

Türkiye Şişe ve Cam Fabrikaları A.Ş.

27 April 2020

A collage of 12 images showing various glass products and manufacturing processes. The images include: a close-up of a glass edge, a glass bottle being formed, a glass bottle being filled, a glass bottle being sealed, a glass bottle being packed, a glass bottle being transported, a glass bottle being stored, a glass bottle being displayed, a glass bottle being sold, a glass bottle being recycled, a glass bottle being repurposed, and a glass bottle being used. In the center of the collage is a circular logo with the text "ŞİŞECAM" and a stylized graphic of glass bottles.

pwc



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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)

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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	<p>This Report is addressed solely to Şişecam management. <i>PwC does not assume responsibility or liability of any nature arising from the use of this Report by third parties.</i> 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. <i>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.</i></p>
Valuation Date	<p>The valuation date has been determined as <i>31 December 2019</i> within the framework of CMB's Communiqué on Merger and Demerger.</p>
Valuation Approaches	<p><i>In the valuation assessment, 4 methods have been used: Income Approach("IA"), Market Approach("MA"), Net Asset Approach("NAA") and Stock Market Value ("SMV").</i></p> <p>Income Approach (Discounted Cash Flows – "DCF")</p> <p>In this method, the value of the Companies to Merge are estimated based on the present value of the expected future free cash flows. <i>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.</i></p> <p>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.</p> <p><i>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.</i></p>

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 Kumdereli (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 Krcenjaka 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	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. 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. The RFR calculation method is explained in detail in the Appendix section of the Report.
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	Camış Elektrik Üretim A.Ş.*	EU	Pacific Soda LLC	UP
Rudnik Krechnjaka Vijenac D.O.O. VM		Camış Elektrik Üretim A.Ş.*	EU			Solvay Şişecam Holding AG	SH
Pacific Soda LLC	UP	Çayırova Cam Sanayii A.Ş.*	CY				
Solvay Şişecam Holding AG	SH						

Source: Şişecam Management

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

Executive Summary

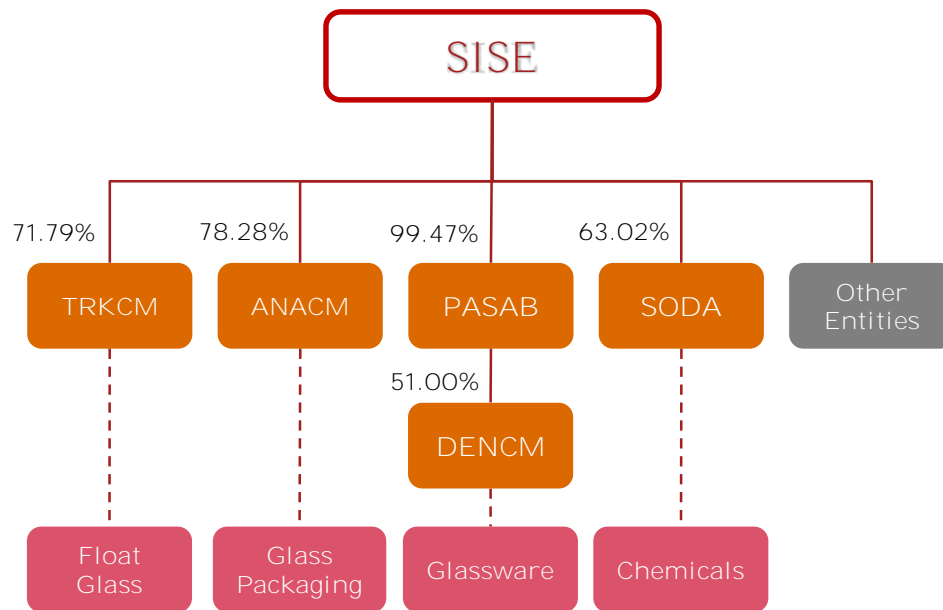
Aim of the Study

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").

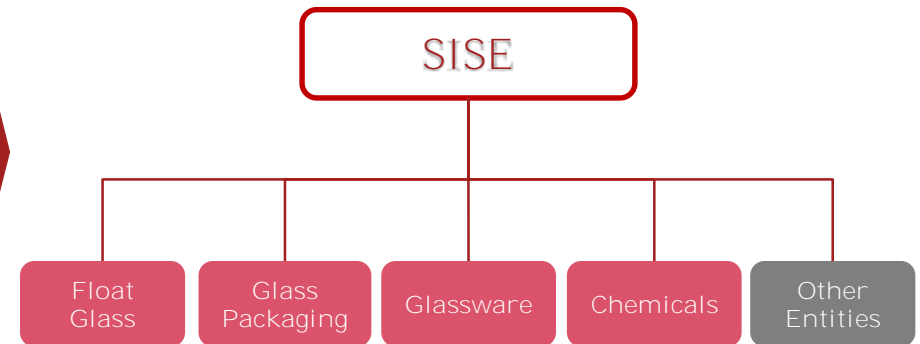
<u>SISE Shareholding Structure</u>	<u>Share</u>
Türkiye İş Bankası	69.05%
Efes Holding A.Ş.	8.23%
Other (Publicly Listed Shares)	22.72%

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

Existing Structure



Post-merger Structure



Host

Participant

Business Segments

Source: Şişecam Management

(*) Detailed post-merger shareholding structure is presented on page 29

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




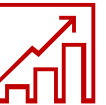
Sample Calculation (*)

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

Equity Value and Value Per Share Based on the Merger Method

Estimated equity values based on the merger method were taken into account for the calculation of the merger ratio.

	Income Approach		Market Approach		Net Asset Approach		Stock Market Value		Final Merger Method	
	Equity Value (TL m)	Value Per Share (TL)	Equity Value (TL m)	Value Per Share (TL)	Equity Value (TL m)	Value Per Share (TL)	Equity Value (TL m)	Value Per Share (TL)	Equity Value (TL m)	Value Per Share (TL)
SISE	21,009	9.33751	22,006	9.78041	14,480	6.43565	11,461	5.09380	18,093	8.04127
TRKCM	2,307	6.54277	2,190	6.21118	1,770	5.01975	1,070	3.03493	1,917	5.43712
ANACM	1,422	8.73204	1,712	10.50998	583	3.57842	495	3.03639	1,156	7.09557
PASAB	2	1.80565	6	5.24322	12	9.78320	1	1.12303	5	4.29591
DENCM	5	0.72130	11	1.54789	32	4.35695	41	5.54325	20	2.66080
SODA	4,466	12.07401	4,127	11.15761	2,033	5.49686	2,328	6.29389	3,450	9.32764
Total	29,212		30,052		18,910		15,396		24,640	





Merger Ratios

SISE	71.92092%	73.22565%	76.57553%	74.44340%	73.42795%
TRKCM	7.89788%	7.28795%	9.36061%	6.95117%	7.78092%
ANACM	4.86896%	5.69645%	3.08237%	3.21246%	4.69051%
PASAB	0.00729%	0.02058%	0.06101%	0.00860%	0.02056%
DENCM	0.01815%	0.03786%	0.16935%	0.26464%	0.07937%
SODA	15.28680%	13.73152%	10.75112%	15.11973%	14.00070%
Total	100.00000%	100.00000%	100.00000%	100.00000%	100.00000%

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%	71.92092%	3,128.436 TL m	878.436 TL m
Market Approach		30%	73.22565%	3,072.694 TL m	822.694 TL m
Net Asset Approach		20%	76.57553%	2,938.275 TL m	688.275 TL m
Stock Market Value		20%	74.44340%	3,022.430 TL m	772.430 TL m
Merger Method		100%	73.42795%	3,064.228 TL m	814.228 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.

