)	(2,218)	(2,161)	(2,297)	(2,537)	(2,610)	(2,709)	(2,817)	(2,930)
Gross Profit	2,246	2,146	1,697	1,464	1,588	1,819	1,874	1,944	2,022	2,103
GP Margin (%)	50.4%	47.5%	43.4%	40.4%	40.9%	41.7%	41.8%	41.8%	41.8%	41.8%
Operating Expenses	(656)	(713)	(657)	(647)	(636)	(703)	(725)	(751)	(781)	(813)
Other Operating Income / Ex	7	40	11	9	9	10	11	11	11	12
EBITDA	1,597	1,473	1,051	826	961	1,126	1,159	1,204	1,252	1,302
EBITDA Margin (%)	35.9%	32.6%	26.9%	22.8%	24.7%	25.8%	25.9%	25.9%	25.9%	25.9%
Depreciation and Amortization	(242)	(208)	(247)	(429)	(422)	(416)	(412)	(427)	(441)	(523)
EBIT	1,355	1,265	805	397	539	710	747	777	811	779
EBIT Margin (%)	30.4%	28.0%	20.5%	10.9%	13.9%	16.3%	16.7%	16.7%	16.7%	15.5%
Tax				(8)	(11)	(14)	(15)	(16)	(16)	(16)
Tax Rate (%)				0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Depreciation and Amortization (+)				429	422	416	412	427	441	523
Operational Cash Flows				818	950	1,112	1,144	1,188	1,236	1,287
Change in NWC				87	(30)	(53)	(16)	(22)	(24)	(25)
Capex				(121)	(253)	(256)	(260)	(265)	(270)	(523)
Free Cash Flows				784	668	802	868	901	942	739
Discount Rate				11.7%	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.85	0.76	0.68	0.61	0.54	0.54
Discounted Cash Flows				742	566	608	589	548	513	5,227

	RUB m	TL m
DCF (2020-25)	3,565	341
Terminal Value (>2025)	5,227	499
Enterprise Value	8,792	840
Net Cash/(Debt)	2,390	228
Tax Incentive Assets	24	2
Adjusted Equity Value	11,206	1,070

Source: Management, PwC Analysis

Discounted Cash Flows

HNG Float Glass Limited

Sensitivity Analysis (INR m)

LGTR	WACC				
	-50 bp	-25 bp	-	+25 bp	+50 bp
-50 bp	4,101	3,504	2,951	2,438	1,961
-25 bp	4,611	3,971	3,381	2,835	2,328
-	5,162	4,475	3,843	3,260	2,721
+25 bp	5,759	5,020	4,341	3,717	3,141
+50 bp	6,408	5,610	4,880	4,210	3,593

INR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	-	5,618	4,962	5,193	5,461	6,198	10,368	12,189	13,182	13,709
Change (%)			-11.7%	4.7%	5.2%	13.5%	67.3%	17.6%	8.1%	4.0%
Cost of Sales	-	(3,923)	(3,443)	(3,473)	(3,584)	(3,877)	(6,489)	(6,999)	(7,548)	(7,850)
Gross Profit	-	1,695	1,519	1,720	1,876	2,322	3,878	5,189	5,634	5,859
GP Margin (%)		30.2%	30.6%	33.1%	34.4%	37.5%	37.4%	42.6%	42.7%	42.7%
Operating Expenses	-	(1,033)	(1,065)	(1,370)	(1,437)	(1,468)	(1,950)	(2,180)	(2,323)	(2,416)
Other Operating Income / Ex	-	28	32	35	28	58	68	73	77	80
EBITDA	-	691	485	385	467	913	1,996	3,083	3,387	3,523
EBITDA Margin (%)		12.3%	9.8%	7.4%	8.6%	14.7%	19.3%	25.3%	25.7%	25.7%
Depreciation and Amortization	-	(442)	(487)	(441)	(1,599)	(1,705)	(1,755)	(1,805)	(1,857)	(1,477)
EBIT	-	249	(2)	(56)	(1,132)	(793)	241	1,277	1,530	2,045
EBIT Margin (%)		4.4%	0.0%	-1.1%	-20.7%	-12.8%	2.3%	10.5%	11.6%	14.9%
Tax				-	-	-	(61)	(321)	(385)	(515)
Tax Rate (%)				0.0%			25.2%	25.2%	25.2%	25.2%
Depreciation and Amortization (+)				441	1,599	1,705	1,755	1,805	1,857	1,477
Operational Cash Flows				385	467	913	1,935	2,761	3,002	3,008
Change in NWC				(1)	(33)	(89)	(608)	(196)	(137)	(74)
Capex				(76)	(15,047)	(1,386)	(643)	(656)	(669)	(1,477)
Free Cash Flows				308	(14,612)	(562)	684	1,909	2,197	1,457
Discount Rate				10.7%	10.7%	10.7%	10.7%	10.7%	10.7%	10.7%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.86	0.78	0.70	0.63	0.57	0.57
Discounted Cash Flows				293	(12,547)	(436)	479	1,209	1,256	12,447

	INR m	TL m
DCF (2020-25)	(9,746)	(812)
Terminal Value (>2025)	12,447	1,037
Enterprise Value	2,701	225
Net Cash/(Debt)	1,071	89
Tax Incentive Assets	71	6
Adjusted Equity Value	3,843	320

Source: Management, PwC Analysis

Discounted Cash Flows

Sisecam Flat Glass Italy S.R.L

Sensitivity Analysis (EUR m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LGTR	-50 bp	(39)	(39)	(40)	(41)	(42)
	-25 bp	(38)	(39)	(40)	(40)	(41)
	-	(37)	(38)	(39)	(40)	(41)
	+25 bp	(36)	(37)	(38)	(39)	(40)
	+50 bp	(35)	(36)	(37)	(38)	(39)

EUR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	87	95	88	59	63	77	82	57	85	87
Change (%)		9.6%	-8.0%	-32.5%	7.2%	21.7%	6.8%	-31.2%	50.0%	2.0%
Cost of Sales	(55)	(60)	(60)	(49)	(44)	(52)	(55)	(46)	(56)	(57)
Gross Profit	32	35	28	10	20	25	28	10	29	29
GP Margin (%)	37.0%	37.0%	31.9%	17.1%	31.1%	33.0%	33.8%	18.0%	33.7%	33.7%
Operating Expenses	(15)	(17)	(21)	(16)	(16)	(18)	(19)	(17)	(20)	(20)
Other Operating Income / Ex	(0)	-	2	0	0	0	0	0	0	0
EBITDA	18	18	9	(5)	4	7	9	(6)	9	9
EBITDA Margin (%)	20.3%	18.8%	9.9%	-9.0%	6.4%	9.5%	10.7%	-11.4%	10.6%	10.6%
Depreciation and Amortizatic	(6)	(6)	(6)	(7)	(7)	(7)	(8)	(10)	(11)	(6)
EBIT	11	12	2	(12)	(3)	(0)	1	(17)	(2)	3
EBIT Margin (%)	12.9%	12.1%	2.6%	-20.4%	-5.1%	-0.2%	1.0%	-29.6%	-2.2%	4.0%
Tax				-	-	-	(0)	-	-	(1)
Tax Rate (%)				0.0%	0.0%	0.0%	27.9%		0.0%	27.9%
Depreciation and Amortization (+)				7	7	7	8	10	11	6
Operational Cash Flows				(5)	4	7	9	(6)	9	8
Change in NWC				(4)	0	(2)	(1)	2	(3)	(0)
Capex				(4)	(7)	(3)	(7)	(30)	(7)	(6)
Free Cash Flows				(13)	(3)	3	1	(34)	(1)	2
Discount Rate				8.4%	8.4%	8.4%	8.4%	8.4%	8.4%	8.4%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.96	0.89	0.82	0.75	0.70	0.64	0.64
Discounted Cash Flows				(12)	(2)	2	1	(24)	(1)	23

	EUR m	TL m
DCF (2020-25)	(36)	(238)
Terminal Value (>2025)	23	153
Enterprise Value	(13)	(85)
Net Cash/(Debt)	(26)	(174)
Adjusted Equity Value	(39)	(258)

Source: Management, PwC Analysis

Discounted Cash Flows

Sisecam Flat Glass South Italy S.R.L.

Sensitivity Analysis (EUR m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LGTR	-50 bp	10	9	8	7	6
	-25 bp	11	10	8	7	6
	-	12	10	9	8	7
	+25 bp	12	11	10	9	8
	+50 bp	13	12	11	9	8

EUR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	-	1	8	46	56	63	68	77	71	72
Change (%)			504.9%	492.2%	21.2%	13.6%	7.2%	13.9%	-8.6%	2.0%
Cost of Sales	-	(1)	(6)	(38)	(33)	(36)	(38)	(46)	(40)	(41)
Gross Profit	-	-	2	8	23	27	30	31	31	32
GP Margin (%)		0.0%	21.1%	17.6%	40.8%	43.0%	43.8%	40.5%	43.9%	43.9%
Operating Expenses	-	(4)	(7)	(14)	(16)	(17)	(18)	(19)	(19)	(19)
Other Operating Income / Ex	-	-	(0)	-	-	-	-	-	-	-
EBITDA	-	(4)	(5)	(6)	7	10	12	12	12	13
EBITDA Margin (%)		-276.1%	-63.1%	-13.3%	12.8%	16.2%	17.6%	16.1%	17.6%	17.6%
Depreciation and Amortizatic	-	-	(1)	(4)	(4)	(4)	(5)	(5)	(4)	(6)
EBIT	-	(4)	(6)	(10)	3	6	7	8	8	7
EBIT Margin (%)		-276.1%	-71.5%	-21.2%	5.3%	9.2%	10.8%	10.3%	11.9%	9.7%
Tax				-	(1)	(2)	(2)	(2)	(2)	(2)
Tax Rate (%)				0.0%	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%
Depreciation and Amortization (+)				4	4	4	5	5	4	6
Operational Cash Flows				(6)	6	9	10	10	10	11
Change in NWC				0	(0)	(1)	(0)	(1)	1	(0)
Capex				(3)	(8)	(3)	(3)	(3)	(3)	(6)
Free Cash Flows				(9)	(2)	5	6	6	8	5
Discount Rate				11.7%	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.85	0.76	0.68	0.61	0.55	0.55
Discounted Cash Flows				(8)	(2)	4	4	4	4	28

	EUR m	TL m
DCF (2020-25)	6	42
Terminal Value (>2025)	28	184
Enterprise Value	34	226
Net Cash/(Debt)	(26)	(174)
Tax Incentive Assets	1	9
Adjusted Equity Value	9	61

Source: Management, PwC Analysis

Discounted Cash Flows

Şişecam Otomotiv A.Ş.

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LGTR	-50 bp	1,450	1,397	1,348	1,302	1,260
	-25 bp	1,487	1,431	1,379	1,331	1,286
	-	1,526	1,467	1,412	1,361	1,313
	+25 bp	1,569	1,506	1,447	1,393	1,343
	+50 bp	1,616	1,548	1,485	1,428	1,375

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	558	706	840	757	984	1,120	1,389	1,745	1,914	2,067
Change (%)		26.4%	19.1%	-9.9%	29.9%	13.8%	24.0%	25.6%	9.7%	8.0%
Cost of Sales	(420)	(479)	(623)	(592)	(775)	(870)	(1,076)	(1,314)	(1,414)	(1,527)
Gross Profit	139	227	218	165	209	250	312	431	499	539
GP Margin (%)	24.8%	32.1%	25.9%	21.8%	21.2%	22.3%	22.5%	24.7%	26.1%	26.1%
Operating Expenses	(72)	(76)	(99)	(106)	(124)	(141)	(164)	(189)	(205)	(222)
Other Operating Income / E	6	19	52	37	43	51	61	72	76	82
EBITDA	72	170	170	96	127	159	209	314	370	400
EBITDA Margin (%)	12.9%	24.0%	20.3%	12.7%	12.9%	14.2%	15.1%	18.0%	19.3%	19.3%
Depreciation and Amortizatic	(19)	(18)	(19)	(22)	(26)	(30)	(35)	(41)	(48)	(124)
EBIT	53	151	152	73	101	129	174	272	322	276
EBIT Margin (%)	9.6%	21.5%	18.0%	9.7%	10.2%	11.5%	12.5%	15.6%	16.9%	13.3%
Tax				(16)	(20)	(26)	(35)	(54)	(64)	(55)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				22	26	30	35	41	48	124
Operational Cash Flows				80	107	133	175	259	306	345
Change in NWC				23	(68)	(40)	(80)	(104)	(49)	(45)
Capex				(71)	(75)	(79)	(100)	(121)	(127)	(124)
Free Cash Flows				31	(36)	14	(6)	34	129	175
Discount Rate				18.8%	18.2%	18.0%	17.2%	16.2%	15.2%	14.7%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.92	0.77	0.66	0.56	0.48	0.41	0.41
Discounted Cash Flows				29	(28)	9	(3)	16	53	1,071

	TL m
DCF (2020-25)	76
Terminal Value (>2025)	1,071
Enterprise Value	1,147
Net Cash/(Debt)	264
Tax Incentive Assets	0
Adjusted Equity Value	1,412

Source: Management, PwC Analysis

Discounted Cash Flows

Şişecam Automotive Bulgaria EAD

Sensitivity Analysis (BGN m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LGTR	-50 bp	4	(1)	(5)	(9)	(13)
	-25 bp	7	2	(3)	(7)	(11)
	-	10	5	(0)	(5)	(9)
	+25 bp	13	8	3	(2)	(6)
	+50 bp	17	11	6	1	(4)

BGN m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	110	101	88	92	94	111	125	128	131	134
Change (%)		-8.1%	-12.9%	4.6%	2.1%	18.3%	12.7%	2.3%	2.3%	2.3%
Cost of Sales	(81)	(79)	(75)	(74)	(77)	(88)	(97)	(99)	(100)	(102)
Gross Profit	29	22	13	18	17	23	28	30	31	32
GP Margin (%)	26.1%	21.3%	15.2%	19.2%	18.5%	20.6%	22.7%	23.1%	24.0%	24.0%
Operating Expenses	(13)	(14)	(11)	(12)	(12)	(13)	(14)	(14)	(14)	(15)
Other Operating Income / Ex	1	1	3	1	1	1	1	1	1	1
EBITDA	16	9	5	6	6	11	16	17	18	19
EBITDA Margin (%)	14.8%	9.1%	5.5%	6.9%	6.7%	9.7%	12.4%	12.9%	14.0%	14.0%
Depreciation and Amortizatic	(7)	(9)	(7)	(8)	(8)	(9)	(9)	(9)	(10)	(8)
EBIT	9	0	(2)	(1)	(2)	2	7	7	9	11
EBIT Margin (%)	8.3%	0.4%	-2.4%	-1.5%	-2.1%	2.0%	5.3%	5.7%	6.7%	8.0%
Tax				-	-	(0)	(1)	(1)	(1)	(1)
Tax Rate (%)				0.0%	0.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Depreciation and Amortization (+)				8	8	9	9	9	10	8
Operational Cash Flows				6	6	11	15	16	17	18
Change in NWC				(1)	(1)	(5)	(4)	(1)	(1)	(1)
Capex				(15)	(10)	(7)	(7)	(7)	(7)	(8)
Free Cash Flows				(9)	(4)	(1)	4	8	10	9
Discount Rate				8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.96	0.88	0.81	0.75	0.69	0.63	0.63
Discounted Cash Flows				(9)	(4)	(1)	3	6	6	86

	BGN m	TL m
DCF (2020-25)	2	6
Terminal Value (>2025)	86	293
Enterprise Value	88	299
Net Cash/(Debt)	(88)	(301)
Tax Incentive Assets	0	1
Adjusted Equity Value	(0)	(1)

Source: Management, PwC Analysis

Discounted Cash Flows

Automotive Glass Alliance Rus AO

Sensitivity Analysis (RUB m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LGTR	-50 bp	1,003	943	888	835	785
	-25 bp	1,035	973	915	860	808
	-	1,068	1,004	943	886	833
	+25 bp	1,105	1,037	974	914	858
	+50 bp	1,143	1,072	1,006	944	886

RUB m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	1,131	1,299	1,603	1,363	1,984	2,492	2,788	2,937	2,943	3,061
Change (%)		14.9%	23.4%	-15.0%	45.5%	25.6%	11.9%	5.4%	0.2%	4.0%
Cost of Sales	(933)	(1,086)	(1,236)	(1,076)	(1,503)	(1,849)	(2,070)	(2,157)	(2,150)	(2,236)
Gross Profit	198	213	368	287	481	643	718	780	793	825
GP Margin (%)	17.5%	16.4%	22.9%	21.1%	24.3%	25.8%	25.8%	26.6%	27.0%	27.0%
Operating Expenses	(148)	(176)	(232)	(244)	(328)	(375)	(411)	(430)	(440)	(457)
Other Operating Income / Ex	(11)	(3)	20	25	35	44	49	51	51	53
EBITDA	39	34	156	68	188	311	355	401	405	421
EBITDA Margin (%)	3.5%	2.6%	9.7%	5.0%	9.5%	12.5%	12.7%	13.7%	13.8%	13.8%
Depreciation and Amortizatic	(242)	(238)	(247)	(251)	(255)	(259)	(266)	(273)	(282)	(184)
EBIT	(203)	(204)	(91)	(183)	(67)	52	90	128	122	237
EBIT Margin (%)	-18.0%	-15.7%	-5.7%	-13.4%	-3.4%	2.1%	3.2%	4.3%	4.2%	7.8%
Tax				-	-	(1)	(2)	(3)	(2)	(5)
Tax Rate (%)					0.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Depreciation and Amortization (+)				251	255	259	266	273	282	184
Operational Cash Flows				68	188	310	354	398	402	416
Change in NWC				74	(118)	(140)	(83)	(40)	(1)	(33)
Capex				(75)	(84)	(85)	(130)	(155)	(180)	(184)
Free Cash Flows				66	(14)	85	140	204	221	200
Discount Rate				12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.94	0.84	0.75	0.67	0.60	0.53	0.53
Discounted Cash Flows				63	(12)	64	94	121	117	1,288

	RUB m	TL m
DCF (2020-25)	447	43
Terminal Value (>2025)	1,288	123
Enterprise Value	1,735	166
Net Cash/(Debt)	(793)	(76)
Tax Incentive Assets	1	0
Adjusted Equity Value	943	90

Source: Management, PwC Analysis

Discounted Cash Flows

Glass Corp S.A.

Sensitivity Analysis (RON m)

L GTR	WACC				
	-50 bp	-25 bp	-	+25 bp	+50 bp
-50 bp	(176)	(184)	(192)	(199)	(205)
-25 bp	(170)	(179)	(187)	(194)	(201)
-	(164)	(173)	(182)	(190)	(197)
+25 bp	(157)	(167)	(176)	(185)	(192)
+50 bp	(150)	(160)	(170)	(179)	(188)

RON m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	135	219	242	265	244	239	274	285	300	307
Change (%)		62.5%	10.3%	9.7%	-7.9%	-2.2%	14.9%	3.8%	5.2%	2.5%
Cost of Sales	(104)	(190)	(226)	(241)	(204)	(196)	(209)	(212)	(219)	(224)
Gross Profit	31	29	16	24	41	43	65	73	81	83
GP Margin (%)	23.2%	13.5%	6.7%	9.1%	16.6%	18.0%	23.7%	25.5%	27.0%	27.0%
Operating Expenses	(18)	(33)	(37)	(41)	(39)	(39)	(43)	(44)	(45)	(47)
Other Operating Income / Ex	-	(2)	10	2	2	2	2	2	2	2
EBITDA	13	(5)	(10)	(14)	3	6	25	31	38	39
EBITDA Margin (%)	9.7%	-2.4%	-4.1%	-5.4%	1.4%	2.5%	9.0%	10.8%	12.7%	12.7%
Depreciation and Amortizatic	(19)	(20)	(22)	(23)	(23)	(25)	(26)	(26)	(27)	(18)
EBIT	(6)	(26)	(32)	(37)	(20)	(19)	(1)	4	11	20
EBIT Margin (%)	-4.7%	-11.7%	-13.2%	-14.0%	-8.1%	-7.8%	-0.4%	1.5%	3.5%	6.7%
Tax				-	-	-	-	(1)	(2)	(3)
Tax Rate (%)						0.0%	0.0%	16.0%	16.0%	16.0%
Depreciation and Amortization (+)				23	23	25	26	26	27	18
Operational Cash Flows				(14)	3	6	25	30	36	36
Change in NWC				(4)	5	1	(6)	(2)	(2)	(1)
Capex				(14)	(10)	(27)	(22)	(15)	(18)	(18)
Free Cash Flows				(33)	(2)	(20)	(3)	13	16	16
Discount Rate				8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.96	0.88	0.81	0.74	0.68	0.63	0.63
Discounted Cash Flows				(31)	(1)	(16)	(3)	9	10	157

	RON m	TL m
DCF (2020-25)	(32)	(45)
Terminal Value (>2025)	157	217
Enterprise Value	125	172
Net Cash/(Debt)	(306)	(424)
Tax Incentive Assets	-	-
Adjusted Equity Value	(182)	(251)

Source: Management, PwC Analysis

Discounted Cash Flows

Richard Fritz Holding GmbH*

Sensitivity Analysis (EUR m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LGTR	-50 bp	(37)	(38)	(39)	(40)	(41)
	-25 bp	(37)	(38)	(39)	(40)	(41)
	-	(36)	(37)	(39)	(40)	(40)
	+25 bp	(36)	(37)	(38)	(39)	(40)
	+50 bp	(35)	(37)	(38)	(39)	(40)

EUR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	172	181	156	125	132	137	161	168	180	184
Change (%)		5.2%	-14.0%	-20.0%	5.9%	3.4%	17.7%	4.8%	7.2%	2.0%
Cost of Sales	(159)	(154)	(136)	(103)	(109)	(111)	(131)	(137)	(146)	(149)
Gross Profit	13	27	20	21	24	26	30	32	34	35
GP Margin (%)	7.8%	15.2%	13.0%	17.1%	17.8%	18.7%	18.5%	18.8%	18.9%	18.9%
Operating Expenses	(26)	(25)	(23)	(21)	(20)	(19)	(20)	(21)	(21)	(22)
Other Operating Income / Ex	4	3	3	2	2	2	2	2	3	3
EBITDA	(8)	6	1	2	6	8	12	13	15	15
EBITDA Margin (%)	-4.8%	3.2%	0.5%	1.6%	4.2%	5.9%	7.4%	7.9%	8.4%	8.4%
Depreciation and Amortizatic	(6)	(5)	(5)	(5)	(5)	(6)	(6)	(7)	(7)	(10)
EBIT	(14)	1	(4)	(3)	0	2	6	7	8	6
EBIT Margin (%)	-8.3%	0.5%	-2.5%	-2.4%	0.1%	1.8%	3.6%	4.0%	4.5%	3.1%
Tax				(0)	(0)	(1)	(2)	(2)	(2)	(2)
Tax Rate (%)						55.9%	38.1%	31.7%	27.4%	27.4%
Depreciation and Amortization (+)				5	5	6	6	7	7	10
Operational Cash Flows				2	5	7	10	11	13	14
Change in NWC				5	(1)	(1)	(4)	(1)	(2)	(1)
Capex				(7)	(6)	(7)	(9)	(9)	(10)	(10)
Free Cash Flows				0	(2)	(1)	(3)	1	1	4
Discount Rate				10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.86	0.78	0.71	0.64	0.58	0.58
Discounted Cash Flows				0	(2)	(1)	(2)	1	1	25

	EUR m	TL m
DCF (2020-25)	(3)	(19)
Terminal Value (>2025)	25	164
Enterprise Value	22	145
Net Cash/(Debt)	(65)	(430)
Other Adjustments	4	28
Adjusted Equity Value	(39)	(256)
Other Adjustments	EUR m	TL m
Tax Incentive Assets	0	0
Investment Property	4	28
Total	4	28

* Richard Fritz Holding GmbH includes the consolidated results of the 4 Companies beneath the Holding. Due to the various profitability levels and differing tax rates in the locations that they are present in, the total tax rate differs from year to year.

Source: Management, PwC Analysis

Discounted Cash Flows

Anadolu Cam Sanayii A.Ş.

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTCR	-50 bp	4,868	4,636	4,421	4,222	4,037
	-25 bp	5,046	4,798	4,569	4,358	4,161
	-	5,239	4,973	4,729	4,503	4,295
	+25 bp	5,450	5,164	4,902	4,661	4,439
	+50 bp	5,681	5,372	5,090	4,831	4,594

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	1,392	1,798	2,495	3,190	3,768	4,329	4,778	5,420	6,183	6,678
Change (%)		29.1%	38.8%	27.9%	18.1%	14.9%	10.4%	13.4%	14.1%	8.0%
Cost of Sales	(852)	(1,113)	(1,460)	(1,799)	(2,129)	(2,445)	(2,716)	(3,081)	(3,504)	(3,784)
Gross Profit	540	685	1,035	1,391	1,639	1,885	2,062	2,339	2,679	2,894
GP Margin (%)	38.8%	38.1%	41.5%	43.6%	43.5%	43.5%	43.1%	43.2%	43.3%	43.3%
Operating Expenses	(216)	(282)	(425)	(636)	(718)	(811)	(872)	(972)	(1,096)	(1,184)
Other Operating Income / Expenses	(16)	49	49	30	35	38	44	49	54	59
EBITDA	308	452	659	786	956	1,112	1,234	1,416	1,638	1,769
EBITDA Margin (%)	22.1%	25.2%	26.4%	24.6%	25.4%	25.7%	25.8%	26.1%	26.5%	26.5%
Depreciation and Amortization (-)	(148)	(175)	(247)	(313)	(399)	(488)	(540)	(633)	(710)	(782)
EBIT	160	277	411	473	557	624	694	783	928	987
EBIT Margin (%)	11.5%	15.4%	16.5%	14.8%	14.8%	14.4%	14.5%	14.4%	15.0%	14.8%
Tax				(104)	(111)	(125)	(139)	(157)	(186)	(197)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				313	399	488	540	633	710	782
Operational Cash Flows				682	845	987	1,095	1,259	1,452	1,572
Change in NWC				(119)	(146)	(142)	(113)	(162)	(193)	(125)
Capex				(521)	(464)	(583)	(1,023)	(833)	(618)	(782)
Free Cash Flows				43	235	263	(42)	264	642	664
Discount Rate				18.7%	17.7%	17.3%	16.7%	15.7%	14.8%	14.3%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.92	0.78	0.66	0.56	0.49	0.42	0.42
Discounted Cash Flows				39	182	173	(24)	129	271	4,448

	TL m
DCF (2020-25)	770
Terminal Value (>2025)	4,448
Enterprise Value	5,218
Net Cash/(Debt)	(694)
Tax Incentive Asset	205
Adjusted Equity Value	4,729
Other Adjustments	
Investment Property	74
Tax Incentive Assets	273
Dividend Payments	(142)
Total	205

Source: Management, PwC Analysis

Discounted Cash Flows

OOO Ruscam Glass Packaging Holding

Sensitivity Analysis (RUB m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	24,304	22,704	21,236	19,882	18,632
	-25 bp	25,499	23,778	22,205	20,761	19,430
	-	26,812	24,954	23,262	21,714	20,293
	+25 bp	28,261	26,245	24,418	22,754	21,232
	+50 bp	29,869	27,671	25,688	23,891	22,254

RUB m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	15,218	17,758	19,131	21,754	22,770	23,955	24,752	25,915	27,330	28,423
Change (%)		16.7%	7.7%	13.7%	4.7%	5.2%	3.3%	4.7%	5.5%	4.0%
Cost of Sales	(8,963)	(10,143)	(10,651)	(12,204)	(12,600)	(13,267)	(13,702)	(14,351)	(15,143)	(15,749)
Gross Profit	6,255	7,614	8,480	9,549	10,169	10,688	11,050	11,565	12,187	12,675
GP Margin (%)	41.1%	42.9%	44.3%	43.9%	44.7%	44.6%	44.6%	44.6%	44.6%	44.6%
Operating Expenses	(2,895)	(3,192)	(3,653)	(4,151)	(4,627)	(4,839)	(5,006)	(5,209)	(5,463)	(5,681)
Other Operating Income / Expenses	98	75	59	18	19	20	21	22	23	24
EBITDA	3,457	4,496	4,886	5,416	5,561	5,869	6,064	6,377	6,748	7,018
EBITDA Margin (%)	22.7%	25.3%	25.5%	24.9%	24.4%	24.5%	24.5%	24.6%	24.7%	24.7%
Depreciation and Amortization (-)	(2,052)	(2,006)	(1,962)	(3,086)	(2,781)	(3,241)	(3,425)	(3,525)	(2,491)	(3,550)
EBIT	1,405	2,491	2,924	2,330	2,781	2,627	2,639	2,852	4,257	3,467
EBIT Margin (%)	9.2%	14.0%	15.3%	10.7%	12.2%	11.0%	10.7%	11.0%	15.6%	12.2%
Tax				(466)	(556)	(525)	(528)	(570)	(851)	(693)
Tax Rate (%)				20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				3,086	2,781	3,241	3,425	3,525	2,491	3,550
Operational Cash Flows				4,950	5,005	5,343	5,536	5,807	5,896	6,324
Change in NWC				(1,267)	(747)	(335)	(225)	(329)	(400)	(309)
Capex				(4,961)	(3,626)	(3,575)	(2,479)	(1,594)	(1,642)	(3,550)
Free Cash Flows				(1,278)	631	1,433	2,833	3,884	3,855	2,465
Discount Rate				9.8%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.87	0.79	0.72	0.66	0.60	0.60
Discounted Cash Flows				(1,220)	549	1,138	2,053	2,569	2,327	26,749

	RUB m	TL m
DCF (2020-25)	7,415	708
Terminal Value (>2025)	26,749	2,555
Enterprise Value	34,164	3,263
Net Cash/(Debt)	(11,847)	(1,132)
Tax Incentive Asset	945	90
Adjusted Equity Value	23,262	2,222

Source: Management, PwC Analysis

Discounted Cash Flows

JSC Mina

Sensitivity Analysis (GEL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	79	76	73	70	68
	-25 bp	81	78	75	72	69
	-	83	80	76	73	70
	+25 bp	85	81	78	75	72
	+50 bp	87	84	80	77	74

GEL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV		GEL m	TL m
Revenue	60	60	73	74	77	64	82	84	87	89			
Change (%)		-0.6%	22.2%	1.3%	3.7%	-16.7%	27.4%	3.0%	3.0%	3.0%		21	43
Cost of Sales	(44)	(42)	(48)	(51)	(53)	(44)	(56)	(58)	(59)	(61)		67	139
Gross Profit	17	18	25	23	24	20	26	27	27	28		88	182
GP Margin (%)	27.4%	29.9%	34.7%	31.6%	31.6%	31.6%	31.6%	31.6%	31.6%	31.6%			
Operating Expenses	(6)	(6)	(9)	(9)	(10)	(9)	(10)	(11)	(11)	(11)			
Other Operating Income / Expenses	1	(0)	(0)	0	0	0	0	0	0	0		(12)	(24)
EBITDA	11	12	16	14	15	11	16	16	17	17		76	158
EBITDA Margin (%)	18.2%	19.2%	22.5%	19.1%	19.1%	17.6%	19.1%	19.1%	19.1%	19.1%			
Depreciation and Amortization (-)	(10)	(5)	(9)	(8)	(8)	(13)	(13)	(14)	(7)	(7)			
EBIT	1	7	8	6	6	(2)	2	3	10	10			
EBIT Margin (%)	1.6%	11.0%	10.7%	8.3%	8.1%	-2.4%	2.9%	3.0%	11.2%	11.5%			
Tax				-	-	-	-	-	-	-			
Tax Rate (%)				0%	0%	0%	0%	0%	0%	0%			
Depreciation and Amortization (+)				8	8	13	13	14	7	7			
Operational Cash Flows				14	15	11	16	16	17	17			
Change in NWC				(1)	(1)	5	(6)	(1)	(1)	(1)			
Capex				(6)	(4)	(29)	(4)	(4)	(4)	(7)			
Free Cash Flows				7	9	(13)	5	11	11	9			
Discount Rate				10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%			
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00				
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50				
Cumulative Discount Factor				0.95	0.86	0.77	0.70	0.63	0.57	0.57			
Discounted Cash Flows				6	8	(10)	3	7	6	67			

Source: Management, PwC Analysis

Discounted Cash Flows

Investment Project

Sensitivity Analysis (EUR m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	19	13	7	1	(4)
	-25 bp	21	15	9	3	(2)
	-	24	17	11	5	(0)
	+25 bp	27	20	13	7	2
	+50 bp	29	22	16	9	4

EUR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	2033	2034	TV
Revenue	-	-	-	-	-	63	106	117	122	101	153	156
Change (%)		0.0%	0.0%	0.0%	0.0%	0.0%	69.8%	10.3%	4.4%	-27.1%	8.4%	2.0%
Cost of Sales	-	-	-	-	-	(41)	(67)	(73)	(75)	(64)	(92)	(94)
Gross Profit	-	-	-	-	-	22	40	45	47	37	61	62
GP Margin (%)		0.0%	0.0%	0.0%	0.0%	34.5%	37.3%	38.2%	38.5%	36.6%	39.9%	39.9%
Operating Expenses	-	-	-	-	-	(10)	(15)	(15)	(15)	(15)	(18)	(19)
EBITDA	-	-	-	-	-	12	25	30	32	22	42	43
EBITDA Margin (%)		0.0%	0.0%	0.0%	0.0%	19.0%	23.1%	25.6%	26.1%	21.4%	27.8%	27.8%
Depreciation and Amortization (-)	-	-	-	-	-	(10)	(14)	(15)	(14)	(17)	(20)	(11)
EBIT	-	-	-	-	-	2	10	15	18	5	22	32
EBIT Margin (%)		0.0%	0.0%	0.0%	0.0%	2.9%	9.9%	12.9%	14.4%	4.7%	14.7%	20.6%
Tax	-	-	-	-	-	(2)	(2)	(3)	(3)	(2)	(4)	(5)
Tax Rate (%)		0.0%	0.0%	0.0%	0.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Depreciation and Amortization (+)	-	-	-	-	-	10	14	15	14	17	20	11
Operational Cash Flows	-	-	-	-	-	10	22	27	29	19	39	39
Change in NWC	-	-	-	-	-	(14)	(15)	(8)	(2)	6	(7)	(1)
Capex	-	-	-	-	-	(177)	(2)	(6)	(6)	(48)	(8)	(11)
Free Cash Flows	-	-	-	-	-	(177)	(5)	1	13	(23)	24	27
Discount Rate				10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	
Cumulative Discount Factor				0.95	0.86	0.78	0.71	0.64	0.58	0.26	0.24	2.88
Discounted Cash Flows						(152)	(4)	1	8	12	(6)	6
												77

	EUR m	TL m
DCF (2020-25)	(66)	(437)
Terminal Value (>2025)	77	510
Enterprise Value	11	73

Source: Management, PwC Analysis

Discounted Cash Flows

Paşabahçe Cam Sanayii ve Tic. A.Ş. (Solo)

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	244	196	151	109	70
	-25 bp	258	208	161	118	78
	-	274	221	173	128	86
	+25 bp	291	236	185	138	94
	+50 bp	309	251	198	149	104

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	1,247	1,569	1,763	1,900	2,281	2,744	3,012	3,262	3,613	3,902
Change (%)	8.7%	25.8%	12.3%	7.8%	20.1%	20.3%	9.8%	8.3%	10.8%	8.0%
Cost of Sales	(846)	(1,067)	(1,264)	(1,380)	(1,609)	(1,879)	(2,061)	(2,234)	(2,450)	(2,646)
Gross Profit	401	502	499	520	672	865	951	1,027	1,164	1,257
GP Margin (%)	32.2%	32.0%	28.3%	27.4%	29.5%	31.5%	31.6%	31.5%	32.2%	32.2%
Operating Expenses	(320)	(362)	(415)	(438)	(508)	(596)	(656)	(713)	(779)	(841)
Other Operating Income / Expens	59	144	115	71	81	90	101	113	121	131
EBITDA	140	284	198	153	245	359	396	427	506	547
EBITDA Margin (%)	11.3%	18.1%	11.2%	8.1%	10.7%	13.1%	13.1%	13.1%	14.0%	14.0%
Depreciation and Amortization (-)	(75)	(47)	(52)	(72)	(92)	(103)	(114)	(135)	(148)	(174)
EBIT	65	237	146	81	152	256	282	293	359	373
EBIT Margin (%)	5.2%	15.1%	8.3%	4.3%	6.7%	9.3%	9.4%	9.0%	9.9%	9.6%
Tax				(18)	(30)	(51)	(56)	(59)	(72)	(75)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				72	92	103	114	135	148	174
Operational Cash Flows				135	214	308	340	369	435	472
Change in NWC				(48)	(114)	(213)	(139)	(126)	(187)	(151)
Capex				(277)	(191)	(90)	(97)	(186)	(111)	(174)
Free Cash Flows				(190)	(91)	5	103	56	137	147
Discount Rate				19.2%	18.2%	17.9%	17.1%	16.1%	15.1%	14.6%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.92	0.77	0.65	0.56	0.48	0.41	0.41
Discounted Cash Flows				(174)	(70)	3	58	27	57	924

	TL m
DCF (2020-25)	(100)
Terminal Value (>2025)	924
Enterprise Value	823
Net Cash/(Debt)	(712)
Other Adjustments	62
Adjusted Equity Value	173

Other Adjustments	m TL
Investment Property	8
Tax Incentive Assets	53
Total	62

Source: Management, PwC Analysis

Discounted Cash Flows

Paşabahçe Bulgaria EAD

Sensitivity Analysis (EUR m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	14	11	9	6	4
	-25 bp	15	12	10	7	5
	-	16	13	11	8	6
	+25 bp	18	15	12	9	7
	+50 bp	19	16	13	10	7

EUR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	88	100	109	93	105	106	111	119	119	121
Change (%)	-1.3%	13.0%	9.7%	-14.7%	12.1%	0.9%	4.7%	7.2%	0.3%	2.0%
Cost of Sales	(53)	(68)	(77)	(67)	(73)	(74)	(77)	(81)	(82)	(84)
Gross Profit	35	31	32	26	31	32	34	37	37	38
GP Margin (%)	40.2%	31.6%	29.6%	27.8%	29.9%	29.8%	30.4%	31.4%	31.1%	31.1%
Operating Expenses	(19)	(20)	(24)	(22)	(23)	(23)	(24)	(26)	(26)	(26)
Other Operating Income / Expens	2	2	1	0	0	0	0	1	1	1
EBITDA	19	14	10	5	9	9	10	12	12	12
EBITDA Margin (%)	21.5%	13.8%	8.9%	5.2%	8.2%	8.1%	8.9%	10.2%	9.8%	9.8%
Depreciation and Amortization (-)	(13)	(7)	(7)	(7)	(8)	(10)	(11)	(11)	(12)	(7)
EBIT	6	7	3	(3)	0	(2)	(1)	1	(0)	5
EBIT Margin (%)	7.1%	6.9%	2.6%	-2.7%	0.2%	-1.5%	-0.7%	0.8%	0.0%	4.3%
Tax				-	(0)	-	-	(0)	-	(1)
Tax Rate (%)				10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Depreciation and Amortization (+)				7	8	10	11	11	12	7
Operational Cash Flows				5	9	9	10	12	12	11
Change in NWC				4	(3)	(1)	(3)	(4)	(2)	(1)
Capex				(9)	(9)	(16)	(4)	(4)	(4)	(7)
Free Cash Flows				(1)	(4)	(9)	3	4	5	4
Discount Rate				7.8%	7.7%	7.6%	7.6%	7.6%	7.6%	7.6%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.96	0.89	0.83	0.77	0.72	0.67	0.67
Discounted Cash Flows				(1)	(3)	(7)	2	3	4	45

	EUR m	TL m
DCF (2020-25)	(3)	(18)
Terminal Value (>2025)	45	301
Enterprise Value	42	282
Net Cash/(Debt)	(32)	(212)
Adjusted Equity Value	11	71

Source: Management, PwC Analysis

Discounted Cash Flows

OOO Posuda Limited

Sensitivity Analysis (RUB m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	1,145	1,014	892	778	673
	-25 bp	1,222	1,083	955	835	724
	-	1,305	1,158	1,023	897	780
	+25 bp	1,396	1,240	1,096	963	840
	+50 bp	1,495	1,328	1,175	1,034	904

RUB m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	3,188	4,013	3,850	4,182	4,381	4,076	4,492	4,680	4,793	4,985
Change (%)	-11.3%	25.9%	-4.1%	8.6%	4.8%	-7.0%	10.2%	4.2%	2.4%	4.0%
Cost of Sales	(1,975)	(2,684)	(2,549)	(2,780)	(2,877)	(2,766)	(2,984)	(3,104)	(3,195)	(3,323)
Gross Profit	1,213	1,329	1,301	1,402	1,504	1,310	1,508	1,575	1,598	1,662
GP Margin (%)	38.0%	33.1%	33.8%	33.5%	34.3%	32.1%	33.6%	33.7%	33.3%	33.3%
Operating Expenses	(489)	(604)	(675)	(714)	(741)	(728)	(774)	(805)	(831)	(865)
Other Operating Income / Expens	(39)	(40)	(64)	(28)	(29)	(27)	(30)	(31)	(32)	(33)
EBITDA	685	685	562	660	734	555	704	739	735	764
EBITDA Margin (%)	21.5%	17.1%	14.6%	15.8%	16.8%	13.6%	15.7%	15.8%	15.3%	15.3%
Depreciation and Amortization (-)	(436)	(235)	(252)	(299)	(349)	(425)	(453)	(481)	(511)	(353)
EBIT	248	450	310	362	385	130	251	258	225	411
EBIT Margin (%)	7.8%	11.2%	8.1%	8.6%	8.8%	3.2%	5.6%	5.5%	4.7%	8.3%
Tax				(72)	(77)	(26)	(50)	(52)	(45)	(82)
Tax Rate (%)				20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				299	349	425	453	481	511	353
Operational Cash Flows				588	657	529	654	688	690	682
Change in NWC				(58)	35	127	(91)	(28)	(38)	(63)
Capex				(147)	(456)	(720)	(237)	(241)	(246)	(353)
Free Cash Flows				383	236	(64)	326	419	406	266
Discount Rate				10.7%	10.6%	10.4%	10.4%	10.4%	10.4%	10.4%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.86	0.78	0.70	0.64	0.58	0.58
Discounted Cash Flows				364	203	(50)	229	267	234	2,385

	RUB m	TL m
DCF (2020-25)	1,249	119
Terminal Value (>2025)	2,385	228
Enterprise Value	3,633	347
Net Cash/(Debt)	(2,787)	(266)
Tax Incentive Assets	176	17
Adjusted Equity Value	1,023	98

Source: Management, PwC Analysis

Discounted Cash Flows

Paşabahçe Egypt Glass Manufacturing S.A.E.