	Income Approach		Market Approach		Net Asset Approach		Stock Market Value		Final Merger Method	
TL m	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)	$\frac{H * \text{Merger Ratio (SODA)}}{F1}$	$\frac{3,064 * 14.00\%}{370} = 1.15997$

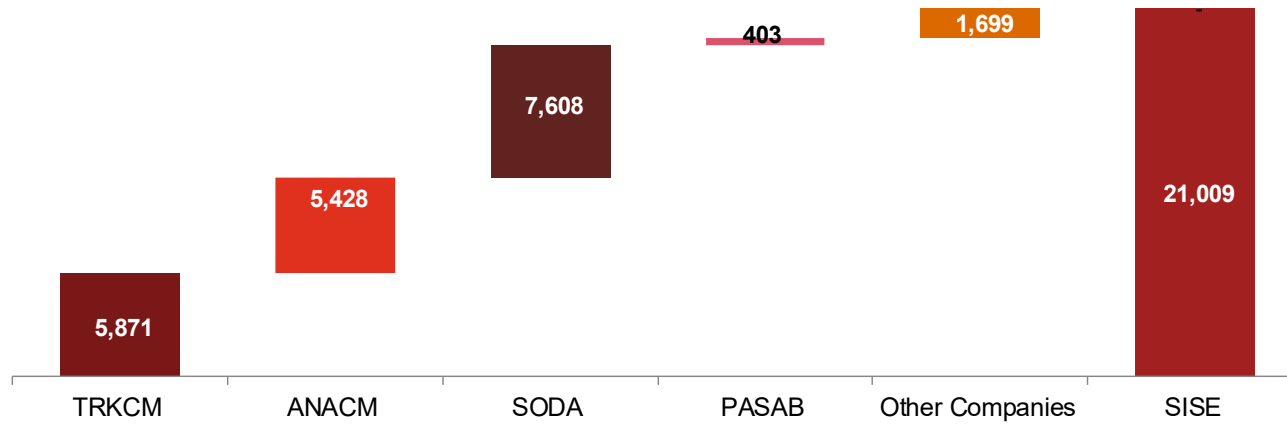
Source: The Company Management, PwC Analysis

(*) Paid Capital of Shares Subject to Merger

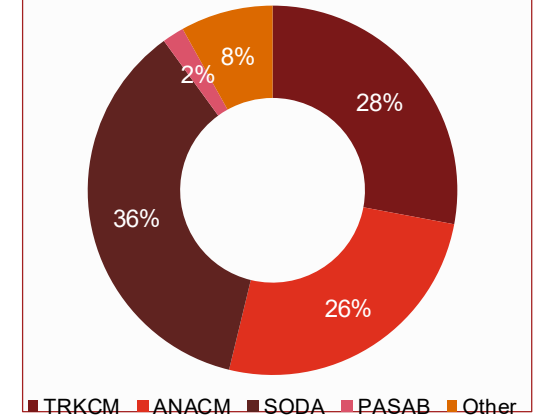
SISE Income Approach

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 153, 154 and 155.

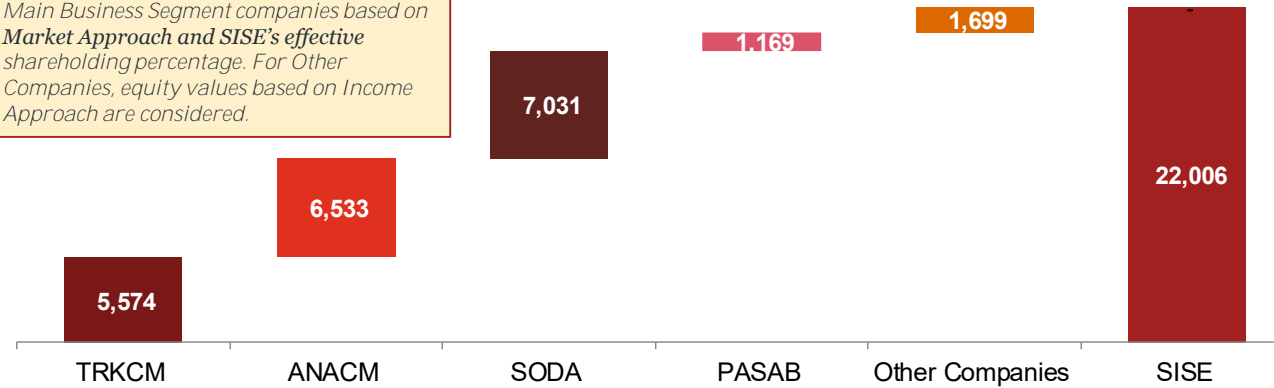
Source: Holding Management, PwC Analysis

SISE Market Approach

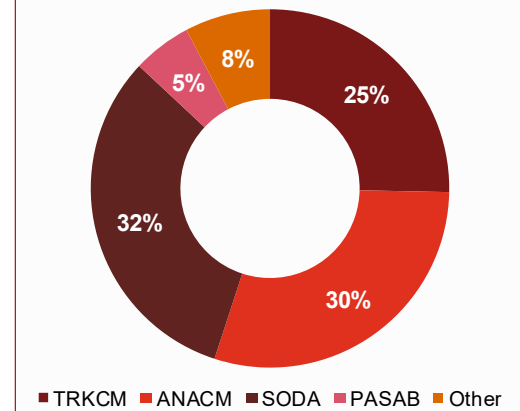
Based on the Market Approach, the total equity value of SISE is estimated to be TL 22.0bn as of the valuation date.

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



	Main Business Segments				Other Companies												
TL m	TRKCM	ANACM	SODA	PASAB	SC	MD	CA	EU	SE	DT	CV	MT	SG	VM	ME	CE,CY, HG*	Total
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 153, 154 and 155.