Sensitivity Analysis (\$ m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	(30)	(31)	(32)	(33)	(34)
	-25 bp	(30)	(31)	(32)	(33)	(33)
	-	(29)	(30)	(31)	(32)	(33)
	+25 bp	(28)	(29)	(30)	(31)	(32)
	+50 bp	(27)	(29)	(30)	(31)	(32)

USD m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	0	17	23	24	25	34	34	35	36	37
Change (%)	0.0%	11670.5%	37.7%	0.8%	5.9%	37.3%	-1.2%	4.3%	3.1%	2.0%
Cost of Sales	(0)	(11)	(18)	(18)	(19)	(24)	(23)	(24)	(24)	(25)
Gross Profit	(0)	6	5	5	6	10	10	11	12	12
GP Margin (%)	-198.4%	33.8%	21.4%	23.2%	25.2%	30.3%	31.1%	32.4%	33.7%	33.7%
Operating Expenses	(0)	(6)	(5)	(6)	(6)	(7)	(7)	(7)	(7)	(7)
Other Operating Income / Expens	-	-	5	2	2	2	2	2	2	2
EBITDA	(0)	0	5	2	3	6	6	7	7	7
EBITDA Margin (%)	-235.8%	1.2%	21.8%	8.1%	10.1%	16.8%	17.3%	18.7%	19.9%	19.9%
Depreciation and Amortization (-)	(0)	(2)	(3)	(4)	(5)	(6)	(6)	(7)	(7)	(4)
EBIT	(1)	(1)	2	(2)	(3)	(0)	(0)	0	0	3
EBIT Margin (%)	-422.8%	-8.0%	8.8%	-10.2%	-11.2%	0.0%	-0.9%	0.1%	0.8%	7.9%
Tax				-	-	-	-	(0)	(0)	(1)
Tax Rate (%)				22.5%	22.5%	22.5%	22.5%	22.5%	22.5%	22.5%
Depreciation and Amortization (+)				4	5	6	6	7	7	4
Operational Cash Flows				2	3	6	6	7	7	7
Change in NWC				(0)	(0)	(2)	0	(0)	(0)	(0)
Capex				(4)	(10)	(3)	(3)	(3)	(3)	(4)
Free Cash Flows				(3)	(7)	0	3	3	3	2
Discount Rate				9.7%	9.1%	8.7%	8.7%	8.7%	8.7%	8.7%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.87	0.80	0.74	0.68	0.62	0.62
Discounted Cash Flows				(3)	(6)	0	2	2	2	19

	USD m	TL m
DCF (2020-25)	(3)	(16)
Terminal Value (>2025)	19	115
Enterprise Value	17	99
Net Cash/(Debt)	(48)	(284)
Adjusted Equity Value	(31)	(185)

Source: Management, PwC Analysis

Discounted Cash Flows

Denizli Cam Sanayii ve Tic. A.Ş.

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	13	11	8	6	3
	-25 bp	15	12	9	7	4
	-	17	14	11	8	6
	+25 bp	19	15	12	10	7
	+50 bp	20	17	14	11	8

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	82	107	132	104	166	193	223	246	270	292
Change (%)	27.5%	30.2%	24.2%	-21.2%	59.3%	16.4%	15.2%	10.6%	9.6%	8.0%
Cost of Sales	(61)	(87)	(111)	(99)	(136)	(154)	(174)	(192)	(209)	(226)
Gross Profit	21	20	21	5	30	39	49	55	61	66
GP Margin (%)	25.5%	18.4%	15.8%	4.7%	18.2%	20.1%	21.9%	22.2%	22.6%	22.6%
Operating Expenses	(15)	(12)	(14)	(14)	(17)	(19)	(21)	(23)	(25)	(27)
Other Operating Income / Expens	(0)	1	0	-	-	-	-	-	-	-
EBITDA	5	9	7	(9)	13	20	28	32	36	39
EBITDA Margin (%)	6.6%	8.6%	5.5%	-8.8%	8.1%	10.4%	12.6%	13.0%	13.4%	13.4%
Depreciation and Amortization (-)	(4)	(4)	(4)	(7)	(8)	(9)	(10)	(11)	(13)	(18)
EBIT	1	5	4	(17)	5	11	18	21	23	21
EBIT Margin (%)	1.7%	4.9%	2.7%	-15.9%	3.1%	5.6%	8.0%	8.4%	8.7%	7.4%
Tax				-	(1)	(2)	(4)	(4)	(5)	(4)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				7	8	9	10	11	13	18
Operational Cash Flows				(9)	12	18	24	28	31	35
Change in NWC				6	(14)	(6)	(7)	(6)	(6)	(5)
Capex				(39)	(8)	(9)	(10)	(11)	(12)	(18)
Free Cash Flows				(42)	(10)	3	8	11	14	12
Discount Rate				21.0%	19.5%	19.0%	18.2%	17.2%	16.2%	15.7%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.91	0.76	0.63	0.53	0.45	0.39	0.39
Discounted Cash Flows				(38)	(7)	2	4	5	5	60

	TL m
DCF (2020-25)	(29)
Terminal Value (>2025)	60
Enterprise Value	31
Net Cash/(Debt)	(20)
Adjusted Equity Value	11

Source: Management, PwC Analysis

Discounted Cash Flows

Paşabahçe Mağazaları A.Ş.

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	70	64	59	55	50
	-25 bp	72	66	61	56	51
	-	74	68	63	58	53
	+25 bp	76	70	64	59	54
	+50 bp	78	72	66	61	56

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	201	247	302	279	371	474	568	670	778	840
Change (%)	18.5%	23.1%	22.3%	-7.5%	32.9%	27.8%	19.8%	17.8%	16.2%	8.0%
Cost of Sales	(89)	(115)	(137)	(124)	(166)	(214)	(258)	(305)	(356)	(384)
Gross Profit	112	132	165	155	205	261	311	365	422	456
GP Margin (%)	55.8%	53.6%	54.7%	55.6%	55.4%	54.9%	54.6%	54.5%	54.3%	54.3%
Operating Expenses	(101)	(122)	(146)	(149)	(189)	(230)	(272)	(317)	(365)	(394)
Other Operating Income / Expens	1	1	2	(0)	1	2	3	4	5	6
EBITDA	11	11	22	6	17	32	41	52	63	68
EBITDA Margin (%)	5.6%	4.5%	7.1%	2.2%	4.7%	6.8%	7.2%	7.7%	8.1%	8.1%
Depreciation and Amortization (-)	(5)	(4)	(5)	(9)	(11)	(13)	(16)	(19)	(21)	(8)
EBIT	6	7	16	(3)	6	19	25	33	42	60
EBIT Margin (%)	3.1%	2.7%	5.5%	-1.2%	1.6%	4.0%	4.4%	4.9%	5.4%	7.1%
Tax				-	(1)	(4)	(5)	(7)	(8)	(12)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				9	11	13	16	19	21	8
Operational Cash Flows				6	16	29	36	45	55	56
Change in NWC				10	(28)	(32)	(29)	(31)	(34)	(19)
Capex				(32)	(12)	(13)	(15)	(16)	(17)	(8)
Free Cash Flows				(16)	(24)	(17)	(8)	(2)	4	29
Discount Rate				21.7%	20.2%	19.7%	18.9%	17.9%	16.9%	16.4%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.91	0.75	0.62	0.52	0.44	0.38	0.38
Discounted Cash Flows				(14)	(18)	(10)	(4)	(1)	2	129

TL m

DCF (2020-25)	(46)
Terminal Value (>2025)	129
Enterprise Value	84
Net Cash/(Debt)	(21)
Adjusted Equity Value	63

Source: Management, PwC Analysis

Discounted Cash Flows

Paşabahçe SRL

Sensitivity Analysis (EUR m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	7	7	7	7	6
	-25 bp	7	7	7	7	7
	-	7	7	7	7	7
	+25 bp	7	7	7	7	7
	+50 bp	7	7	7	7	7

EUR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	14	14	14	13	14	14	15	15	15	16
Change (%)	18.5%	-3.1%	2.6%	-9.8%	6.3%	6.7%	1.6%	1.9%	2.0%	2.0%
Cost of Sales	(11)	(10)	(10)	(9)	(9)	(10)	(10)	(10)	(10)	(11)
Gross Profit	4	4	4	4	4	5	5	5	5	5
GP Margin (%)	25.4%	28.4%	31.6%	31.6%	31.6%	31.6%	31.6%	31.6%	31.6%	31.6%
Operating Expenses	(3)	(3)	(4)	(3)	(3)	(4)	(4)	(4)	(4)	(4)
Other Operating Income / Expens	(0)	(0)	(0)	-	-	-	-	-	-	-
EBITDA	0	0	1	1	1	1	1	1	1	1
EBITDA Margin (%)	1.0%	2.6%	5.9%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Depreciation and Amortization (-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
EBIT	0	0	1	1	1	1	1	1	1	1
EBIT Margin (%)	0.2%	1.7%	5.0%	5.7%	5.9%	6.5%	6.5%	6.5%	6.5%	6.5%
Tax				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Tax Rate (%)				27.9%	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%
Depreciation and Amortization (+)				0	0	0	0	0	0	0
Operational Cash Flows				1	1	1	1	1	1	1
Change in NWC				0	(0)	(0)	(0)	(0)	(0)	(0)
Capex				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Free Cash Flows				1	1	1	1	1	1	1
Discount Rate				14.2%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.94	0.82	0.72	0.63	0.55	0.48	0.48
Discounted Cash Flows				1	0	0	0	0	0	3

	EUR m	TL m
DCF (2020-25)	3	18
Terminal Value (>2025)	3	19
Enterprise Value	6	37
Net Cash/(Debt)	1	6
Tax Incentive Assets	0	2
Adjusted Equity Value	7	45

Source: Management, PwC Analysis

Discounted Cash Flows

Paşabahçe (Shangai) Trading Co. Ltd.

Sensitivity Analysis (CNY m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	2	2	2	2	1
	-25 bp	2	2	2	2	1
	-	2	2	2	2	1
	+25 bp	2	2	2	2	1
	+50 bp	2	2	2	2	1

CNY m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	23	22	25	23	25	27	28	29	30	31
Change (%)	4.0%	-3.6%	11.4%	-7.3%	7.9%	8.4%	3.0%	3.0%	3.0%	3.0%
Cost of Sales	(20)	(12)	(15)	(14)	(15)	(16)	(17)	(17)	(18)	(18)
Gross Profit	4	10	10	10	10	11	11	12	12	13
GP Margin (%)	15.5%	45.8%	41.0%	41.0%	41.0%	41.0%	41.0%	41.0%	41.0%	41.0%
Operating Expenses	(8)	(10)	(9)	(9)	(9)	(10)	(10)	(11)	(11)	(11)
Other Operating Income / Expens	(1)	(1)	(0)	-	-	-	-	-	-	-
EBITDA	(5)	(1)	1	1	1	1	1	1	1	1
EBITDA Margin (%)	-22.6%	-3.9%	2.3%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%
Depreciation and Amortization (-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
EBIT	(5)	(1)	1	1	1	1	1	1	1	1
EBIT Margin (%)	-22.7%	-4.0%	2.1%	4.1%	4.1%	4.1%	4.2%	4.2%	4.2%	4.2%
Tax				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Tax Rate (%)				25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Depreciation and Amortization (+)				0	0	0	0	0	0	0
Operational Cash Flows				1	1	1	1	1	1	1
Change in NWC				(2)	(2)	(2)	(2)	(2)	(2)	(0)
Capex				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Free Cash Flows				(1)	(1)	(1)	(1)	(1)	(1)	1
Discount Rate				14.1%	14.1%	14.1%	14.1%	14.1%	14.1%	14.1%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.94	0.82	0.72	0.63	0.55	0.48	0.48
Discounted Cash Flows				(1)	(1)	(1)	(1)	(1)	(1)	3

	CNY m	TL m
DCF (2020-25)	(5)	(4)
Terminal Value (>2025)	3	3
Enterprise Value	(1)	(1)
Net Cash/(Debt)	2	2
Tax Incentive Assets	1	1
Adjusted Equity Value	2	1

Source: Management, PwC Analysis

Discounted Cash Flows

Paşabahçe USA Inc.

Sensitivity Analysis (\$ m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	1	1	1	1	1
	-25 bp	1	1	1	1	1
	-	1	1	1	1	1
	+25 bp	1	1	1	1	1
	+50 bp	1	1	1	1	1

USD m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	-	3	2	2	2	3	3	3	3	3
Change (%)	0.0%	0.0%	-19.3%	-9.4%	7.6%	7.6%	2.0%	2.0%	2.0%	2.0%
Cost of Sales	-	(2)	(1)	(1)	(1)	(2)	(2)	(2)	(2)	(2)
Gross Profit	-	1	1	1	1	1	1	1	1	1
GP Margin (%)	0.0%	38.2%	39.1%	39.1%	39.1%	39.1%	39.1%	39.1%	39.1%	39.1%
Operating Expenses	-	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other Operating Income / Expens	-	0	(0)	-	-	-	-	-	-	-
EBITDA	-	0	(0)	0	0	0	0	0	0	0
EBITDA Margin (%)	0.0%	2.8%	-1.3%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%
Depreciation and Amortization (-)	-	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-
EBIT	-	(0)	(0)	0	0	0	0	0	0	0
EBIT Margin (%)	0.0%	-0.3%	-2.0%	4.8%	4.8%	4.8%	4.8%	4.8%	4.9%	5.1%
Tax				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Tax Rate (%)				21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%
Depreciation and Amortization (+)				0	0	0	0	0	0	-
Operational Cash Flows				0	0	0	0	0	0	0
Change in NWC				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Capex				-	-	-	-	-	-	-
Free Cash Flows				(0)	(0)	(0)	(0)	(0)	(0)	0
Discount Rate				10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.86	0.78	0.71	0.64	0.58	0.58
Discounted Cash Flows				(0)	(0)	(0)	(0)	(0)	(0)	1

	USD m	TL m
DCF (2020-25)	(0)	(1)
Terminal Value (>2025)	1	4
Enterprise Value	1	4
Net Cash/(Debt)	0	2
Tax Incentive Assets	0	0
Adjusted Equity Value	1	6

Source: Management, PwC Analysis

Discounted Cash Flows

Paşabahçe Spain SL

Sensitivity Analysis (EUR m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	2	2	2	2	2
	-25 bp	2	2	2	2	2
	-	2	2	2	2	2
	+25 bp	2	2	2	2	2
	+50 bp	2	2	2	2	2

EUR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	-	1	1	1	1	1	1	1	1	1
Change (%)	0.0%	0.0%	8.4%	-9.8%	6.3%	6.7%	1.6%	1.9%	2.0%	2.0%
Cost of Sales	-	-	-	-	-	-	-	-	-	-
Gross Profit	-	1	1	1	1	1	1	1	1	1
GP Margin (%)	0%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Operating Expenses	-	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(1)	(1)
Other Operating Income / Expens	-	(0)	-	-	-	-	-	-	-	-
EBITDA	-	0	0	0	0	0	0	0	0	0
EBITDA Margin (%)	0.0%	7.5%	19.6%	19.6%	19.6%	19.6%	19.6%	19.6%	19.6%	19.6%
Depreciation and Amortization (-)	-	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-
EBIT	-	0	0	0	0	0	0	0	0	0
EBIT Margin (%)	0.0%	7.1%	19.3%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%	19.6%
Tax				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Tax Rate (%)				25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Depreciation and Amortization (+)				0	0	0	0	0	0	-
Operational Cash Flows				0	0	0	0	0	0	0
Change in NWC				0	(0)	(0)	(0)	(0)	(0)	(0)
Capex				-	-	-	-	-	-	-
Free Cash Flows				0	0	0	0	0	0	0
Discount Rate				10.4%	10.2%	10.0%	10.0%	10.0%	10.0%	10.0%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.86	0.78	0.71	0.65	0.59	0.59
Discounted Cash Flows				0	0	0	0	0	0	1

	EUR m	TL m
DCF (2020-25)	0	3
Terminal Value (>2025)	1	5
Enterprise Value	1	7
Net Cash/(Debt)	1	5
Adjusted Equity Value	2	12

Source: Management, PwC Analysis

Discounted Cash Flows

Paşabahçe Glass GmbH

Sensitivity Analysis (EUR m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	1	1	1	1	1
	-25 bp	1	1	1	1	1
	-	1	1	1	1	1
	+25 bp	1	1	1	1	1
	+50 bp	1	1	1	1	1
		1	1	1	1	1

EUR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	-	1	1	1	1	1	1	1	1	1
Change (%)	0.0%	0.0%	7.8%	-9.8%	6.3%	6.7%	1.6%	1.9%	2.0%	2.0%
Cost of Sales	-	(0)	-	-	-	-	-	-	-	-
Gross Profit	-	1	1	1	1	1	1	1	1	1
GP Margin (%)	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Operating Expenses	-	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other Operating Income / Expens	-	0	(0)	-	-	-	-	-	-	-
EBITDA	-	0	(0)	0	0	0	0	0	0	0
EBITDA Margin (%)	0.0%	11.1%	-12.1%	16.6%	16.6%	16.6%	16.6%	16.6%	16.6%	16.6%
Depreciation and Amortization (-)	-	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
EBIT	-	0	(0)	0	0	0	0	0	0	0
EBIT Margin (%)	0.0%	3.8%	-16.9%	7.4%	7.4%	7.6%	14.8%	14.4%	14.0%	14.2%
Tax				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Tax Rate (%)				29.8%	29.8%	29.8%	29.8%	29.8%	29.8%	29.8%
Depreciation and Amortization (+)				0	0	0	0	0	0	0
Operational Cash Flows				0	0	0	0	0	0	0
Change in NWC				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Capex				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Free Cash Flows				0	0	0	0	0	0	0
Discount Rate				9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.87	0.79	0.72	0.66	0.60	0.60
Discounted Cash Flows				0	0	0	0	0	0	1

	EUR m	TL m
DCF (2020-25)	0	3
Terminal Value (>2025)	1	5
Enterprise Value	1	7
Net Cash/(Debt)	0	1
Adjusted Equity Value	1	9

Source: Management, PwC Analysis

Discounted Cash Flows

Soda Sanayii A.Ş. (Solo)

Sensitivity Analysis (\$ m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	1,295	1,258	1,223	1,191	1,161
	-25 bp	1,321	1,282	1,246	1,212	1,180
	-	1,349	1,308	1,270	1,234	1,201
	+25 bp	1,379	1,336	1,296	1,258	1,223
	+50 bp	1,412	1,366	1,323	1,283	1,246

USD m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	483	512	520	449	486	527	557	584	608	620
Change (%)	0.0%	6.2%	1.5%	-13.6%	8.1%	8.5%	5.7%	4.7%	4.1%	2.0%
Cost of Sales	(287)	(278)	(305)	(292)	(310)	(330)	(341)	(351)	(365)	(365)
Gross Profit	196	234	215	158	175	197	217	233	243	255
GP Margin (%)	40.6%	45.7%	41.3%	35.1%	36.1%	37.4%	38.9%	39.9%	40.0%	41.2%
Operating Expenses	(71)	(70)	(72)	(68)	(73)	(77)	(80)	(83)	(85)	(87)
Other Operating Income / Expense	7	20	8	2	2	2	2	2	2	2
EBITDA	132	184	151	91	104	122	139	152	160	170
EBITDA Margin (%)	27.3%	35.8%	29.0%	20.2%	21.4%	23.2%	24.9%	26.0%	26.3%	27.5%
Depreciation and Amortization (-)	(23)	(17)	(15)	(16)	(23)	(25)	(26)	(27)	(34)	(42)
EBIT	109	167	136	75	81	98	113	125	126	128
EBIT Margin (%)	22.6%	32.5%	26.1%	16.7%	16.7%	18.5%	20.3%	21.4%	20.7%	20.6%
Tax				(17)	(16)	(20)	(23)	(25)	(25)	(26)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				16	23	25	26	27	34	42
Operational Cash Flows				74	88	103	116	127	135	145
Change in NWC				15	(8)	(9)	(6)	(6)	(5)	(3)
Capex				(64)	(64)	(45)	(43)	(43)	(46)	(42)
Free Cash Flows				25	17	50	67	78	83	100
Discount Rate				10.0%	9.9%	9.7%	9.7%	9.7%	9.7%	9.7%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.87	0.79	0.72	0.66	0.60	0.60
Discounted Cash Flows				24	14	39	48	51	50	778

	USD m	TL m
DCF (2020-25)	226	1,345
Terminal Value (>2025)	778	4,623
Enterprise Value	1,005	5,967
Net Cash/(Debt)	301	1,788
Other Adjustments	(36)	(212)
Adjusted Equity Value	1,270	7,544
Other Adjustments	USD m	TL m
Dividend Payments	(41)	(245)
Investment Tax Incentives	0	1
Dividend Income	5	32
Total	(36)	(212)

Source: Management, PwC Analysis

Discounted Cash Flows

Şişecam Elyaf Sanayii A.Ş.

Sensitivity Analysis (EUR m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	(10)	(13)	(15)	(18)	(20)
	-25 bp	(8)	(11)	(14)	(16)	(19)
	-	(7)	(10)	(12)	(15)	(17)
	+25 bp	(5)	(8)	(11)	(14)	(16)
	+50 bp	(3)	(6)	(9)	(12)	(15)

EUR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	-	-	31	52	52	59	65	70	78	79
Change (%)	0.0%	0.0%	0.0%	66.8%	-0.6%	12.8%	10.6%	7.7%	11.5%	2.0%
Cost of Sales	-	(2)	(25)	(35)	(34)	(38)	(42)	(45)	(50)	(54)
Gross Profit	-	(2)	7	17	18	21	23	25	28	25
GP Margin (%)	0.0%	0.0%	20.9%	32.3%	34.8%	35.2%	35.9%	35.8%	35.5%	31.4%
Operating Expenses	(0)	(2)	(6)	(8)	(8)	(8)	(9)	(10)	(10)	(11)
Other Operating Income / Expenses	-	0	0	0	0	0	0	0	0	0
EBITDA	(0)	(4)	1	9	11	12	14	16	18	15
EBITDA Margin (%)	0.0%	0.0%	2.9%	17.9%	20.4%	21.3%	22.4%	22.5%	22.6%	18.5%
Depreciation and Amortization (-)	-	-	(7)	(5)	(5)	(5)	(5)	(4)	(4)	(2)
EBIT	(0)	(4)	(6)	4	5	8	10	11	13	12
EBIT Margin (%)	0.0%	0.0%	-18.5%	7.4%	10.1%	12.9%	15.2%	16.2%	17.2%	15.6%
Tax				(1)	(1)	(2)	(2)	(2)	(3)	(2)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				5	5	5	5	4	4	2
Operational Cash Flows				9	10	11	13	13	15	12
Change in NWC				11	3	2	(2)	(1)	(2)	(0)
Capex				(7)	(1)	(1)	(1)	(1)	(1)	(2)
Free Cash Flows				12	12	12	10	11	12	10
Discount Rate				11.1%	11.1%	11.1%	11.1%	11.1%	11.1%	11.1%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.85	0.77	0.69	0.62	0.56	0.56
Discounted Cash Flows				12	10	9	7	7	7	59

	EUR m	TL m
DCF (2020-25)	52	345
Terminal Value (>2025)	59	391
Enterprise Value	111	736
Net Cash/(Debt)	(136)	(907)
Investment Tax Incentives	13	88
Adjusted Equity Value	(12)	(83)

Source: Management, PwC Analysis

Discounted Cash Flows

Oxyvit Kimya Sanayii Ve Tic. A.Ş.

Sensitivity Analysis (\$ m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	38	37	36	35	34
	-25 bp	39	38	37	36	34
	-	40	39	38	36	35
	+25 bp	41	40	39	37	36
	+50 bp	43	41	39	38	37

USD m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	18	18	16	17	17	18	18	18	19	19
Change (%)	0.0%	-2.1%	-9.7%	4.0%	4.7%	2.2%	2.2%	3.8%	2.0%	2.0%
Cost of Sales	(8)	(9)	(10)	(11)	(11)	(12)	(12)	(12)	(12)	(13)
Gross Profit	10	8	6	6	6	6	6	6	7	7
GP Margin (%)	53.8%	46.8%	36.6%	35.8%	35.0%	34.9%	34.7%	34.5%	34.5%	34.5%
Operating Expenses	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Other Operating Income / Expenses	1	0	0	0	0	0	0	0	0	0
EBITDA	9	7	4	4	4	4	4	4	4	4
EBITDA Margin (%)	48.7%	37.9%	25.0%	24.3%	23.6%	23.5%	23.4%	23.4%	23.4%	23.4%
Depreciation and Amortization (-)	(0)	(0)	(0)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
EBIT	8	6	4	4	4	4	4	4	4	4
EBIT Margin (%)	47.0%	36.1%	22.1%	21.2%	20.4%	20.0%	19.7%	19.6%	19.6%	18.6%
Tax			(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Tax Rate (%)			22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)			0	1	1	1	1	1	1	1
Operational Cash Flows			3	3	3	3	4	4	4	4
Change in NWC			0	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Capex			(2)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Free Cash Flows			2	2	2	2	3	3	3	3
Discount Rate			9.1%	9.1%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Partial Period Factor			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period			0.50	1.50	2.50	3.50	4.50	5.50		
Cumulative Discount Factor			0.96	0.88	0.80	0.74	0.68	0.62	0.62	
Discounted Cash Flows			2	2	2	2	2	2	2	25

	USD m	TL m
DCF (2020-25)	11	64
Terminal Value (>2025)	25	148
Enterprise Value	36	212
Net Cash/(Debt)	6	36
Dividend Payments	(4)	(25)
Adjusted Equity Value	38	223

Source: Management, PwC Analysis

Discounted Cash Flows

Cromital S.p.A

Sensitivity Analysis (EUR m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	9	9	9	9	8
	-25 bp	9	9	9	9	8
	-	9	9	9	9	9
	+25 bp	9	9	9	9	9
	+50 bp	9	9	9	9	9

EUR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	19	18	16	10	14	18	20	21	24	24
Change (%)	6.8%	-5.8%	-13.7%	-38.1%	43.7%	25.2%	11.3%	8.9%	12.4%	2.0%
Cost of Sales	(15)	(15)	(13)	(8)	(11)	(14)	(16)	(17)	(19)	(20)
Gross Profit	4	3	2	2	3	3	4	4	4	5
GP Margin (%)	20.9%	18.6%	14.5%	18.6%	18.6%	18.6%	18.6%	18.6%	18.6%	18.6%
Operating Expenses	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(3)	(3)
Other Operating Income / Expenses	(0)	0	0	(1)	-	-	-	-	-	-
EBITDA	2	1	0	(0)	1	1	1	2	2	2
EBITDA Margin (%)	9.0%	6.8%	2.5%	-2.0%	5.8%	6.9%	7.3%	7.5%	7.9%	7.9%
Depreciation and Amortization (-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
EBIT	1	1	0	(0)	1	1	1	1	2	2
EBIT Margin (%)	7.6%	5.4%	1.3%	-4.2%	4.1%	5.5%	6.0%	6.2%	6.6%	6.9%
Tax				-	(0)	(0)	(0)	(0)	(0)	(0)
Tax Rate (%)				24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%
Depreciation and Amortization (+)				0	0	0	0	0	0	0
Operational Cash Flows				(0)	1	1	1	1	2	2
Change in NWC				2	(1)	(1)	(0)	(0)	(1)	(0)
Capex				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Free Cash Flows				1	(0)	0	1	1	1	1
Discount Rate				13.2%	13.2%	13.2%	13.2%	13.2%	13.2%	13.2%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.94	0.83	0.73	0.65	0.57	0.51	0.51
Discounted Cash Flows				1	(0)	0	0	0	0	5

	EUR m	TL m
DCF (2020-25)	2	15
Terminal Value (>2025)	5	36
Enterprise Value	8	51
Net Cash/(Debt)	1	8
Adjusted Equity Value	9	59

Source: Management, PwC Analysis

Discounted Cash Flows

Şişecam Soda Lukavac D.O.O.

Sensitivity Analysis (EUR m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	160	156	151	147	143
	-25 bp	163	158	154	149	145
	-	166	161	156	152	147
	+25 bp	169	164	159	154	150
	+50 bp	173	167	162	157	152

EUR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	106	105	107	98	105	111	116	121	127	130
Change (%)	18.2%	-1.4%	2.6%	-8.7%	7.7%	5.5%	4.5%	4.0%	5.2%	2.0%
Cost of Sales	(53)	(60)	(62)	(59)	(63)	(66)	(68)	(71)	(74)	(76)
Gross Profit	53	45	45	39	43	46	48	50	53	54
GP Margin (%)	50.3%	42.9%	42.4%	40.3%	40.6%	41.1%	41.6%	41.6%	41.7%	41.7%
Operating Expenses	(22)	(21)	(21)	(20)	(22)	(22)	(23)	(24)	(25)	(25)
Other Operating Income / Expenses	0	1	0	0	0	0	0	0	0	0
EBITDA	31	24	25	19	21	24	26	27	29	29
EBITDA Margin (%)	29.4%	23.0%	22.9%	19.5%	20.3%	21.2%	21.9%	22.2%	22.5%	22.5%
Depreciation and Amortization (-)	(12)	(12)	(11)	(12)	(13)	(14)	(14)	(15)	(16)	(9)
EBIT	19	12	13	7	8	10	11	12	12	20
EBIT Margin (%)	17.7%	11.7%	12.3%	7.0%	7.7%	8.9%	9.8%	10.1%	9.6%	15.6%
Tax				(1)	(1)	(1)	(1)	(1)	(1)	(2)
Tax Rate (%)				10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Depreciation and Amortization (+)				12	13	14	14	15	16	9
Operational Cash Flows				18	21	23	24	26	27	27
Change in NWC				3	(2)	(1)	(1)	(1)	(2)	(1)
Capex				(13)	(8)	(6)	(7)	(7)	(6)	(9)
Free Cash Flows				8	11	15	16	18	19	18
Discount Rate				11.4%	11.3%	11.2%	11.2%	11.2%	11.2%	11.2%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.85	0.77	0.69	0.62	0.56	0.56
Discounted Cash Flows				7	9	11	11	11	11	107

	EUR m	TL m
DCF (2020-25)	61	406
Terminal Value (>2025)	107	709
Enterprise Value	168	1,115
Net Cash/(Debt)	(11)	(76)
Adjusted Equity Value	156	1,039

Source: Management, PwC Analysis

Discounted Cash Flows

Solvay Şişecam Holding AG

Sensitivity Analysis (EUR m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	97	96	94	93	91
	-25 bp	98	97	95	93	92
	-	99	97	96	94	93
	+25 bp	100	98	97	95	94
	+50 bp	101	99	98	96	94

EUR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Dividend Payments	21	21	17	13	13	13	13	13	13	13
Free Cash Flows	21	21	17	13	13	13	13	13	13	13
Discount Rate				15.1%	14.6%	14.4%	14.4%	14.4%	14.4%	14.4%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.93	0.81	0.71	0.62	0.54	0.47	0.47
Discounted Cash Flows				12	11	9	8	7	6	43
	EUR m			TL m						
DCF (2020-25)	53			353						
Terminal Value (>2025)	43			284						
Enterprise Value	96			637						

Source: Management, PwC Analysis

Discounted Cash Flows

Şişecam Bulgaria EOOD

Sensitivity Analysis (EUR m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	16	15	15	15	14
	-25 bp	16	16	15	15	15
	-	16	16	16	15	15
	+25 bp	17	16	16	15	15
	+50 bp	17	17	16	16	15

EUR m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	47	45	40	38	38	40	42	44	45	46
Change (%)	38.9%	-5.3%	-11.2%	-3.5%	0.5%	4.4%	5.0%	4.9%	2.0%	2.0%
Cost of Sales	(45)	(42)	(37)	(36)	(36)	(38)	(40)	(42)	(43)	(44)
Gross Profit	2	3	2	2	2	2	2	2	2	2
GP Margin (%)	5.2%	6.7%	5.6%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%
Operating Expenses	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other Operating Income / Expenses	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
EBITDA	1	2	1	1	1	1	1	1	1	1
EBITDA Margin (%)	2.8%	3.7%	3.6%	3.1%	3.1%	3.2%	3.2%	3.2%	3.2%	3.2%
Depreciation and Amortization (-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-
EBIT	1	2	1	1	1	1	1	1	1	1
EBIT Margin (%)	2.8%	3.7%	3.6%	3.1%	3.1%	3.2%	3.2%	3.2%	3.2%	3.2%
Tax				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Tax Rate (%)				10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Depreciation and Amortization (+)				0	0	0	0	0	0	-
Operational Cash Flows				1	1	1	1	1	1	1
Change in NWC				0	0	0	0	0	0	0
Capex				-	-	-	-	-	-	-
Free Cash Flows				1	1	1	1	1	1	1
Discount Rate				11.5%	11.0%	10.8%	10.8%	10.8%	10.8%	10.8%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.85	0.77	0.69	0.63	0.56	0.56
Discounted Cash Flows				1	1	1	1	1	1	9

	EUR m	TL m
DCF (2020-25)	5	35
Terminal Value (>2025)	9	57
Enterprise Value	14	92
Net Cash/(Debt)	3	19
Dividend Payments	(1)	(7)
Adjusted Equity Value	16	103

Source: Management, PwC Analysis

Discounted Cash Flows

Şişecam Trading Co.

Sensitivity Analysis (CNY m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	29	29	29	28	28
	-25 bp	30	29	29	28	28
	-	30	29	29	29	28
	+25 bp	30	30	29	29	29
	+50 bp	30	30	30	29	29

CNY m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV	CNY m	TL m	
Revenue		18	17	10	14	17	19	20	21	21	DCF (2020-25)	9	8
Change (%)		0.0%	-5.3%	-43.6%	40.2%	23.5%	8.7%	5.2%	6.2%	3.0%	Terminal Value (>2025)	10	9
Cost of Sales		(16)	(16)	(9)	(13)	(16)	(17)	(18)	(19)	(20)	Enterprise Value	19	16
Gross Profit		2	1	1	1	1	1	1	2	2	Net Cash/(Debt)	10	8
GP Margin (%)		11.4%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	Adjusted Equity Value	29	25
Operating Expenses		(4)	(4)	(2)	(3)	(4)	(4)	(4)	(4)	(5)			
Other Operating Income / Expenses		6	6	3	5	6	6	7	7	7			
EBITDA		4	3	2	3	3	4	4	4	4			
EBITDA Margin (%)		23.4%	19.1%	19.2%	19.2%	19.2%	19.2%	19.2%	19.2%	19.2%			
Depreciation and Amortization (-)		(0)	(0)	(0)	(0)	(0)	(0)	-	-	-			
EBIT		4	3	2	3	3	4	4	4	4			
EBIT Margin (%)		22.9%	18.6%	18.5%	18.7%	18.8%	19.0%	19.2%	19.2%	19.2%			
Tax		-	-	(0)	(1)	(1)	(1)	(1)	(1)	(1)			
Tax Rate (%)		0.0%	0.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%			
Depreciation and Amortization (+)		-	-	0	0	0	0	-	-	-			
Operational Cash Flows				1	2	2	3	3	3	3			
Change in NWC				(0)	0	0	0	0	0	0			
Capex				-	-	-	-	-	-	-			
Free Cash Flows				1	2	3	3	3	3	3			
Discount Rate				16.1%	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%			
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00				
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50				
Cumulative Discount Factor				0.93	0.80	0.69	0.59	0.51	0.44	0.44			
Discounted Cash Flows				1	2	2	2	1	1	10			

Source: Management, PwC Analysis

Discounted Cash Flows

Pacific Soda LLC

Sensitivity Analysis (\$ m)

		WACC				
		- 50 bp	- 25 bp	-	+ 25 bp	+ 50 bp
LTGR	- 50 bp	436	398	362	328	297
	- 25 bp	471	430	392	357	324
	-	508	465	425	387	352
	+ 25 bp	548	502	459	419	382
	+ 50 bp	590	541	495	453	414

USD m	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	...	2085
Revenue	-	-	-	-	-	-	184	490	672	762	777	792	808	824	841	858		2,309
Change (%)	-	-	-	-	-	-	0.0%	166.3%	37.2%	13.3%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%		2.0%
Cost of Sales	-	-	-	-	-	(4)	(47)	(120)	(154)	(172)	(175)	(179)	(182)	(186)	(190)	(194)		(521)
Gross Profit	-	-	-	-	-	(4)	137	370	518	590	601	614	626	638	651	664		1,787
GP Margin (%)	-	-	-	-	-	-	74.4%	75.6%	77.0%	77.4%	77.4%	77.4%	77.4%	77.4%	77.4%	77.4%		77.4%
Operating Expenses	(2)	(2)	(3)	(3)	(4)	(4)	(58)	(145)	(194)	(219)	(223)	(228)	(232)	(237)	(242)	(246)		(663)
EBITDA	(2)	(2)	(3)	(3)	(4)	(8)	79	226	323	371	378	386	394	401	409	418		1,124
EBITDA Margin (%)	-	-	-	-	-	-	42.8%	46.0%	48.1%	48.7%	48.7%	48.7%	48.7%	48.7%	48.7%	48.7%		48.7%
Depreciation and Amortization (-)	(5)	(10)	(12)	(27)	(49)	(68)	(75)	(75)	(75)	(70)	(65)	(63)	(52)	(37)	(27)	(22)		-
EBIT	(6)	(12)	(15)	(30)	(53)	(76)	4	151	249	301	313	323	342	364	382	395		1,124
EBIT Margin (%)	-	-	-	-	-	-	2.2%	30.8%	37.0%	39.5%	40.3%	40.8%	42.3%	44.2%	45.5%	46.1%		48.7%
Tax	-	-	-	-	-	-	(1)	(32)	(52)	(63)	(66)	(68)	(72)	(76)	(80)	(83)		(236)
Depreciation and Amortization (+)	5	10	12	27	49	68	75	75	75	70	65	63	52	37	27	22		-
Operational Cash Flows	(2)	(2)	(3)	(3)	(4)	(8)	78	194	271	308	313	318	322	325	329	335		888
Change in NWC	-	-	-	-	-	-	(26)	(43)	(25)	(13)	(2)	(2)	(2)	(2)	(2)	(2)		(6)
Capex	(51)	(46)	(29)	(299)	(510)	(533)	(115)	(0)	(0)	(0)	(0)	-	-	-	-	-		-
Free Cash Flows	(52)	(49)	(32)	(302)	(513)	(541)	(63)	151	245	295	310	316	320	323	327	332		882
Discount Rate	10.0%	10.3%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	9.7%		9.7%
Partial Period Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0
Discount Period	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5	13.5	14.5	15.5		65.5
Cumulative Discount Factor	0.95	0.86	0.78	0.71	0.64	0.58	0.52	0.48	0.43	0.39	0.35	0.32	0.29	0.26	0.24	0.24		0.00
Discounted Cash Flows	(50)	(42)	(25)	(214)	(329)	(313)	(33)	72	106	115	110	101	93	85	78	79		2

	USD m	TL m
Net Present Value (100%)	850	5,046
Net Present Value (50%)	425	2,523

Source: Management, PwC Analysis

Discounted Cash Flows

Türkiye Şişe ve Cam Fabrikaları A.Ş. (Solo)

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	192	171	151	132	114
	-25 bp	203	181	160	141	122
	-	214	192	170	150	131
	+25 bp	226	203	181	160	140
	+50 bp	239	214	191	170	149

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	196	258	477	521	590	682	774	848	930	1,005
Change (%)		31.7%	85.2%	9.3%	13.3%	15.5%	13.5%	9.6%	9.7%	8.0%
Cost of Sales & OPEX	(177)	(248)	(341)	(415)	(377)	(420)	(464)	(509)	(552)	(596)
Other Operating Income / Expenses	0	0	5	18	20	22	25	27	29	32
EBITDA	20	10	140	124	234	284	335	367	408	441
EBITDA Margin (%)	10.0%	4.0%	29.4%	23.8%	39.6%	41.7%	43.2%	43.2%	43.9%	43.9%
Depreciation and Amortization (-)	(36)	(42)	(49)	(67)	(143)	(164)	(180)	(178)	(173)	(188)
EBIT	(17)	(32)	91	57	90	120	154	189	235	253
EBIT Margin (%)	-8.6%	-12.5%	19.0%	11.0%	15.3%	17.6%	19.9%	22.3%	25.3%	25.1%
Tax				(13)	(18)	(24)	(31)	(38)	(47)	(51)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				67	143	164	180	178	173	188
Operational Cash Flows				112	216	260	304	329	361	390
Change in NWC				(50)	(63)	(59)	(65)	(55)	(66)	(46)
Capex				(196)	(194)	(134)	(147)	(160)	(174)	(188)
Free Cash Flows				(135)	(41)	67	92	114	121	156
Discount Rate				23.3%	21.9%	21.4%	20.7%	19.6%	18.6%	18.1%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.90	0.73	0.60	0.50	0.41	0.35	0.35
Discounted Cash Flows				(121)	(30)	40	46	47	42	541

	TL m
DCF (2020-25)	24
Terminal Value (>2025)	541
Enterprise Value	565
Net Cash/(Debt)	(807)
Other Adjustments	412
Adjusted Equity Value	170
Other Adjustments	TL m
Tax Incentive Assets	302
Dividend Payments	(320)
Dividend Income	386
Tax Incentive Assets (R&D)	43
Total	412

Source: Management, PwC Analysis

Discounted Cash Flows

Camiş Madencilik A.Ş.

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	565	548	532	517	502
	-25 bp	577	559	542	526	511
	-	589	571	553	536	521
	+25 bp	602	583	564	547	531
	+50 bp	615	595	576	558	541

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	2080
Revenue	246	333	412	452	578	718	845	950	1,046	56,572
Change (%)		35.2%	23.7%	9.7%	27.8%	24.2%	17.7%	12.4%	10.2%	8.2%
Cost of Sales	(175)	(231)	(288)	(315)	(400)	(489)	(571)	(643)	(708)	(41,420)
Gross Profit	72	102	124	138	177	229	274	307	338	15,151
GP Margin (%)	29.1%	30.6%	30.1%	30.4%	30.7%	31.9%	32.4%	32.3%	32.3%	26.8%
Operating Expenses	(41)	(52)	(60)	(74)	(87)	(102)	(116)	(128)	(141)	(7,115)
Other Operating Income / Expenses	4	2	0	(11)	(13)	(17)	(20)	(22)	(25)	(1,498)
EBITDA	35	51	65	53	78	111	138	157	173	6,538
EBITDA Margin (%)	14.1%	15.4%	15.7%	11.6%	13.4%	15.5%	16.4%	16.5%	16.5%	11.6%
Depreciation and Amortization (-)	(11)	(11)	(14)	(14)	(21)	(40)	(51)	(55)	(59)	(788)
EBIT	24	40	51	39	56	71	88	103	114	5,750
EBIT Margin (%)	9.6%	12.0%	12.4%	8.6%	9.7%	9.9%	10.4%	10.8%	10.9%	10.2%
Tax				(9)	(11)	(14)	(18)	(21)	(23)	(1,150)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				14	21	40	51	55	59	788
Operational Cash Flows				44	66	97	121	137	150	5,388
Change in NWC				(3)	(9)	(10)	(9)	(7)	(7)	(301)
Capex				(122)	(113)	(96)	(38)	(41)	(43)	(1,006)
Free Cash Flows				(81)	(55)	(9)	74	89	100	4,081
Discount Rate				20.5%	19.2%	18.8%	18.0%	17.0%	16.0%	15.5%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	60.50
Cumulative Discount Factor				0.91	0.76	0.64	0.54	0.46	0.39	0.00
Discounted Cash Flows				(74)	(42)	(6)	40	41	39	1

	TL m
DCF (2020-80)	433
Terminal Value (>2080)	-
Enterprise Value	433
Net Cash/(Debt)	107
Tax Incentive Assets	14
Adjusted Equity Value	553

Source: Management, PwC Analysis

Discounted Cash Flows

Camiş Ambalaj Sanayii A.Ş.

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	143	137	131	126	121
	-25 bp	146	140	134	128	123
	-	150	143	137	131	126
	+25 bp	154	146	140	134	128
	+50 bp	158	150	143	137	131

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	107	158	173	174	224	271	317	361	412	445
Change (%)		47.6%	9.9%	0.4%	29.0%	20.7%	17.1%	14.0%	14.2%	8.0%
Cost of Sales	(80)	(121)	(129)	(132)	(170)	(206)	(241)	(275)	(315)	(340)
Gross Profit	27	37	45	42	54	65	76	86	98	106
GP Margin (%)	24.8%	23.6%	25.8%	24.2%	24.1%	24.0%	23.9%	23.8%	23.7%	23.7%
Operating Expenses	(13)	(16)	(17)	(17)	(22)	(27)	(32)	(38)	(44)	(47)
Other Operating Income / Expenses	1	2	3	1	2	2	3	3	3	4
EBITDA	15	22	30	26	34	40	46	51	58	62
EBITDA Margin (%)	14.2%	14.1%	17.5%	15.0%	15.1%	14.8%	14.5%	14.2%	14.0%	14.0%
Depreciation and Amortization (-)	(3)	(3)	(4)	(5)	(6)	(7)	(9)	(9)	(9)	(16)
EBIT	12	19	26	21	27	33	37	42	48	46
EBIT Margin (%)	11.3%	12.2%	15.1%	12.2%	12.2%	12.2%	11.8%	11.7%	11.7%	10.3%
Tax				(5)	(5)	(7)	(7)	(8)	(10)	(9)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				5	6	7	9	9	9	16
Operational Cash Flows				21	28	33	38	43	48	53
Change in NWC				1	(17)	(16)	(16)	(15)	(18)	(11)
Capex				(16)	(29)	(14)	(29)	(9)	(10)	(16)
Free Cash Flows				7	(18)	3	(6)	19	21	26
Discount Rate				20.6%	19.3%	18.9%	18.1%	17.1%	16.1%	15.6%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.91	0.76	0.64	0.54	0.46	0.39	0.39
Discounted Cash Flows				6	(14)	2	(3)	9	8	133

	TL m
DCF (2020-25)	8
Terminal Value (>2025)	133
Enterprise Value	141
Net Cash/(Debt)	(4)
Adjusted Equity Value	137

Source: Management, PwC Analysis

Discounted Cash Flows

Şişecam Enerji A.Ş.

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	74	72	71	69	68
	-25 bp	74	72	71	69	68
	-	74	73	71	69	68
	+25 bp	75	73	71	70	68
	+50 bp	75	73	71	70	68

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	728	729	897	1,213	1,524	1,709	1,887	2,045	2,177	2,351
Change (%)		0.1%	23.0%	35.3%	25.6%	12.1%	10.4%	8.4%	6.4%	8.0%
Cost of Sales	(715)	(704)	(873)	(1,190)	(1,494)	(1,675)	(1,850)	(2,005)	(2,134)	(2,305)
Gross Profit	14	26	24	24	30	34	38	41	43	46
GP Margin (%)	1.9%	3.5%	2.7%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Operating Expenses	(5)	(4)	(7)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Other Operating Income / Expenses	2	2	3	0	0	0	0	0	0	0
EBITDA	11	23	20	15	21	23	26	28	29	31
EBITDA Margin (%)	1.5%	3.2%	2.2%	1.3%	1.4%	1.4%	1.4%	1.4%	1.3%	1.3%
Depreciation and Amortization (-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
EBIT	11	23	20	15	21	23	26	27	29	31
EBIT Margin (%)	1.5%	3.2%	2.2%	1.2%	1.3%	1.4%	1.4%	1.3%	1.3%	1.3%
Tax				(3)	(4)	(5)	(5)	(5)	(6)	(6)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				0	0	0	0	0	0	0
Operational Cash Flows				12	17	19	21	22	23	25
Change in NWC				1	(23)	(12)	(11)	(8)	(4)	(10)
Capex				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Free Cash Flows				13	(6)	6	9	14	19	14
Discount Rate				24.8%	23.1%	22.5%	21.7%	20.6%	19.6%	19.0%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.90	0.72	0.59	0.48	0.40	0.33	0.39
Discounted Cash Flows				11	(5)	4	5	6	6	43

	TL m
DCF (2020-25)	27
Terminal Value (>2025)	43
Enterprise Value	70
Net Cash/(Debt)	1
Adjusted Equity Value	71

Source: Management, PwC Analysis

Discounted Cash Flows

Şişecam Çevre Sistemleri A.Ş.

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	51	50	49	47	46
	-25 bp	52	51	49	48	47
	-	53	52	50	49	47
	+25 bp	54	53	51	49	48
	+50 bp	55	54	52	50	49

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	22	36	62	116	176	196	216	236	256	276
Change (%)		68.3%	70.3%	87.7%	51.6%	11.2%	10.3%	9.3%	8.3%	8.0%
Cost of Sales & OPEX	(21)	(34)	(58)	(110)	(169)	(189)	(208)	(228)	(247)	(267)
Other Operating Income / Expenses	5	(1)	2	0	0	0	0	0	0	0
EBITDA	5	1	6	6	7	7	8	8	8	9
EBITDA Margin (%)	22.1%	2.4%	10.3%	5.5%	4.0%	3.7%	3.5%	3.3%	3.2%	3.2%
Depreciation and Amortization (-)	(1)	(1)	(2)	(5)	(5)	(5)	(5)	(5)	(5)	(3)
EBIT	4	(1)	4	1	2	2	2	3	3	6
EBIT Margin (%)	17.2%	-1.5%	7.2%	1.2%	1.1%	1.1%	1.1%	1.1%	1.1%	2.3%
Tax				(0)	(0)	(0)	(0)	(1)	(1)	(1)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				5	5	5	5	5	5	3
Operational Cash Flows				6	7	7	7	7	8	8
Change in NWC				(12)	(3)	(1)	(1)	(1)	(1)	(1)
Capex				(11)	(1)	(1)	(1)	(1)	(1)	(3)
Free Cash Flows				(17)	3	5	5	5	6	4
Discount Rate				18.7%	17.7%	17.3%	16.7%	15.7%	14.8%	14.3%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.92	0.78	0.66	0.56	0.49	0.42	0.42
Discounted Cash Flows				(16)	2	3	3	3	2	25

	TL m
DCF (2020-25)	(2)
Terminal Value (>2025)	25
Enterprise Value	22
Net Cash/(Debt)	26
Tax Incentive Assets	2
Adjusted Equity Value	50

Source: Management, PwC Analysis

Discounted Cash Flows

Şişecam Dış Ticaret A.Ş.

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	74	72	70	68	66
	-25 bp	74	72	70	68	67
	-	75	73	71	69	67
	+25 bp	75	73	71	69	67
	+50 bp	76	74	72	70	68

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	2,861	3,789	4,674	5,198	6,253	7,393	8,189	9,121	10,192	11,007
Change (%)		32.5%	23.3%	11.2%	20.3%	18.2%	10.8%	11.4%	11.7%	8.0%
Cost of Sales & OPEX	(2,853)	(3,780)	(4,663)	(5,187)	(6,239)	(7,377)	(8,170)	(9,100)	(10,168)	(10,981)
Other Operating Income / Expenses	(1)	6	(4)	0	0	0	0	0	0	0
EBITDA	7	15	6	11	14	17	19	21	24	26
EBITDA Margin (%)			0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Depreciation and Amortization (-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
EBIT	7	15	6	11	14	17	19	21	24	26
EBIT Margin (%)	0.3%	0.4%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Tax				(2)	(3)	(3)	(4)	(4)	(5)	(5)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				0	0	0	0	0	0	0
Operational Cash Flows				9	11	14	15	17	19	21
Change in NWC				(18)	(11)	(12)	(8)	(10)	(11)	(9)
Capex				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Free Cash Flows				(9)	0	1	7	7	8	12
Discount Rate				21.2%	20.7%	20.5%	19.7%	18.7%	17.6%	17.1%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.91	0.75	0.62	0.52	0.44	0.37	0.37
Discounted Cash Flows				(8)	0	1	3	3	3	48

	TL m
DCF (2020-25)	2
Terminal Value (>2025)	48
Enterprise Value	51
Net Cash/(Debt)	16
Tax Assets (Accumulated Loss)	4
Adjusted Equity Value	71

Source: Management, PwC Analysis

Discounted Cash Flows

Şişecam Sigorta Aracılık Hizmetleri A.Ş.

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	18	17	17	17	16
	-25 bp	18	17	17	17	16
	-	18	18	17	17	17
	+25 bp	18	18	18	17	17
	+50 bp	19	18	18	17	17

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	4	4	4	4	4	5	5	6	6	6
Change (%)		0.1%	18.2%	-14.3%	12.0%	11.5%	10.5%	9.5%	8.5%	8.0%
Cost of Sales & OPEX	(1)	(1)	(2)	(2)	(2)	(2)	(3)	(3)	(3)	(3)
Other Operating Income / Expenses	0	-	-	-	-	-	-	-	-	-
EBITDA	3	2	3	2	2	2	2	3	3	3
EBITDA Margin (%)	71.9%	61.6%	59.8%	49.3%	49.3%	49.3%	49.3%	49.3%	49.3%	49.3%
Depreciation and Amortization (-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
EBIT	3	2	3	2	2	2	2	3	3	3
EBIT Margin (%)	69.4%	60.2%	59.0%	48.3%	48.1%	48.0%	47.9%	48.1%	48.1%	47.9%
Tax				(0)	(0)	(0)	(0)	(1)	(1)	(1)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				0	0	0	0	0	0	0
Operational Cash Flows				1	2	2	2	2	2	3
Change in NWC				0	(0)	(0)	(0)	(0)	(0)	(0)
Capex				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Free Cash Flows				2	2	2	2	2	2	2
Discount Rate				23.9%	22.2%	21.6%	20.8%	19.7%	18.7%	18.1%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.90	0.73	0.60	0.49	0.41	0.35	0.35
Discounted Cash Flows				1	1	1	1	1	1	8

	TL m
DCF (2020-25)	6
Terminal Value (>2025)	8
Enterprise Value	14
Net Cash/(Debt)	6
Dividend Payments	(3)
Adjusted Equity Value	17

Source: Management, PwC Analysis

Discounted Cash Flows

Camiş Elektrik Üretim A.Ş.

Sensitivity Analysis (TL m)

WACC				
-50 bp	-25 bp	-	+25 bp	+50 bp
86	85	85	85	84

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	54	68	74	92	127	141	156	171	14
Change (%)		24.8%	9.5%	24.8%	37.1%	11.5%	10.5%	9.5%	-92.0%
Cost of Sales	(49)	(59)	(70)	(83)	(113)	(126)	(139)	(152)	(12)
Gross Profit	5	9	4	9	14	15	17	19	2
GP Margin (%)	10.1%	13.2%	4.8%	9.6%	11.0%	11.0%	11.0%	11.0%	11.0%
Operating Expenses	(1)	(2)	(1)	(2)	(2)	(2)	(2)	(3)	(0)
Other Operating Income / Expenses	(0)	(1)	0	0	0	0	0	0	-
EBITDA	5	7	2	7	12	13	15	16	1
EBITDA Margin (%)	8.4%	9.9%	3.0%	7.6%	9.4%	9.4%	9.4%	9.4%	9.4%
Depreciation and Amortization (-)	(2)	(2)	(2)	(5)	(5)	(5)	(5)	(5)	(2)
EBIT	2	4	1	2	7	8	9	11	(1)
EBIT Margin (%)	4.1%	6.4%	0.8%	1.9%	5.2%	5.6%	6.0%	6.3%	-4.4%
Tax				(0)	(1)	(2)	(2)	(2)	-
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	0.0%
Depreciation and Amortization (+)				5	5	5	5	5	2
Operational Cash Flows				7	11	12	13	14	1
Change in NWC				3	0	(0)	(0)	(0)	3
Capex				(13)	-	-	-	-	-
Free Cash Flows				(4)	11	11	13	14	4
Discount Rate				21.5%	19.7%	19.2%	18.4%	17.3%	16.2%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	0.07
Discount Period				0.50	1.50	2.50	3.50	4.50	4.57
Cumulative Discount Factor				0.91	0.75	0.63	0.53	0.45	0.41
Discounted Cash Flows				(4)	8	7	7	6	2

	TL m
DCF (2020-25)	26
Terminal Value (>2025)	-
End of Operation Equipment Sales Value	17
Enterprise Value	43
Net Cash/(Debt)	42
Adjusted Equity Value	85

Source: Management, PwC Analysis

Discounted Cash Flows

Madencilik Sanayii ve Tic. A.Ş.

Sensitivity Analysis (TL m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	18	17	17	17	16
	-25 bp	18	17	17	17	16
	-	18	17	17	17	16
	+25 bp	18	17	17	17	16
	+50 bp	18	17	17	17	16

TL m	2017	2018	2019	2020	2021	2022	2023	2024	2025	2080
Revenue	6	6	8	8	13	20	25	31	34	782
Change (%)		-0.1%	32.1%	8.7%	60.6%	51.3%	25.3%	26.0%	8.5%	8.0%
Cost of Sales	(4)	(5)	(6)	(7)	(11)	(16)	(20)	(26)	(28)	(639)
Gross Profit	1	1	1	1	2	4	5	6	6	143
GP Margin (%)	22.1%	14.7%	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%
Operating Expenses	(0)	(0)	(0)	(0)	(1)	(1)	(1)	(1)	(1)	(51)
Other Operating Income / Expenses	(0)	0	(0)	(0)	(0)	(1)	(2)	(2)	(3)	(39)
EBITDA	0	1	1	1	2	2	2	3	3	53
EBITDA Margin (%)	7.5%	10.5%	12.9%	9.8%	12.1%	9.8%	9.0%	8.3%	8.3%	6.7%
Depreciation and Amortization (-)				(0)	(0)	(0)	(0)	(0)	(0)	(0)
EBIT	0	1	1	1	2	2	2	3	3	53
EBIT Margin (%)	7.5%	10.5%	12.9%	9.8%	12.1%	9.8%	9.0%	8.3%	8.3%	6.7%
Tax				(0)	(0)	(0)	(0)	(1)	(1)	(11)
Tax Rate (%)				22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Depreciation and Amortization (+)				0	0	0	0	0	0	0
Operational Cash Flows				1	1	2	2	2	2	42
Change in NWC				(0)	(0)	(0)	(0)	(0)	(0)	(1)
Capex				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Free Cash Flows				1	1	1	2	2	2	41
Discount Rate				21.0%	19.6%	19.1%	18.3%	17.3%	16.3%	15.9%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	60.50
Cumulative Discount Factor				0.91	0.76	0.63	0.53	0.45	0.39	0.00
Discounted Cash Flows				0.56	0.91	0.93	0.92	0.90	0.86	0

	TL m
DCF (2020-80)	15
Terminal Value (>2080)	-
Enterprise Value	15
Net Cash/(Debt)	2
Adjusted Equity Value	17

Source: Management, PwC Analysis

Discounted Cash Flows

Camiş Egypt Mining Ltd. Co.

Sensitivity Analysis (\$ m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTGR	-50 bp	1	1	1	1	1
	-25 bp	1	1	1	1	1
	-	1	1	1	1	1
	+25 bp	1	1	1	1	1
	+50 bp	1	1	1	1	1

USD m	2017	2018	2019	2020	2021	2022	2023	2024	2025	TV
Revenue	6	5	7	5	3	1	3	3	3	3
Change (%)		-16.2%	34.2%	-26.7%	-45.5%	-56.4%	117.3%	2.4%	2.0%	2.0%
Cost of Sales	(3)	(3)	(5)	(3)	(2)	(1)	(2)	(2)	(2)	(2)
Gross Profit	4	2	2	2	1	0	1	1	1	1
GP Margin (%)	56.8%	37.0%	33.8%	33.8%	33.8%	33.8%	33.8%	33.8%	33.8%	33.8%
Operating Expenses	(3)	(2)	(2)	(2)	(1)	(0)	(1)	(1)	(1)	(1)
Other Operating Income / Expenses	0	-	0	-	-	-	-	-	-	-
EBITDA	0	0	0	0	0	0	0	0	0	0
EBITDA Margin (%)	5.1%	2.7%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%
Depreciation and Amortization (-)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
EBIT	0	0	0	0	(0)	(0)	0	0	0	0
EBIT Margin (%)	4.5%	1.6%	1.3%	0.9%	-0.5%	-2.4%	2.0%	2.0%	1.9%	1.6%
Tax				(0)	-	-	(0)	(0)	(0)	(0)
Tax Rate (%)				22.5%	22.5%	22.5%	22.5%	22.5%	22.5%	22.5%
Depreciation and Amortization (+)				0	0	0	0	0	0	0
Operational Cash Flows				0	0	0	0	0	0	0
Change in NWC				0	0	0	(0)	(0)	(0)	(0)
Capex				(0)	(0)	(0)	(0)	(0)	(0)	(0)
Free Cash Flows				0	0	0	0	0	0	0
Discount Rate				9.9%	9.9%	9.8%	9.8%	9.8%	9.8%	9.8%
Partial Period Factor				1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period				0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor				0.95	0.87	0.79	0.72	0.66	0.60	0.60
Discounted Cash Flows				0.1	0.1	0.0	0.0	0.0	0.0	0.3

	USD m	TL m
DCF (2020-25)	0	1
Terminal Value (>2025)	0	2
Enterprise Value	1	3
Net Cash/(Debt)	0	1
Adjusted Equity Value	1	4

Source: Management, PwC Analysis

Discounted Cash Flows

Rudnik Krechnjaka Vijenac D.O.O.

Sensitivity Analysis (BAM m)

		WACC				
		-50 bp	-25 bp	-	+25 bp	+50 bp
LTCR	-50 bp	1	1	1	1	1
	-25 bp	1	1	1	1	1
	-	1	1	1	1	1
	+25 bp	1	1	1	1	1
	+50 bp	1	1	1	1	1

BAM m	2020	2021	2022	2023	2024	2025	TV
Dividend (50% Camiř Madencilik A.ř. Share)	0.2	0.2	0.2	0.2	0.2	0.1	0.1
Discount Rate	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%
Partial Period Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Discount Period	0.50	1.50	2.50	3.50	4.50	5.50	
Cumulative Discount Factor	0.93	0.81	0.70	0.61	0.53	0.46	0.46
Discounted Dividend	0.2	0.2	0.1	0.1	0.1	0.1	0.6

	BAM m	TL m
Discounted Dividend (2020-25)	1	3
Discounted Dividend (>2025)	1	2
Adjusted Enterprise Value	1	5

Source: Management, PwC Analysis

Investment Properties

The total appraisal value of the investment properties of all the companies located in Turkey as at 31 December 2019 is **TL 772m.**

Consolidated Company Name	Solo Company Name	Company Code	City	District	Total Appraisal Value (TL m)*
SISE	Türkiye Şişe ve Cam Fab. A.Ş.	SC	Istanbul	Beykoz	302.4
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	187.5
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	64.7
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	37.2
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	11.9
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	11.7
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	8.9
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	6.4
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	5.6
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	4.8
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	3.9
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	3.2
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	2.6
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	1.9
SISE	Çayırova Cam Sanayii A.Ş.	CY	Kocaeli	Gebze	0.5
SISE	Cam Elyaf Sanayii A.Ş.	CE	Kocaeli	Gebze	32.4
SISE	Cam Elyaf Sanayii A.Ş.	CE	Kocaeli	Gebze	4.2
SISE	Camiş Ambalaj Sanayii A.Ş.	CA	Istanbul	Tuzla	0.2
SISE	Camiş Madencilik A.Ş.	MD	Tekirdağ	Saray	0.1
TRKCM	Trakya Cam Sanayii A.Ş.	TR	Kocaeli	Gebze	0.6
ANACM	Anadolu Cam Sanayii A.Ş.	AC	Kocaeli	Gebze	73.7
PASAB	Paşabahçe Cam San. ve Tic. A.Ş.	PB	Adana	Seyhan	7.9
PASAB	Paşabahçe Cam San. ve Tic. A.Ş.	PB	Istanbul	Tuzla	0.2
PASAB	Paşabahçe Cam San. ve Tic. A.Ş.	PB	Istanbul	Fatih	0.1
Total - Turkey					772.4
TRKCM	Richard Fritz Kft	FO	Besigheim - Germany		27.9
Total					800.3

Fair values of the investment properties as at 31 December 2019 evaluated by "Harmoni Gayrimenkul ve Danışmanlık A.Ş." have been utilised for the purposes of this work.

Source: Company Management, PwC Analysis

Comparable Companies

Compagnie de Saint-Gobain S.A.

Saint-Gobain develops various products to be utilised in the construction industry. The headquarters of Saint Gobain, that has been established in 1665, are located in Courbevoie, France. 47% of the Company's sales consist of construction material distributions.

FLAT GLASS

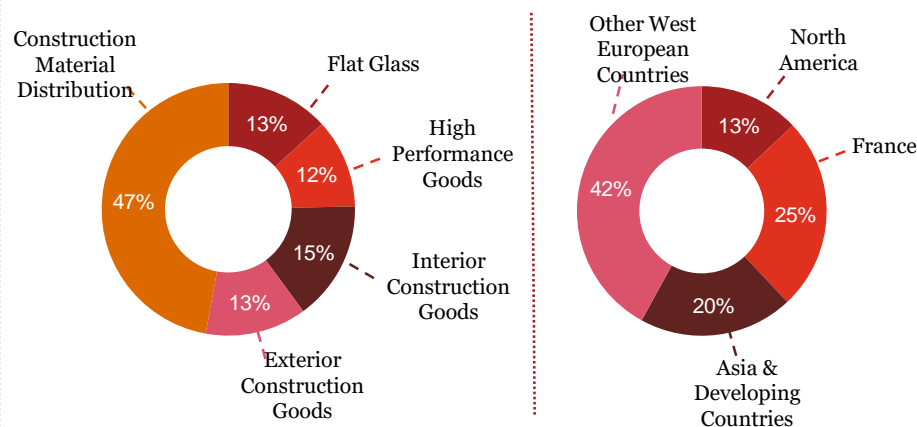
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	49,003	47,829	47,776
Cost of Goods Sold	(36,527)	(35,673)	(35,593)
Gross Profit	12,476	12,156	12,183
General, Administrative & Selling Expenses	(8,976)	(8,628)	(8,561)
Operating Income	3,500	3,528	3,621
Financial Income/Loss	(330)	(403)	(355)
Other Income/Loss	(693)	(2,019)	(927)
Earnings Before Tax	2,477	1,106	2,340
Provision for Income Tax	(526)	(563)	(708)
Net Income	1,951	543	1,632
EBITDA	4,947	5,761	5,087
EBITDA Margin (%)	10.1%	12.0%	10.6%

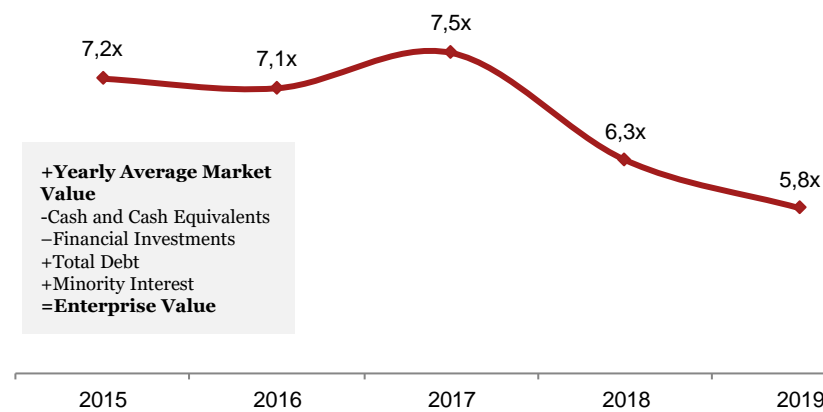
Balance Sheet

(\$ m)	31.12.2017	31.12.2018	31.12.2019
Current Assets	19,282	18,797	19,979
Cash and Cash Equivalents	3,943	3,078	5,596
Account Receivables	6,165	5,688	5,401
Other Receivables	678	856	1,283
Inventory	7,254	7,158	6,958
Other Current Assets	1,242	2,016	741
Fixed Assets	32,251	31,629	36,113
Long-term Investments	576	2,434	3,473
Property, Plant & Equipment	13,917	12,978	16,453
Intangible Assets	15,787	14,300	14,274
Other Fixed Assets	1,972	1,917	1,912
Total Assets	51,533	50,426	56,091
Current Liabilities	14,413	14,345	14,749
Accounts Payable	7,237	7,003	6,733
Short-term Borrowings	624	548	251
Current Portion of Long-term Debt	1,278	1,356	2,711
Other Short-term liabilities	5,274	5,439	5,053
Long-term Liabilities	14,484	15,172	19,145
Long-term Financial Liabilities	9,192	10,554	14,407
Other non-current Liabilities	5,292	4,618	4,738
Total Equity	22,637	20,909	22,197
Total Liabilities and Equity	51,533	50,426	56,091

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA change (x)



Source: Company's Activity and Audit Reports, Capital IQ

AGC Inc.

AGC supplies the glass demand that is used in the production of Companies in various sectors, from construction to electronics. The Company, establishment of which dates back to 1907, has a head office located in Tokyo, Japan. 48% of Company's sales are glass and 31% of them are chemicals.

FLAT GLASS

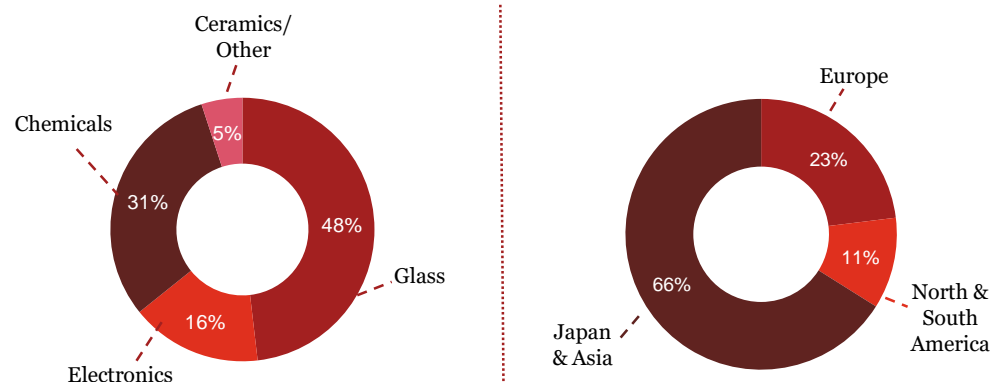
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	12,994	13,881	13,968
Cost of Goods Sold	(9,416)	(10,054)	(10,263)
Gross Profit	3,577	3,826	3,706
General, Administrative & Selling Expenses	(2,531)	(2,741)	(2,781)
Other Operating Income/Loss	27	9	(236)
Operating Income	1,073	1,094	689
Financial Income/Loss	8	20	2
Other Income/Loss	(66)	56	10
Earnings Before Tax	1,016	1,170	701
Provision for Income Tax	(312)	(241)	(190)
Net Income	704	930	511
EBITDA	2,212	2,203	2,008
EBITDA Margin (%)	17.0%	15.9%	14.4%

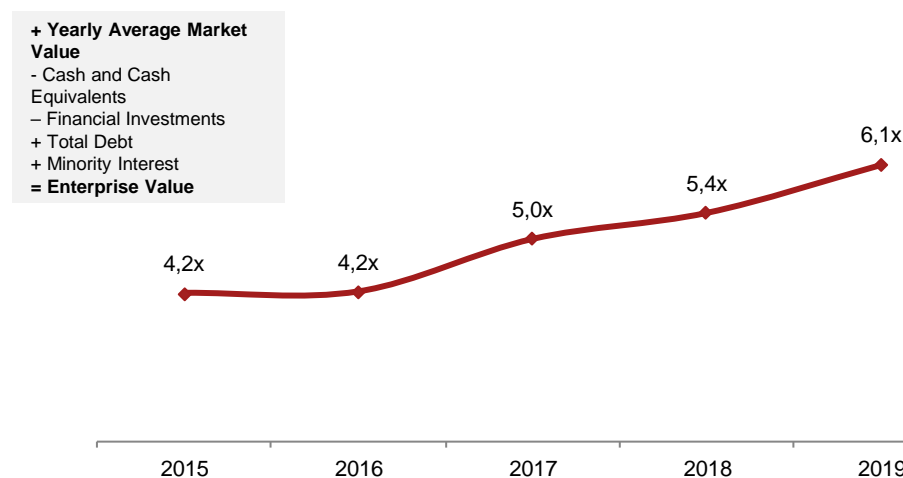
Balance Sheet

(\$ m)	31.12.2017	31.12.2018	31.12.2019
Current Assets	6,415	6,683	6,833
Cash and Cash Equivalents	1,122	1,126	1,047
Account Receivables	2,313	2,371	2,430
Other Receivables	247	247	63
Inventory	2,324	2,525	2,680
Other Current Assets	409	414	613
Fixed Assets	13,371	13,695	14,656
Long-term Investments	2,535	2,076	2,023
Property, Plant & Equipment	9,416	10,107	10,837
Intangible Assets	1,214	1,328	1,600
Other Fixed Assets	206	184	196
Total Assets	19,786	20,378	21,490
Current Liabilities	4,042	4,221	4,440
Accounts Payable	1,416	1,427	1,403
Short-term Borrowings	898	882	2,017
Current Portion of Long-term Debt	565	655	737
Other Short-term liabilities	1,163	1,256	283
Long-term Liabilities	4,292	4,731	5,248
Long-term Financial Liabilities	3,123	3,670	4,088
Other non-current Liabilities	1,168	1,062	1,159
Total Equity	11,452	11,426	11,802
Total Liabilities and Equity	19,786	20,378	21,490

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Fuyao Glass

Fuyao produces automotive glasses for various vehicles along with its' subsidiaries. The Company has been established in 1987 and its' headquarters are located in China's Fujiyan area. 78% of the Company's sales belong to automotive glass and 14% to flat glass.

FLAT GLASS

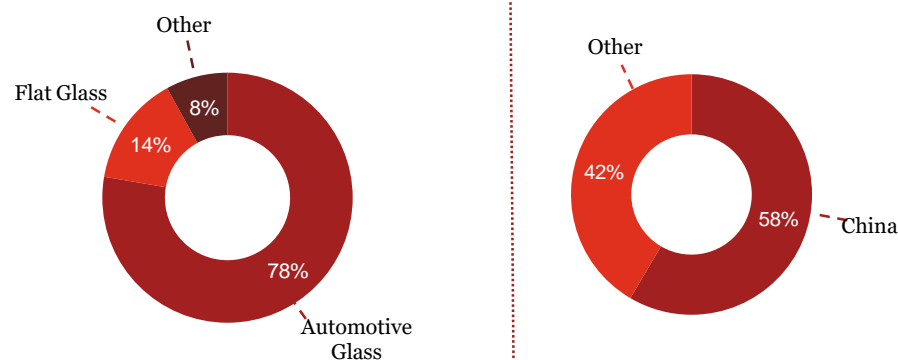
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	2,876	2,941	3,031
Cost of Goods Sold	(1,685)	(1,726)	(1,924)
Gross Profit	1,191	1,214	1,107
General, Administrative & Selling Expenses	(434)	(477)	(528)
Research and Development Expenses	(123)	(129)	(117)
Other Operating Income/Loss	(30)	(30)	27
Operating Income	603	578	489
Financial Income/Loss	(0)	82	(62)
Other Income/Loss	(37)	62	37
Earnings Before Tax	566	722	464
Provision for Income Tax	(82)	(124)	(48)
Net Income	484	597	416
EBITDA	790	785	694
EBITDA Margin (%)	27.5%	26.7%	22.9%

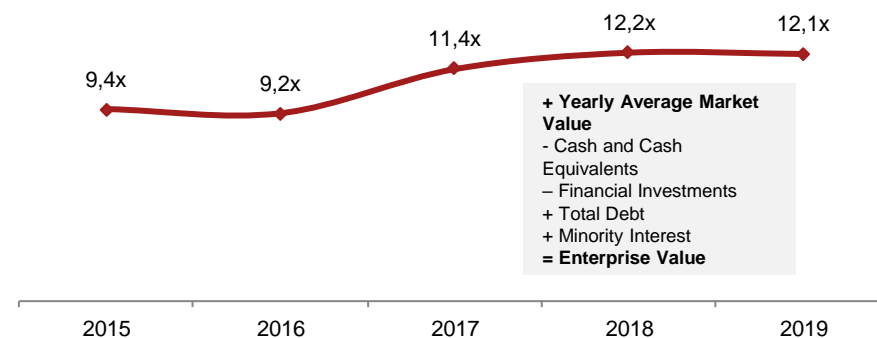
Balance Sheet

(\$ m)	31.12.2017	31.12.2018	31.12.2019
Current Assets	2,306	2,265	2,553
Cash and Cash Equivalents	1,052	984	1,438
Account Receivables	713	626	644
Other Receivables	11	97	-
Inventory	457	471	471
Other Current Assets	73	87	1
Fixed Assets	2,566	2,749	3,025
Long-term Investments	15	30	29
Property, Plant & Equipment	2,231	2,409	2,691
Intangible Assets	180	200	205
Other Fixed Assets	140	111	100
Total Assets	4,873	5,015	5,578
Current Liabilities	1,483	1,797	2,124
Accounts Payable	369	358	604
Short-term Borrowings	827	851	1,368
Current Portion of Long-term Debt	1	190	12
Other Short-term liabilities	286	398	139
Long-term Liabilities	468	283	384
Long-term Financial Liabilities	386	181	253
Other non-current Liabilities	83	101	130
Total Equity	2,921	2,936	3,071
Total Liabilities and Equity	4,873	5,015	5,578

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Vitro S.A.B. de C.V.

Vitro operates in the business segments of flat glass and glass packaging. It operates with 2 types of goods – flat glass and glass storage containers. Flat Glass segment produces flat glass for the construction and automotive sectors, as well as carbonate and sodium bicarbonate. Vitro has been established in 1909 and the head office is located in San Pedro Garza García, Mexico. 90% of sales of the Company are flat glass sales.

FLAT GLASS

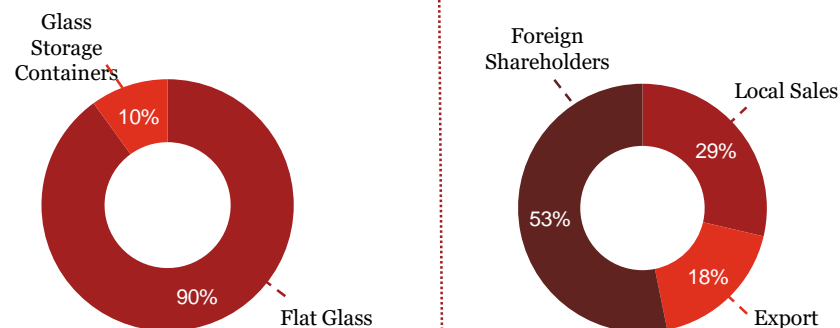
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	2,075	2,238	2,180
Cost of Goods Sold	(1,446)	(1,615)	(1,655)
Gross Profit	629	624	525
General, Administrative & Selling Expenses	(351)	(374)	(370)
Other Operating Income/Loss	32	3	(11)
Operating Income	310	253	144
Financial Income/Loss	(37)	(37)	(33)
Other Income/Loss	(11)	(8)	(34)
Earnings Before Tax	262	208	77
Provision for Income Tax	(68)	(46)	(13)
Net Income	194	162	64
EBITDA	418	370	282
EBITDA Margin (%)	20.2%	16.5%	12.9%

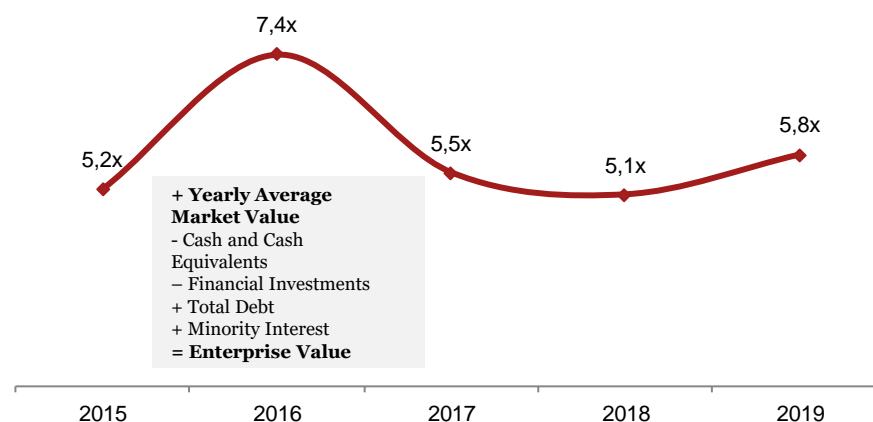
Balance Sheet

(\$ m)	31.12.2017	31.12.2018	31.12.2019
Current Assets	887	1,051	944
Cash and Cash Equivalents	180	291	230
Account Receivables	295	301	221
Other Receivables	60	58	70
Inventory	338	389	420
Other Current Assets	14	12	3
Fixed Assets	1,788	1,719	1,850
Long-term Investments	90	8	15
Property, Plant & Equipment	1,173	1,226	1,338
Intangible Assets	348	337	323
Other Fixed Assets	176	149	174
Total Assets	2,675	2,771	2,794
Current Liabilities	393	397	418
Accounts Payable	231	205	235
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	5	3	16
Other Short-term liabilities	157	189	167
Long-term Liabilities	898	905	945
Long-term Financial Liabilities	685	718	700
Other non-current Liabilities	213	187	245
Total Equity	1,385	1,468	1,430
Total Liabilities and Equity	2,675	2,771	2,794

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Xinyi Glass Holdings Limited

FLAT GLASS

Xinyi Glass produces and sells glass products utilised for trading and industrial purposes in automotive, construction and other industries. The Company operates in three business segments such as: float glass, automotive glass and architectural glass. Xinyi Glass has been established in 1988 and the head office is located in Kwun Tong, Hong Kong. Flat glass sales contribute to 53% of Company's total sales and automotive glass sales contribute to 26% of sales.

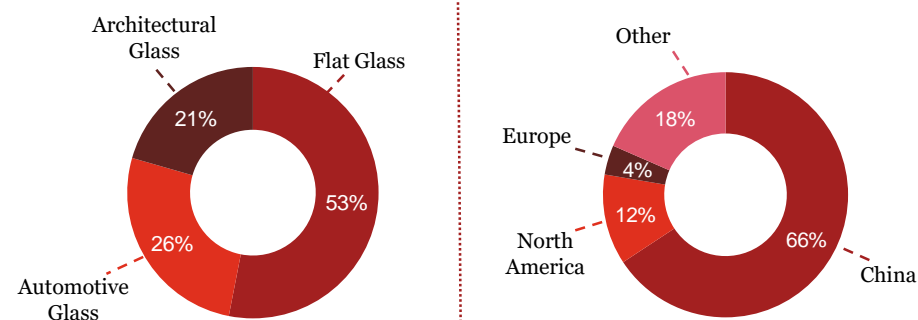
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	1,885	2,045	2,087
Cost of Goods Sold	(1,188)	(1,295)	(1,332)
Gross Profit	697	750	755
General, Administrative & Selling Expenses	(262)	(307)	(338)
Other Operating Income/Loss	46	56	168
Operating Income	481	498	585
Financial Income/Loss	(14)	(18)	(23)
Other Income/Loss	134	154	82
Earnings Before Tax	601	635	644
Provision for Income Tax	(87)	(92)	(68)
Net Income	514	542	576
EBITDA	589	616	703
EBITDA Margin (%)	31.3%	30.1%	33.7%

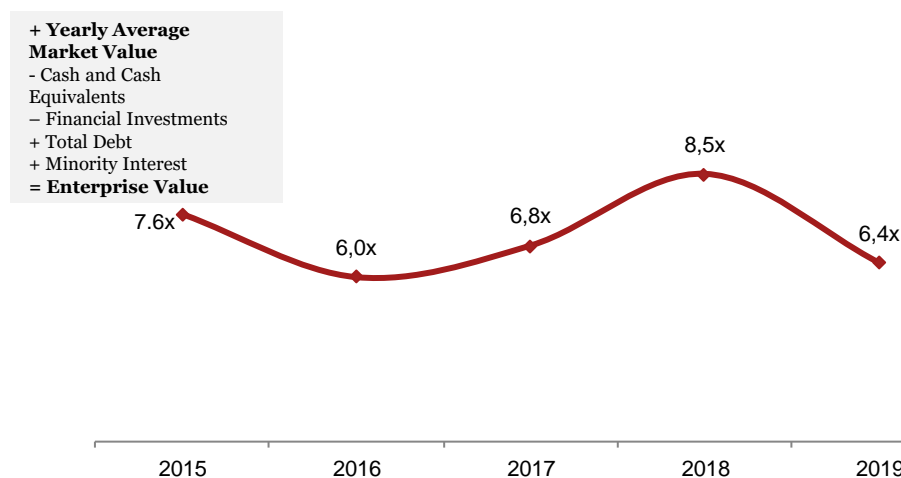
Balance Sheet

(\$ m)	31.12.2017	31.12.2018	31.12.2019
Current Assets	1,015	1,175	1,323
Cash and Cash Equivalents	398	603	654
Account Receivables	285	207	220
Other Receivables	7	5	4
Inventory	217	224	262
Other Current Assets	109	137	182
Fixed Assets	2,863	2,998	3,331
Long-term Investments	565	603	720
Property, Plant & Equipment	1,655	1,670	2,285
Intangible Assets	9	9	8
Other Fixed Assets	635	717	319
Total Assets	3,879	4,173	4,654
Current Liabilities	660	843	1,081
Accounts Payable	131	163	198
Short-term Borrowings	-	26	-
Current Portion of Long-term Debt	265	370	573
Other Short-term liabilities	265	285	310
Long-term Liabilities	876	942	887
Long-term Financial Liabilities	819	878	816
Other non-current Liabilities	57	64	71
Total Equity	2,343	2,388	2,687
Total Liabilities and Equity	3,879	4,173	4,654

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

CSG Holding Co. Ltd.

CSG Holding Co., Ltd. has been established in 1984 and its' main office is located in Shenzhen region of China. The segments that make the most production and sales are as follows: glass, solar energy, electronic glass and screens.