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



	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

Source: CapitalIQ, PwC Analysis

Türkiye Şişe ve Cam Fabrikaları A.Ş.
PwC

Strictly private and confidential

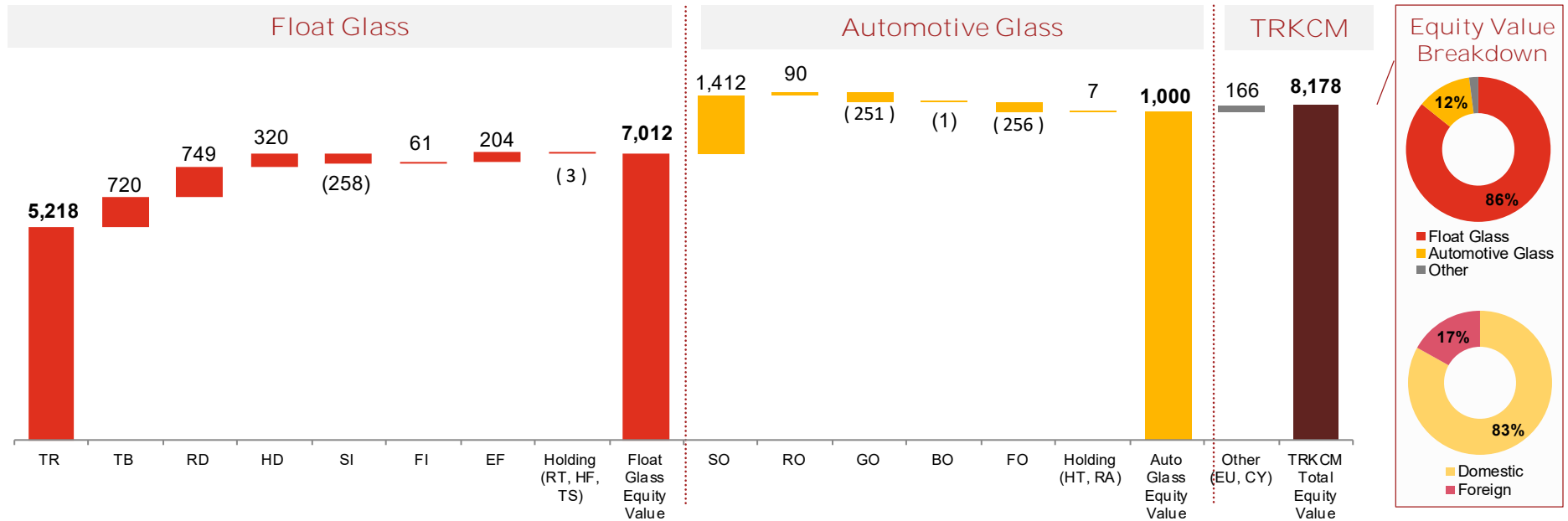
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TRKCM

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	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	
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
Çayirova 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

* 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:

- 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 Çayirova 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.

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.

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 Camiș 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.

Source: Holding Management, PwC Analysis

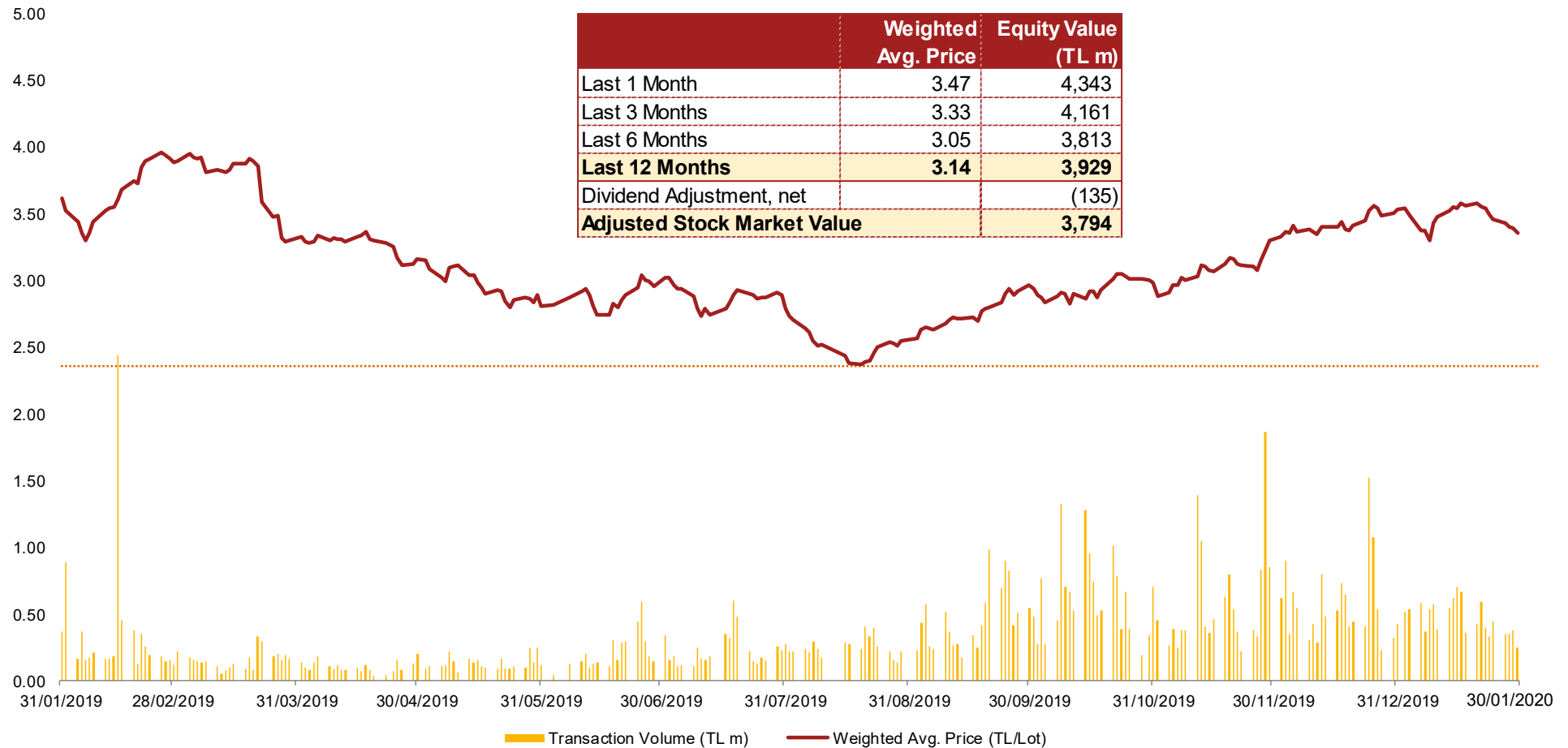
1 Sermaye Piyasasında Finansal Raporlamaya İlişkin Esaslar Tebliği

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)