FLAT GLASS

Income Statement

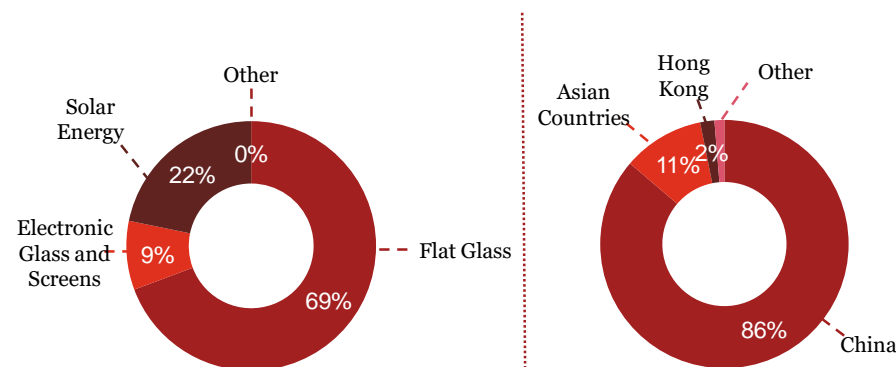
(\$ m)	FY17	FY18	FY19
Net Sales	1,672	1,543	1,416
Cost of Goods Sold	(1,263)	(1,181)	(1,067)
Gross Profit	409	362	348
General, Administrative & Selling Expenses	(143)	(158)	(141)
Research and Development Expenses	(51)	(49)	(46)
Other Operating Income/Loss	(19)	(20)	(24)
Operating Income	196	134	137
Financial Income/Loss	(46)	(49)	(42)
Other Income/Loss	3	(6)	(5)
Earnings Before Tax	153	79	90
Provision for Income Tax	(26)	(11)	(13)
Net Income	127	69	77
EBITDA	350	282	281
EBITDA Margin (%)	20.9%	18.3%	19.8%

Balance Sheet

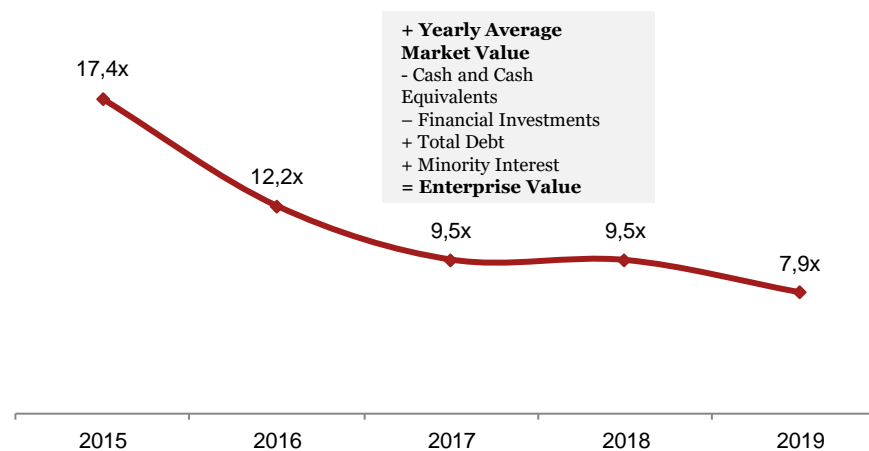
(\$ m)	31.12.201	31.12.201	30.09.201
Current Assets	759	717	657
Cash and Cash Equivalents	379	324	261
Account Receivables	183	191	178
Other Receivables	26	68	29
Inventory	105	87	114
Other Current Assets	66	46	76
Fixed Assets	2,244	2,063	1,920
Long-term Investments	-	-	-
Property, Plant & Equipment	1,992	1,816	1,677
Intangible Assets	223	206	198
Other Fixed Assets	29	40	45
Total Assets	3,002	2,779	2,577
Current Liabilities	1,146	901	936
Accounts Payable	157	125	171
Short-term Borrowings	569	425	400
Current Portion of Long-term Debt	139	119	234
Other Short-term liabilities	281	231	130
Long-term Liabilities	507	504	255
Long-term Financial Liabilities	417	414	178
Other non-current Liabilities	90	91	77
Total Equity	1,349	1,374	1,387
Total Liabilities and Equity	3,002	2,779	2,577

*Last 12 months - September

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Zhuzhou Kibing Group Co. Ltd

Zhuzhou Kibing produces and sells glass products. The head office of Zhuzhou Kibing, the Company that has been operating since 1988, is located in Shenzhen, China. 89% of Company's sales are associated with glass production and processing.

FLAT GLASS

Income Statement

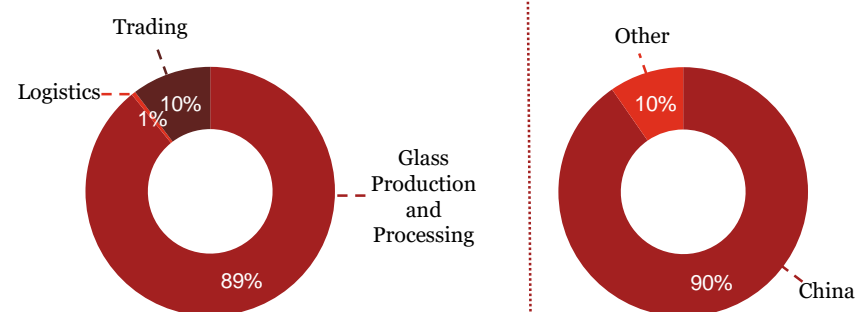
(\$ m)	FY17	FY18	FY19
Net Sales	1,166	1,218	1,238
Cost of Goods Sold	(792)	(868)	(900)
Gross Profit	373	350	338
General, Administrative & Selling Expenses	(90)	(90)	(75)
Research and Development Expenses	(39)	(45)	(54)
Other Operating Income/Loss	(22)	(17)	(25)
Operating Income	222	198	183
Financial Income/Loss	(21)	(11)	(17)
Other Income/Loss	6	9	18
Earnings Before Tax	208	196	185
Provision for Income Tax	(32)	(20)	(20)
Net Income	175	176	164
EBITDA	345	324	312
EBITDA Margin (%)	29.6%	26.6%	25.2%

Balance Sheet

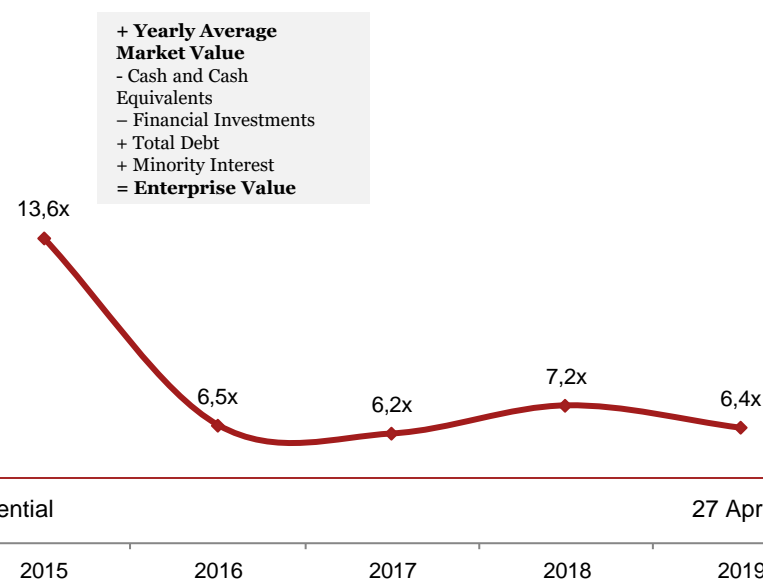
(\$ m)	31.12.2017	31.12.2018	30.09.2019
Current Assets	323	303	343
Cash and Cash Equivalents	105	63	37
Account Receivables	13	20	29
Other Receivables	21	21	3
Inventory	180	192	149
Other Current Assets	4	8	125
Fixed Assets	1,632	1,564	1,494
Long-term Investments	9	5	5
Property, Plant & Equipment	1,383	1,338	1,277
Intangible Assets	130	120	118
Other Fixed Assets	110	100	93
Total Assets	1,954	1,867	1,836
Current Liabilities	306	377	478
Accounts Payable	100	123	137
Short-term Borrowings	43	71	162
Current Portion of Long-term Debt	6	67	107
Other Short-term liabilities	157	116	72
Long-term Liabilities	561	389	268
Long-term Financial Liabilities	294	216	181
Other non-current Liabilities	266	173	87
Total Equity	1,088	1,101	1,090
Total Liabilities and Equity	1,954	1,867	1,836

*Last 12 months - September

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Owens-Illinois, Inc.

Owens-Illinois Inc, produces and sells glass packaging to the producers of food and beverage in America, Europe and Asia Pacific via the channels of its' subsidiaries. The Company produces glass packaging for beer, aromatic malt drinks, alcoholic beverages, non-alcoholic beverages and pharmaceutical goods. 67% of sales are alcoholic beverage bottles and 19% of sales are food and other packaging.

GLASS PACKAGING

Income Statement

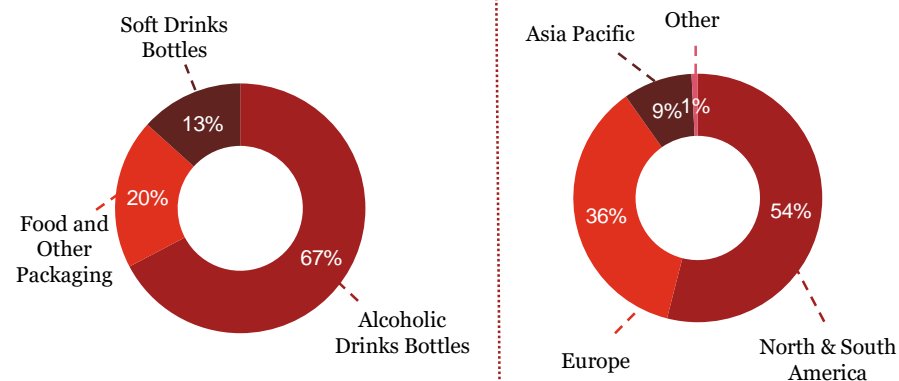
(\$ m)	FY17	FY18	FY19
Net Sales	6,869	6,877	6,691
Cost of Goods Sold	(5,536)	(5,589)	(5,482)
Gross Profit	1,333	1,288	1,209
General, Administrative & Selling Expenses	(702)	(557)	(463)
Research and Development Expenses	(60)	(70)	(68)
Other Operating Income/Loss	(23)	(1)	(86)
Operating Income	548	661	592
Financial Income/Loss	(250)	(250)	(246)
Other Income/Loss	(26)	(32)	(610)
Earnings Before Tax	272	379	(264)
Provision for Income Tax	(70)	(96)	(118)
Net Income	202	283	(382)
EBITDA	976	1,090	1,054
EBITDA Margin (%)	14.2%	15.8%	15.8%

Balance Sheet

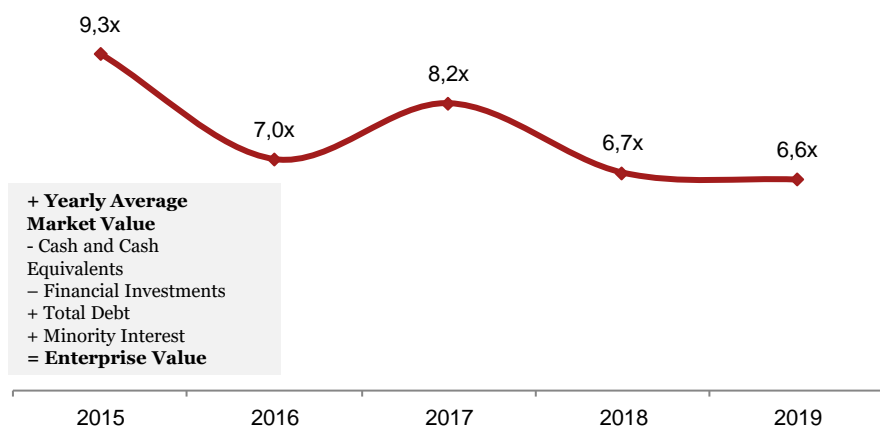
(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	2,420	2,357	2,488
Cash and Cash Equivalents	492	512	551
Account Receivables	663	549	621
Other Receivables	-	-	-
Inventory	1,036	1,018	1,045
Other Current Assets	229	278	271
Fixed Assets	7,336	7,342	7,122
Long-term Investments	525	698	694
Property, Plant & Equipment	3,131	3,085	3,476
Intangible Assets	3,111	2,992	2,379
Other Fixed Assets	569	567	573
Total Assets	9,756	9,699	9,610
Current Liabilities	2,280	2,207	1,995
Accounts Payable	1,324	1,321	1,276
Short-term Borrowings	151	127	75
Current Portion of Long-term Debt	11	33	114
Other Short-term liabilities	794	726	530
Long-term Liabilities	6,549	6,592	7,051
Long-term Financial Liabilities	5,121	5,181	5,573
Other non-current Liabilities	1,428	1,411	1,478
Total Equity	927	900	564
Total Liabilities and Equity	9,756	9,699	9,610

Source: Company's Activity and Audit Reports, Capital IQ

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Ardagh Group S.A.

Ardagh Group produces and supplies firm packaging solutions to the food and beverage markets. The Company operates under two segments: metallic packaging and glass packaging. The glass and metal segment sales hold an equal percentage.

GLASS PACKAGING

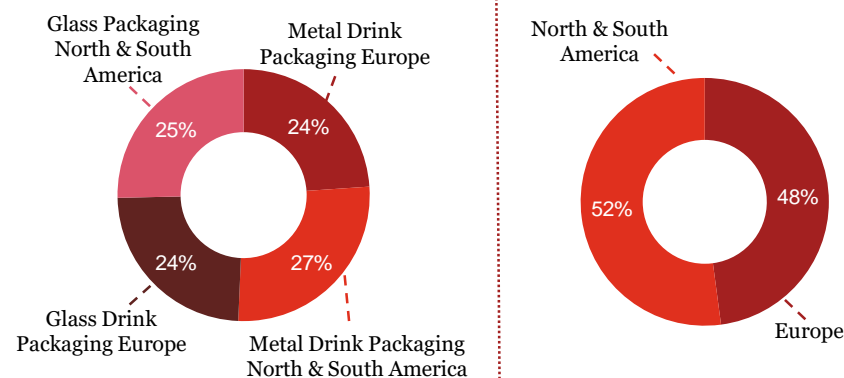
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	6,390	6,676	6,660
Cost of Goods Sold	(5,309)	(5,623)	(5,610)
Gross Profit	1,081	1,053	1,050
General, Administrative & Selling Expenses	(304)	(316)	(329)
Amortization of Goodwill and Intangibles	(237)	(237)	(233)
Operating Income	540	500	488
Financial Income/Loss	(441)	(443)	(407)
Other Income/Loss	(113)	(133)	1,421
Provision for Income Tax	77	(18)	(44)
Net Income	63	(94)	1,458
EBITDA	1,123	1,099	1,155
EBITDA Margin (%)	17.6%	16.5%	17.3%

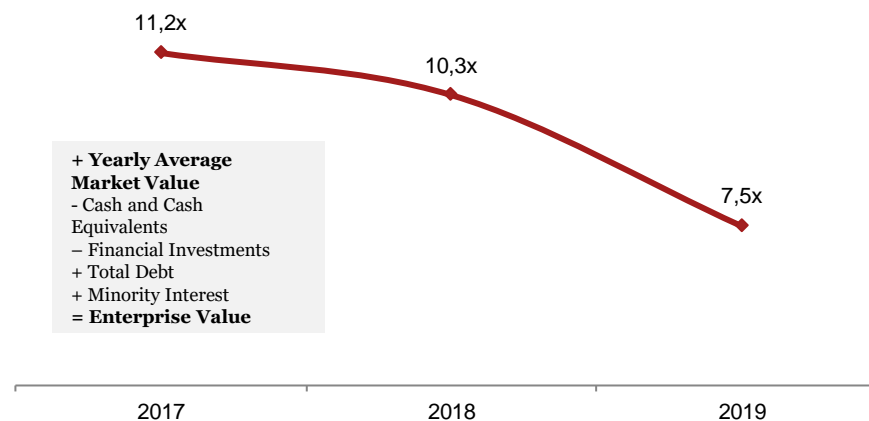
Balance Sheet

(\$ m)	31.12.2017	31.12.2018	31.12.2019
Current Assets	3,427	3,036	2,466
Cash and Cash Equivalents	784	530	617
Account Receivables	1,015	983	667
Other Receivables	259	230	218
Inventory	1,353	1,284	964
Other Current Assets	16	9	-
Fixed Assets	7,725	7,278	6,212
Long-term Investments	10	-	381
Property, Plant & Equipment	3,368	3,388	2,677
Intangible Assets	4,104	3,601	2,884
Other Fixed Assets	243	289	270
Total Assets	11,152	10,314	8,678
Current Liabilities	2,295	2,417	1,945
Accounts Payable	1,469	1,517	1,166
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	2	118	95
Other Short-term liabilities	824	782	684
Long-term Liabilities	10,231	9,406	6,948
Long-term Financial Liabilities	8,306	7,761	5,815
Other non-current Liabilities	1,925	1,645	1,133
Total Equity	(1,374)	(1,509)	(215)
Total Liabilities and Equity	11,152	10,314	8,678

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Verallia Société Anonyme

Verallia Société Anonyme has been established in 1827 and the head office is located in Courbevoie, France. The Company produces and sells glass packaging goods for the food and beverage industries. The Company operates in the following segments: wines and sparkling wines, alcoholic drinks, food products, beers and non-alcoholic drinks.

GLASS PACKAGING

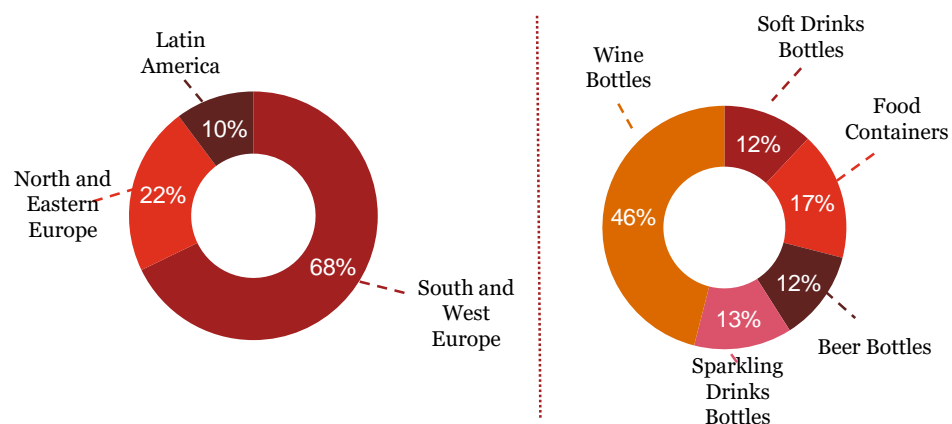
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	2,877	2,766	2,902
Cost of Goods Sold	(2,380)	(2,259)	(2,293)
Gross Profit	497	507	609
General, Administrative & Selling Expenses	(176)	(168)	(192)
Other Operating Income/Loss	(1)	15	(19)
Operating Income	320	354	398
Financial Income/Loss	(155)	(124)	(130)
Other Income/Loss	(132)	(147)	(68)
Earnings Before Tax	33	83	200
Provision for Income Tax	(18)	(28)	(60)
Net Income	15	56	140
EBITDA	708	695	716
EBITDA Margin (%)	24.6%	25.1%	24.7%

Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	1,111	1,083	981
Cash and Cash Equivalents	264	300	246
Account Receivables	165	137	201
Other Receivables	69	51	24
Inventory	560	547	511
Other Current Assets	54	48	-
Fixed Assets	2,978	2,749	2,727
Long-term Investments	10	3	1
Property, Plant & Equipment	1,451	1,373	1,458
Intangible Assets	1,423	1,272	1,178
Other Fixed Assets	93	100	90
Total Assets	4,089	3,833	3,708
Current Liabilities	878	910	1,075
Accounts Payable	508	468	430
Short-term Borrowings	35	107	-
Current Portion of Long-term Debt	44	14	254
Other Short-term liabilities	290	322	391
Long-term Liabilities	3,183	2,865	2,162
Long-term Financial Liabilities	2,709	2,449	1,778
Other non-current Liabilities	473	415	385
Total Equity	28	58	471
Total Liabilities and Equity	4,089	3,833	3,708

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)

+ Yearly Average Market Value
- Cash and Cash Equivalents
- Financial Investments
+ Total Debt
+ Minority Interest
= Enterprise Value

7,8x

2019

The Company's shares have been publicly listed in October 2019. Therefore, the multiple that could be used in the market approach could only be calculated for 2019. Verallia Société Anonyme has not been taken into consideration in the beta analysis of ANACM.

Source: Company's Activity and Audit Reports, Capital IQ

Gerresheimer AG

Gerresheimer, produces special glass and plastic goods for the pharmaceutical and health sector. The Company operates in 3 business segments: plastic products and devices, primary packaging glass and cutting-edge technologies.

GLASS PACKAGING

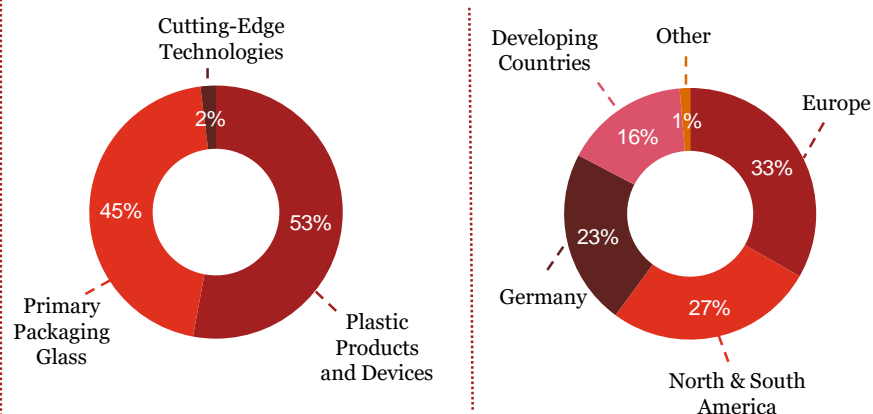
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	1,606	1,549	1,534
Cost of Goods Sold	(1,113)	(1,096)	(1,106)
Gross Profit	493	453	428
General, Administrative & Selling Expenses	(308)	(294)	(301)
Other Operating Income/Loss	24	1	0
Operating Income	208	160	127
Financial Income/Loss	(33)	(31)	(24)
Other Income/Loss	(2)	(8)	6
Provision for Income Tax	(51)	27	(17)
Net Income	123	148	91
EBITDA	357	312	293
EBITDA Margin (%)	22.2%	20.2%	19.1%

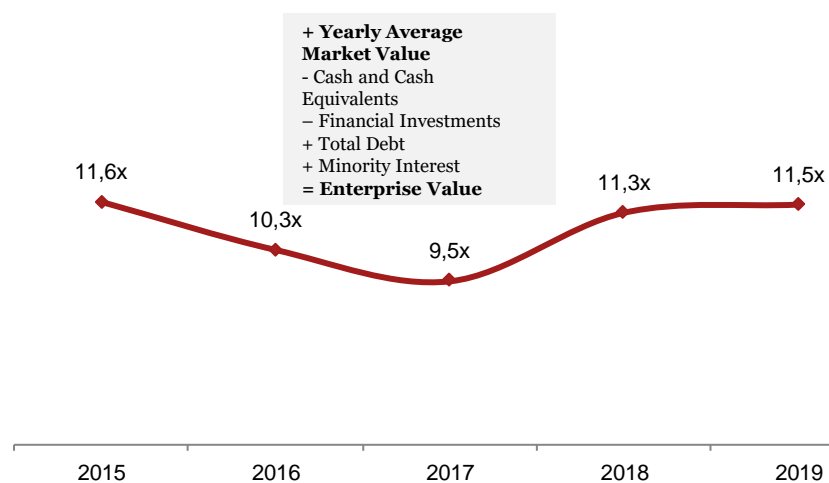
Balance Sheet

(\$ m)	30.11.201	30.11.201	30.11.201
Current Assets	852	647	600
Cash and Cash Equivalents	350	98	104
Account Receivables	289	310	253
Other Receivables	30	39	34
Inventory	177	194	204
Other Current Assets	5	7	6
Fixed Assets	2,059	2,445	2,310
Long-term Investments	1	1	4
Property, Plant & Equipment	616	577	589
Intangible Assets	1,304	1,676	1,473
Other Fixed Assets	139	191	244
Total Assets	2,911	3,092	2,910
Current Liabilities	802	870	981
Accounts Payable	210	235	244
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	377	325	581
Other Short-term liabilities	215	310	156
Long-term Liabilities	1,169	1,214	891
Long-term Financial Liabilities	811	767	548
Other non-current Liabilities	357	447	344
Total Equity	940	1,008	1,037
Total Liabilities and Equity	2,911	3,092	2,910

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Vidrala S.A.

Vidrala produces glass containers, packaging and bottles. The Company has been established in 1965 and its' head office is located in Llodio, Spain.

GLASS PACKAGING

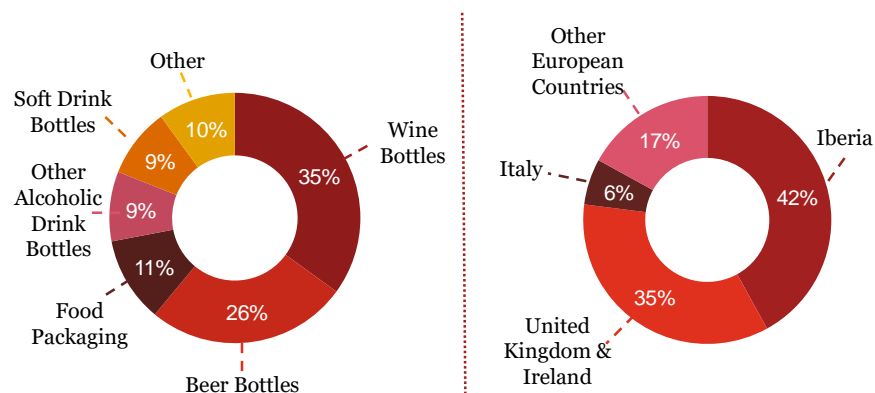
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	992	1,107	1,134
Cost of Goods Sold	(332)	(373)	(400)
Gross Profit	659	734	735
General, Administrative & Selling Expenses	(210)	(218)	(222)
Amortization of Goodwill and Intangibles	(92)	(101)	(102)
Other Operating Income/Loss	(219)	(247)	(209)
Operating Income	138	168	202
Financial Income/Loss	(6)	(8)	(5)
Other Income/Loss	(0)	0	(10)
Provision for Income Tax	(25)	(28)	(25)
Net Income	107	133	161
EBITDA	229	268	302
EBITDA Margin (%)	23.1%	24.2%	26.6%

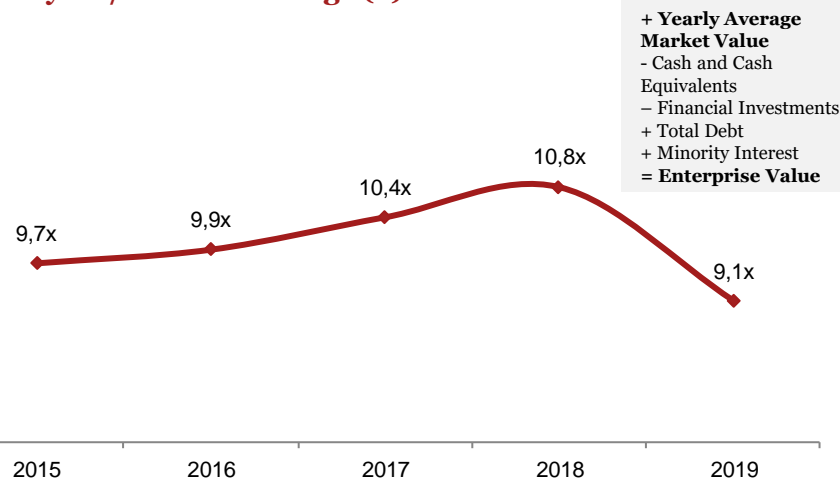
Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	542	514	549
Cash and Cash Equivalents	50	26	32
Account Receivables	238	248	275
Other Receivables	21	18	16
Inventory	228	212	218
Other Current Assets	4	10	6
Fixed Assets	1,145	1,097	1,087
Long-term Investments	0	0	0
Property, Plant & Equipment	820	783	779
Intangible Assets	279	268	266
Other Fixed Assets	45	46	42
Total Assets	1,687	1,611	1,636
Current Liabilities	349	345	453
Accounts Payable	202	188	205
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	50	45	148
Other Short-term liabilities	97	113	99
Long-term Liabilities	704	567	372
Long-term Financial Liabilities	589	452	260
Other non-current Liabilities	115	115	112
Total Equity	634	698	812
Total Liabilities and Equity	1,687	1,611	1,636

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Vetropack Holding AG

Vetropack Holding produces glass packaging in Switzerland, Austria, Czech Republic, Croatia, Slovenia, Ukraine and Italy along with its' subsidiaries. The Company does not only provide service to the food, beverage, pharmaceutical and cosmetics industry, but also provides services to the retail trading sector.

GLASS PACKAGING

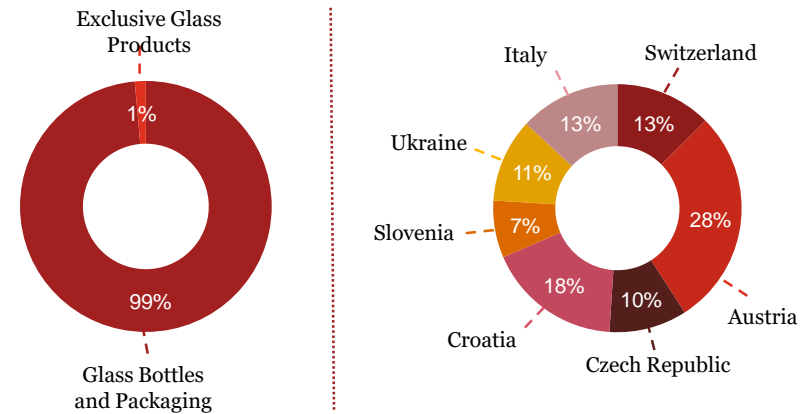
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	652	708	745
Cost of Goods Sold	(235)	(246)	(249)
Gross Profit	418	462	496
General, Administrative & Selling Expenses	(154)	(163)	(175)
Depreciation	(69)	(74)	(79)
Other Operating Income/Loss	(128)	(146)	(148)
Operating Income	66	80	93
Financial Income/Loss	0	0	1
Other Income/Loss	8	(5)	(3)
Earnings Before Tax	74	75	91
Provision for Income Tax	(15)	(14)	(15)
Net Income	59	61	76
EBITDA	130	151	171
EBITDA Margin (%)	19.9%	21.4%	22.9%

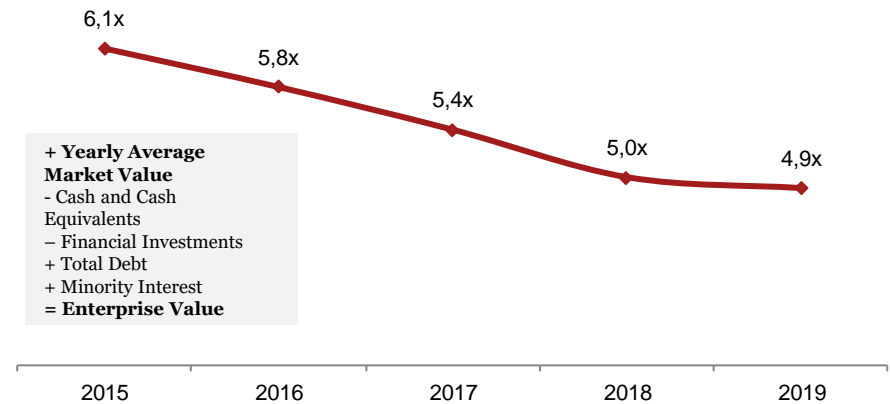
Balance Sheet

(\$ m)	31.12.2017	31.12.2018	31.12.2019
Current Assets	419	406	377
Cash and Cash Equivalents	148	134	104
Account Receivables	120	128	119
Other Receivables	13	13	9
Inventory	134	128	141
Other Current Assets	3	2	3
Fixed Assets	538	557	603
Long-term Investments	2	3	3
Property, Plant & Equipment	498	513	533
Intangible Assets	8	6	7
Other Fixed Assets	30	35	61
Total Assets	957	963	980
Current Liabilities	141	190	142
Accounts Payable	80	89	90
Short-term Borrowings	13	55	0
Current Portion of Long-term Debt	-	-	-
Other Short-term liabilities	48	47	52
Long-term Liabilities	109	49	61
Long-term Financial Liabilities	66	9	22
Other non-current Liabilities	44	41	39
Total Equity	706	723	777
Total Liabilities and Equity	957	963	980

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Verallia Deutschland AG

Verallia Deutschland produces and sells glass bottles and jars for the food and beverage producers in Europe. The Company has been incorporated in 1946 and its headquarters are located in Bad Wurzach, Germany.

GLASS PACKAGING

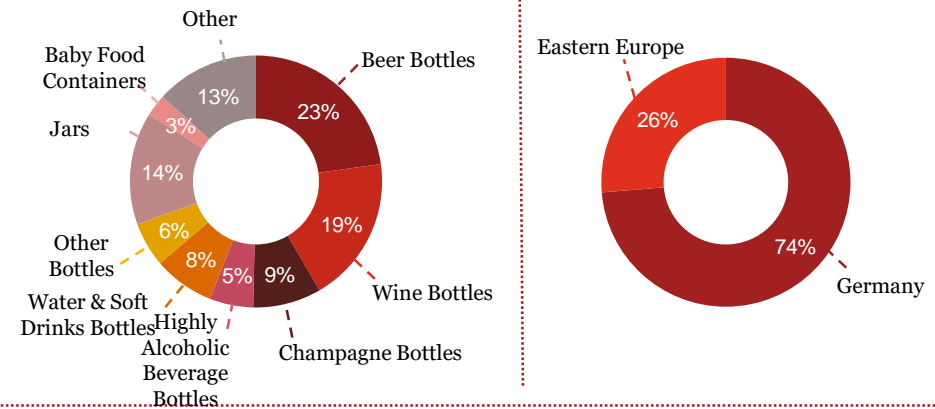
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	605	599	640
Cost of Goods Sold	(508)	(489)	(518)
Gross Profit	98	109	122
General, Administrative & Selling Expenses	(30)	(27)	(29)
Research and Development Expenses	(0)	(0)	(0)
Other Operating Income/Loss	(4)	(8)	(8)
Operating Income	64	75	85
Financial Income/Loss	(11)	(11)	(10)
Other Income/Loss	(9)	(5)	(2)
Earnings Before Tax	44	60	73
Provision for Income Tax	(14)	(16)	(16)
Net Income	30	43	57
EBITDA	113	119	131
EBITDA Margin (%)	18.7%	19.9%	20.5%

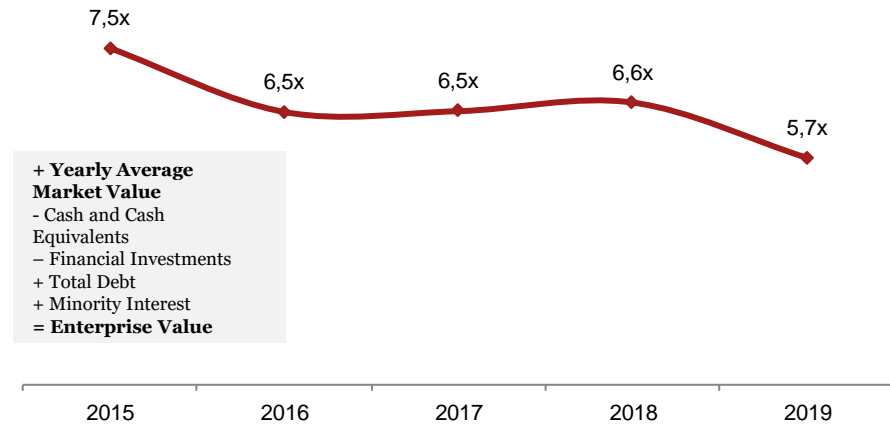
Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	216	221	230
Cash and Cash Equivalents	68	88	102
Account Receivables	36	34	36
Other Receivables	6	5	6
Inventory	107	94	86
Other Current Assets	-	-	-
Fixed Assets	308	281	290
Long-term Investments	2	2	2
Property, Plant & Equipment	299	273	279
Intangible Assets	6	5	5
Other Fixed Assets	2	2	4
Total Assets	524	503	521
Current Liabilities	169	180	213
Accounts Payable	104	90	77
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	7	5	103
Other Short-term liabilities	58	85	33
Long-term Liabilities	290	277	281
Long-term Financial Liabilities	265	256	266
Other non-current Liabilities	25	21	15
Total Equity	66	46	27
Total Liabilities and Equity	524	503	521

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Cristalerías de Chile S.A.

Cristalerías de Chile produces wine bottles and glass packaging. The Company presents products in the beer, liquor, food, oil and soft drinks segments. Cristalerías de Chile has been established in 1904 and the centre of operations is in Padre Hurtado, Chile.

GLASS PACKAGING

Income Statement

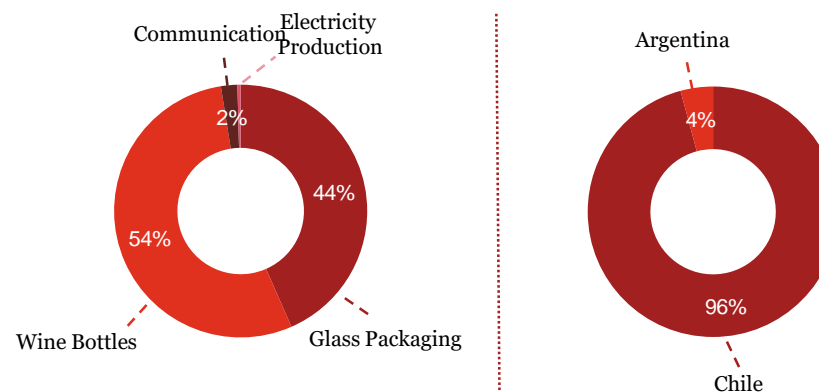
(\$ m)	FY17	FY18	FY19
Net Sales	472	438	392
Cost of Goods Sold	(301)	(284)	(256)
Gross Profit	171	154	136
General, Administrative & Selling Expenses	(104)	(97)	(88)
Other Operating Income/Loss	3	2	1
Operating Income	70	59	49
Financial Income/Loss	(6)	(6)	(6)
Other Income/Loss	8	7	(3)
Earnings Before Tax	72	60	41
Provision for Income Tax	(16)	(15)	(11)
Net Income	56	45	30
EBITDA	99	86	74
EBITDA Margin (%)	21.0%	19.7%	18.9%

Balance Sheet

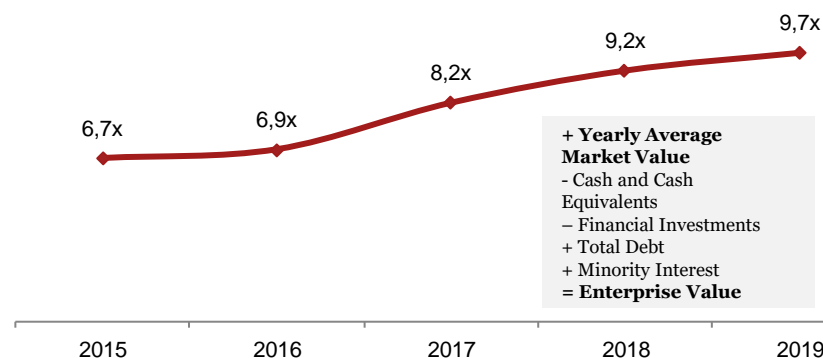
(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	377	329	326
Cash and Cash Equivalents	56	19	39
Account Receivables	150	149	125
Other Receivables	15	13	14
Inventory	134	131	122
Other Current Assets	22	17	26
Fixed Assets	464	487	532
Long-term Investments	54	63	63
Property, Plant & Equipment	381	394	440
Intangible Assets	19	17	15
Other Fixed Assets	9	14	14
Total Assets	841	816	857
Current Liabilities	107	127	120
Accounts Payable	55	64	61
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	17	30	39
Other Short-term liabilities	35	33	20
Long-term Liabilities	214	192	260
Long-term Financial Liabilities	151	132	202
Other non-current Liabilities	63	61	58
Total Equity	520	497	477
Total Liabilities and Equity	841	816	857

Source: Company's Activity and Audit Reports, Capital IQ

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



BG Container Glass Public Company Limited

BG Container Glass produces glass packaging goods together with its' subsidiaries. The Company has been established in 2016 and its' head office is located in Thailand, Thanyaburi.

GLASS PACKAGING

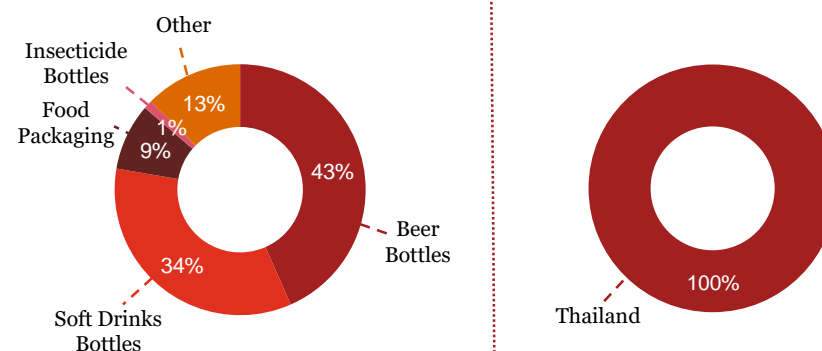
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	344	325	380
Cost of Goods Sold	(297)	(269)	(320)
Gross Profit	47	56	60
General, Administrative & Selling Expenses	(33)	(30)	(33)
Operating Income	15	26	27
Financial Income/Loss	(6)	(6)	(6)
Other Income/Loss	(1)	(2)	(1)
Earnings Before Tax	8	19	20
Provision for Income Tax	(0)	(3)	(2)
Net Income	8	16	18
EBITDA	57	67	74
EBITDA Margin (%)	16.5%	20.6%	19.4%

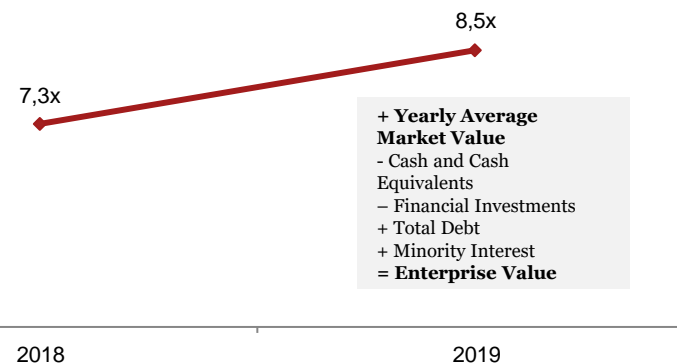
Balance Sheet

(\$ m)	31.12.2017	31.12.2018	31.12.2019
Current Assets	116	117	125
Cash and Cash Equivalents	3	4	9
Account Receivables	41	41	45
Other Receivables	9	3	7
Inventory	61	65	62
Other Current Assets	2	2	3
Fixed Assets	282	339	459
Long-term Investments	-	-	4
Property, Plant & Equipment	276	336	433
Intangible Assets	0	0	1
Other Fixed Assets	6	3	21
Total Assets	398	456	584
Current Liabilities	236	221	219
Accounts Payable	30	24	32
Short-term Borrowings	161	156	137
Current Portion of Long-term Debt	38	30	37
Other Short-term liabilities	7	10	13
Long-term Liabilities	69	75	176
Long-term Financial Liabilities	54	61	155
Other non-current Liabilities	15	15	21
Total Equity	93	160	189
Total Liabilities and Equity	398	456	584

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Zignago Vetro S.p.A.

Zignago Vetro produces glass packaging for the food, beverage, cosmetics, perfumery and private glass industries. In addition, it also has recycling operations as scrap glass recycling, processing and sales. The Company's head office is in Fossalta di Portogruaro, Italy.

GLASS PACKAGING

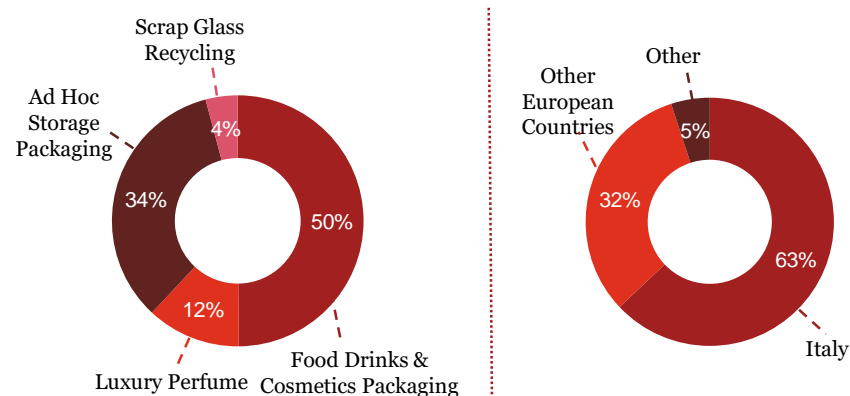
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	314	332	363
Cost of Goods Sold	(160)	(169)	(186)
Gross Profit	153	163	178
General, Administrative & Selling Expenses	(77)	(77)	(81)
Depreciation	(37)	(36)	(45)
Other Operating Income/Loss	2	(1)	(0)
Operating Income	42	49	52
Financial Income/Loss	(3)	(3)	(2)
Other Income/Loss	18	16	21
Earnings Before Tax	57	62	70
Provision for Income Tax	(9)	(11)	(11)
Net Income	48	50	60
EBITDA	79	84	97
EBITDA Margin (%)	25.0%	25.4%	26.6%

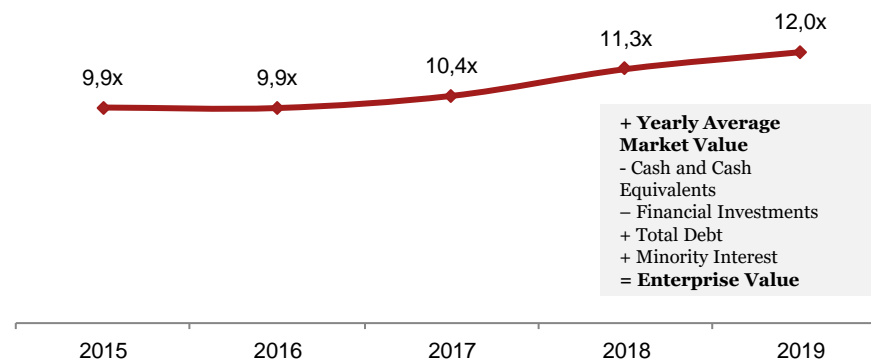
Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	232	226	261
Cash and Cash Equivalents	38	37	50
Account Receivables	81	74	88
Other Receivables	21	23	6
Inventory	92	91	101
Other Current Assets	1	1	17
Fixed Assets	312	358	377
Long-term Investments	84	86	94
Property, Plant & Equipment	220	263	272
Intangible Assets	4	3	6
Other Fixed Assets	5	6	5
Total Assets	544	584	638
Current Liabilities	164	204	236
Accounts Payable	68	83	67
Short-term Borrowings	34	47	144
Current Portion of Long-term Debt	39	47	-
Other Short-term liabilities	23	27	25
Long-term Liabilities	168	150	153
Long-term Financial Liabilities	150	135	139
Other non-current Liabilities	18	15	14
Total Equity	213	229	249
Total Liabilities and Equity	544	584	638

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Libbey Inc.

Libbey produces tableware and other kitchen products. The Company has been established in 1818 and its' headquarters are located in Ohio, USA.

GLASSWARE

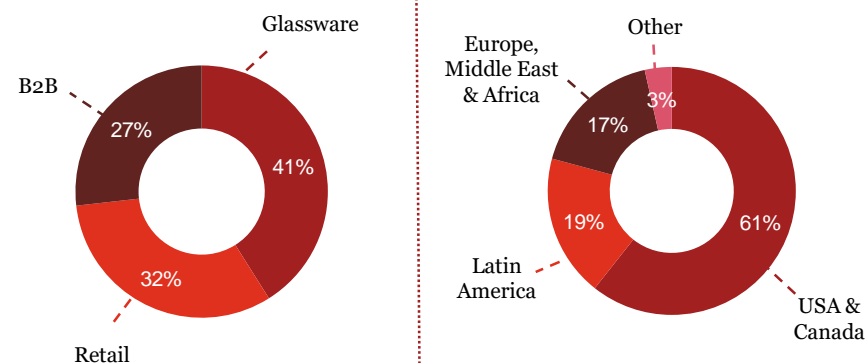
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	785	801	786
Cost of Goods Sold	(631)	(646)	(630)
Gross Profit	154	155	156
General, Administrative & Selling Expenses	(123)	(123)	(119)
Research and Development Expenses	(3)	(4)	(3)
Operating Income	29	29	34
Financial Income/Loss	(20)	(22)	(23)
Other Income/Loss	(86)	(5)	(71)
Earnings Before Tax	(78)	2	(60)
Provision for Income Tax	(16)	(10)	(9)
Net Income	(93)	(8)	(69)
EBITDA	74	72	73
EBITDA Margin (%)	9.4%	9.0%	9.3%

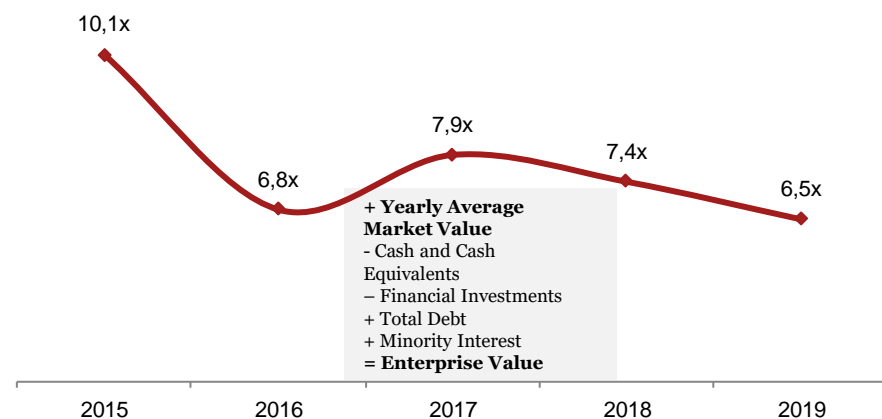
Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	315	318	323
Cash and Cash Equivalents	25	26	49
Account Receivables	89	83	80
Other Receivables	1	1	1
Inventory	188	192	175
Other Current Assets	13	15	18
Fixed Assets	402	397	384
Long-term Investments	1	-	-
Property, Plant & Equipment	266	265	289
Intangible Assets	99	98	57
Other Fixed Assets	37	34	39
Total Assets	717	714	707
Current Liabilities	165	162	196
Accounts Payable	78	75	79
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	7	4	32
Other Short-term liabilities	80	83	85
Long-term Liabilities	485	503	537
Long-term Financial Liabilities	377	399	436
Other non-current Liabilities	108	104	101
Total Equity	67	50	(26)
Total Liabilities and Equity	717	714	707

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Nadir Figueiredo Ind. e Com. S.A.

Nadir Figueiredo Indústria e Comércio S.A. has been established in 1912 and the centre of operations is in São Paulo, Brazil. The Company produces glasses, dessert containers, jars, jugs, saucepans and coffee cups for the purpose of using at home and in the restaurants and bars.

GLASSWARE

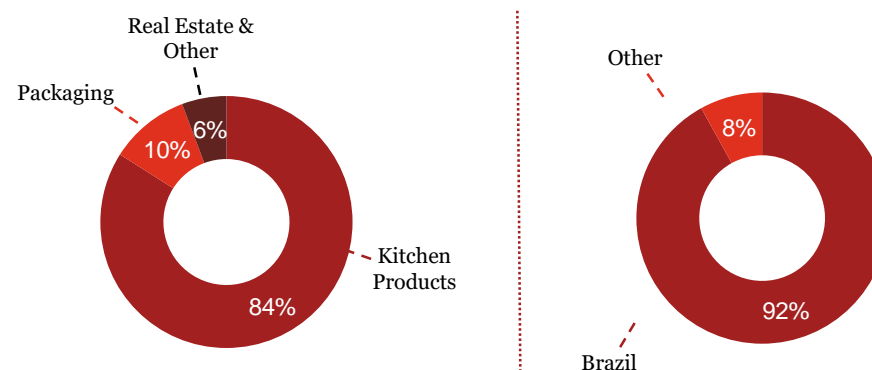
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	200	198	197
Cost of Goods Sold	(106)	(108)	(116)
Gross Profit	94	90	81
General, Administrative & Selling Expenses	(64)	(55)	(52)
Research and Development Expenses	1	1	3
Operating Income	31	36	33
Financial Income/Loss	(6)	(2)	(2)
Other Income/Loss	-	(3)	(2)
Earnings Before Tax	25	32	28
Provision for Income Tax	(8)	(10)	(10)
Net Income	17	22	18
EBITDA	41	45	41
EBITDA Margin (%)	20.3%	22.8%	20.8%

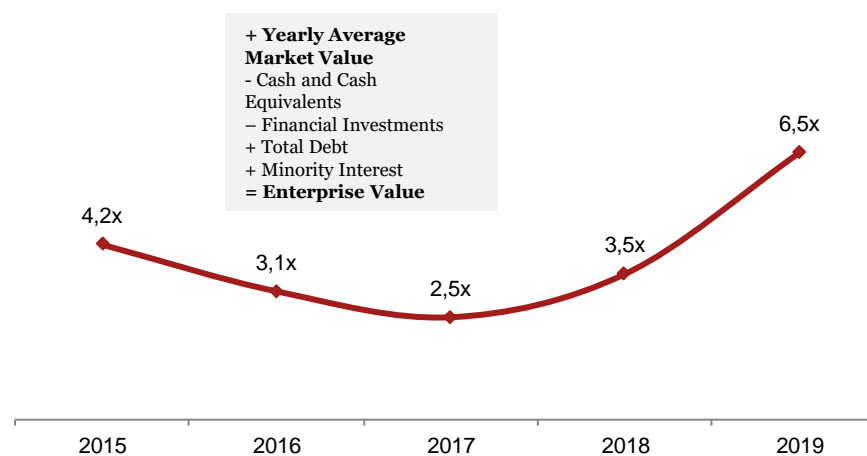
Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	88	94	113
Cash and Cash Equivalents	8	16	25
Account Receivables	44	41	54
Other Receivables	2	2	2
Inventory	32	34	30
Other Current Assets	2	1	1
Fixed Assets	101	91	76
Long-term Investments	-	-	-
Property, Plant & Equipment	68	62	70
Intangible Assets	0	0	0
Other Fixed Assets	33	28	5
Total Assets	190	185	189
Current Liabilities	64	57	45
Accounts Payable	13	14	15
Short-term Borrowings	-	5	6
Current Portion of Long-term Debt	30	17	5
Other Short-term liabilities	20	21	19
Long-term Liabilities	22	25	64
Long-term Financial Liabilities	10	14	55
Other non-current Liabilities	12	11	9
Total Equity	104	103	79
Total Liabilities and Equity	190	185	189

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Solvay SA

Solvay operates in the field of equipment and special chemicals. The Company consists of four segments: advanced equipment, advanced formulations, performance chemicals and corporate and trading services. Solvay has been established in 1863 and its' base is located in Brussels, Belgium.

SODA

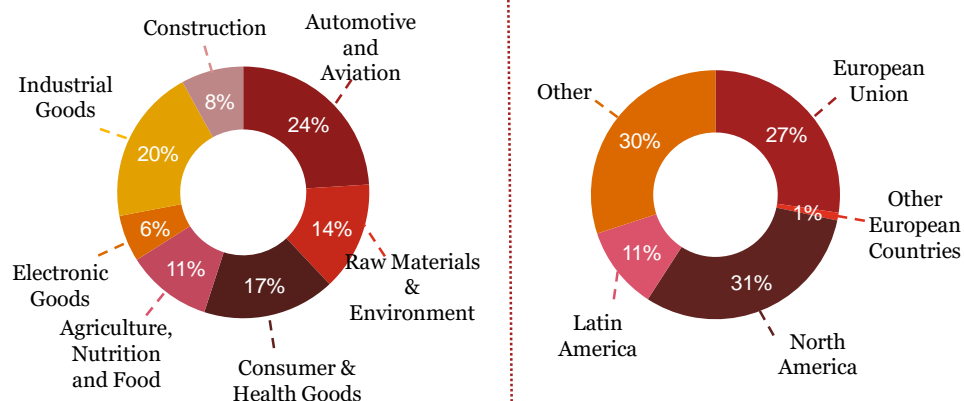
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	13,189	12,937	12,599
Cost of Goods Sold	(9,484)	(9,462)	(9,251)
Gross Profit	3,706	3,475	3,348
General, Administrative & Selling Expenses	(1,726)	(1,579)	(1,494)
Research and Development Expenses	(348)	(340)	(362)
Other Operating Income/Loss	(197)	(161)	(159)
Operating Income	1,435	1,395	1,332
Financial Income/Loss	(213)	(129)	(127)
Other Income/Loss	(118)	(131)	(859)
Earnings Before Tax	1,105	1,135	347
Provision for Income Tax	237	(86)	(172)
Net Income	1,341	1,049	175
EBITDA	2,580	2,449	2,491
EBITDA Margin (%)	19.6%	18.9%	19.8%

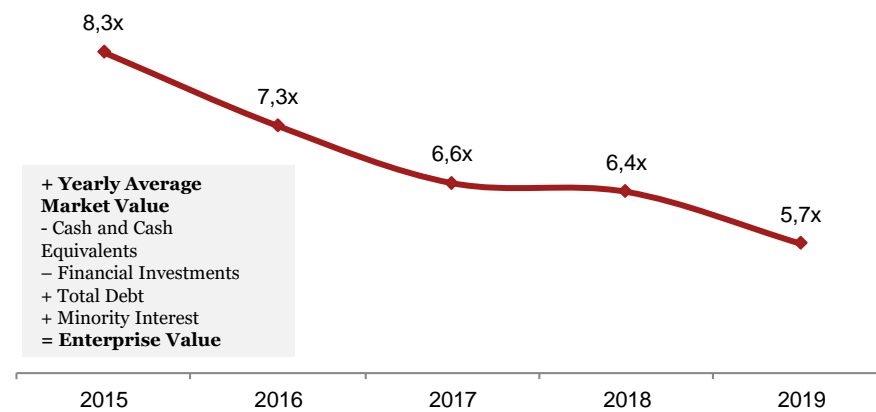
Balance Sheet

(\$ m)	31.12.2017	31.12.2018	31.12.2019
Current Assets	7,273	7,527	7,038
Cash and Cash Equivalents	1,477	1,563	1,225
Account Receivables	1,756	1,642	1,587
Other Receivables	578	622	554
Inventory	1,806	1,929	1,781
Other Current Assets	1,657	1,771	1,891
Fixed Assets	18,485	17,662	16,872
Long-term Investments	669	610	728
Property, Plant & Equipment	6,524	6,245	6,642
Intangible Assets	9,331	8,893	7,651
Other Fixed Assets	1,961	1,914	1,851
Total Assets	25,758	25,189	23,911
Current Liabilities	4,957	4,468	4,591
Accounts Payable	1,597	1,648	1,433
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	1,254	721	1,270
Other Short-term liabilities	2,106	2,099	1,888
Long-term Liabilities	9,091	8,556	8,519
Long-term Financial Liabilities	3,821	3,641	3,795
Other non-current Liabilities	5,270	4,915	4,723
Total Equity	11,710	12,165	10,801
Total Liabilities and Equity	25,758	25,189	23,911

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Tangshan Sanyou Chemical Ind.

Tangshan Sanyou Chemical Industries produces chemical goods. The Company presents soda ash, adhesives, polyvinyl chloride resin, caustic soda, silicone and salt products alongside with the chemical fibre. The Company has been established in 1999 and is based in Tangshan, China.

SODA

Income Statement

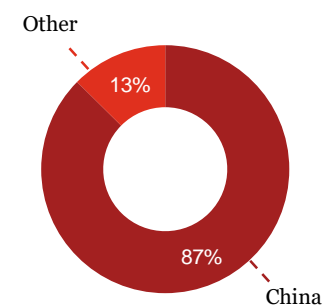
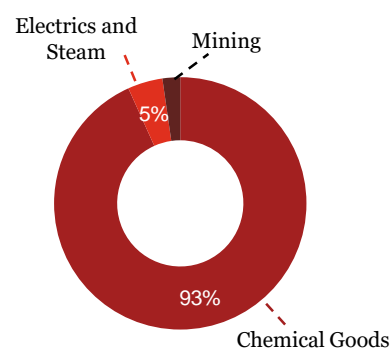
(\$ m)	FY17	FY18	FY19
Net Sales	3,104	2,933	2,898
Cost of Goods Sold	(2,263)	(2,160)	(2,313)
Gross Profit	841	773	585
General, Administrative & Selling Expenses	(344)	(346)	(350)
Research and Development Expenses	(11)	(7)	(6)
Other Operating Income/Loss	(32)	(35)	(32)
Operating Income	454	385	198
Financial Income/Loss	(59)	(50)	(50)
Other Income/Loss	(4)	(29)	(28)
Earnings Before Tax	391	307	120
Provision for Income Tax	(81)	(59)	(24)
Net Income	310	247	95
EBITDA	603	531	341
EBITDA Margin (%)	19.4%	18.1%	11.8%

Balance Sheet

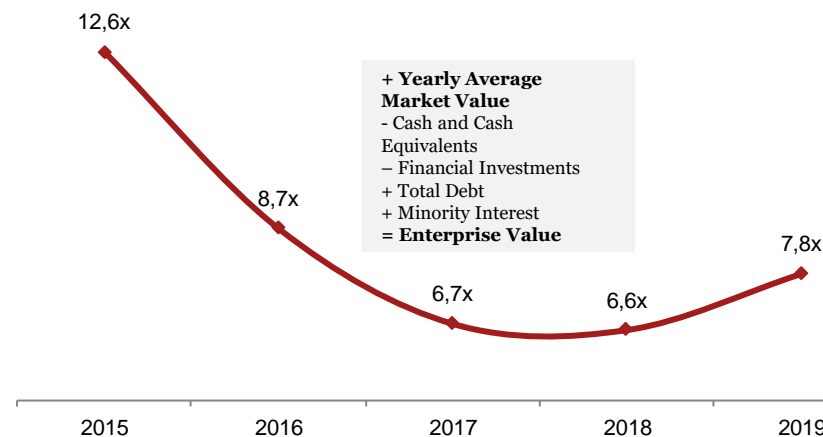
(\$ m)	31.12.201	31.12.201	30.09.201
Current Assets	1,109	1,132	1,128
Cash and Cash Equivalents	359	454	434
Account Receivables	408	356	361
Other Receivables	10	15	22
Inventory	293	275	274
Other Current Assets	39	31	37
Fixed Assets	2,594	2,552	2,448
Long-term Investments	1	1	0
Property, Plant & Equipment	2,389	2,374	2,266
Intangible Assets	132	125	119
Other Fixed Assets	73	53	63
Total Assets	3,702	3,684	3,576
Current Liabilities	1,452	1,300	1,208
Accounts Payable	549	563	473
Short-term Borrowings	591	499	484
Current Portion of Long-term Debt	90	64	58
Other Short-term liabilities	222	174	192
Long-term Liabilities	616	672	701
Long-term Financial Liabilities	576	623	649
Other non-current Liabilities	40	49	52
Total Equity	1,634	1,713	1,666
Total Liabilities and Equity	3,702	3,684	3,576

*Last 12 months - September

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Genesis Energy, L.P.

Genesis Energy performs natural gas and crude oil transportation on shore and off shore, and at the same time performs mining of sodium minerals. Genesis Energy, L.P. Has been established in 1996 and the base is located in Houston, Texas.

SODA

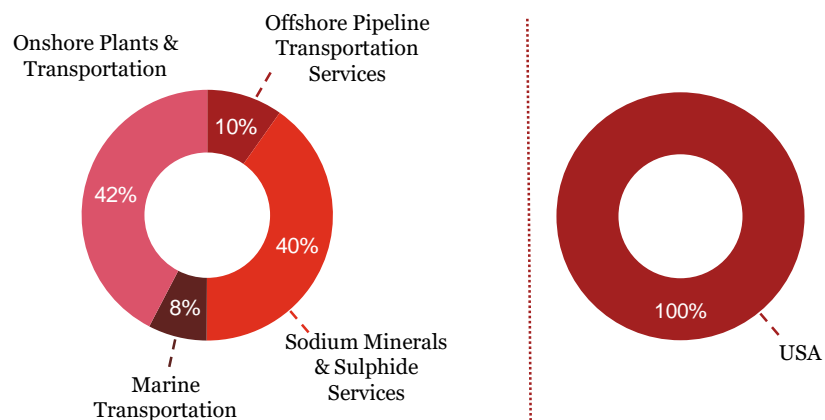
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	2,028	2,913	2,481
Cost of Goods Sold	(1,529)	(2,278)	(1,836)
Gross Profit	499	634	645
General, Administrative & Selling Expenses	(54)	(65)	(53)
Depreciation	(252)	(313)	(320)
Operating Income	192	256	273
Financial Income/Loss	(177)	(229)	(219)
Other Income/Loss	63	(37)	48
Earnings Before Tax	78	(10)	101
Provision for Income Tax	4	(1)	(1)
Net Income	82	(12)	101
EBITDA	443	568	591
EBITDA Margin (%)	21.9%	19.5%	23.8%

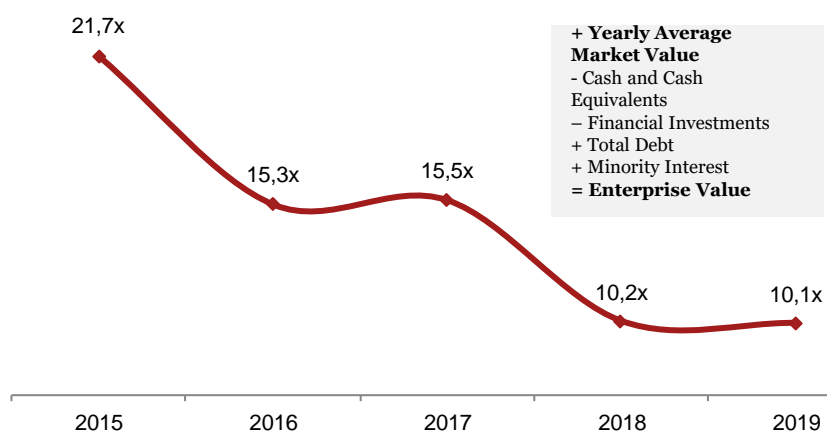
Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	636	443	593
Cash and Cash Equivalents	9	10	29
Account Receivables	503	332	426
Other Receivables	-	-	-
Inventory	89	74	65
Other Current Assets	35	28	73
Fixed Assets	6,501	6,036	6,005
Long-term Investments	382	355	335
Property, Plant & Equipment	5,431	4,978	5,027
Intangible Assets	507	465	441
Other Fixed Assets	182	239	202
Total Assets	7,137	6,479	6,598
Current Liabilities	456	333	415
Accounts Payable	271	127	219
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	-	-	28
Other Short-term liabilities	185	206	168
Long-term Liabilities	3,921	3,663	3,784
Long-term Financial Liabilities	3,698	3,432	3,574
Other non-current Liabilities	223	231	210
Total Equity	2,760	2,483	2,398
Total Liabilities and Equity	7,137	6,479	6,598

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Tata Chemicals Limited

Tata Chemicals Limited has production and marketing operations of basic chemical products on an international scale.

SODA

Income Statement

(\$ m)	FY17	FY18	S12A*
Net Sales	1,597	1,578	1,638
Cost of Goods Sold	(381)	(324)	(371)
Gross Profit	1,216	1,254	1,267
General, Administrative & Selling Expenses	(250)	(244)	(246)
Depreciation	(79)	(80)	(88)
Other Operating Income/Loss	(639)	(670)	(700)
Operating Income	248	261	233
Financial Income/Loss	(32)	(24)	(26)
Other Income/Loss	28	188	39
Earnings Before Tax	244	425	246
Provision for Income Tax	(53)	(9)	(38)
Net Income	190	415	208
EBITDA	327	340	321
EBITDA Margin (%)	20.5%	21.6%	19.6%

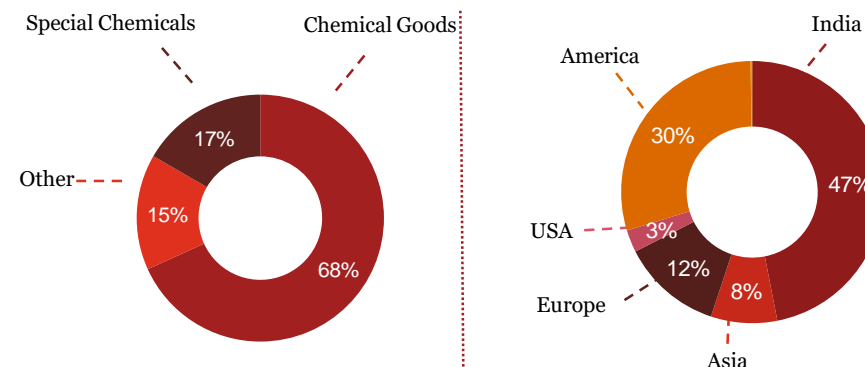
Balance Sheet

(\$ m)	31.03.201	31.03.201	30.09.201
Current Assets	1,138	1,389	1,096
Cash and Cash Equivalents	291	703	580
Account Receivables	323	201	232
Other Receivables	28	53	1
Inventory	214	225	233
Other Current Assets	282	207	50
Fixed Assets	2,506	2,588	2,791
Long-term Investments	397	424	485
Property, Plant & Equipment	647	670	805
Intangible Assets	262	266	267
Other Fixed Assets	1,200	1,227	1,234
Total Assets	3,644	3,977	3,886
Current Liabilities	865	569	762
Accounts Payable	203	227	221
Short-term Borrowings	111	22	23
Current Portion of Long-term Debt	308	89	-
Other Short-term liabilities	242	231	517
Long-term Liabilities	1,153	1,284	906
Long-term Financial Liabilities	674	829	489
Other non-current Liabilities	480	455	416
Total Equity	1,625	2,124	2,219
Total Liabilities and Equity	3,644	3,977	3,886

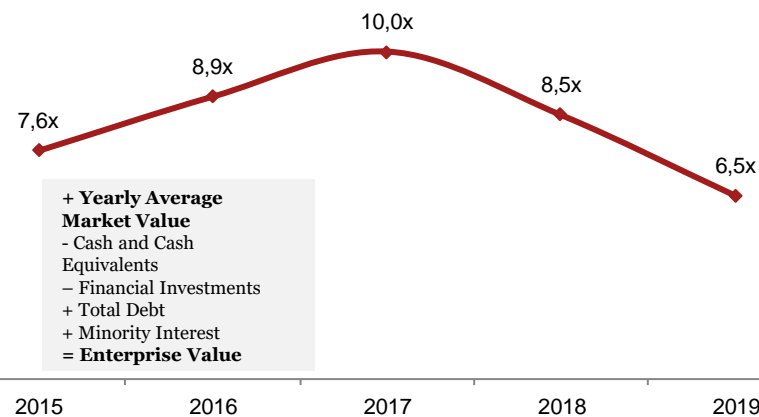
*Last 12 months from September

Source: Company's Activity and Audit Reports, Capital IQ

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Chengdu Wintrive Holding Co. Ltd.

Chengdu Wintrive Holding Co. Ltd., produces various chemical goods, as NPK fertilisers, soda ash, ammonium chloride, anhydrous sodium sulphate, edible and industrial salts, and carbamide.

SODA

Income Statement

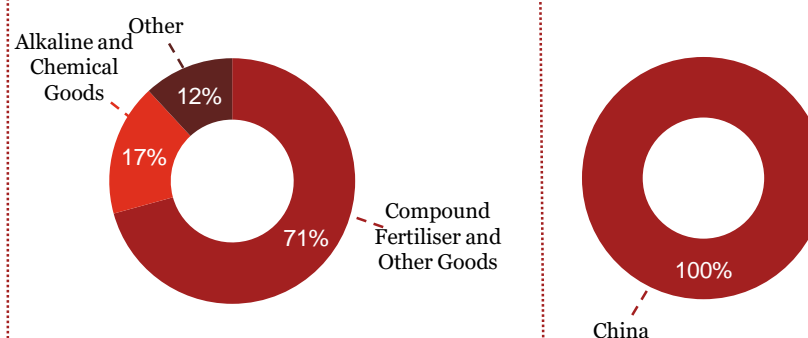
(\$ m)	FY17	FY18	FY19
Net Sales	1,190	1,144	1,208
Cost of Goods Sold	(1,013)	(985)	(1,029)
Gross Profit	176	159	180
General, Administrative & Selling Expenses	(112)	(91)	(96)
Research and Development Expenses	(3)	(4)	(22)
Other Operating Income/Loss	(10)	(9)	(14)
Operating Income	52	55	47
Financial Income/Loss	(27)	(27)	(21)
Other Income/Loss	(3)	2	11
Earnings Before Tax	21	30	37
Provision for Income Tax	(6)	(6)	(7)
Net Income	16	24	30
EBITDA	137	137	128
EBITDA Margin (%)	11.5%	12.0%	10.6%

*Last 12 months - September

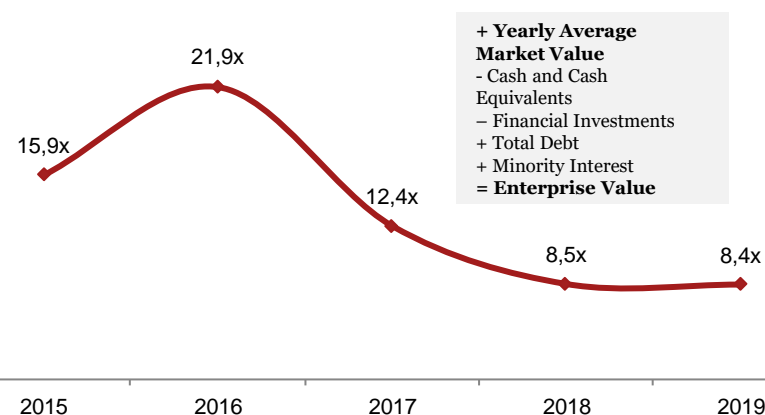
Balance Sheet

(\$ m)	31.12.201	31.12.201	30.09.201
Current Assets	593	653	594
Cash and Cash Equivalents	203	269	219
Account Receivables	75	58	76
Other Receivables	15	10	12
Inventory	171	216	210
Other Current Assets	128	100	76
Fixed Assets	836	855	764
Long-term Investments	3	12	2
Property, Plant & Equipment	633	638	590
Intangible Assets	138	152	113
Other Fixed Assets	62	53	59
Total Assets	1,429	1,508	1,358
Current Liabilities	841	900	738
Accounts Payable	208	218	211
Short-term Borrowings	508	544	426
Current Portion of Long-term Debt	5	2	2
Other Short-term liabilities	119	136	99
Long-term Liabilities	102	145	160
Long-term Financial Liabilities	81	128	144
Other non-current Liabilities	21	17	16
Total Equity	486	463	459
Total Liabilities and Equity	1,429	1,508	1,358

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Ciech S.A.

Ciech operates in four business segments, as soda, organic silicate, glass and transportation. Ciech has been established in 1945 and its' headquarters are in Warsaw, Poland.

SODA

Income Statement

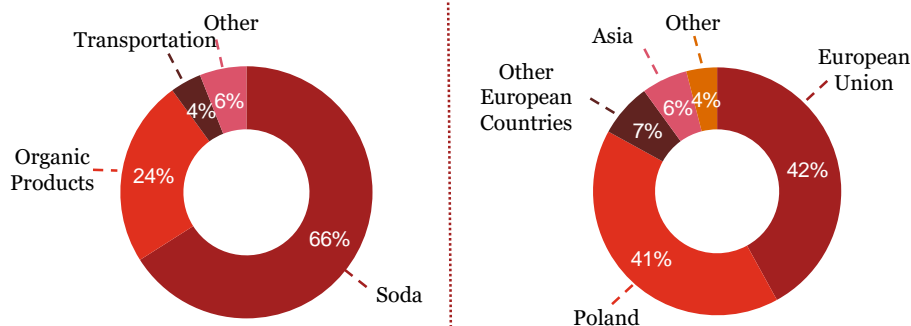
(\$ m)	FY17	FY18	FY19
Net Sales	1,029	979	937
Cost of Goods Sold	(765)	(776)	(730)
Gross Profit	263	204	206
General, Administrative & Selling Expenses	(116)	(111)	(120)
Other Operating Income/Loss	19	5	(16)
Operating Income	166	98	71
Financial Income/Loss	(10)	(17)	(24)
Other Income/Loss	(8)	0	2
Earnings Before Tax	148	81	48
Provision for Income Tax	(35)	(51)	(18)
Net Income	113	30	31
EBITDA	236	171	157
EBITDA Margin (%)	23.0%	17.4%	16.8%

Balance Sheet

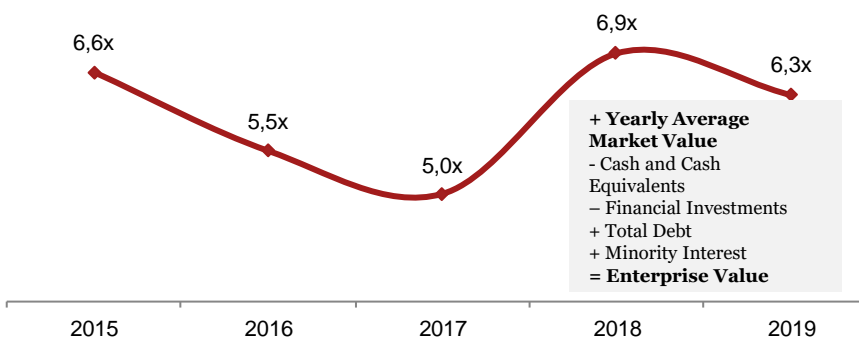
(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	413	339	346
Cash and Cash Equivalents	146	55	83
Account Receivables	114	118	93
Other Receivables	43	45	49
Inventory	105	117	120
Other Current Assets	6	5	2
Fixed Assets	921	947	986
Long-term Investments	15	8	6
Property, Plant & Equipment	780	762	815
Intangible Assets	56	129	125
Other Fixed Assets	71	48	39
Total Assets	1,335	1,286	1,332
Current Liabilities	313	343	296
Accounts Payable	116	131	114
Short-term Borrowings	8	5	7
Current Portion of Long-term Debt	59	81	29
Other Short-term liabilities	130	125	146
Long-term Liabilities	394	436	514
Long-term Financial Liabilities	343	372	450
Other non-current Liabilities	51	64	64
Total Equity	628	506	522
Total Liabilities and Equity	1,335	1,286	1,332

Source: Company's Activity and Audit Reports, Capital IQ

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Shandong Jinjing Science and Tech. Stock Co. Ltd.

SODA

Shandong Jinjing Stock Co, Ltd has been established in 1999 and the centre of operations is in China's Zibo region. The Company produces glass products, such as ultra white glass, off-line coating glass, ordered coating glass, sun-film glass, colourful glass, fire resistant glass, automotive glass, low salted heavy glass, and sodium goods, such as soda ash, light soda ash, sodium bicarbonate and sodium bicarbonate detergent.

Income Statement

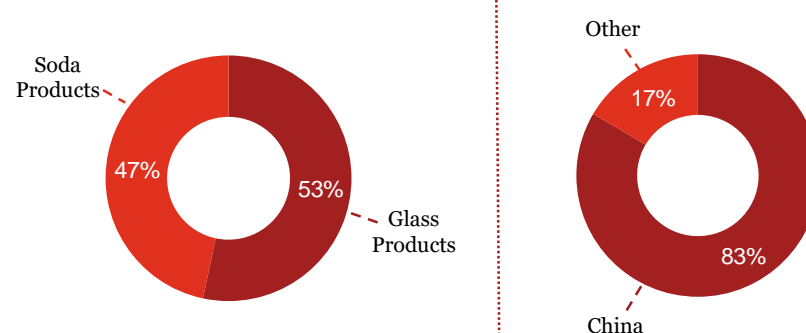
(\$ m)	FY17	FY18	FY19
Net Sales	669	745	726
Cost of Goods Sold	(493)	(585)	(592)
Gross Profit	176	160	134
General, Administrative & Selling Expenses	(63)	(59)	(61)
Research and Development Expenses	(1)	(15)	(20)
Other Operating Income/Loss	(14)	(16)	(13)
Operating Income	98	70	41
Financial Income/Loss	(33)	(29)	(28)
Other Income/Loss	(21)	(18)	(16)
Earnings Before Tax	44	23	(4)
Provision for Income Tax	(27)	(11)	(1)
Net Income	17	12	(5)
EBITDA	169	141	112
EBITDA Margin (%)	25.2%	18.9%	15.4%

Balance Sheet

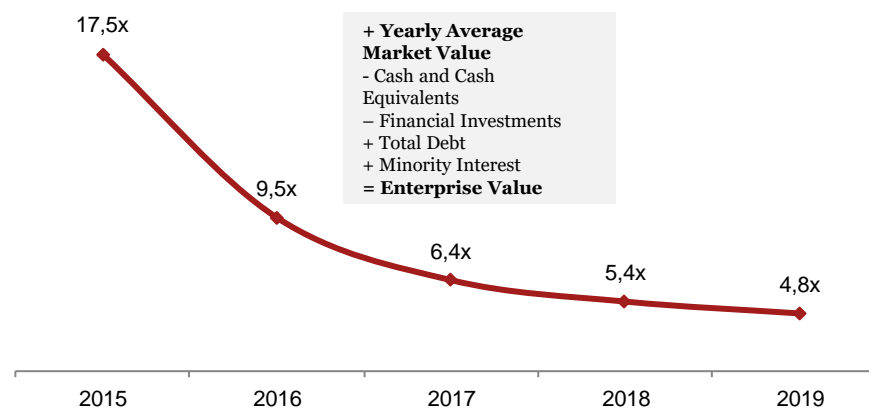
(\$ m)	31.12.201	31.12.201	30.09.201
Current Assets	490	561	501
Cash and Cash Equivalents	188	265	227
Account Receivables	122	131	111
Other Receivables	50	49	42
Inventory	125	109	97
Other Current Assets	5	7	25
Fixed Assets	985	842	798
Long-term Investments	36	56	55
Property, Plant & Equipment	781	638	599
Intangible Assets	71	83	78
Other Fixed Assets	97	66	67
Total Assets	1,476	1,404	1,299
Current Liabilities	687	707	628
Accounts Payable	383	359	364
Short-term Borrowings	132	185	173
Current Portion of Long-term Debt	52	57	-
Other Short-term liabilities	119	105	91
Long-term Liabilities	131	75	79
Long-term Financial Liabilities	67	35	-
Other non-current Liabilities	63	39	79
Total Equity	658	622	593
Total Liabilities and Equity	1,476	1,404	1,299

Source: Company's Activity and Audit Reports, Capital IQ

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Ciner Resources LP

Ciner Resources performs operations of soda ash production and trona mining. The Company processes the trona and gets it to the raw material state of soda ash for the flat glass, glass packages, detergents, chemicals, paper and other consumable and industrial goods. The Company has a c. 23,500 acres underground mining area, which is rented and licenced in the Wyoming Green River Basin. 100% of Company's sales are soda ash sales.

SODA

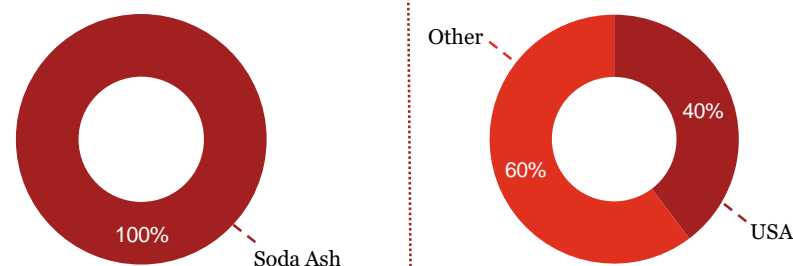
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	497	487	523
Cost of Goods Sold	(357)	(355)	(365)
Gross Profit	141	132	158
General, Administrative & Selling Expenses	(22)	(24)	(24)
Depreciation	(27)	(28)	(27)
Operating Income	92	79	107
Financial Income/Loss	(3)	(3)	(6)
Other Income/Loss	(3)	27	-
Earnings Before Tax	86	103	102
Provision for Income Tax	-	-	-
Net Income	86	103	102
EBITDA	119	107	134
EBITDA Margin (%)	23.9%	22.0%	25.6%

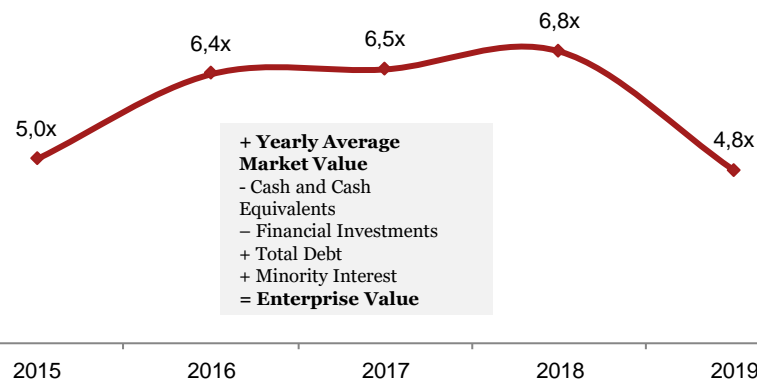
Balance Sheet

(\$ m)	31.12.2017	31.12.2018	31.12.2019
Current Assets	184	142	172
Cash and Cash Equivalents	30	10	15
Account Receivables	126	101	84
Other Receivables	7	6	47
Inventory	20	22	24
Other Current Assets	2	2	2
Fixed Assets	269	293	322
Long-term Investments	-	-	-
Property, Plant & Equipment	249	267	298
Intangible Assets	-	6	6
Other Fixed Assets	20	20	18
Total Assets	453	435	494
Current Liabilities	57	65	56
Accounts Payable	15	18	14
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	11	0	1
Other Short-term liabilities	31	47	41
Long-term Liabilities	148	110	138
Long-term Financial Liabilities	138	99	130
Other non-current Liabilities	10	11	9
Total Equity	248	260	300
Total Liabilities and Equity	453	435	494

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Elementis plc

Elementis produces and sells special chemical goods. The Company operates under two business segments: special usage products and chromium. The special usage products segment provides services to personal care, packaging, energy and construction industries. Chromium segment provides chromium chemicals to the metal coating, chromium pigments, wood processing and other sectors. The Company has been established in 1844 and its' headquarters are in London.