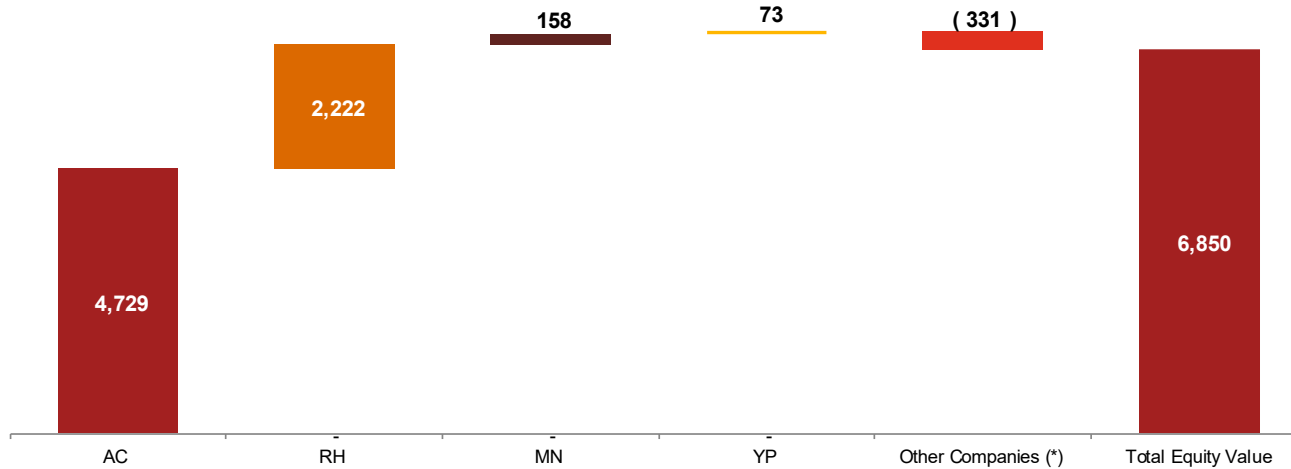


Source: CapitalIQ, PwC Analysis

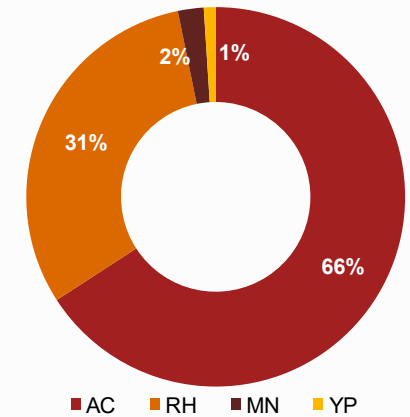
ANACM Income Approach

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)



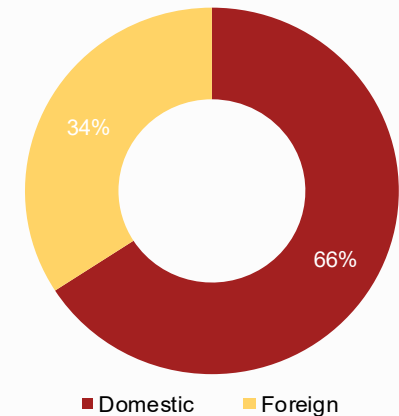
Equity Value Breakdown



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	
Inflation Indexation	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
Camiş Elektrik Üretim A.Ş.					22
6 Other Companies					(353)
AC Glass Holding B.V.					(0)
Anadolu Cam Investment B.V.					(2)
Sisecam Glass Packaging B.V.					(316)
OOO Ruscam Management Company					0
Merefa Glass Company Ltd.					18
CJSC Brewery Pivdenna					(52)
OOO Energosystems					(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 of 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

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)
Currency Translation Differences	(203)
Hedge Reserves	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 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. Dividend adjustment is included in our assessment with respect to its effect on the net asset value of ANACM.

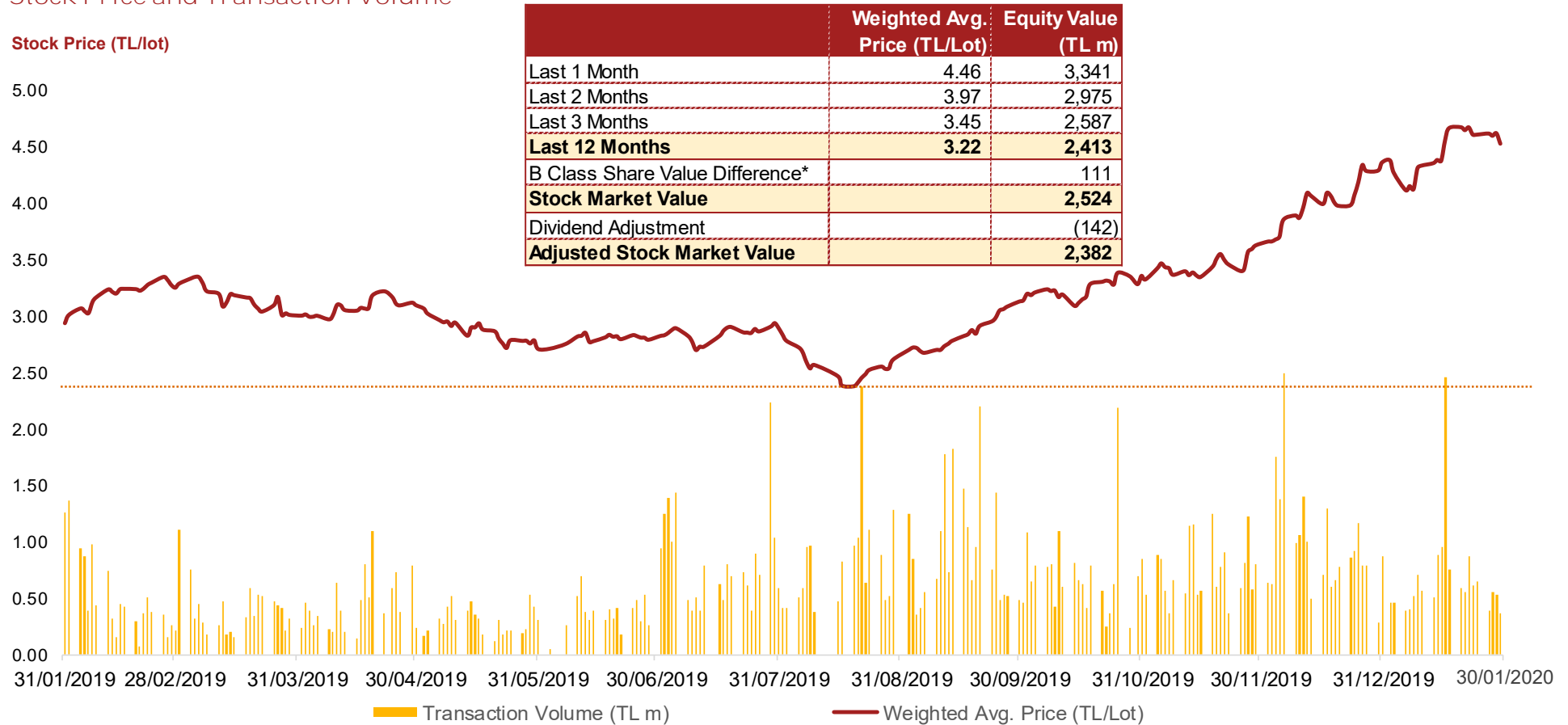
Source: Holding Management, PwC Analysis

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



* 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

PASAB

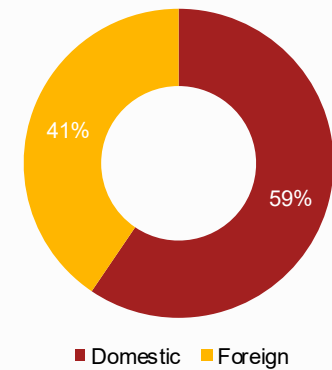
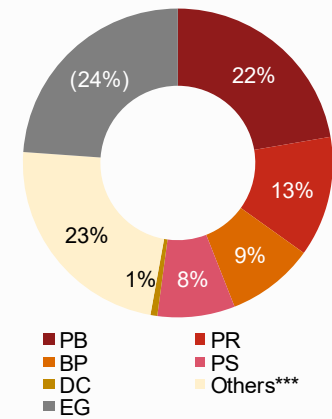
Income Approach

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

*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.