CHROMIUM

Income Statement

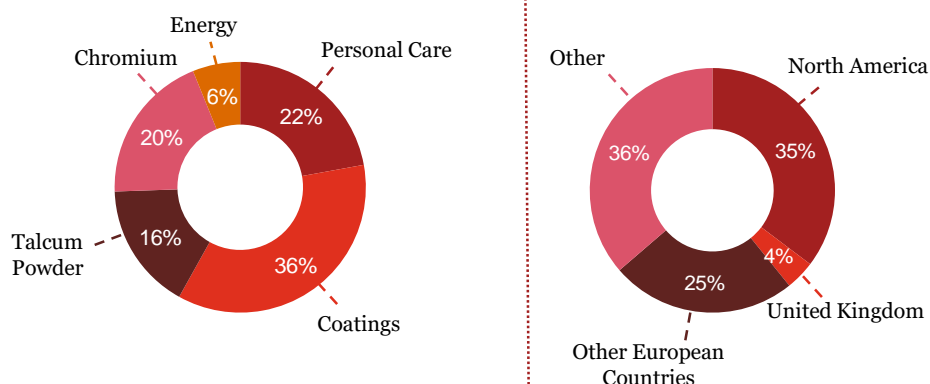
(\$ m)	FY17	FY18	FY19
Net Sales	783	822	874
Cost of Goods Sold	(488)	(517)	(552)
Gross Profit	295	306	321
General, Administrative & Selling Expenses	(183)	(176)	(218)
Operating Income	112	130	104
Financial Income/Loss	(10)	(17)	(25)
Other Income/Loss	(20)	(56)	(18)
Earnings Before Tax	83	57	61
Provision for Income Tax	34	(16)	(15)
Net Income	118	41	46
EBITDA	150	175	167
EBITDA Margin (%)	19.2%	21.3%	19.2%

Balance Sheet

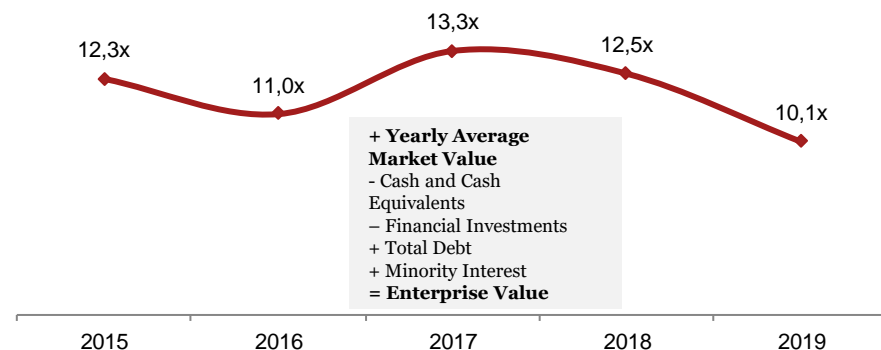
(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	387	424	393
Cash and Cash Equivalents	55	98	104
Account Receivables	110	112	97
Other Receivables	8	17	16
Inventory	144	189	169
Other Current Assets	70	8	8
Fixed Assets	953	1,511	1,512
Long-term Investments	527	717	726
Property, Plant & Equipment	220	478	514
Intangible Assets	190	259	232
Other Fixed Assets	16	56	40
Total Assets	1,340	1,935	1,905
Current Liabilities	168	168	176
Accounts Payable	54	62	80
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	3	3	9
Other Short-term liabilities	112	104	86
Long-term Liabilities	469	851	824
Long-term Financial Liabilities	343	586	591
Other non-current Liabilities	126	265	233
Total Equity	702	916	906
Total Liabilities and Equity	1,340	1,935	1,905

Source: Company's Activity and Audit Reports, Capital IQ

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Nippon Chemical Industrial Co. Ltd.

Nippon Chemical Industrial Co. Ltd. has been established in 1983 and its' headquarters are in Tokyo, China. The Company produces chromium compounds, phosphorus compounds, silicate compounds and inorganic chemical goods including silica. It also produces industrial chemicals, as lithium compounds, sodium sulphate, potassium permanganate and copper oxide.

CHROMIUM

Income Statement

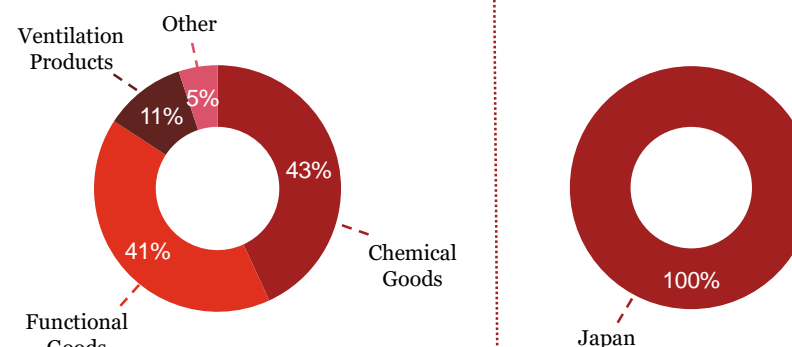
(\$ m)	S12A17*	S12A18*	S12A19*
Net Sales	314	333	335
Cost of Goods Sold	(240)	(253)	(262)
Gross Profit	73	80	73
General, Administrative & Selling Expenses	(31)	(32)	(37)
Research and Development Expenses	(11)	(9)	(11)
Other Operating Income/Loss	(4)	(3)	(0)
Operating Income	28	36	25
Financial Income/Loss	-	0	1
Other Income/Loss	0	(2)	(1)
Earnings Before Tax	28	34	24
Provision for Income Tax	(5)	(10)	(6)
Net Income	24	24	18
EBITDA	48	56	44
EBITDA Margin (%)	15.2%	16.8%	13.1%

Balance Sheet

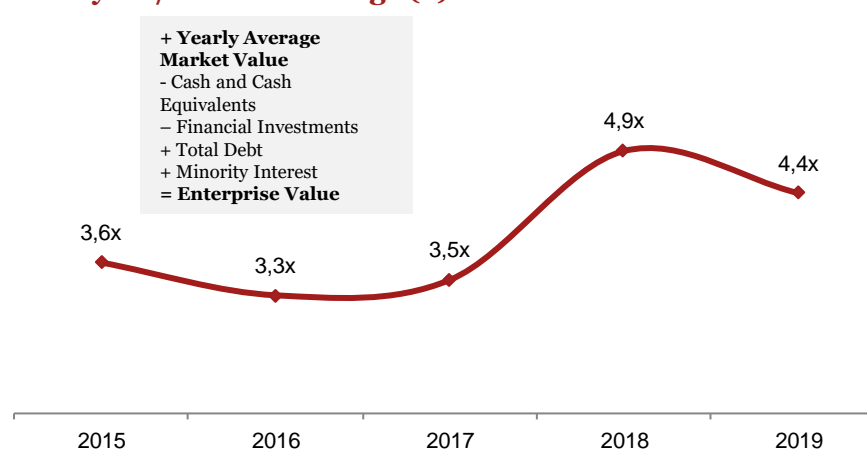
(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	255	264	286
Cash and Cash Equivalents	69	69	85
Account Receivables	105	101	108
Other Receivables	0	-	0
Inventory	73	91	87
Other Current Assets	8	5	6
Fixed Assets	287	308	344
Long-term Investments	71	66	70
Property, Plant & Equipment	212	238	269
Intangible Assets	2	3	4
Other Fixed Assets	1	1	1
Total Assets	542	572	630
Current Liabilities	174	159	155
Accounts Payable	36	41	38
Short-term Borrowings	99	80	73
Current Portion of Long-term Debt	-	-	-
Other Short-term liabilities	39	38	44
Long-term Liabilities	67	92	137
Long-term Financial Liabilities	18	42	81
Other non-current Liabilities	50	50	56
Total Equity	300	322	338
Total Liabilities and Equity	542	572	630

Source: Company's Activity and Audit Reports, Capital IQ

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Hubei Zhenhua Chemical Co. Ltd.

CHROMIUM

Hubei Zhenhua Kimyasal Co. Ltd. has been established in 1967 and the centre of operations is located in China's Huangshi region. The Company researches, develops, produces and performs marketing of chromium salts. The Company produces sodium bichromate and dichromate, chromic acid anhydride, crystal chromic acid anhydride, nonsolid chromic anhydride, chromium oxide green, chromic trioxide, potassium dichromate, basic chromium sulphate, K3 vitamin, sodium sulphate, aluminium hydroxide and others.

Income Statement

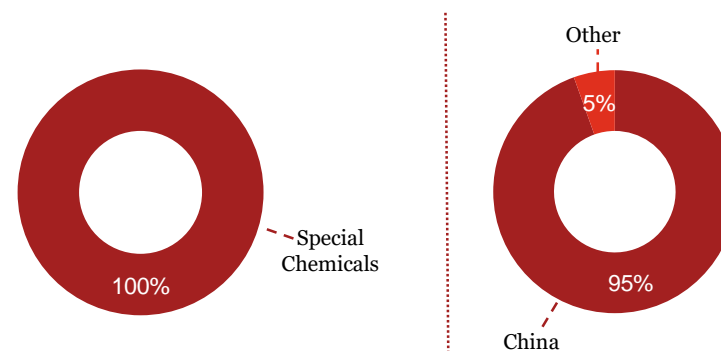
(\$ m)	FY17	FY18	FY19
Net Sales	182	204	199
Cost of Goods Sold	(138)	(146)	(144)
Gross Profit	44	58	55
General, Administrative & Selling Expenses	(19)	(22)	(24)
Research and Development Expenses	(6)	(7)	(6)
Other Operating Income/Loss	(2)	(3)	(3)
Operating Income	16	25	22
Financial Income/Loss	(0)	0	0
Other Income/Loss	0	(1)	(1)
Earnings Before Tax	16	24	22
Provision for Income Tax	(2)	(3)	(1)
Net Income	15	21	21
EBITDA	27	36	33
EBITDA Margin (%)	15.1%	17.7%	16.5%

Balance Sheet

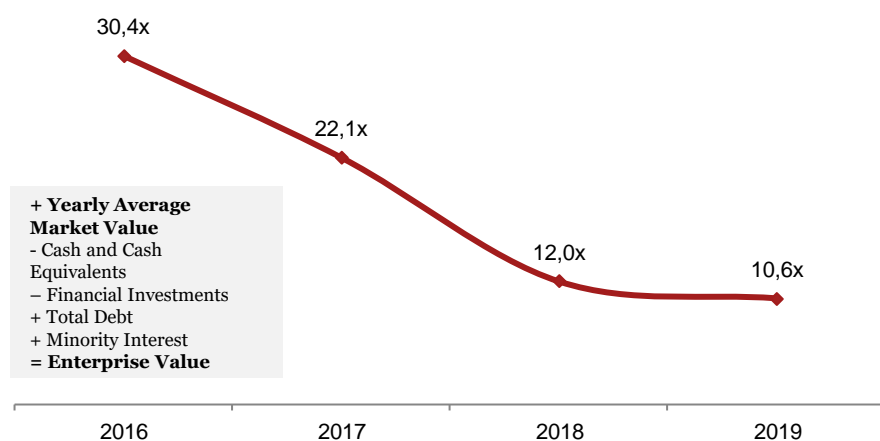
(\$ m)	31.12.2017	31.12.2018	30.09.2019
Current Assets	96	110	112
Cash and Cash Equivalents	20	25	33
Account Receivables	54	60	52
Other Receivables	0	1	1
Inventory	18	17	17
Other Current Assets	4	8	10
Fixed Assets	92	86	92
Long-term Investments	-	-	4
Property, Plant & Equipment	86	79	79
Intangible Assets	6	5	5
Other Fixed Assets	1	2	4
Total Assets	188	197	204
Current Liabilities	15	14	15
Accounts Payable	8	7	10
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	-	-	-
Other Short-term liabilities	7	8	6
Long-term Liabilities	2	2	3
Long-term Financial Liabilities	-	-	-
Other non-current Liabilities	2	2	3
Total Equity	172	180	186
Total Liabilities and Equity	188	197	204

*Last 12 months - September

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Brother Enterprises Holding Co. Ltd.

Brother Enterprises produces vitamins and skin chemicals. Tanning substances, oils, nurturing substances, auxiliary products and chromium powders are among the skin chemicals produced by the Company. The Company also produces B1 and K3 vitamins. Brother Enterprises has been established in 1991 and the head office is in Haining, China.

CHROMIUM

Income Statement

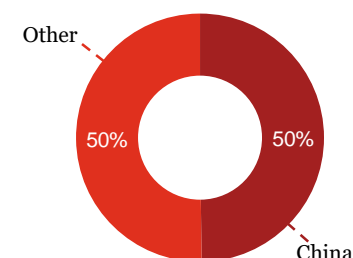
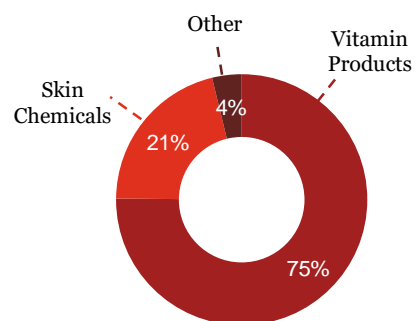
(\$ m)	FY17	FY18	FY19
Net Sales	239	206	173
Cost of Goods Sold	(126)	(159)	(135)
Gross Profit	113	47	39
General, Administrative & Selling Expenses	(26)	(25)	(30)
Research and Development Expenses	(10)	(11)	(10)
Other Operating Income/Loss	(4)	(2)	(3)
Operating Income	72	8	(4)
Financial Income/Loss	2	0	(1)
Other Income/Loss	(3)	1	3
Earnings Before Tax	71	9	(3)
Provision for Income Tax	(11)	(6)	(2)
Net Income	61	3	(5)
EBITDA	91	29	20
EBITDA Margin (%)	38.1%	14.2%	11.5%

Balance Sheet

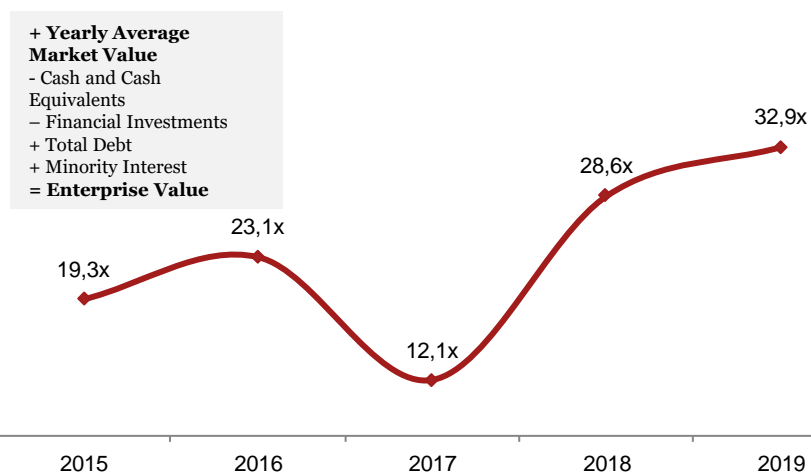
*Last 12 months - September

(\$ m)	31.12.2017	31.12.2018	30.09.2019
Current Assets	296	210	161
Cash and Cash Equivalents	173	116	63
Account Receivables	55	38	28
Other Receivables	0	1	1
Inventory	47	42	48
Other Current Assets	20	14	22
Fixed Assets	236	311	357
Long-term Investments	0	0	0
Property, Plant & Equipment	211	288	333
Intangible Assets	19	17	16
Other Fixed Assets	6	6	8
Total Assets	533	521	518
Current Liabilities	94	113	133
Accounts Payable	69	103	91
Short-term Borrowings	0	-	34
Current Portion of Long-term Debt	-	-	-
Other Short-term liabilities	24	10	8
Long-term Liabilities	88	80	64
Long-term Financial Liabilities	88	79	64
Other non-current Liabilities	0	0	0
Total Equity	351	328	321
Total Liabilities and Equity	533	521	518

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Vishnu Chemicals Limited

Vishnu Chemicals Limited produces chromium chemicals in India. The Company produces chromium chemicals as sodium dichromate, chromic acid, chrome oxide green, basic chromium sulphate, potassium dichromate, as well as barium carbonate sulphide and its' analogues.

CHROMIUM

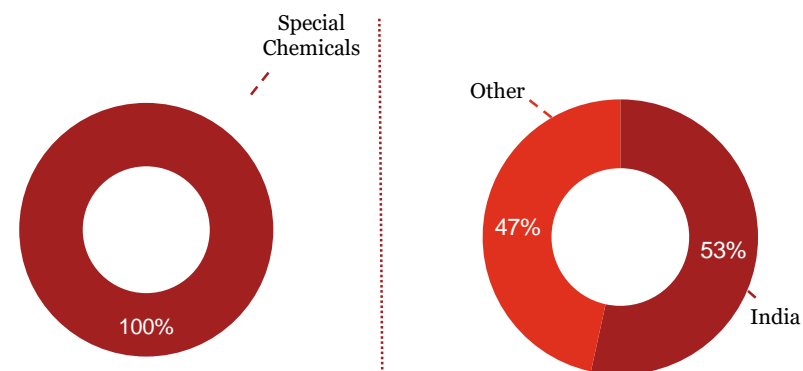
Income Statement

(\$ m)	FY17	FY18	S12A*
Net Sales	78	99	105
Cost of Goods Sold	(36)	(59)	(59)
Gross Profit	43	39	46
General, Administrative & Selling Expenses	(5)	(6)	(6)
Depreciation	(2)	(3)	(3)
Other Operating Income/Loss	(27)	(21)	(26)
Operating Income	7	9	11
Financial Income/Loss	(5)	(5)	(4)
Other Income/Loss	(0)	(1)	(2)
Earnings Before Tax	2	3	5
Provision for Income Tax	(1)	(1)	(2)
Net Income	1	2	4
EBITDA	10	12	14
EBITDA Margin (%)	12.6%	12.2%	13.2%

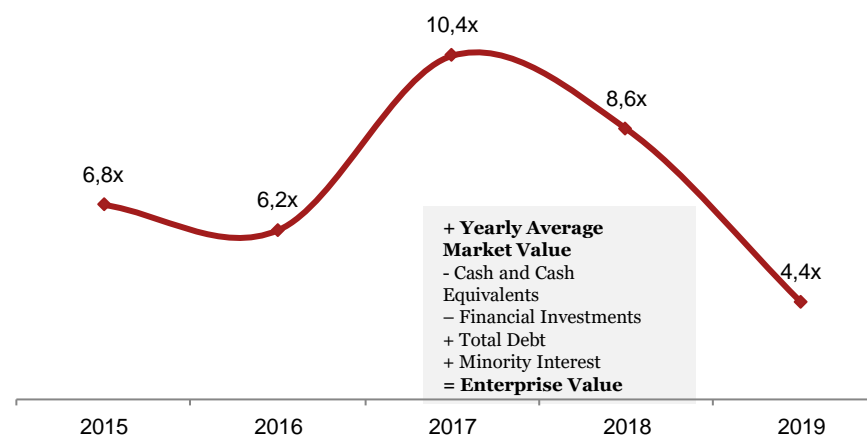
Balance Sheet

(\$ m)	*Last 12 months - September		
	31.03.2017	31.03.2018	30.09.2019
Current Assets	62	54	51
Cash and Cash Equivalents	0	0	3
Account Receivables	22	19	15
Other Receivables	0	0	-
Inventory	28	27	27
Other Current Assets	11	7	5
Fixed Assets	58	55	54
Long-term Investments	0	0	0
Property, Plant & Equipment	56	53	52
Intangible Assets	0	0	0
Other Fixed Assets	2	2	2
Total Assets	120	109	105
Current Liabilities	65	53	49
Accounts Payable	27	20	21
Short-term Borrowings	29	23	20
Current Portion of Long-term Debt	3	3	-
Other Short-term liabilities	5	7	9
Long-term Liabilities	38	36	34
Long-term Financial Liabilities	26	24	23
Other non-current Liabilities	12	12	11
Total Equity	17	21	22
Total Liabilities and Equity	120	109	105

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Wata Chemicals Limited

Wata Chemicals Limited has been established in 1981 and its' centre of operations is in Dakka, Bangladesh. The Company produces chemicals like aluminium and zinc sulphate, sulphuric acid, basic chromium powder and linear alkylbenzene sulfonic acid.

CHROMIUM

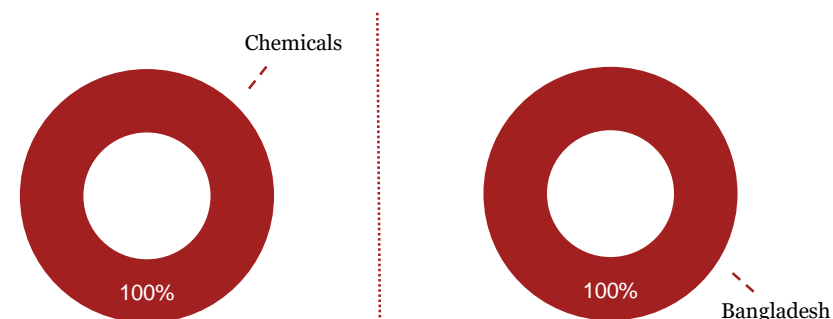
Income Statement

(\$ m)	FY17	FY18	S12A*
Net Sales	5	5	11
Cost of Goods Sold	(4)	(3)	(7)
Gross Profit	1	2	4
General, Administrative & Selling Expenses	(0)	(0)	(1)
Depreciation	(0)	(0)	(0)
Operating Income	1	1	4
Financial Income/Loss	(0)	(1)	(1)
Other Income/Loss	0	0	0
Earnings Before Tax	1	1	3
Provision for Income Tax	(0)	(0)	(1)
Net Income	0	1	2
EBITDA	1	1	4
EBITDA Margin (%)	18.8%	28.7%	34.1%

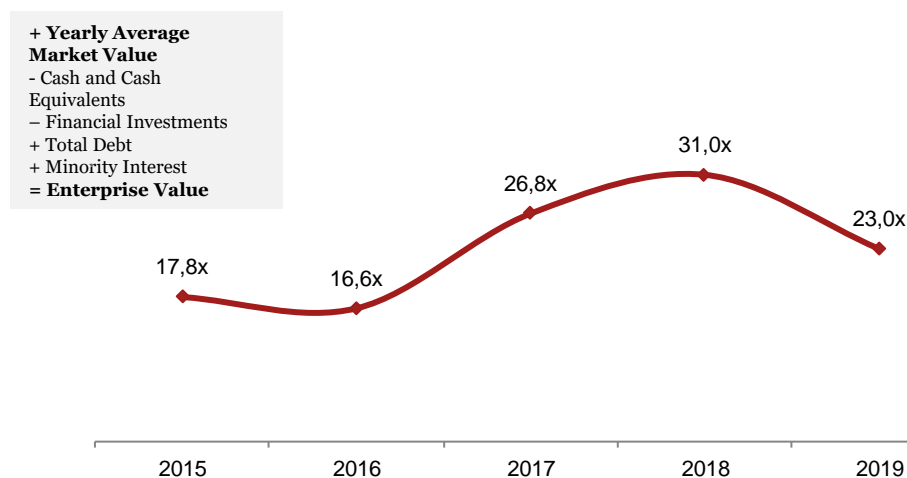
Balance Sheet

(\$ m)	30.06.2017	30.06.2018	31.12.2019
Current Assets	4	5	14
Cash and Cash Equivalents	0	0	0
Account Receivables	0	0	3
Other Receivables	0	-	-
Inventory	3	4	3
Other Current Assets	1	1	8
Fixed Assets	12	14	15
Long-term Investments	-	-	-
Property, Plant & Equipment	12	14	15
Intangible Assets	-	-	-
Other Fixed Assets	-	-	-
Total Assets	16	19	28
Current Liabilities	5	10	13
Accounts Payable	0	0	0
Short-term Borrowings	3	7	9
Current Portion of Long-term Debt	0	0	-
Other Short-term liabilities	2	3	3
Long-term Liabilities	2	1	6
Long-term Financial Liabilities	2	1	6
Other non-current Liabilities	0	0	0
Total Equity	8	8	10
Total Liabilities and Equity	16	19	28

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

LANXESS

Aktiengesellschaft

LANXESS produces chemical intermediates, special chemicals and plastic materials. The Company has been established in 1863 with the headquarters in Köln, Germany.

GLASS FIBER

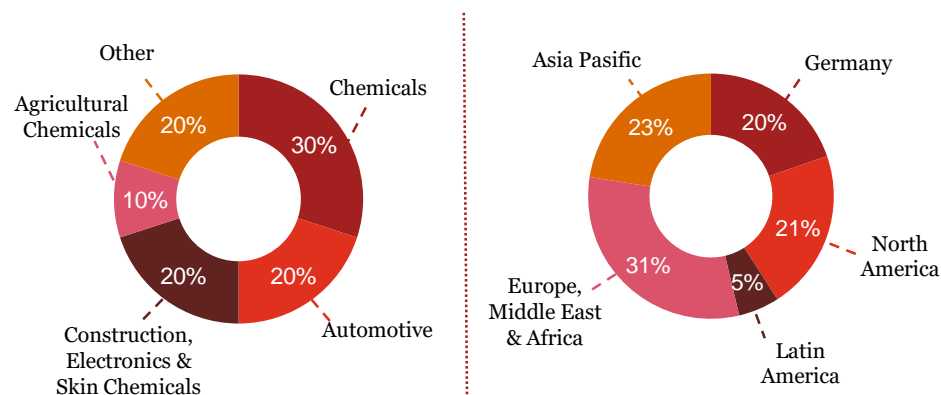
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	7,841	7,813	7,633
Cost of Goods Sold	(5,759)	(5,817)	(5,656)
Gross Profit	2,082	1,996	1,977
General, Administrative & Selling Expenses	(1,334)	(1,241)	(1,251)
Research and Development Expenses	(124)	(125)	(128)
Other Operating Income/Loss	20	6	(3)
Operating Income	645	635	595
Financial Income/Loss	(49)	(72)	(38)
Other Income/Loss	(256)	149	(224)
Earnings Before Tax	340	712	332
Provision for Income Tax	(191)	(113)	(118)
Net Income	149	599	214
EBITDA	1,081	1,095	1,056
EBITDA Margin (%)	13.8%	14.0%	13.8%

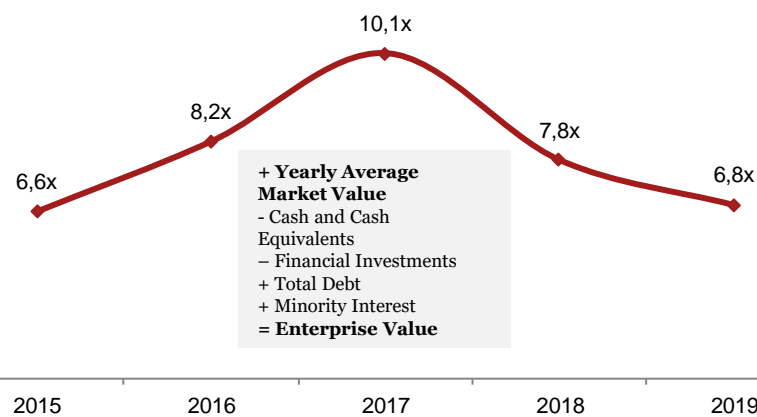
Balance Sheet

(\$ m)	*Last 12 months - September		
	31.12.2017	31.12.2018	31.12.2019
Current Assets	4,751	4,466	4,074
Cash and Cash Equivalents	707	1,533	1,207
Account Receivables	1,580	1,084	948
Other Receivables	373	279	318
Inventory	2,017	1,542	1,341
Other Current Assets	73	27	259
Fixed Assets	7,750	5,480	5,684
Long-term Investments	12	2	1
Property, Plant & Equipment	4,288	2,439	2,513
Intangible Assets	2,083	1,935	1,879
Other Fixed Assets	1,366	1,104	1,292
Total Assets	12,501	9,946	9,758
Current Liabilities	2,951	1,739	1,663
Accounts Payable	1,258	910	736
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	760	68	74
Other Short-term liabilities	933	761	853
Long-term Liabilities	5,451	5,032	5,124
Long-term Financial Liabilities	2,692	3,075	3,116
Other non-current Liabilities	2,759	1,957	2,008
Total Equity	4,098	3,175	2,970
Total Liabilities and Equity	12,501	9,946	9,758

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Owens Corning

Owens Corning has been established in 1938 and its' head office is in Ohio, USA. The Company operates in 3 segments: composites, isolation and roof coating. It produces fibre glass reinforcements and composite materials, as well as housing, retail and industrial construction materials.

GLASS FIBER

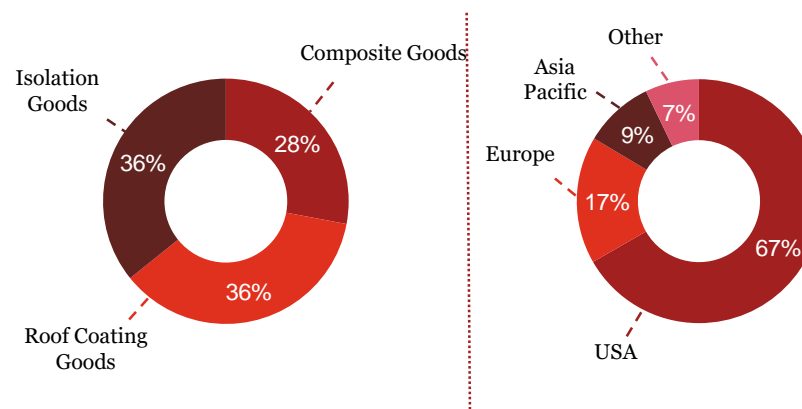
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	6,384	7,057	7,160
Cost of Goods Sold	(4,790)	(5,406)	(5,536)
Gross Profit	1,594	1,651	1,624
General, Administrative & Selling Expenses	(674)	(680)	(732)
Research and Development Expenses	(85)	(89)	(87)
Other Operating Income/Loss	(55)	(29)	(37)
Operating Income	780	853	768
Financial Income/Loss	(107)	(117)	(131)
Other Income/Loss	(114)	(33)	(46)
Earnings Before Tax	559	703	591
Provision for Income Tax	(269)	(156)	(186)
Net Income	290	547	405
EBITDA	1,134	1,276	1,216
EBITDA Margin (%)	17.8%	18.1%	17.0%

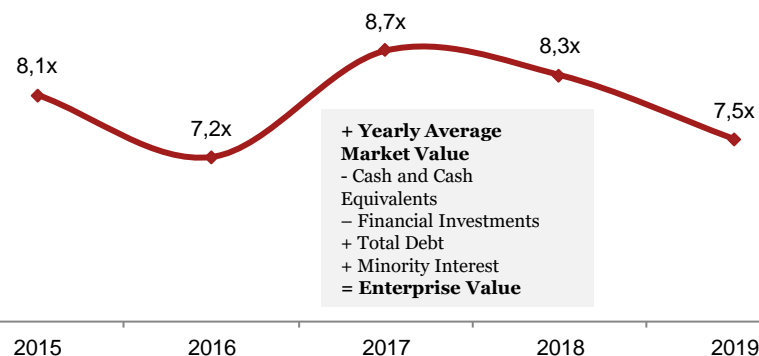
Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	1,985	2,020	2,061
Cash and Cash Equivalents	246	78	172
Account Receivables	806	794	770
Other Receivables	-	-	-
Inventory	841	1,072	1,033
Other Current Assets	92	76	86
Fixed Assets	6,647	7,751	7,945
Long-term Investments	52	51	51
Property, Plant & Equipment	3,425	3,811	4,079
Intangible Assets	2,867	3,728	3,653
Other Fixed Assets	303	161	162
Total Assets	8,632	9,771	10,006
Current Liabilities	1,282	1,278	1,329
Accounts Payable	834	851	815
Short-term Borrowings	1	16	20
Current Portion of Long-term Debt	4	9	73
Other Short-term liabilities	443	402	421
Long-term Liabilities	3,146	4,169	4,006
Long-term Financial Liabilities	2,405	3,362	3,124
Other non-current Liabilities	741	807	882
Total Equity	4,204	4,324	4,671
Total Liabilities and Equity	8,632	9,771	10,006

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Nippon Electric Glass Co. Ltd.

Nippon Electric Glass produces special glass products and glass machines along with its' subsidiaries. The Company's product group includes ophthalmic glasses, chemical enhancement glasses and solar cell glasses. The Company has been established in 1944 and the headquarters are located in Otsu, Japan.

GLASS FIBER

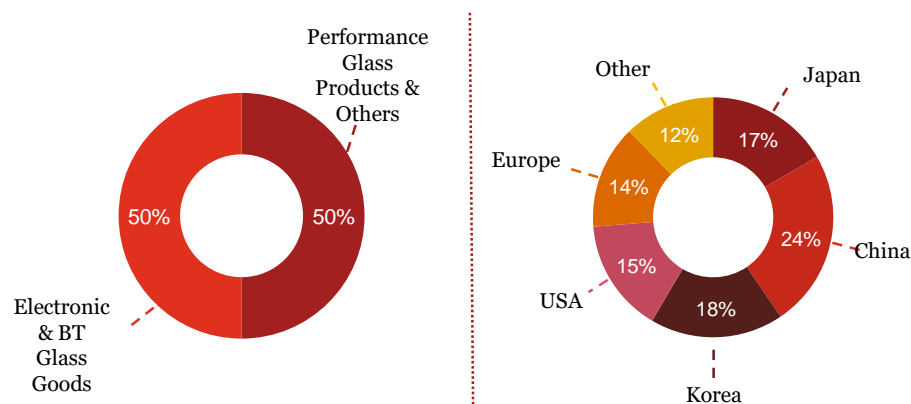
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	2,508	2,737	2,367
Cost of Goods Sold	(1,880)	(2,126)	(1,864)
Gross Profit	627	612	502
General, Administrative & Selling Expenses	(295)	(338)	(355)
Research and Development Expenses	(47)	(47)	-
Depreciation	(8)	-	(5)
Operating Income	278	227	141
Financial Income/Loss	10	3	12
Other Income/Loss	2	3	(330)
Earnings Before Tax	290	232	(177)
Provision for Income Tax	(44)	(89)	(129)
Net Income	246	143	(306)
EBITDA	533	498	404
EBITDA Margin (%)	21.3%	18.2%	17.1%

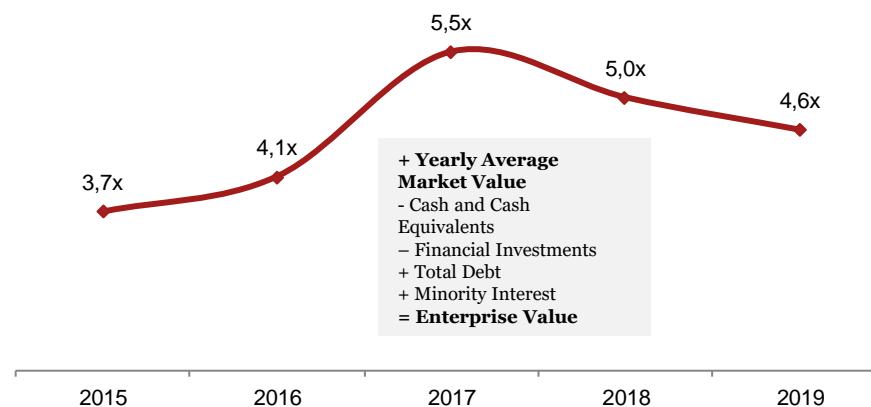
Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	2,334	2,305	2,222
Cash and Cash Equivalents	1,039	1,064	934
Account Receivables	541	516	484
Other Receivables	-	-	-
Inventory	616	621	754
Other Current Assets	138	104	50
Fixed Assets	4,452	4,308	3,895
Long-term Investments	619	480	506
Property, Plant & Equipment	3,496	3,523	3,300
Intangible Assets	311	291	67
Other Fixed Assets	26	14	21
Total Assets	6,787	6,613	6,117
Current Liabilities	922	1,030	888
Accounts Payable	337	353	321
Short-term Borrowings	316	304	220
Current Portion of Long-term Debt	-	91	92
Other Short-term liabilities	268	281	255
Long-term Liabilities	1,037	830	839
Long-term Financial Liabilities	737	608	594
Other non-current Liabilities	300	222	244
Total Equity	4,828	4,754	4,391
Total Liabilities and Equity	6,787	6,613	6,117

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

China Jushi Co. Ltd.

The headquarters of China Jushi Co., Ltd, producing fibre glass and its' tissues, are located in Tongxiang, China. The Company presents a series of reinforced fibre glass products, such as E-glass and C-glass rovings, minced wires, dust and emulsion minced wire mats and touch rovings.

GLASS FIBER

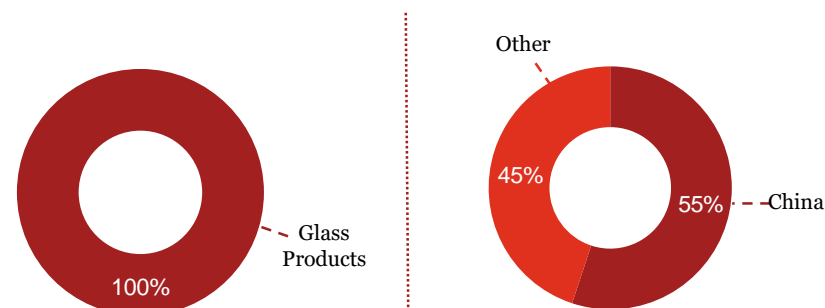
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	1,330	1,459	1,507
Cost of Goods Sold	(721)	(802)	(973)
Gross Profit	608	656	534
General, Administrative & Selling Expenses	(125)	(148)	(96)
Research and Development Expenses	(39)	(42)	(41)
Other Operating Income/Loss	(14)	(13)	12
Operating Income	430	454	410
Financial Income/Loss	(46)	(50)	9
Other Income/Loss	5	6	(55)
Earnings Before Tax	389	411	364
Provision for Income Tax	(58)	(64)	(61)
Net Income	332	347	304
EBITDA	581	557	568
EBITDA Margin (%)	43.7%	38.2%	37.7%

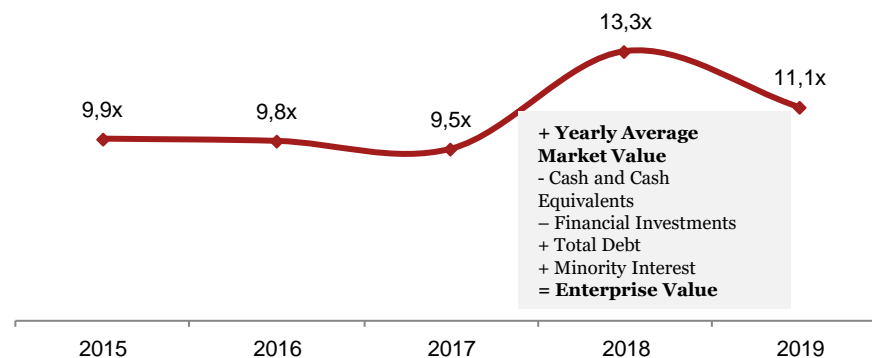
Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	1,205	1,058	1,314
Cash and Cash Equivalents	369	230	208
Account Receivables	538	489	726
Other Receivables	15	20	19
Inventory	204	244	297
Other Current Assets	78	75	63
Fixed Assets	2,605	3,358	3,512
Long-term Investments	182	176	177
Property, Plant & Equipment	2,254	2,992	3,129
Intangible Assets	153	156	183
Other Fixed Assets	16	35	23
Total Assets	3,810	4,416	4,826
Current Liabilities	1,202	1,794	1,675
Accounts Payable	266	447	346
Short-term Borrowings	691	717	949
Current Portion of Long-term Debt	102	456	57
Other Short-term liabilities	143	174	323
Long-term Liabilities	679	502	841
Long-term Financial Liabilities	651	451	769
Other non-current Liabilities	28	51	73
Total Equity	1,929	2,120	2,309
Total Liabilities and Equity	3,810	4,416	4,826

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Taiwan Glass Ind. Corp.

Taiwan Glass Ind. Corp. Has been established in 1964 in Taipei City, Taiwan. The Company's products are fibre glasses and photoelectric glasses such as float glass, automatic glass, photovoltaic glass and concentrated sun energy glasses.

GLASS FIBER

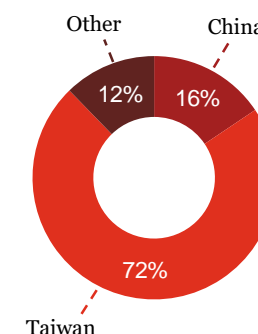
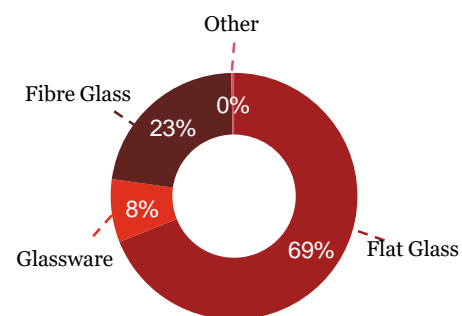
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	1,512	1,506	1,396
Cost of Goods Sold	(1,255)	(1,266)	(1,282)
Gross Profit	257	240	114
General, Administrative & Selling Expenses	(156)	(150)	(139)
Research and Development Expenses	(12)	(14)	(13)
Operating Income	89	76	(37)
Financial Income/Loss	(24)	(21)	(23)
Other Income/Loss	16	(4)	17
Earnings Before Tax	81	51	(44)
Provision for Income Tax	(7)	(17)	(10)
Net Income	73	34	(54)
EBITDA	267	244	138
EBITDA Margin (%)	17.7%	16.2%	9.9%

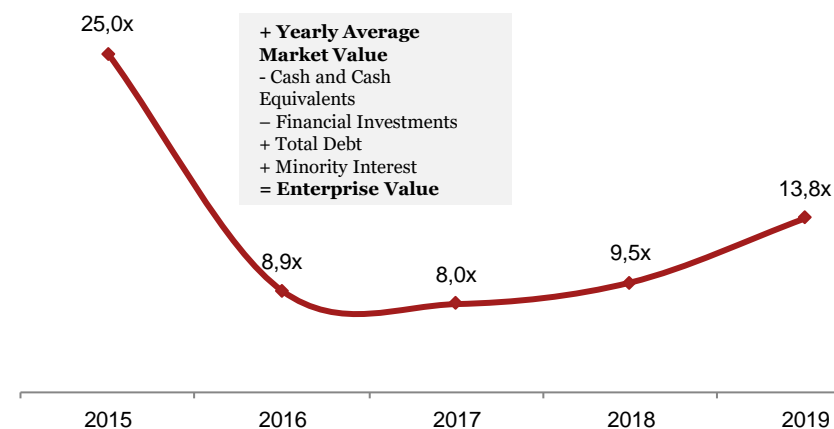
Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	848	857	1,047
Cash and Cash Equivalents	197	170	233
Account Receivables	328	323	443
Other Receivables	6	8	7
Inventory	249	289	302
Other Current Assets	68	67	62
Fixed Assets	1,985	1,922	1,872
Long-term Investments	111	144	150
Property, Plant & Equipment	1,751	1,661	1,697
Intangible Assets	3	2	2
Other Fixed Assets	120	116	23
Total Assets	2,832	2,779	2,919
Current Liabilities	728	760	1,001
Accounts Payable	119	101	237
Short-term Borrowings	343	338	445
Current Portion of Long-term Debt	128	183	201
Other Short-term liabilities	139	138	119
Long-term Liabilities	432	460	469
Long-term Financial Liabilities	355	377	384
Other non-current Liabilities	77	83	84
Total Equity	1,672	1,559	1,449
Total Liabilities and Equity	2,832	2,779	2,919

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Jiangsu Changhai Composite Materials Co. Ltd

Jiangsu Changhai Composite Materials Co. Ltd. has been established in 2000, and the centre of its' operations is in Changzhou, China. The Company operates in R&D, production, sales of chemicals, as well as production and sales of fiberglass based composite materials. The Company makes sales to 30 countries.

GLASS FIBER

Income Statement

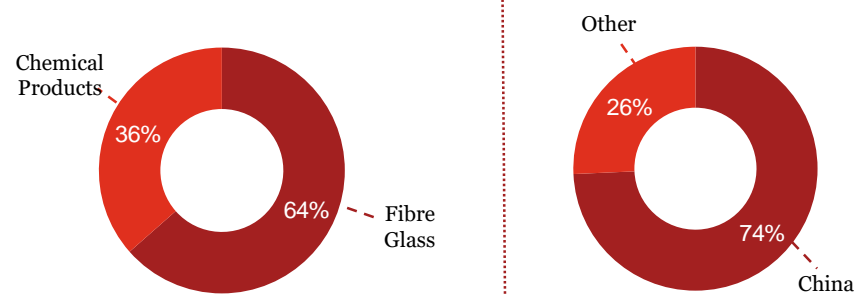
(\$ m)	FY17	FY18	FY19
Net Sales	312	320	319
Cost of Goods Sold	(233)	(237)	(229)
Gross Profit	79	82	90
General, Administrative & Selling Expenses	(30)	(30)	(31)
Research and Development Expenses	(10)	(12)	(13)
Other Operating Income/Loss	(3)	(2)	(4)
Operating Income	35	38	43
Financial Income/Loss	2	2	2
Other Income/Loss	(2)	5	3
Earnings Before Tax	36	44	48
Provision for Income Tax	(5)	(6)	(6)
Net Income	31	38	42
EBITDA	53	57	63
EBITDA Margin (%)	17.1%	17.8%	19.9%

Balance Sheet

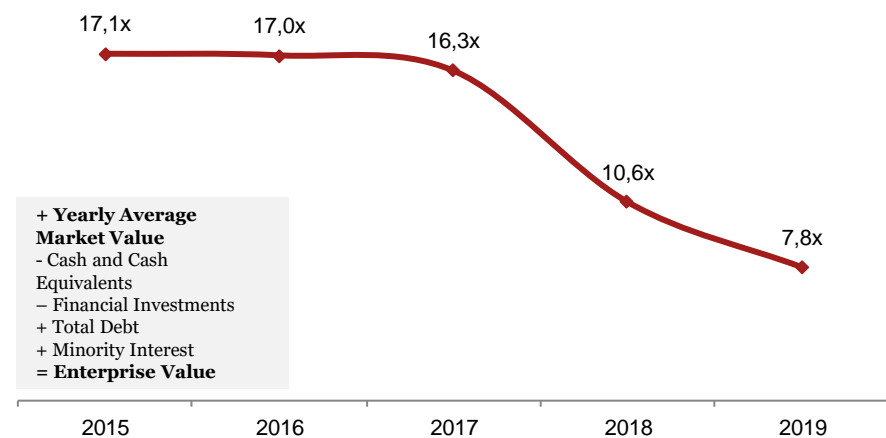
(\$ m)	31.12.201	30.09.201	30.09.201
Current Assets	248	212	216
Cash and Cash Equivalents	152	98	88
Account Receivables	67	80	85
Other Receivables	1	1	1
Inventory	26	30	26
Other Current Assets	4	3	17
Fixed Assets	229	244	228
Long-term Investments	-	-	-
Property, Plant & Equipment	198	215	200
Intangible Assets	27	25	23
Other Fixed Assets	4	5	5
Total Assets	477	456	444
Current Liabilities	92	80	63
Accounts Payable	43	43	40
Short-term Borrowings	14	25	11
Current Portion of Long-term Debt	24	1	3
Other Short-term liabilities	11	11	9
Long-term Liabilities	8	9	6
Long-term Financial Liabilities	-	2	-
Other non-current Liabilities	8	7	6
Total Equity	377	367	374
Total Liabilities and Equity	477	456	444

Source: Company's Activity and Audit Reports, Capital IQ

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Bluestar Adisseo Company

Bluestar Adisseo Company has been established in 1939 and its' headquarters are in Beijing, China. The Company researches, develops, produces and sells feeding supplements for the animal feeding. It is a subsidiary of Bluestar Adisseo Company, China National Bluestar (Group) Co. Ltd.

VITAMIN K₃ & SMBS

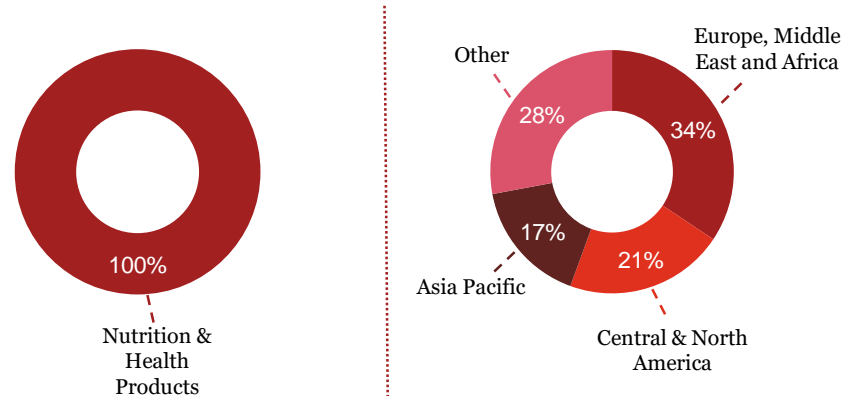
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	1,598	1,660	1,599
Cost of Goods Sold	(975)	(1,083)	(1,057)
Gross Profit	623	577	543
General, Administrative & Selling Expenses	(229)	(275)	(275)
Research and Development Expenses	(36)	(41)	(41)
Other Operating Income/Loss	(16)	(9)	(12)
Operating Income	343	252	214
Financial Income/Loss	12	14	15
Other Income/Loss	12	(22)	19
Earnings Before Tax	367	244	249
Provision for Income Tax	(109)	(67)	(68)
Net Income	258	177	181
EBITDA	468	389	347
EBITDA Margin (%)	29.3%	23.4%	21.7%

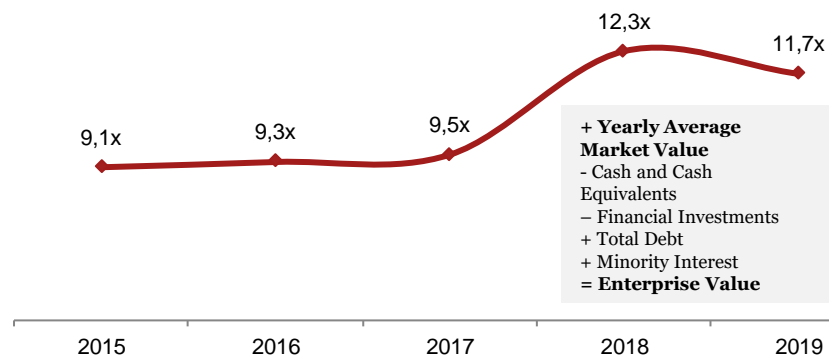
Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	1,716	1,365	1,293
Cash and Cash Equivalents	1,177	768	760
Account Receivables	215	241	221
Other Receivables	8	6	6
Inventory	246	257	241
Other Current Assets	69	93	65
Fixed Assets	1,562	1,755	1,741
Long-term Investments	3	4	6
Property, Plant & Equipment	1,112	1,128	1,148
Intangible Assets	408	568	542
Other Fixed Assets	40	55	45
Total Assets	3,278	3,119	3,034
Current Liabilities	430	370	356
Accounts Payable	187	178	158
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	0	1	1
Other Short-term liabilities	243	191	197
Long-term Liabilities	196	220	206
Long-term Financial Liabilities	2	5	4
Other non-current Liabilities	194	215	202
Total Equity	2,652	2,530	2,472
Total Liabilities and Equity	3,278	3,119	3,034

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

China Chemical & Pharmaceutical Co. Ltd.

VITAMIN K₃ & SMBS

China Chemical & Pharmaceutical Co. Ltd has been established in 1952 with headquarters in Taipei City, Taiwan. The Company provides generic pharmaceutical and health products for humans and animals. The Company supplies various prescriptive drugs and anti-infection pills, as well as vitamins, liver toning substances, electrolyte, calories preparators and other dietary supplements.

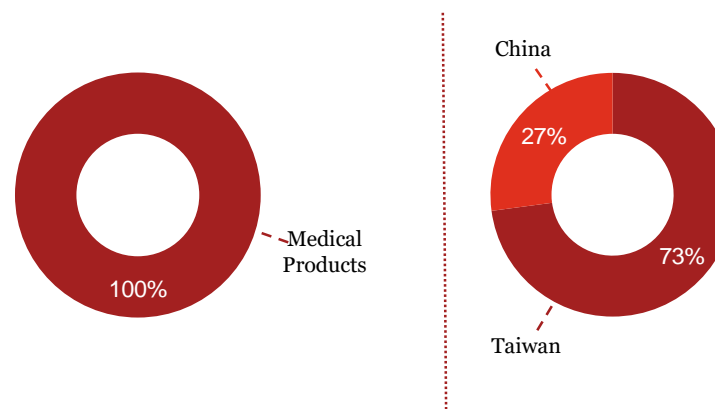
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	211	248	266
Cost of Goods Sold	(146)	(154)	(167)
Gross Profit	65	94	99
General, Administrative & Selling Expenses	(44)	(69)	(71)
Research and Development Expenses	(12)	(13)	(15)
Operating Income	9	11	13
Financial Income/Loss	(0)	0	(2)
Other Income/Loss	3	4	3
Earnings Before Tax	12	15	15
Provision for Income Tax	(2)	(3)	(2)
Net Income	10	12	13
EBITDA	18	19	22
EBITDA Margin (%)	8.5%	7.8%	8.1%

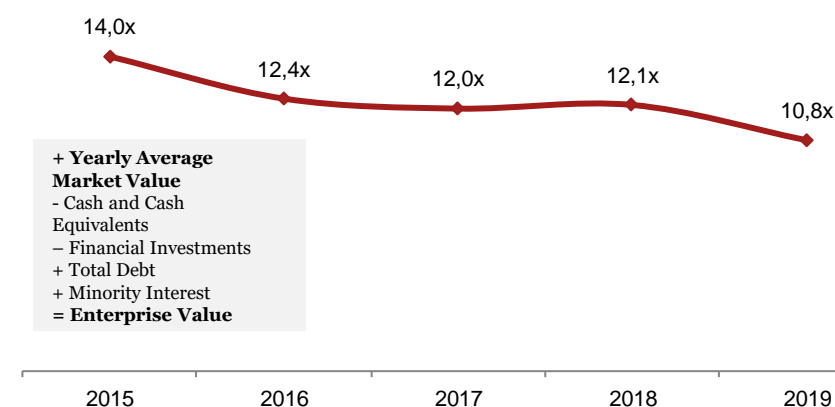
Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	159	169	184
Cash and Cash Equivalents	26	19	26
Account Receivables	65	69	73
Other Receivables	7	7	8
Inventory	57	70	73
Other Current Assets	4	3	4
Fixed Assets	187	183	203
Long-term Investments	38	39	47
Property, Plant & Equipment	136	129	145
Intangible Assets	2	2	1
Other Fixed Assets	11	13	11
Total Assets	346	352	387
Current Liabilities	89	94	101
Accounts Payable	28	34	30
Short-term Borrowings	40	37	45
Current Portion of Long-term Debt	-	-	0
Other Short-term liabilities	21	23	26
Long-term Liabilities	69	72	87
Long-term Financial Liabilities	57	60	77
Other non-current Liabilities	12	12	10
Total Equity	189	186	199
Total Liabilities and Equity	346	352	387

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Hubei Zhenhua Chemical Co. Ltd.

VITAMIN K₃ & SMBS

Hubei Zhenhua Kimyasal Co. Ltd. has been established in 1967 and the centre of operations is located in China's Huangshi region. The Company researches, develops, produces and performs marketing of chromium salts. The Company produces sodium bichromate and dichromate, chromic acid anhydride, crystal chromic acid anhydride, nonsolid chromic anhydride, chromium oxide green, chromic trioxide, potassium dichromate, basic chromium sulphate, K₃ vitamin, sodium sulphate, aluminium hydroxide and others.

Income Statement

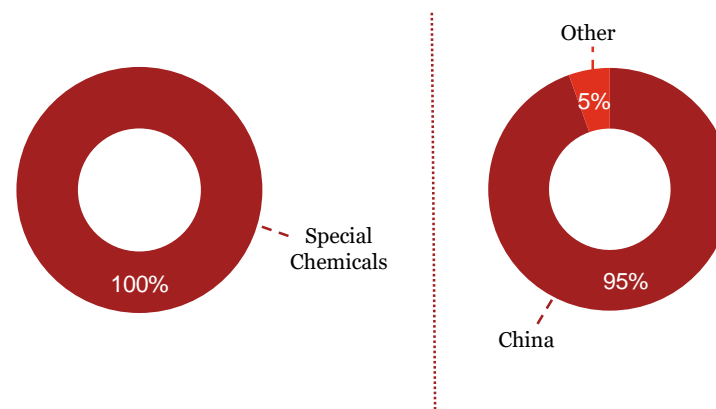
(\$ m)	FY17	FY18	FY19
Net Sales	182	204	199
Cost of Goods Sold	(138)	(146)	(144)
Gross Profit	44	58	55
General, Administrative & Selling Expenses	(19)	(22)	(24)
Research and Development Expenses	(6)	(7)	(6)
Other Operating Income/Loss	(2)	(3)	(3)
Operating Income	16	25	22
Financial Income/Loss	(0)	0	0
Other Income/Loss	0	(1)	(1)
Earnings Before Tax	16	24	22
Provision for Income Tax	(2)	(3)	(1)
Net Income	15	21	21
EBITDA	27	36	33
EBITDA Margin (%)	15.1%	17.7%	16.5%

Balance Sheet

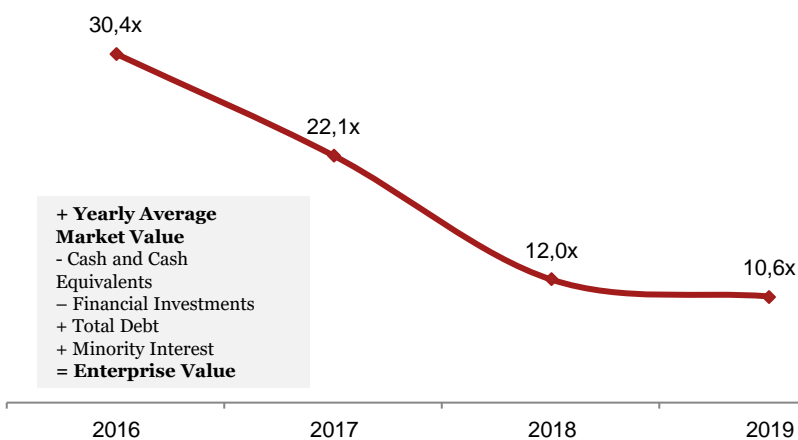
(\$ m)	31.12.2017	31.12.2018	30.09.2019
Current Assets	96	110	112
Cash and Cash Equivalents	20	25	33
Account Receivables	54	60	52
Other Receivables	0	1	1
Inventory	18	17	17
Other Current Assets	4	8	10
Fixed Assets	92	86	92
Long-term Investments	-	-	4
Property, Plant & Equipment	86	79	79
Intangible Assets	6	5	5
Other Fixed Assets	1	2	4
Total Assets	188	197	204
Current Liabilities	15	14	15
Accounts Payable	8	7	10
Short-term Borrowings	-	-	-
Current Portion of Long-term Debt	-	-	-
Other Short-term liabilities	7	8	6
Long-term Liabilities	2	2	3
Long-term Financial Liabilities	-	-	-
Other non-current Liabilities	2	2	3
Total Equity	172	180	186
Total Liabilities and Equity	188	197	204

*Last 12 months - September

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Brother Enterprises Holding Co. Ltd.

Brother Enterprises produces vitamins and skin chemicals. The skin chemicals include tanning substances, oils, nurturing substances, auxiliary substances and chromium powders. The Company also produces B1 and K3 vitamins. Brother Enterprises has been established in 1991 and is based in Haining, China.

VITAMIN K3 & SMBS

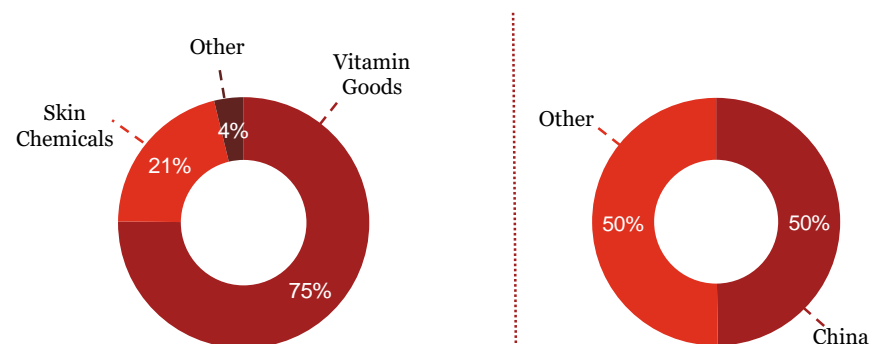
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	239	206	173
Cost of Goods Sold	(126)	(159)	(135)
Gross Profit	113	47	39
General, Administrative & Selling Expenses	(26)	(25)	(30)
Research and Development Expenses	(10)	(11)	(10)
Other Operating Income/Loss	(4)	(2)	(3)
Operating Income	72	8	(4)
Financial Income/Loss	2	0	(1)
Other Income/Loss	(3)	1	3
Earnings Before Tax	71	9	(3)
Provision for Income Tax	(11)	(6)	(2)
Net Income	61	3	(5)
EBITDA	91	29	20
EBITDA Margin (%)	38.1%	14.2%	11.5%

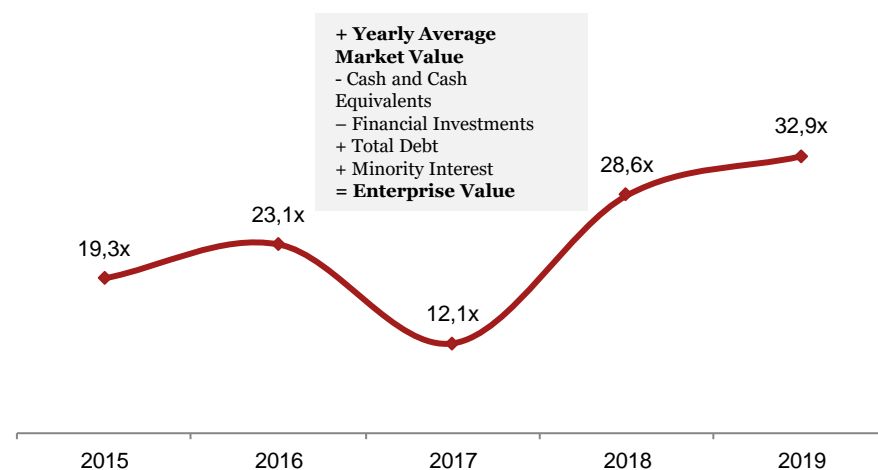
Balance Sheet

(\$ m)	31.12.2017	31.12.2018	30.09.2019
Current Assets	296	210	161
Cash and Cash Equivalents	173	116	63
Account Receivables	55	38	28
Other Receivables	0	1	1
Inventory	47	42	48
Other Current Assets	20	14	22
Fixed Assets	236	311	357
Long-term Investments	0	0	0
Property, Plant & Equipment	211	288	333
Intangible Assets	19	17	16
Other Fixed Assets	6	6	8
Total Assets	533	521	518
Current Liabilities	94	113	133
Accounts Payable	69	103	91
Short-term Borrowings	0	-	34
Current Portion of Long-term Debt	-	-	-
Other Short-term liabilities	24	10	8
Long-term Liabilities	88	80	64
Long-term Financial Liabilities	88	79	64
Other non-current Liabilities	0	0	0
Total Equity	351	328	321
Total Liabilities and Equity	533	521	518

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Genebiotech Co. Ltd.

Genebiotech Co. Ltd. is a fermentation company which has been established in 2000 with a centre in Gongju. The Company researches, develops, produces and sells biological roots in various fields as animal roots, agriculture, food, pharmaceuticals etc.

VITAMIN K₃ & SMBS

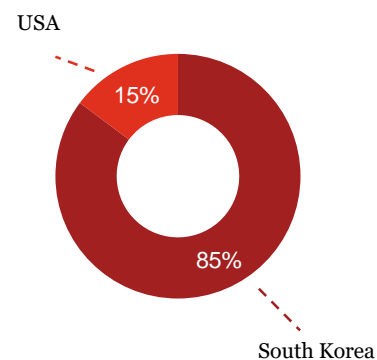
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	52	56	50
Cost of Goods Sold	(43)	(43)	(42)
Gross Profit	9	13	8
General, Administrative & Selling Expenses	(6)	(6)	(6)
Research and Development Expenses	(1)	(1)	(1)
Depreciation	(0)	(0)	(0)
Other Operating Income/Loss	(0)	(0)	(0)
Operating Income	2	6	1
Financial Income/Loss	-	-	-
Other Income/Loss	(0)	(1)	(0)
Earnings Before Tax	2	5	0
Provision for Income Tax	(0)	(3)	(0)
Net Income	2	2	(0)
EBITDA	4	7	2
EBITDA Margin (%)	6.9%	12.4%	4.3%

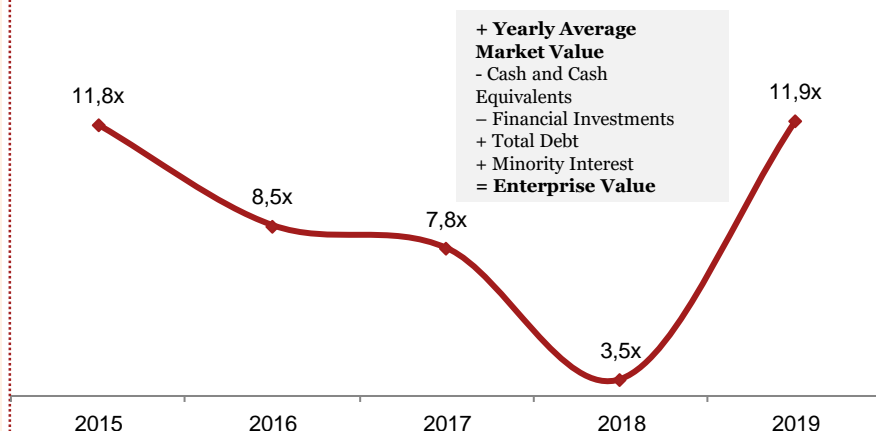
Balance Sheet

(\$ m)	*Last 12 months - September		
	31.12.201	31.12.201	31.12.201
Current Assets	29	43	38
Cash and Cash Equivalents	14	27	22
Account Receivables	8	8	7
Other Receivables	0	0	0
Inventory	7	7	9
Other Current Assets	0	0	0
Fixed Assets	27	22	21
Long-term Investments	8	4	3
Property, Plant & Equipment	17	16	16
Intangible Assets	1	1	1
Other Fixed Assets	1	1	1
Total Assets	56	65	59
Current Liabilities	11	13	9
Accounts Payable	3	3	2
Short-term Borrowings	5	4	2
Current Portion of Long-term Debt	-	-	0
Other Short-term liabilities	3	6	4
Long-term Liabilities	9	12	13
Long-term Financial Liabilities	7	11	13
Other non-current Liabilities	1	1	0
Total Equity	36	41	38
Total Liabilities and Equity	56	65	59

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Eagle Veterinary Technology Co. Ltd.

Eagle Veterinary Technology Co, Ltd has been established in 1970 and its' centre of operations is in Yesan, South Korea. The Company produces antibiotics, antibacterial, anthelmintic and antihistaminic products, as well as injectable feeding supplements, oral liquids and solvable powders for buffalos, poultry and swine.

VITAMIN K₃ & SMBS

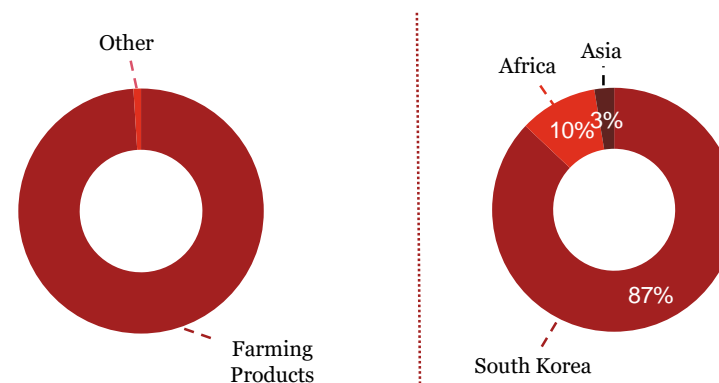
Income Statement

(\$ m)	FY17	FY18	FY19
Net Sales	32	27	30
Cost of Goods Sold	(22)	(20)	(22)
Gross Profit	10	7	8
General, Administrative & Selling Expenses	(7)	(6)	(6)
Research and Development Expenses	(0)	(0)	(0)
Depreciation	(0)	(0)	(0)
Other Operating Income/Loss	(0)	(0)	(0)
Operating Income	3	1	1
Financial Income/Loss	(0)	(0)	(0)
Other Income/Loss	(1)	0	(0)
Earnings Before Tax	2	1	1
Provision for Income Tax	(0)	(0)	(0)
Net Income	1	1	1
EBITDA	4	3	3
EBITDA Margin (%)	13.4%	9.7%	10.9%

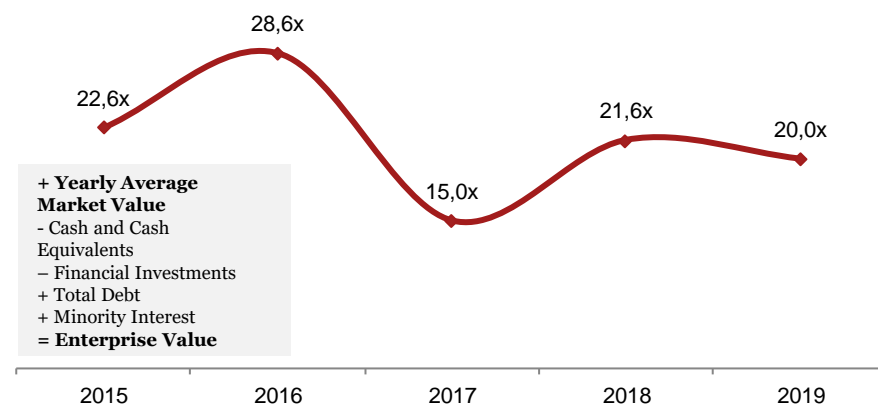
Balance Sheet

(\$ m)	31.12.201	31.12.201	31.12.201
Current Assets	20	18	19
Cash and Cash Equivalents	2	1	2
Account Receivables	6	5	6
Other Receivables	1	1	1
Inventory	11	10	9
Other Current Assets	0	1	0
Fixed Assets	27	24	21
Long-term Investments	0	0	0
Property, Plant & Equipment	25	22	20
Intangible Assets	0	0	0
Other Fixed Assets	1	2	1
Total Assets	47	41	40
Current Liabilities	13	7	6
Accounts Payable	3	2	1
Short-term Borrowings	5	2	1
Current Portion of Long-term Debt	2	2	2
Other Short-term liabilities	2	2	2
Long-term Liabilities	4	3	3
Long-term Financial Liabilities	4	3	3
Other non-current Liabilities	-	0	0
Total Equity	30	31	31
Total Liabilities and Equity	47	41	40

Sales by Product Lines and Geographic Territories Breakdown (%)



Yearly EV/EBITDA Change (x)



Source: Company's Activity and Audit Reports, Capital IQ

Beta and WACC Analysis

Beta (1/13)**TRKCM – Architectural Glass**

Company	Country	Equity Beta	Market CAP (USD million)	5 year average debt / equity	Tax Rate	Asset Beta
Compagnie de Saint-Gobain S.A.	France	0.99	22,269	57%	33%	0.72
Fuyao Glass Industry Group Co., Ltd.	China	0.77	8,449	16%	25%	0.69
AGC Inc.	Japan	1.14	8,011	67%	31%	0.78
Xinyi Glass Holdings Limited	Hong Kong	1.11	5,325	29%	17%	0.89
Zhuzhou Kibing Group Co.,Ltd	China	1.03	2,119	29%	25%	0.85
CSG Holding Co., Ltd.	China	0.96	1,790	45%	25%	0.72
Vitro, S.A.B. de C.V.	Mexico	0.90	1,060	40%	30%	0.70
Average		0.99		40%		0.76

*Market CAP is shown based on the year-end data.

Source: Management, Capital IQ, PwC Analysis

Beta (2/13)**TRKCM – Automotive Glass**

Company	Country	Equity Beta	Market CAP (USD million)	5 year average debt / equity	Tax Rate	Asset Beta
Fuyao Glass Industry Group Co., Ltd.	China	0.77	8,449	16%	25%	0.69
Standard Motor Products, Inc.	USA	1.00	1,195	6%	21%	0.96
Mahle Metal Leve S.A.	Brazil	0.62	919	12%	34%	0.57
Shandong Gold Phoenix Co.,Ltd	China	0.70	523	10%	25%	0.65
Suprajit Engineering Limited	India	0.97	387	12%	35%	0.90
Cayman Engley Industrial Co., Ltd.	Cayman	1.05	378	42%	0%	0.74
Feilong Auto Components Co., Ltd.	China	0.94	359	11%	25%	0.87
Fras-le S.A.	Brazil	0.84	304	41%	34%	0.66
Iron Force Industrial Co., Ltd.	Taiwan	0.75	303	1%	17%	0.74
P.C.S. Machine Group Holding Public Co. PCL	Thailand	0.78	297	0%	20%	0.78
SNT Corporation	Japan	0.72	203	6%	31%	0.70
Automotive Axles Limited	India	1.08	177	2%	35%	1.06
Steel Strips Wheels Limited	India	1.20	168	94%	35%	0.74
JBM Auto Limited	India	1.46	163	56%	35%	1.07
Sterling Tools Limited	India	1.07	109	15%	35%	0.98
The Hi-Tech Gears Limited	India	1.28	44	40%	35%	1.01
Shivam Autotech Limited	India	1.47	32	75%	35%	0.98
Triton Valves Limited	India	1.06	13	49%	35%	0.80
News World Wu Company	Taiwan	0.78	12	59%	17%	0.52
Average		0.98		29%		0.81

Automotive Glass Business Segment makes Original Equipment Manufacturing (OEM) sales based on the long term contracts signed with global automotive producers. When the production structure, the relevant market and the Companies under the Automotive Glass Business Segment have been taken into consideration, it has been decided that the publicly listed companies active in Original Equipment Manufacturing (OEM) need to be analysed for making the decision on the beta to be used.

*Market CAP is shown based on the year-end data.
Source: Management, Capital IQ, PwC Analysis

Beta (3/13)

ANACM

Company	Country	Equity Beta	Market CAP* (USD million)	5 year average debt / equity	Tax Rate	Asset Beta
Ardagh Group S.A.	Luxembourg	1.15	4,628	198%	29%	0.48
Vidrala, S.A.	Spain	0.60	2,858	25%	25%	0.50
Gerresheimer AG	Germany	0.87	2,431	46%	30%	0.66
O-I Glass, Inc.	USA	1.42	1,857	208%	21%	0.54
Zignago Vetro S.p.A.	Italy	0.72	1,250	32%	31%	0.59
Vetropack Holding AG	Switzerland	0.84	1,245	8%	18%	0.79
Verallia Deutschland AG	Germany	0.40	572	36%	30%	0.32
Cristalerías de Chile S.A.	Chile	0.95	451	33%	24%	0.76
BG Container Glass	Thailand	1.05	317	108%	20%	0.56
Average		0.89		77%		0.58

*Market CAP is shown based on the year-end data.
Source: Management, Capital IQ, PwC Analysis

Beta (4/13)

PASAB

Company	Country	Equity Beta	Market CAP (USD million)	5 year average debt / equity	Tax Rate	Asset Beta
Nadir Figueiredo Indústria e Comércio S.A.	Brazil	0.72	1,415	76%	34%	0.48
La Opala RG Limited	India	0.61	1,354	0%	35%	0.61
King's Flair International (Holdings) Limited	Hong Kong	0.63	631	8%	17%	0.59
Kütahya Porselen Sanayi Anonim Sirketi	Turkey	0.78	264	5%	20%	0.75
Denizli Cam Sanayii ve Ticaret A.S.	Turkey	0.91	125	31%	20%	0.73
Ocean Glass Public Company Limited	Thailand	0.86	106	103%	20%	0.47
Average		0.75		37%		0.61

Some of the companies were not considered for the beta comparable companies analysis, as the Companies operating in the glassware sector do not have the same financial size as PASAB. Therefore, it has been assumed that the financial outputs of the aforementioned companies will not give meaningful results.

*Market CAP is shown based on the year-end data.
Source: Management, Capital IQ, PwC Analysis

Beta (5/13)

SODA

Soda Sanayii A.Ş.

Company	Country	Equity Beta	Market CAP (USD million)	5 year average debt / equity	Tax Rate	Asset Beta
Solvay SA	Belgium	0.87	71,155	46%	34%	0.67
Genesis Energy, L.P.	USA	1.19	14,938	115%	21%	0.63
Tata Chemicals Limited	India	1.16	14,207	59%	35%	0.84
Tangshan Sanyou Chemical Industries Co.,Ltd	China	0.99	11,150	63%	25%	0.67
Chengdu Wintrube Holding Co., Ltd.	China	0.69	4,238	62%	25%	0.47
Shandong Jinjing Science and Technology Stock Co., Ltd.	China	1.00	3,517	34%	25%	0.80
Ciech S.A.	Poland	0.73	3,286	60%	19%	0.50
Ciner Resources LP	USA	1.06	2,081	26%	21%	0.88
Average				58%		0.68

Company	Country	Equity Beta	Market CAP (USD million)	5 year average debt / equity	Tax Rate	Asset Beta
Elementis plc	UK	1.09	8,176	21%	20%	0.93
Brother Enterprises Holding Co.,Ltd.	China	1.09	3,734	7%	25%	1.04
Hubei Zhenhua Chemical Co.,Ltd.	China	0.41	2,233	0%	25%	0.41
Nippon Chemical Industrial Co., Ltd.	Japan	1.05	1,519	67%	31%	0.71
Wata Chemicals Limited	Bangladesh	1.03	380	22%	25%	0.89
Vishnu Chemicals Limited	India	2.09	135	112%	35%	1.21
Average				38%		0.86
Weighted Average Beta						0.73
Weighted Average Debt/Equity %						52%

The average asset beta and the weighted average debt/capital rate has been gained by weighting the betas for sodium carbonate and chromium companies based on the projection period income breakdown.

*Market CAP is shown based on the year-end data.
Source: Management, Capital IQ, PwC Analysis

Beta (6/13)

SODA

Şişecam Elyaf Sanayii A.Ş.

Company	Country	Equity Beta	Market CAP (USD million)	5 year average debt / equity	Tax Rate	Asset Beta
Owens Corning	USA	1.15	42,154	42%	21%	0.87
LANXESS Aktiengesellschaft	Germany	1.24	34,931	54%	30%	0.90
China Jushi Co., Ltd.	China	1.08	32,624	37%	25%	0.85
Nippon Electric Glass Co., Ltd.	Japan	1.10	12,913	36%	31%	0.89
Taiwan Glass Ind. Corp.	Taiwan	0.91	6,594	78%	17%	0.55
Jiangsu Changhai Composite Materials Co., Ltd	China	0.87	4,045	4%	25%	0.84
Average		1.06		41.8%		0.82

Oxyvit Kimya Sanayii Ve Tic. A.Ş.

Company	Country	Equity Beta	Market CAP (USD million)	5 year average debt / equity	Tax Rate	Asset Beta
Bluestar Adisseo Company	China	0.81	25,349	0%	25%	0.81
Brother Enterprises Holding Co.,Ltd.	China	1.09	3,734	7%	25%	1.04
Hubei Zhenhua Chemical Co.,Ltd.	China	0.41	2,233	0%	25%	0.41
China Chemical & Pharmaceutical Co., Ltd.	Taiwan	0.78	1,138	54%	17%	0.54
Eagle Veterinary Technology Co.,Ltd	South Korea	0.46	437	15%	24%	0.41
Genebiotech Co., Ltd.	South Korea	1.46	249	35%	24%	1.15
Average		0.84		18.6%		0.73

*Market CAP is shown based on the year-end data.
Source: Management, Capital IQ, PwC Analysis

Beta (7/13)

SODA

Selected firms have been used in the comparable companies analysis for the following Companies: Şişecam Bulgaria EOOD, Şişecam Soda Lukavac D.O.O., Solvay Şişecam Holding AG and Pacific Soda LLC.

Company	Country	Equity Beta	Market CAP (USD million)*	5 year average debt / equity	Tax Rate	Asset Beta
Solvay SA	Belgium	0.87	71,155	46%	34%	0.67
Genesis Energy, L.P.	USA	1.19	14,938	115%	21%	0.63
Tata Chemicals Limited	India	1.16	14,207	59%	35%	0.84
Tangshan Sanyou Chemical Industries Co.,Ltd	China	0.99	11,150	63%	25%	0.67
Chengdu Wintrube Holding Co., Ltd.	China	0.69	4,238	62%	25%	0.47
Shandong Jinjing Science and Technology Stock Co., Ltd.	China	1.00	3,517	34%	25%	0.80
Ciech S.A.	Poland	0.73	3,286	60%	19%	0.50
Ciner Resources LP	USA	1.06	2,081	26%	21%	0.88
Average		0.96		58%		0.68

*Market CAP is shown based on the year-end data.
Source: Management, Capital IQ, PwC Analysis

Beta (8/13)**SODA****Cromital S.p.A**

Company	Country	Equity Beta	Market CAP (USD million)	5 year average debt / equity	Tax Rate	Asset Beta
Elementis plc	UK	1.09	8,176	21%	20%	0.93
Brother Enterprises Holding Co.,Ltd.	China	1.09	3,734	7%	25%	1.04
Hubei Zhenhua Chemical Co.,Ltd.	China	0.41	2,233	0%	25%	0.41
Nippon Chemical Industrial Co., Ltd.	Japan	1.05	1,519	67%	31%	0.71
Wata Chemicals Limited	Bangladesh	1.03	380	22%	25%	0.89
Vishnu Chemicals Limited	India	2.09	135	112%	35%	1.21
Average		1.13		38%		0.86

*Market CAP is shown based on the year-end data.

Source: Management, Capital IQ, PwC Analysis

Beta (9/13)

SISE

Şişecam Çevre Sistemleri A.Ş.

Company	Country	Equity Beta	Market CAP* (USD million)	5 year average debt / equity	Tax Rate	Asset Beta
Ardagh Group S.A.	Luxembourg	1.15	4,628	198%	29%	0.48
Vidrala, S.A.	Spain	0.60	2,858	25%	25%	0.50
Gerresheimer AG	Germany	0.87	2,431	46%	30%	0.66
O-I Glass, Inc.	USA	1.42	1,857	208%	21%	0.54
Zignago Vetro S.p.A.	Italy	0.72	1,250	32%	31%	0.59
Vetropack Holding AG	Switzerland	0.84	1,245	8%	18%	0.79
Verallia Deutschland AG	Germany	0.40	572	36%	30%	0.32
Cristalerías de Chile S.A.	Chile	0.95	451	33%	24%	0.76
BG Container Glass	Thailand	1.05	317	108%	20%	0.56
Average		0.89		77%		0.58

*Market CAP is shown based on the year-end data.
Source: Management, Capital IQ, PwC Analysis

Beta (10/13)

SISE

Türkiye Şişe ve Cam Fabrikaları A.Ş.

Equity Beta	2020	2021	2022	2023	2024	2025
Trakya Cam Sanayii A.Ş.	1.00	1.01	1.01	1.01	1.01	1.01
Şişecam Otomotiv A.Ş.	1.00	1.00	1.00	1.00	1.00	1.00
Anadolu Cam Sanayii A.Ş.	0.93	0.93	0.93	0.93	0.93	0.93
OOO Ruscam Glass Packaging Holding	0.93	0.93	0.93	0.93	0.93	0.93
Soda Sanayii A.Ş.	1.03	1.04	1.04	1.04	1.04	1.04
Weighted Average Beta	0.98	0.99	0.99	0.99	0.99	0.99

When the asset beta estimation has been made, the annually calculated weighted average beta has been taken into consideration by analysing the approximate asset betas for the Group companies which generate the similar royalty income and which are leading in the main business segments in proportion with the royalty income.