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.

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	
	EV / EBITDA (x)	EV / EBITDA (x)	
	FY15-FY19 Average	FY15-FY19 Average	Discount Rate
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
Currency Translation Difference	44
Hedge Reserves	(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

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.

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

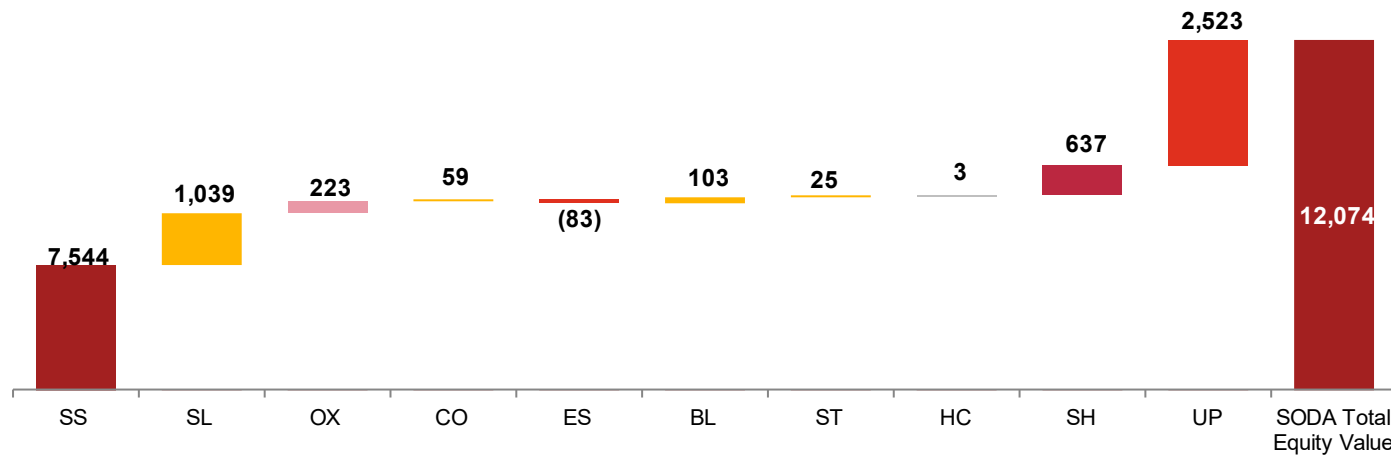
Source: Capital IQ, PwC Analysis

SODA

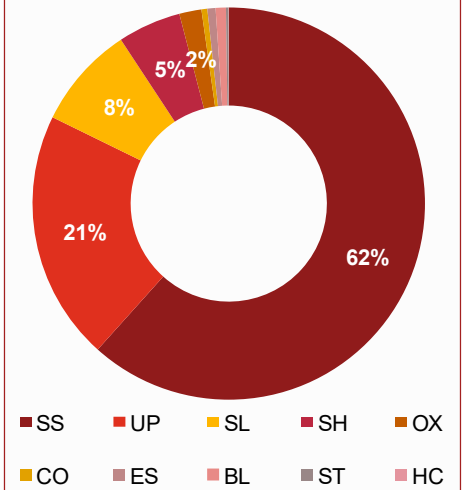
Income Approach

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

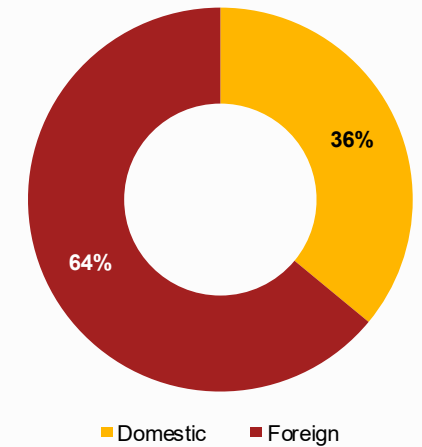
Total Equity Value (TL m)



Equity Value Breakdown



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



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	
Inflation Indexiation	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
Solvay Şişecam Holding AG					637
Pacific Soda LLC					2,523
6 Other Companies					3
Şişecam Chem Investment B.V.					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:

- 1 Actual and forecasted consolidated FY19-FY22 EBITDA figures for SODA 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 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.
- 5 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.
- 6 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/TFRS 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

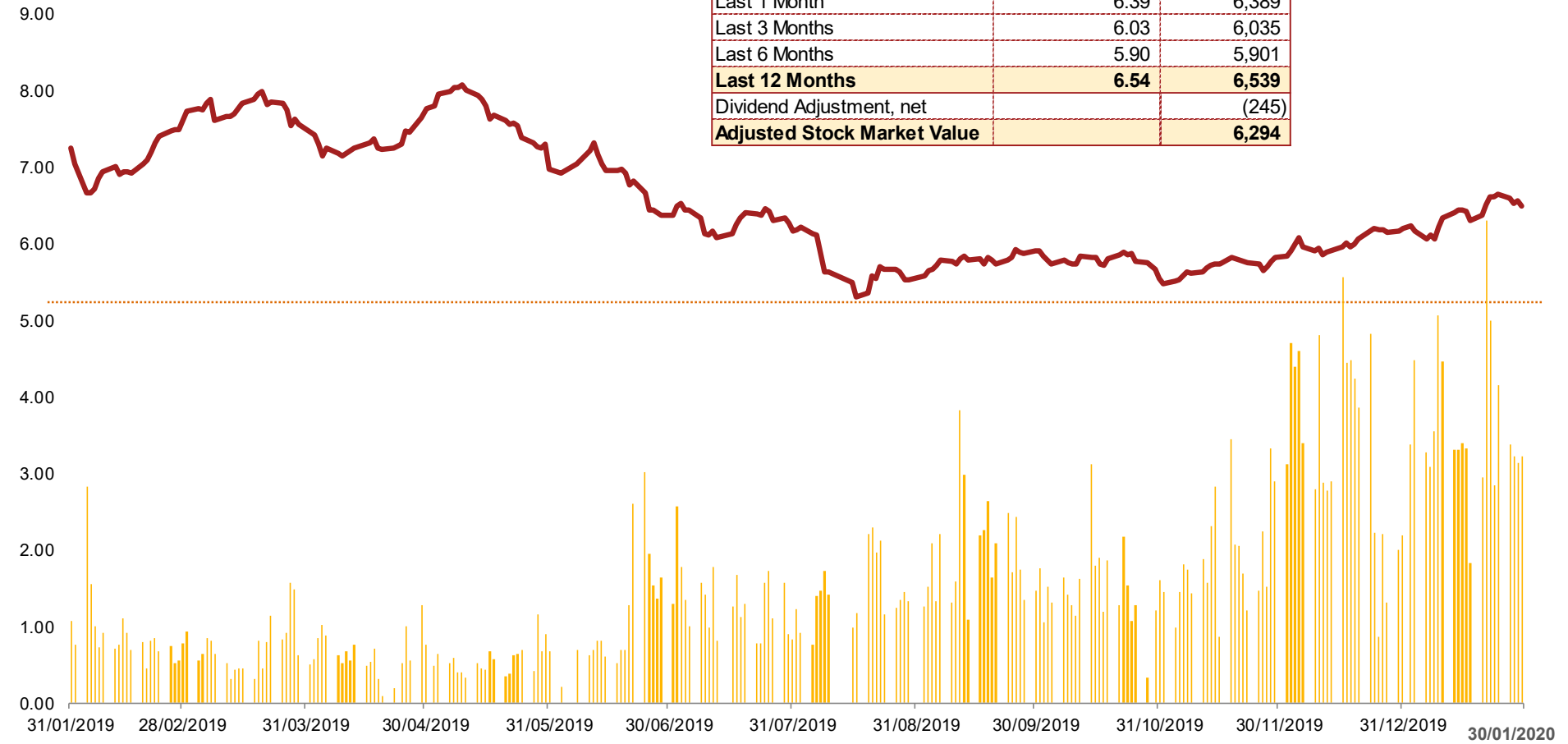
SODA

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)	<p>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.</p> <p>The dividend amount planned to be distributed by CY in 2020 was also taken into consideration in the valuation study of CY.</p>
Cam Elyaf Sanayii A.Ş. (CE)	<p>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.</p> <p>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.</p> <ul style="list-style-type: none"> • 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. <p>The dividend amount planned to be distributed by CE in 2020 was also taken into consideration in the valuation study of CE.</p>

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)

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.

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.

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.

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.

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 **Camış 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.

Camış Ambalaj Sanayii A.Ş. (CA)

Camış Ambalaj Sanayii A.Ş. ("CA" or "Camış Ambalaj") makes 65% of its total sales to Paşabahçe Factories and 35% to non-group companies. It is predicted that the capacity will increase from 50m to 65m m² with the targeted investments in the projection period. In the long term, it is planned that 55% of the sales will be made to Paşabahçe 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 Camış Ambalaj management, it is understood that Camış 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.

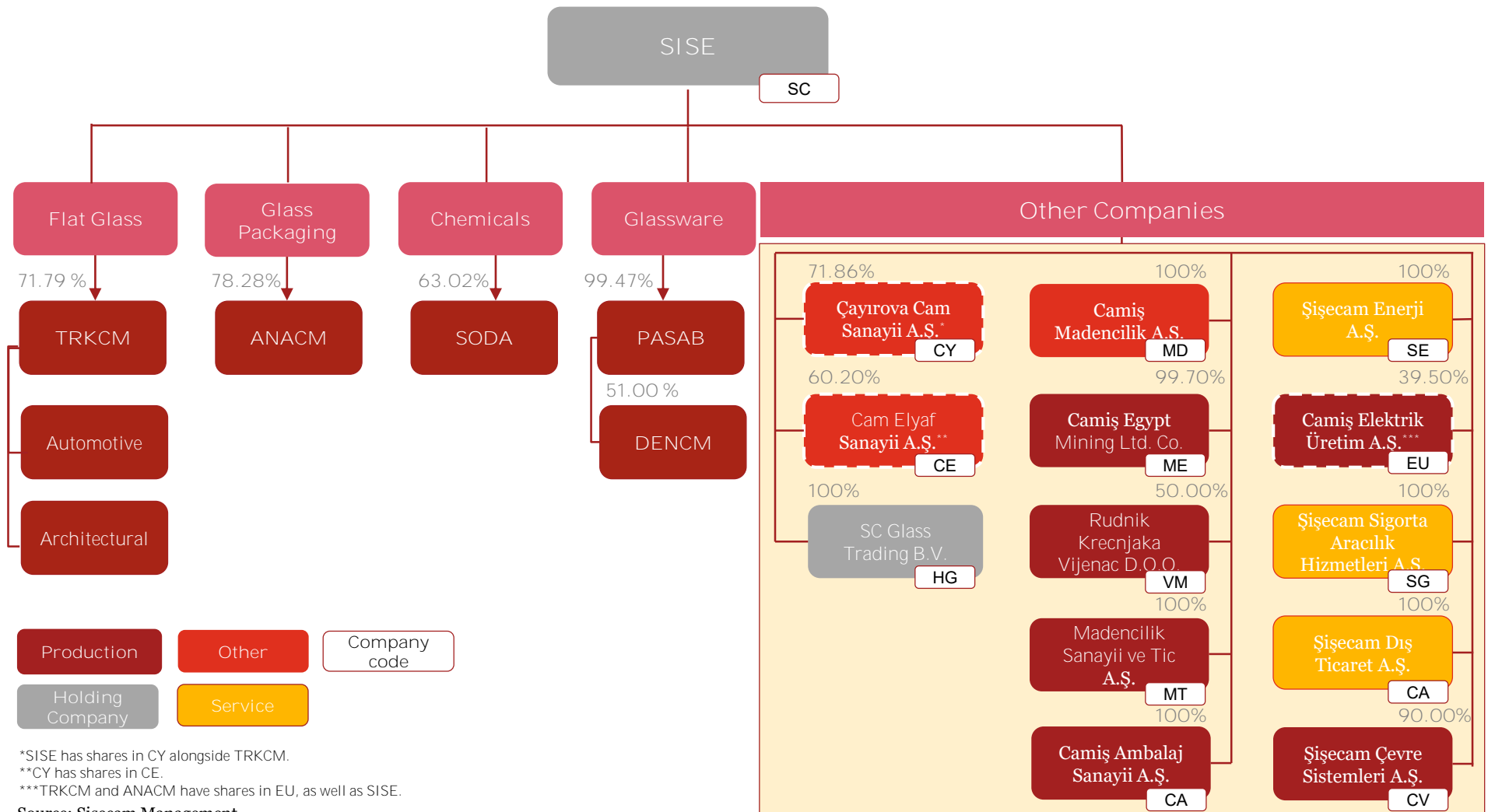
Effects of COVID-19 Outbreak on Valuation Results