Şişecam Dış Ticaret A.Ş.

Equity Beta	2020	2021	2022	2023	2024	2025
Anadolu Cam Sanayii A.Ş.	0.93	0.93	0.93	0.93	0.93	0.93
Camiş Madencilik A.Ş.	0.96	0.97	0.97	0.97	0.97	0.97
Oxyvit Kimya San. ve Tic. A.Ş.	0.83	0.84	0.84	0.84	0.84	0.84
Paşabahçe Mağazaları A.Ş.	0.78	0.78	0.78	0.78	0.78	0.78
Şişecam Otomotiv A.Ş.	1.00	1.00	1.00	1.00	1.00	1.00
Şişecam Elyaf Sanayi A.Ş.	1.08	1.09	1.09	1.09	1.09	1.09
Camiş Ambalaj Sanayi A.Ş.	0.92	0.93	0.93	0.93	0.93	0.93
Paşabahçe Cam San. ve Tic. A.Ş.	0.78	0.79	0.79	0.79	0.79	0.79
Soda Sanayi A.Ş.	1.03	1.04	1.04	1.04	1.04	1.04
Trakya Cam Sanayii A.Ş.	1.00	1.01	1.01	1.01	1.01	1.01
Weighted Average Beta	0.96	0.97	0.97	0.97	0.97	0.97

When the asset beta estimation for DT has been made, a weighted average asset beta has been taken into consideration along with the beta estimations for the Group Companies that create the trading volume of DT and the monetary value of sales.

Source: Management, PwC Analysis

Beta (11/13)

SISE

Şişecam Sigorta Aracılık Hizmetleri A.Ş.

Company	Country	Equity Beta	Market CAP (USD million)
Anadolu Anonim Türk Sigorta Sirketi	Turkey	0.73	370
Aksigorta A.S.	Turkey	0.85	313
Günes Sigorta Anonim Sirketi	Turkey	1.04	198
Halk Sigorta A.S.	Turkey	0.83	116
Ray Sigorta Anonim Sirketi	Turkey	0.84	94
Average		0.86	

Camiş Elektrik Üretim A.Ş.

Company	Country	Equity Beta	Market CAP (USD million)	5 year average debt / equity	Tax Rate	Asset Beta
Shanxi Zhangze Electric Power Co., LTD.	China	1.06	1,074	241%	25%	0.38
Enel Generación Costanera S.A.	Argentina	0.93	163	53%	35%	0.70
Altern Energy Limited	Pakistan	0.54	71	42%	32%	0.42
Saif Power Limited	Pakistan	0.70	52	77%	32%	0.46
Average		0.81		103%		0.49

*Market CAP is shown based on the year-end data.
Source: Management, Capital IQ, PwC Analysis

Beta (12/13) SISE

*Selected firms have been used in the comparable companies analysis for the following Companies: **Camış Madencilik A.Ş.**, **Madencilik Sanayii ve Tic. A.Ş.**, **Camış Egypt Mining Ltd. Co.** and **Rudnik Krecnjaka Vijenac D.O.O.***

Company	Asset Beta
Trakya Cam Sanayii A.Ş.	0.76
Paşabahçe Cam Sanayii ve Tic. A.Ş.	0.61
Anadolu Cam Sanayii A.Ş.	0.58
Weighted Average Beta*	0.67

The betas of companies used for the beta analysis have been weighted, as the mining companies mainly perform sales to the flat glass, glass packaging and glassware companies within the Group.

Beta (13/13)

SISE

Camiş Ambalaj Sanayii A.Ş.

Company	Country	Equity Beta	Market CAP (USD million)	5 year average debt / equity	Tax Rate	Asset Beta
WestRock Company	USA	1.46	65,934	69%	21%	0.94
Smurfit Kappa Group plc	Ireland	1.06	54,178	61%	13%	0.69
Mayr-Melnhof Karton AG	Austria	0.63	15,973	13%	25%	0.57
Xiamen Hexing Packaging Printing Co., Ltd.	China	0.82	4,018	28%	25%	0.68
Zhejiang Jingxing Paper Joint Stock Co., Ltd.	China	1.09	3,172	31%	25%	0.89
Tailim Packaging Co., Ltd.	South Korea:	0.61	1,507	86%	24%	0.37
Kartonsan Karton Sanayi ve Ticaret A.S.	Turkey	0.74	1,106	2%	20%	0.73
Mondi Tire Kutsan Kagit ve Ambalaj Sanayi A.S.	Turkey	0.97	828	62%	20%	0.65
Dynapac Co., Ltd.	Japan	0.66	799	19%	31%	0.58
Sambo Corrugated Board Co., Ltd.	South Korea:	0.90	682	98%	24%	0.52
Olmuksan International Paper Ambalaj Sanayi ve Ticaret A.S.	Turkey	0.95	509	38%	20%	0.73
Korea Export Packaging Industrial Co.,Ltd	South Korea:	0.85	408	31%	24%	0.69
Daelim Paper Co.,Ltd.	South Korea:	1.12	291	92%	24%	0.66
Hop Fung Group Holdings Limited	Hong Kong	1.31	240	44%	17%	0.96
Bien Hoa Packaging Company	Vietnam	0.45	220	40%	22%	0.34
Kaplamin Ambalaj Sanayi ve Ticaret A.S.	Turkey	1.00	111	71%	20%	0.64
Shree Ajit Pulp and Paper Limited	India	0.90	74	57%	35%	0.66
Worth Peripherals Limited	India	0.84	66	8%	35%	0.80
Average		0.91		47%		0.67

*Market CAP is shown based on the year-end data.
Source: Management, Capital IQ, PwC Analysis

Weighted Average Cost of Capital Calculation Method

Parameter	Calculation	Details
Risk Free Rate (RFR)	a	The RFR estimation method used has been explained in detail in the following pages.
Asset Beta	b	Calculated by analyzing the comparable companies (Equity betas have been unlevered to asset betas using the Miller-Modigliani formula : Asset Beta = Equity Beta / (1 + D/E*(1-tax))
Debt/Equity Ratio	c	D/E ratios of comparable companies are taken into account
Target Gearing	$d=(1/(1+1/c))$	Gearing: Debt/(Debt+Equity)
Equity Beta	$e=b*(1+c*(1-j))$	Equity Beta: Asset Beta x (1+D/E x (1 - Corporate tax Rate))
Equity Market Risk Premium (EMRP)	f	The historical difference between average returns on equity and average global returns on risk-free securities is taken into consideration.
Business Risk Premium	g	An additional risk premium has been applied to the companies, if applicable. If the Business Risk Premium has been applied, the reason has been explained in detail on the company based WACC pages.
Cost of Equity	$h=a+e*f+g$	Cost of Equity (CoE): (RfR) + Beta x (EMRP) + Business Risk Premium
Corporate Tax Rate	i	Corporate Income Tax Rate applicable to the relevant company has been taken into consideration.
Debt Premium	J	The difference between the return between the SISE's \$700 m bond, which has been issued on 14 March 2019 and will be redeemed on 14 March 2026 and the average return from the TR Government Bond due on 2026 has been taken into consideration while determining the debt premium. The return from bond issue is distributed among SISE Group based on requirements, and therefore the same debt premium has been applied for the SISE Group companies.
Cost of Debt	$k=(a+j)*(1-i)$	Cost of Debt: (RfR + Debt Premium)*(1-tax rate)
WACC	$l= k*d+h*(1-d)$	WACC: [(Cost of Equity * (1-Debt/(Debt + Equity) Ratio)] + [Cost of Debt * (Debt/(Debt + Equity) Ratio)]

Source: PwC Analysis

Weighted Average Cost of Capital

RfR Estimation Method (1/2)

A changing RfR is considered in WACC calculation, leading to a changing WACC rate that is applied to the free cash flows under Income Approach.

«Indirect» Estimation Method



Results– Country/Region Risk Premiums & Risk Free Return Bases

Country/Region	2020	2021	2022	2023	2024	2025
Turkey	4.7%	3.6%	3.2%	3.2%	3.2%	3.2%
Russia	1.8%	1.8%	1.7%	1.7%	1.7%	1.7%
Italy	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
India	2.4%	1.8%	1.2%	1.2%	1.2%	1.2%
Egypt	5.3%	4.4%	3.5%	3.5%	3.5%	3.5%
China	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
North and West Europe	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Europe - Other	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
CIS	3.6%	3.2%	2.9%	2.9%	2.9%	2.9%
North America	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Risk Free Return Base	1.4%	2.5%	2.8%	2.8%	2.8%	2.8%

**When the first quarter of the year data for the highlighted countries/regions has been analysed, it has been observed that the country/region risk premiums have increased in comparison to the average historic rates. It is estimated that the increased risk premium in 2020 in relation to these countries/regions have been caused by the decreased risk free return base in 2020. Due to the fact that data for other countries/regions has been consistent with other years, it has been assumed that the risk premium will stay constant between 2020- 2022.*

Calculation Method

RFRs have been estimated by combining three components, as shown on the adjacent graph. The methods utilised while estimating the Risk Free Return Base and Country Risk Premium are discussed below:

- 1 Risk Free Return:** The basis for risk free return has been taken as the 30 year US\$ denominated US Treasury Bond return. When the aforementioned return has been determined, the actual returns for March and April 2020 has been taken into consideration and the 2020 expected return has been estimated. It is predicted that the 2021 and 2022 yearly return rate will increase in line with \$ inflation, and will reach the average level of return between 2017 and 2019 (2.8%) in 2022.
- 2 Country/Region Risk Premium:** The countries to which the Group Companies perform sales to, have been classified under groups based on their size and economic similarities while some of the countries have been considered separately when assigning a country risk Premium.

The 10 year US\$ denominated CDS rate of the relevant countries have been compared with the 10 year US Treasury CDS rates, and the difference between the two has been used as a determinant of the relevant country risk premium. It has been estimated that the country risk premiums in 2020 will decrease in 2021 due to the improvements in economic circumstances and decreasing risk, and will eventually reach the average historic CRP level observed during 2017-2019 in 2022.

Source: PwC Analysis, Company Management, Capital IQ, Bloomberg

Weighted Average Cost of Capital

RfR Estimation Method (2/2)

It has been estimated that the RfR and WACC will be constant in the terminal period and will be in line with the estimates made for the final projection period.

Calculation Method (cont'd)

Countries with volatile CRPs and countries with relatively stable CRPs have been identified and this structural difference was reflected when calculating the RfR.

Constant Risk Premium Countries/Regions

	2020	2021	2022	2023	2024	2025	TV
RFR	4.6%	4.6%	4.7%	4.7%	4.7%	4.7%	4.7%
Example Italy - EUR							
Risk Free Return Base	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%
Country Risk Premium	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
Inflation Difference	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

In the long-run, the risk free rate is expected to converge to 2.8% in line with the historical trends. For countries / regions that are classified under the constant risk premium group, 2.8% has been utilized as the risk free return basis. CRPs have been observed to be relatively stable for these countries/regions in 2020 and in historic periods. When considering the overall decrease in real interest rates in 2020 and the fact that the CRP of these countries have stayed relatively stable, this would lead to a lower RfR for these countries/regions. *However, it is understood that the cost of equity is not expected to decrease in the near future. Accordingly, the long-term stabilized RfR has been applied in such cases.*

Changing Risk Premium Countries/Regions

	2020	2021	2022	2023	2024	2025	TV
RFR	%18.3	%16.6	%16.0	%15.2	%14.1	%13.1	%12.5
Example Turkey - TL							
Risk Free Return Base	%1.4	%2.5	%2.8	%2.8	%2.8	%2.8	%2.8
Country Risk Premium	%4.7	%3.6	%3.2	%3.2	%3.2	%3.2	%3.2
Inflation Difference	%11.4	%9.8	%9.3	%8.5	%7.5	%6.5	%6.0

It is understood that some countries/regions experienced an increasing risk premium as a reaction to the risk premium rate base change. The economic developments in the beginning of 2020 and the effect of Covid-19 pandemic have increased the demand for the US Treasury Bonds, which are the determinants of the risk-free rate.

The inflation expectations have increased in relation to the risk premium and local currencies due to the investor interest loss in the developing countries during the aforementioned period.

Aside is an example for a company that has all of its operations in Turkey. A constant RfR of 13-14% should be applied to arrive at a similar enterprise value as opposed to a changing RfR.

Source: PwC Analysis, Company Management, Capital IQ, Bloomberg

Weighted Average Cost of Capital

TRKCM (1/6)

Parameter	Trakya Cam Sanayii A.Ş. - TR							Trakya Glass Bulgaria EAD - TB						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	17.8%	16.1%	15.5%	14.7%	13.7%	12.7%	12.1%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%
Asset Beta	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Debt/Equity Ratio	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%
Target Gearing	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%
Equity Beta	1.00	1.01	1.01	1.01	1.01	1.01	1.01	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	24.4%	22.6%	22.1%	21.3%	20.3%	19.2%	18.7%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%
Corporate Tax Rate	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	14.3%	13.2%	12.8%	12.2%	11.4%	10.5%	10.1%	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%
WACC	21.5%	19.9%	19.4%	18.7%	17.7%	16.7%	16.2%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

TRKCM (2/6)

Parameter	HNG Float Glass Limited - HD							Trakya Glass Rus AO -RD						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%
Asset Beta	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Debt/Equity Ratio	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%
Target Gearing	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%
Equity Beta	0.99	0.99	0.99	0.99	0.99	0.99	0.99	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	12.9%	12.9%	12.9%	12.9%	12.9%	12.9%	12.9%	13.6%	13.6%	13.6%	13.6%	13.6%	13.6%	13.6%
Corporate Tax Rate	25.2%	25.2%	25.2%	25.2%	25.2%	25.2%	25.2%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
WACC	10.7%	10.7%	10.7%	10.7%	10.7%	10.7%	10.7%	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

TRKCM (3/6)

Parameter	Sisecam Flat Glass South Italy SRL - FI							Şişecam Flat Glass İtaly S.R.L - SI						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%
Asset Beta	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Debt/Equity Ratio	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%
Target Gearing	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%
Equity Beta	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium*	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	10.5%	10.5%	10.5%	10.5%	10.5%	10.5%	10.5%
Corporate Tax Rate	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%
WACC	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%	8.4%	8.4%	8.4%	8.4%	8.4%	8.4%	8.4%

*Business Risk Premium: FI is the only firm within the Architectural Glass Group that has not started operations as at the end of 2019. Therefore, the risk premium utilised in the WACC rate has been estimated accordingly. An additional risk premium has been taken into consideration in the determination of the WACC rate due to the fact that the assumptions of the business plan cannot be compared with the realised data.

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

TRKCM (4/6)

Parameter	Şişecam Otomotiv A.Ş. - SO							Automotive Glass Alliance Rus AO - RO						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	14.4%	13.7%	13.5%	12.7%	11.6%	10.6%	10.1%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%
Asset Beta	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Debt/Equity Ratio	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%
Target Gearing	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%
Equity Beta	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	20.8%	20.2%	20.0%	19.2%	18.1%	17.1%	16.6%	13.7%	13.7%	13.7%	13.7%	13.7%	13.7%	13.7%
Corporate Tax Rate	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	11.6%	11.3%	11.2%	10.5%	9.7%	8.9%	8.5%	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%
WACC	18.8%	18.2%	18.0%	17.2%	16.2%	15.2%	14.7%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

TRKCM (5/6)

Parameter	Glass Corp S.A. - GO							Şişecam Automotive Bulgaria EAD - BO						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%
Asset Beta	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Debt/Equity Ratio	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%
Target Gearing	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%
Equity Beta	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%
Corporate Tax Rate	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
WACC	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

TRKCM (6/6)

Parameter	Richard Fritz Holding GmbH - FO						
	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%
Asset Beta	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Debt/Equity Ratio	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%	28.9%
Target Gearing	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%
Equity Beta	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Cost of Equity	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%
Corporate Tax Rate	27.4%	27.4%	27.4%	27.4%	27.4%	27.4%	27.4%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%
WACC	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%

*Business Risk Premium: One of the two production plants of FO in Germany has been terminated along with the transformation project that has started in 2019. Additionally, actions towards the reduction of the fixed operational costs have been performed. Therefore, an additional risk premium has been considered in relation to the transformation project.

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

ANACM (1/2)

Parameter	Anadolu Cam Sanayii A.Ş. - AC							OOO Ruscam Glass Packaging Holding - RH						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	16.8%	15.4%	15.0%	14.3%	13.3%	12.2%	11.7%	6.7%	6.6%	6.5%	6.5%	6.5%	6.5%	6.5%
Asset Beta	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Debt/Equity Ratio	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%
Target Gearing	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%
Equity Beta	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	22.8%	21.5%	21.1%	20.4%	19.4%	18.3%	17.8%	12.8%	12.7%	12.6%	12.6%	12.6%	12.6%	12.6%
Corporate Tax Rate	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	13.5%	12.7%	12.4%	11.9%	11.0%	10.2%	9.8%	5.8%	5.7%	5.6%	5.6%	5.6%	5.6%	5.6%
WACC	18.7%	17.7%	17.3%	16.7%	15.7%	14.8%	14.3%	9.8%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

ANACM (2/2)

Parameter	JSC Mina - MN							ANACM - Yatırım Projesi						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
Asset Beta	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Debt/Equity Ratio	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%
Target Gearing	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%
Equity Beta	1.02	1.02	1.02	1.02	1.02	1.02	1.02	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Cost of Equity	13.6%	13.6%	13.6%	13.6%	13.6%	13.6%	13.6%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Corporate Tax Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Cost of Debt	7.4%	7.4%	7.4%	7.4%	7.4%	7.4%	7.4%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%
WACC	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%

*Business Risk Premium: It appears that the agreement related to the investment project is in the negotiation process at the date of the report. Even if ANACM Management has not reached a certain agreement, it has high expectations of the investment project materialisation. For that reason, the investment project has been taken into consideration in the valuation works of ANACM, however an additional risk premium has been applied to the WACC rate to reflect the uncertainties.

**Debt premium: According to Management's information, an approximate cost of debt has been taken into a consideration as one of the elements of RFR while estimating the WACC for the investment project.

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

PASAB (1/6)

Parameter	Paşabahçe Cam Sanayii ve Tic. A.Ş. - PB							Denizli Cam Sanayii ve Tic. A.Ş. - DC						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	16.3%	15.2%	14.8%	14.0%	12.9%	11.9%	11.4%	18.3%	16.6%	16.0%	15.2%	14.1%	13.1%	12.5%
Asset Beta	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Debt/Equity Ratio	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%
Target Gearing	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%
Equity Beta	0.78	0.79	0.79	0.79	0.79	0.79	0.79	0.78	0.79	0.79	0.79	0.79	0.79	0.79
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	21.4%	20.3%	19.9%	19.1%	18.1%	17.0%	16.5%	23.4%	21.7%	21.1%	20.3%	19.2%	18.2%	17.6%
Corporate Tax Rate	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	13.1%	12.5%	12.3%	11.6%	10.8%	9.9%	9.5%	14.7%	13.6%	13.2%	12.5%	11.7%	10.8%	10.4%
WACC	19.2%	18.2%	17.9%	17.1%	16.1%	15.1%	14.6%	21.0%	19.5%	19.0%	18.2%	17.2%	16.2%	15.7%

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

PASAB (2/6)

Parameter	Paşabahçe Bulgaria EAD - BP							OOO Posuda - PR						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	4.0%	3.8%	3.7%	3.7%	3.7%	3.7%	3.7%	7.2%	7.1%	7.0%	7.0%	7.0%	7.0%	7.0%
Asset Beta	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Debt/Equity Ratio	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%
Target Gearing	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%
Equity Beta	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	9.2%	9.1%	9.0%	9.0%	9.0%	9.0%	9.0%	12.3%	12.2%	12.1%	12.1%	12.1%	12.1%	12.1%
Corporate Tax Rate	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	4.0%	3.9%	3.8%	3.8%	3.8%	3.8%	3.8%	6.2%	6.1%	6.0%	6.0%	6.0%	6.0%	6.0%
WACC	7.8%	7.7%	7.6%	7.6%	7.6%	7.6%	7.6%	10.7%	10.6%	10.4%	10.4%	10.4%	10.4%	10.4%

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

PASAB (3/6)

Parameter	Paşabahçe Egypt Glass Manufacturing S.A.E. - EG							Paşabahçe Glass GmbH						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	6.3%	5.6%	5.2%	5.2%	5.2%	5.2%	5.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
Asset Beta	0.61	0.61	0.61	0.61	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Debt/Equity Ratio	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	37.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Target Gearing	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Equity Beta	0.78	0.78	0.78	0.78	0.78	0.78	0.78	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	11.4%	10.7%	10.3%	10.3%	10.3%	10.3%	10.3%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%
Corporate Tax Rate	22.5%	22.5%	22.5%	22.5%	22.5%	22.5%	22.5%	29.8%	29.8%	29.8%	29.8%	29.8%	29.8%	29.8%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	5.3%	4.7%	4.4%	4.4%	4.4%	4.4%	4.4%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%
WACC	9.7%	9.1%	8.7%	8.7%	8.7%	8.7%	8.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

PASAB (4/6)

Parameter	Paşabahçe Mağazaları A.Ş. - PS							Paşabahçe SRL - PI						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	18.3%	16.6%	16.0%	15.2%	14.1%	13.1%	12.5%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Asset Beta	0.61	0.61	0.61	0.61	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Debt/Equity Ratio	37.0%	37.0%	37.0%	37.0%	37.0%	37.0%	37.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Target Gearing	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Equity Beta	0.78	0.78	0.78	0.78	0.78	0.78	0.78	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Cost of Equity	24.4%	22.6%	22.1%	21.3%	20.2%	19.1%	18.6%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%
Corporate Tax Rate	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	14.7%	13.6%	13.2%	12.5%	11.7%	10.8%	10.4%	3.7%	3.7%	3.8%	3.8%	3.8%	3.8%	3.8%
WACC	21.7%	20.2%	19.7%	18.9%	17.9%	16.9%	16.4%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%

*Business Risk Premium: 1% of risk premium has been taken into consideration due to the new franchises and store openings planned during the projection period.

*Business Risk Premium: An additional risk premium of 3.0% has been taken into consideration due to the fact that PI is a trading company and is largely connected to the producer companies.

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

PASAB (5/6)

Parametre	Paşabahçe (Shangai) Trading Co. Ltd. -PT							Paşabahçe USA Inc.						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%
Asset Beta	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Debt/Equity Ratio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Target Gearing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Equity Beta	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Cost of Equity	14.1%	14.1%	14.1%	14.1%	14.1%	14.1%	14.1%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%
Corporate Tax Rate	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%
WACC	14.1%	14.1%	14.1%	14.1%	14.1%	14.1%	14.1%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%

*Business Risk Premium: An additional risk premium of 3.0% has been taken into consideration due to the fact that PT is a trading company and is largely connected to the producer companies.

*Business Risk Premium: An additional risk premium of 1.0% has been taken into consideration due to the fact that PA is a trading company and is largely connected to the producer companies.

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

PASAB (6/6)

Parametre	Paşabahçe Spain SL						
	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	3.9%	3.7%	3.5%	3.5%	3.5%	3.5%	3.5%
Asset Beta	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Debt/Equity Ratio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Target Gearing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Equity Beta	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	10.4%	10.2%	10.0%	10.0%	10.0%	10.0%	10.0%
Corporate Tax Rate	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	3.3%	3.2%	3.0%	3.0%	3.0%	3.0%	3.0%
WACC	10.4%	10.2%	10.0%	10.0%	10.0%	10.0%	10.0%

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

SODA (1/5)

Parameter	Soda Sanayii A.Ş. - SS							Şişecam Elyaf Sanayii A.Ş. - ES						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	5.9%	5.7%	5.5%	5.5%	5.5%	5.5%	5.5%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%
Asset Beta	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Debt/Equity Ratio	52.2%	52.2%	52.2%	52.2%	52.2%	52.2%	52.2%	41.8%	41.8%	41.8%	41.8%	41.8%	41.8%	41.8%
Target Gearing	34.3%	34.3%	34.3%	34.3%	34.3%	34.3%	34.3%	29.5%	29.5%	29.5%	29.5%	29.5%	29.5%	29.5%
Equity Beta	1.03	1.04	1.04	1.04	1.04	1.04	1.04	1.08	1.09	1.09	1.09	1.09	1.09	1.09
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Cost of Equity	12.6%	12.5%	12.2%	12.2%	12.2%	12.2%	12.2%	13.7%	13.7%	13.7%	13.7%	13.7%	13.7%	13.7%
Corporate Tax Rate	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	5.0%	4.9%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%
WACC	10.0%	9.9%	9.7%	9.7%	9.7%	9.7%	9.7%	11.1%	11.1%	11.1%	11.1%	11.1%	11.1%	11.1%

*Business Risk Premium: It appears that ES has higher risk in comparison to the other companies in the projection due to the fact that ES has recently started its operations in 2019. Therefore, an additional 1.0% of business risk premium has been taken into consideration.

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

SODA (2/5)

Parameter	Oxyvit Kimya Sanayii Ve Tic. A.Ş. - OX							Şişecam Bulgaria EOOD - BL						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	4.7%	4.6%	4.5%	4.5%	4.5%	4.5%	4.5%	5.3%	4.8%	4.7%	4.7%	4.7%	4.7%	4.7%
Asset Beta	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Debt/Equity Ratio	18.6%	18.6%	18.6%	18.6%	18.6%	18.6%	18.6%	58.1%	58.1%	58.1%	58.1%	58.1%	58.1%	58.1%
Target Gearing	15.7%	15.7%	15.7%	15.7%	15.7%	15.7%	15.7%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Equity Beta	0.83	0.84	0.84	0.84	0.84	0.84	0.84	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Cost of Equity	10.1%	10.0%	9.9%	9.9%	9.9%	9.9%	9.9%	15.1%	14.6%	14.4%	14.4%	14.4%	14.4%	14.4%
Corporate Tax Rate	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	4.0%	4.1%	4.0%	4.0%	4.0%	4.0%	4.0%	5.2%	4.8%	4.7%	4.7%	4.7%	4.7%	4.7%
WACC	9.1%	9.1%	9.0%	9.0%	9.0%	9.0%	9.0%	11.5%	11.0%	10.8%	10.8%	10.8%	10.8%	10.8%

*Business Risk Premium: An additional business risk premium of 3.0% has been taken into consideration since the Company does not have own production and depends on BL's production volume.

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

SODA (3/5)

Parameter	Cromital S.p.A - CO							Şişecam Soda Lukavac D.O.O. - SL						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	7.2%	7.1%	7.0%	7.0%	7.0%	7.0%	7.0%
Asset Beta	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Debt/Equity Ratio	38.2%	38.2%	38.2%	38.2%	38.2%	38.2%	38.2%	58.1%	58.1%	58.1%	58.1%	58.1%	58.1%	58.1%
Target Gearing	27.7%	27.7%	27.7%	27.7%	27.7%	27.7%	27.7%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Equity Beta	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	14.0%	13.8%	13.7%	13.7%	13.7%	13.7%	13.7%
Corporate Tax Rate	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	6.9%	6.8%	6.7%	6.7%	6.7%	6.7%	6.7%
WACC	13.2%	13.2%	13.2%	13.2%	13.2%	13.2%	13.2%	11.4%	11.3%	11.2%	11.2%	11.2%	11.2%	11.2%

*Business Risk Premium: The projected risk is higher in comparison to other companies due to the risks associated with the fact that CO has started new operations in 2020. Therefore, an additional business risk premium of 5.0% has been included.

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

SODA (4/5)

Parameter	Şişecam Trading Co. - HG							Solvay Şişecam Holding AG - SH						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	5.3%	4.8%	4.7%	4.7%	4.7%	4.7%	4.7%
Asset Beta	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Debt/Equity Ratio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	58.1%	58.1%	58.1%	58.1%	58.1%	58.1%	58.1%
Target Gearing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Equity Beta	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Cost of Equity	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%	15.1%	14.6%	14.4%	14.4%	14.4%	14.4%	14.4%
Corporate Tax Rate	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	5.2%	4.8%	4.7%	4.7%	4.7%	4.7%	4.7%
WACC	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%	11.5%	11.0%	10.8%	10.8%	10.8%	10.8%	10.8%

*Business risk premium: An additional 5.0% of risk premium has been taken into consideration due to the fact that ST is a trading company and its' sales and profit are mostly related to SS.

*Business risk premium: An additional risk premium of 3.0% has been taken into consideration for SH, considering the fact that SH does not have a managerial control over Solvay Holding and the uncertainty in relation to the future dividend amounts.

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

SODA (5/5)

Parameter	Pacific Soda LLC - UP						
	2020	2021	2022	2023	2024	2025	2085
Risk Free Rate	1.4%	2.5%	2.8%	2.8%	2.8%	2.8%	2.8%
Asset Beta	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Debt/Equity Ratio	58.1%	58.1%	58.1%	58.1%	58.1%	58.1%	58.1%
Target Gearing	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Equity Beta	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Equity Market Risk Premium	7.4%	6.3%	6.0%	6.0%	6.0%	6.0%	6.0%
Business Risk Premium	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Cost of Equity	13.8%	13.8%	13.8%	13.8%	13.8%	13.8%	13.8%
Corporate Tax Rate	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%
Debt Premium	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	0.5%
Cost of Debt	3.5%	4.3%	4.6%	4.6%	4.6%	4.6%	2.6%
WACC	10.0%	10.3%	10.4%	10.4%	10.4%	10.4%	9.7%

*Business Risk Premium: An additional business risk premium of 5.0% has been taken into consideration when calculating WACC for Pacific Soda, since the investment has not started yet and the first income should be gained in 2026 and since there are uncertainties due to the permit process and operations.

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

SISE (1/6)

Parameter	Şişecam Enerji A.Ş. - SE							Şişecam Çevre Sistemleri A.Ş. - CV						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	18.3%	16.6%	16.0%	15.2%	14.1%	13.1%	12.5%	18.3%	16.6%	16.0%	15.2%	14.1%	13.1%	12.5%
Asset Beta								0.58	0.58	0.58	0.58	0.58	0.58	0.58
Debt/Equity Ratio								77.1%	77.1%	77.1%	77.1%	77.1%	77.1%	77.1%
Target Gearing								43.5%	43.5%	43.5%	43.5%	43.5%	43.5%	43.5%
Equity Beta	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	24.8%	23.1%	22.5%	21.7%	20.6%	19.6%	19.0%	22.8%	21.5%	21.1%	20.4%	19.4%	18.3%	17.8%
Corporate Tax Rate								22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Debt Premium								0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt								13.5%	12.7%	12.4%	11.9%	11.0%	10.2%	9.8%
WACC								18.7%	17.7%	17.3%	16.7%	15.7%	14.8%	14.3%

*asset beta: SE does not have any financial debt in relation to its' operations. Also, publicly listed companies with similar operations have not been determined for the beta analysis. As the Company does not need high paid-in capital and as it operates in a highly competitive business segment by trading low income electricity and gas, it has been decided that the asset beta should at least reflect the market risk level. For that reason, the Company's asset beta has been taken into consideration as 1.00.

In the valuation process of CV, the fact that ANACM is the only customer of CV has been taken into consideration, and therefore the WACC estimated for ANACM has also been used for CV.

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

SISE (2/6)

Parameter	Türkiye Şişe ve Cam Fabrikaları A.Ş. - SC							Şişecam Dış Ticaret A.Ş. - DT						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	16.9%	15.5%	15.0%	14.2%	13.2%	12.1%	11.6%	15.0%	14.4%	14.2%	13.4%	12.4%	11.3%	10.8%
Asset Beta														
Debt/Equity Ratio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Target Gearing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Equity Beta	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.96	0.97	0.97	0.97	0.97	0.97	0.97
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	23.3%	21.9%	21.4%	20.7%	19.6%	18.6%	18.1%	21.2%	20.7%	20.5%	19.7%	18.7%	17.6%	17.1%
Corporate Tax Rate	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	13.6%	12.8%	12.4%	11.8%	10.9%	10.1%	9.7%	12.1%	11.9%	11.7%	11.1%	10.3%	9.4%	9.0%
WACC	23.3%	21.9%	21.4%	20.7%	19.6%	18.6%	18.1%	21.2%	20.7%	20.5%	19.7%	18.7%	17.6%	17.1%

*RFR and asset beta: When the RFR estimation has been made for SC, an annually calculated weighted average country risk premium has been taken into consideration by taking the country risk premiums estimated for the Companies that gain the similar royalty incomes to SC and which are the leaders of the main business segments in proportion to the royalty income. asset beta estimation has also been made by taking the relevant companies' beta estimations and royalty incomes into consideration.

*RFR and asset beta: When RFR estimation has been made for DT, the calculated weighted average risk premium data has been utilised by taking the created trading volume by the Group Companies on DT, annual monetary value of sales, and country risk premiums into consideration. asset beta has also been estimated by using the same method.

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

SISE (3/6)

Parameter	Şişecam Sigorta Aracılık Hizmetleri A.Ş. - SG							Camiş Elektrik Üretim A.Ş. - CA					
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	TV
Risk Free Rate	18.3%	16.6%	16.0%	15.2%	14.1%	13.1%	12.5%	18.3%	16.6%	16.0%	15.2%	14.1%	13.1%
Asset Beta								0.49	0.49	0.49	0.49	0.49	0.49
Debt/Equity Ratio								0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Target Gearing								0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Equity Beta	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.49	0.49	0.49	0.49	0.49	0.49
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	23.9%	22.2%	21.6%	20.8%	19.7%	18.7%	18.1%	21.5%	19.7%	19.2%	18.4%	17.3%	16.2%
Corporate Tax Rate								22.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Debt Premium								0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt								14.7%	13.6%	13.2%	12.5%	11.7%	10.8%
WACC								21.5%	19.7%	19.2%	18.4%	17.3%	16.2%

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

SISE (4/6)

Parameter	Camiş Madencilik A.Ş. - MD							Madencilik Sanayii ve Tic. A.Ş. - MT						
	2020	2021	2022	2023	2024	2025	2080	2020	2021	2022	2023	2024	2025	2080
Risk Free Rate	17.7%	16.2%	15.7%	14.8%	13.8%	12.7%	12.2%	18.3%	16.6%	16.0%	15.2%	14.1%	13.1%	12.5%
Asset Beta	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Debt/Equity Ratio	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%
Target Gearing	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%
Equity Beta	0.96	0.97	0.97	0.97	0.97	0.97	0.97	0.96	0.97	0.97	0.97	0.97	0.97	0.97
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	23.9%	22.5%	22.0%	21.1%	20.1%	19.0%	18.5%	24.5%	22.9%	22.3%	21.5%	20.4%	19.4%	18.8%
Corporate Tax Rate	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	14.2%	13.3%	12.9%	12.3%	11.4%	10.6%	10.1%	14.7%	13.6%	13.2%	12.5%	11.7%	10.8%	10.4%
WACC	20.5%	19.2%	18.8%	18.0%	17.0%	16.0%	15.5%	21.0%	19.6%	19.1%	18.3%	17.3%	16.3%	15.9%

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

SISE (5/6)

Parameter	Camiş Egypt Mining Ltd. Co. - ME							Rudnik Krecnjaka Vijenac D.O.O. - VM						
	2020	2021	2022	2023	2024	2025	TV	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	6.2%	6.2%	6.2%	6.2%	6.2%	6.2%	6.2%	8.8%	8.8%	8.8%	8.8%	8.8%	8.8%	8.8%
Asset Beta	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Debt/Equity Ratio	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%	54.7%
Target Gearing	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%	35.4%
Equity Beta	0.96	0.96	0.96	0.96	0.96	0.96	0.96	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%
Corporate Tax Rate	22.5%	22.5%	22.5%	22.5%	22.5%	22.5%	22.5%							
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%							
Cost of Debt	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%							
WACC	9.9%	9.9%	9.8%	9.8%	9.8%	9.8%	9.8%							

Source: Bloomberg, Capital IQ, PwC Analysis

Weighted Average Cost of Capital

SISE (6/6)

Parameter	Camiş Ambalaj Sanayii A.Ş. - CA						
	2020	2021	2022	2023	2024	2025	TV
Risk Free Rate	17.7%	16.1%	15.6%	14.8%	13.7%	12.7%	12.2%
Asset Beta	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Debt/Equity Ratio	47.2%	47.2%	47.2%	47.2%	47.2%	47.2%	47.2%
Target Gearing	32.1%	32.1%	32.1%	32.1%	32.1%	32.1%	32.1%
Equity Beta	0.92	0.93	0.93	0.93	0.93	0.93	0.93
Equity Market Risk Premium	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Business Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of Equity	23.6%	22.1%	21.7%	20.8%	19.8%	18.7%	18.2%
Corporate Tax Rate	22.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Debt Premium	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Cost of Debt	14.2%	13.3%	12.9%	12.2%	11.4%	10.6%	10.1%
WACC	20.6%	19.3%	18.9%	18.1%	17.1%	16.1%	15.6%

Source: Bloomberg, Capital IQ, PwC Analysis

Glossary

Glossary (1/6)

Company Codes

Term	Definition	Term	Definition
AC	Anadolu Cam Sanayii A.Ş.	CY	Çayırova Cam Sanayii A.Ş.
AG	AC Glass Holding B.V.	DC	Denizli Cam Sanayii ve Tic. A.Ş.
AI	Anadolu Cam Investment B.V.	DT	Şişecam Dış Ticaret A.Ş.
BL	Şişecam Bulgaria EOOD	EF	Saint Gobain Glass Egypt S.A.E.
BO	Şişecam Automotive Bulgaria EAD	EG	Paşabahçe Egypt Glass Manufacturing S.A.E.
BP	Paşabahçe Bulgaria EAD	ES	Şişecam Elyaf Sanayii A.Ş.
BS	Balsand B.V.	EU	Camiş Elektrik Üretim A.Ş.
CA	Camiş Ambalaj Sanayii A.Ş.	FK	Richard Fritz Kft.
CE	Cam Elyaf Sanayii A.Ş.	FO	Richard Fritz Holding GmbH
CO	Cromital S.p.A	FP	Richard Fritz Holding Prototype + Spare Parts GmbH
CV	Şişecam Çevre Sistemleri A.Ş.	FS	Richard Fritz Spol S.R.O.

Source: PwC Analysis

Glossary (2/6)

Company Codes

Term	Definition	Term	Definition
GO	Glass Corp S.A.	MT	Madencilik Sanayii ve Tic. A.Ş.
HC	Şişecam Chem Investment B.V.	ND	Nude Design İntestment B.V.
HD	HNG Float Glass Limited	NG	Nude Glass İntestment B.V.
HF	Şişecam Flat Glass Holding B.V.	OX	Oxyvit Kimya Sanayii Ve Tic. A.Ş.
HG	SC Glass Trading B.V.	PB	Paşabahçe Cam Sanayii ve Tic. A.Ş.
HT	Trakya İntestment B.V.	PH	Paşabahçe Investment B.V.
II	İstanbul İntestment B.V.	PI	Paşabahçe SRL
LT	Camiş Limited	PR	OOO Posuda
MD	Camiş Madencilik A.Ş.	PS	Paşabahçe Mağazaları A.Ş.
ME	Camiş Egypt Mining Ltd. Co.	PT	Paşabahçe (Shangai) Trading Co. Ltd.
MN	JSC Mina	RA	Automotive Glass Alliance Rus Trading OOO

Source: PwC Analysis

Glossary (3/6)

Company Codes

Term	Definition	Term	Definition
RD	Trakya Glass Rus AO	SL	Şişecam Soda Lukavac D.O.O.
RH	OOO Ruscam Glass Packaging Holding	SO	Şişecam Otomotiv A.Ş.
RM	OOO Ruscam Management Company	SS	Soda Sanayii A.Ş.
RO	Automotive Glass Alliance Rus AO	TB	Trakya Glass Bulgaria EAD
RS	OOO Energosystems	TN	Trakya Yenişehir Cam Sanayii A.Ş.
RT	Trakya Glass Rus Trading OOO	TP	Trakya Polatlı Cam Sanayii A.Ş.
SC	Türkiye Şişe ve Cam Fabrikaları A.Ş.	TR	Trakya Cam Sanayii A.Ş.
SE	Şişecam Enerji A.Ş.	TS	TRSG Glass Holding B.V.
SG	Şişecam Sigorta Aracılık Hizmetleri A.Ş.	UK	CJSC Brewery Pivdenna
SH	Solvay Şişecam Holding AG	UM	Merefa Glass Company Ltd.
SI	Şişecam Flat Glass İtaly S.R.L	VM	Rudnik Krecnjaka Vijenac D.O.O.

Source: PwC Analysis

Glossary (4/6)

Term	Definition	Term	Definition
\$	American Dollar	CBT	Central Bank of Turkey
AIA	Automotive Industry Association	CNY	Chinese Yuan
Avg	Average	Ciner Resources LP	Ciner Group
BCS	Basic Chromium Sulphate	Cogen	Cogeneration Unit
bps	Basis Point	CAGR	Compound Annual Growth Rate
bn	Billion	m3	Cubic Metre
BAM	Bosnia-Herzegovina Mark	DCF	Discounted Cash Flows
BGN	Bulgarian Lev	EBITDA	Earnings before Interest ,Tax, Depreciation and Amortization
B2B	Business to Business	EBT	Earnings before Tax
CUR	Capacity Utilization Rate	EGP	Egyptian Pound
CMB	Capital Market Board	etc.	Et Cetera

Source: PwC Analysis

Glossary (5/6)

Term	Definition	Term	Definition
EUR	Euro	LTGR	Long Term Growth Rate
EBRD	European Bank for Reconstruction and Development	MA	Market Approach
FY	Fiscal Year	MW	Megawatt
GEL	Georgian Lari	MCF	Mersin Chromium Facility
IA	Income Approach	MSF	Mersin Soda Facility
Inc	Incorporated Company	m	Metre
CPA	Independent Accountant and Financial Advisor	m	Million
IFC	International Finance Corporation	MMBtu	Million BTU (British Thermal Unit)
IMF	International Monetary Fund	NVY	Net Asset Approach
INR	Indian Rupee	NOTW	Neutralization of Old Technology Wastes
IMF WEO	IMF World Economic Outlook	OEM	Original Equipment Manufacturer

Source: PwC Analysis

Glossary (6/6)

Term	Definition	Term	Definition
PDP	Public Disclosure Platform		
POA	Public Oversight Accounting and Auditing Standards Authority		
R&D	Research and Development		
RON	Romanian Leu		
RUB	Ruble		
m2	Square Meter		
TAS	Turkish Accounting Standards		
TFRS	Turkish Financial Reporting Standards		
TL	Turkish Lira		
UAH	Ukraine Hryvnia		
WACC	Weighted Average Cost of Capital		

Source: PwC Analysis



© 2020 PwC Turkey. All rights reserved. In this document, “PwC” refers to PwC Yönetim Danışmanlığı A.Ş. which is a member firm of PricewaterhouseCoopers, each member firm of which is a separate legal entity.