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

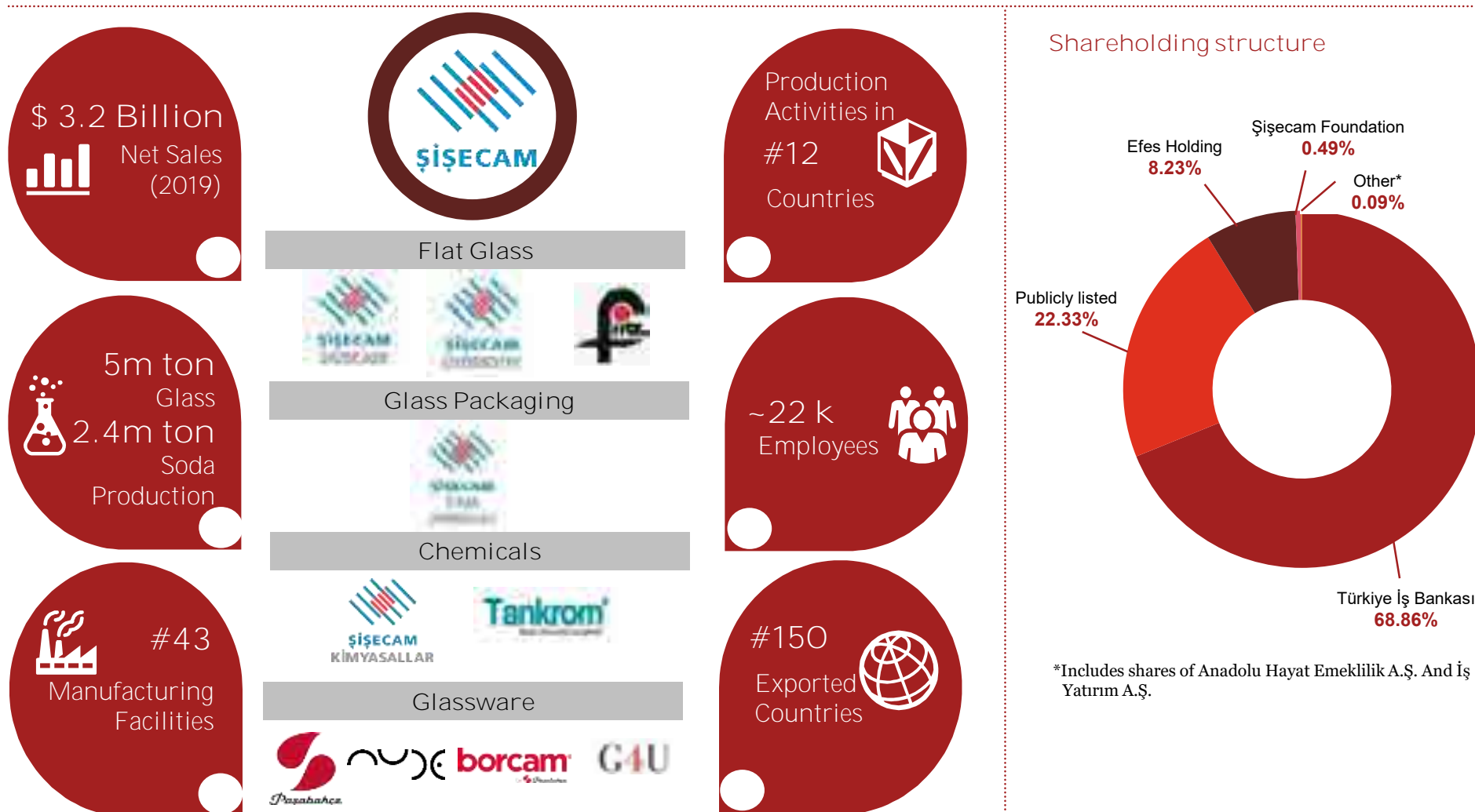
The shareholding structure below shows the companies owned by SISE with the direct ownership percentages. Other Companies, include the Companies outside of the main business segments, which provide services for these segments.



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

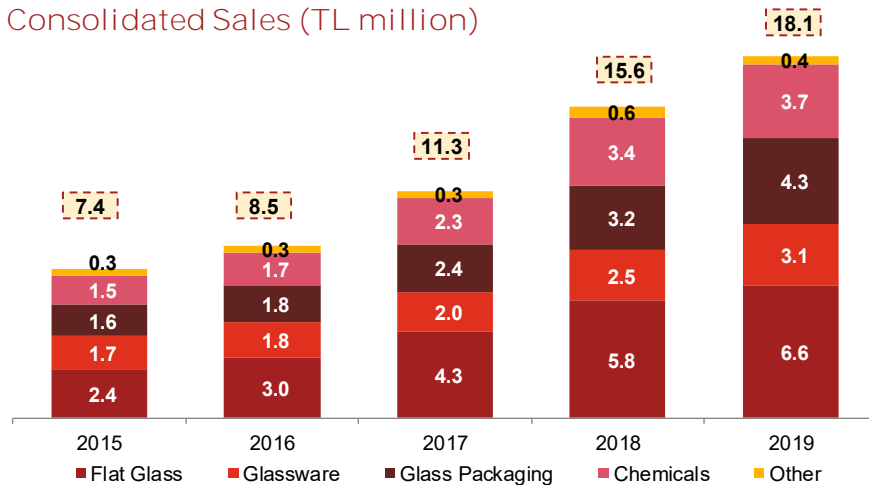
2000-2014	2014-2020
<p><i>Şişecam increased its market share in selected regions and became a regional leader by creating strategic partnerships, in the period between 2000-2014.</i></p> <p><i>Flat glass</i></p> <ul style="list-style-type: none"> Capacity increasing investments in Turkey and new oven 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><i>Glass packaging</i></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><i>Chemicals</i></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><i>Glassware</i></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><i>After 2014, Şişecam strengthened its market position and became one of the top three largest players in the sector.</i></p> <p><i>Flat glass</i></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><i>Glass packaging</i></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><i>Chemicals</i></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><i>Glassware</i></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

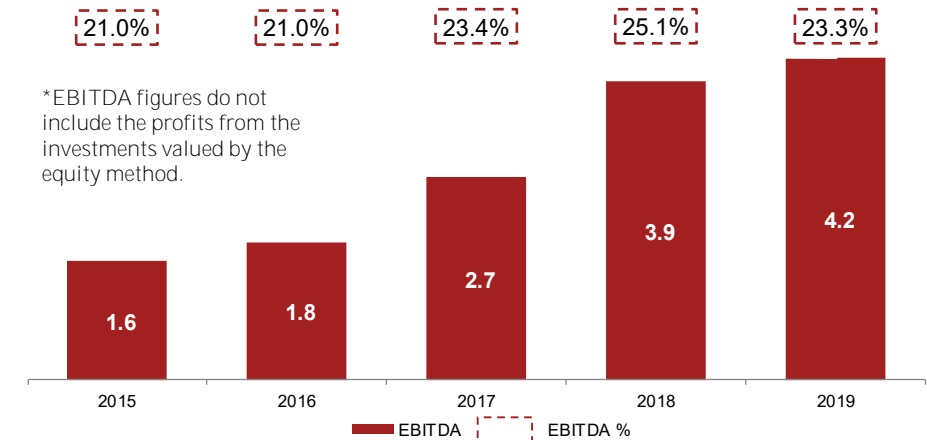
Key Financial Indicators

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.

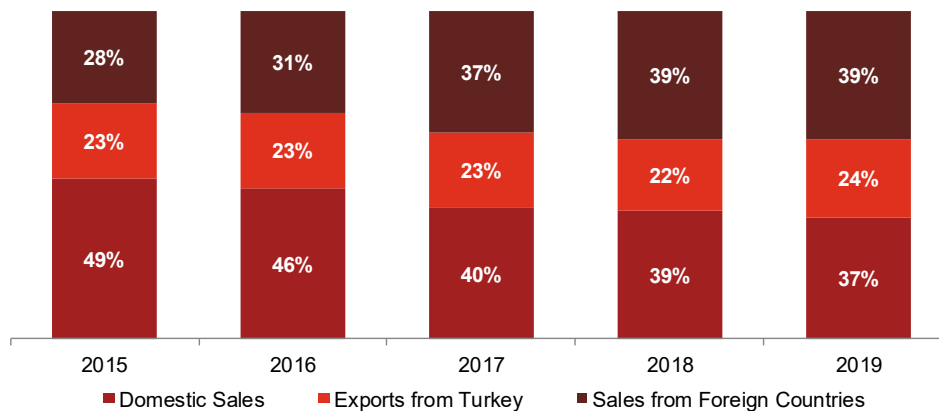
Consolidated Sales (TL million)



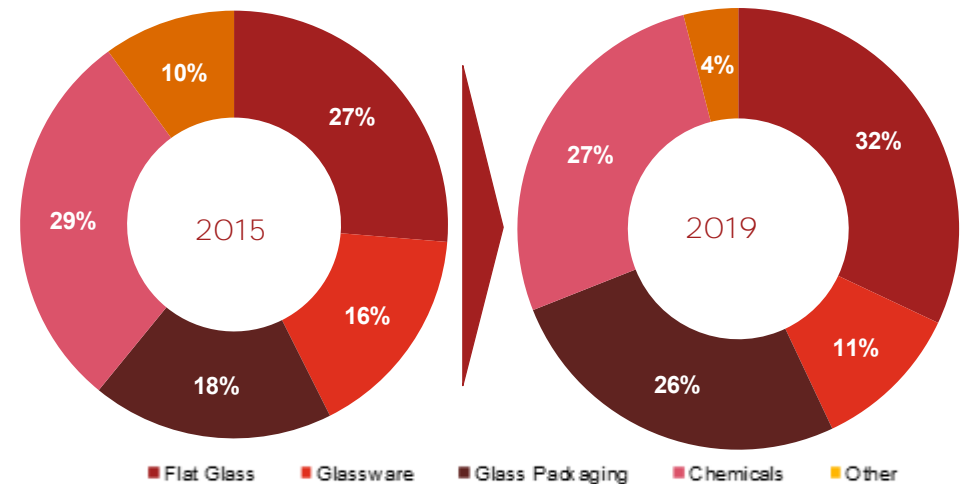
Consolidated EBITDA* (TL million)



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

Camiş Ambalaj - CA

Camiş 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 Camiș Madencilik. The Company owns 11 permits. On some, it performs production, and on the others, it gains royalty income.

Rudnik Krečnjaka 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 Camiș 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

(TL m)	FY17	FY18	FY19
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
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
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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.

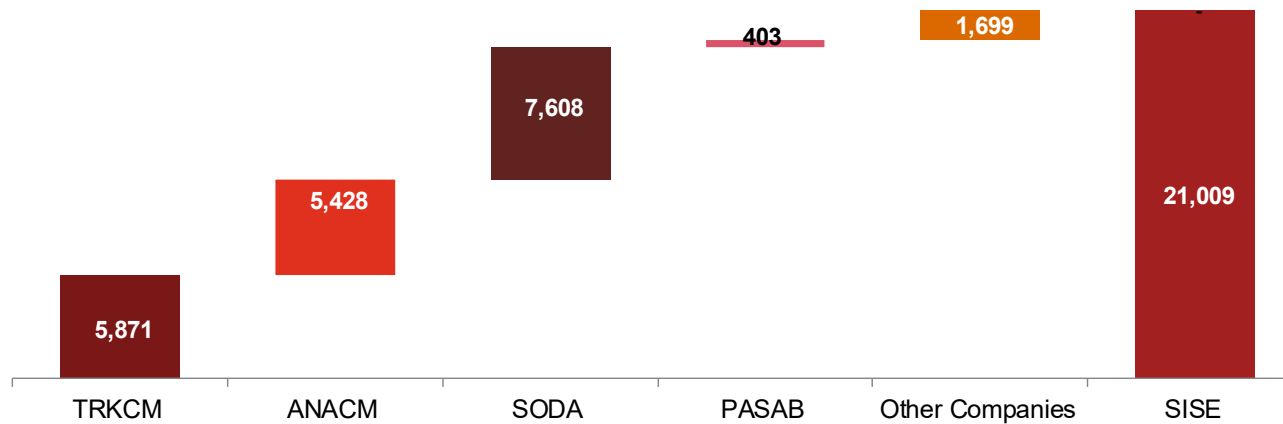
Valuation Method	Equity Value	Explanations
Income Approach 	TL 21,009 m	The stand-alone equity value of TRKCM, ANACM, SODA, PASAB and DENCM estimated within the scope of the Income Approach , have been included in “the Sum of the Parts” consideration according to SISE’s ownership rates. “DCF” method 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

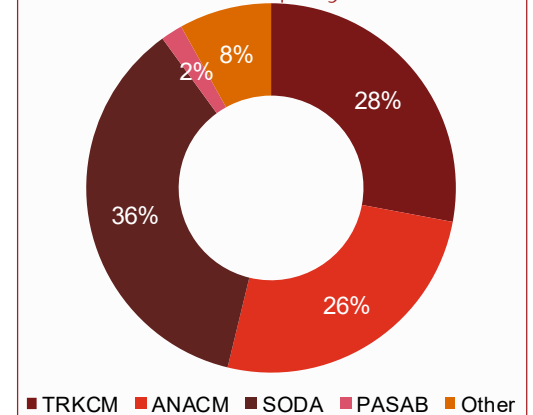
SISE Income Approach

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



	Main Business Segments				Other Companies												
TL m	TRKCM	ANACM	SODA	PASAB	SC	MD	CA	EU	SE	DT	CV	MT	SG	VM	ME	CE,CY, HG*	Total
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

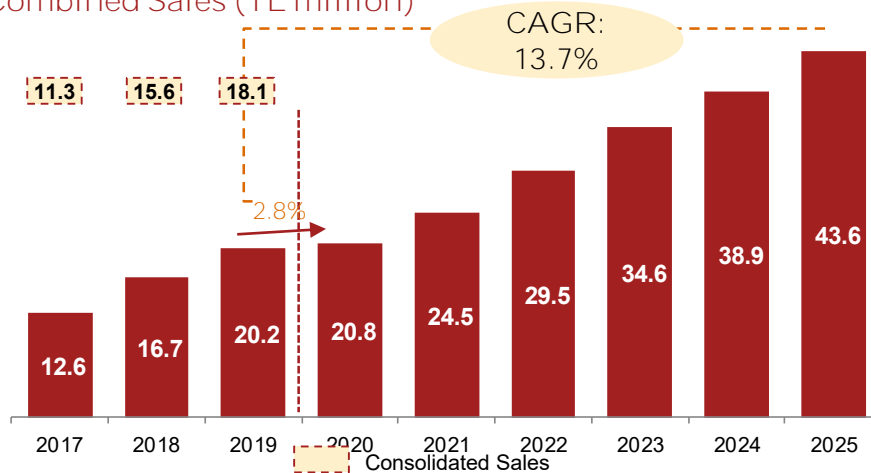
** For details, please see the calculation of the share value difference between ANACM stock groups on pages 153, 154 and 155.

Source: Şişecam management, PwC analysis

SISE Income Approach

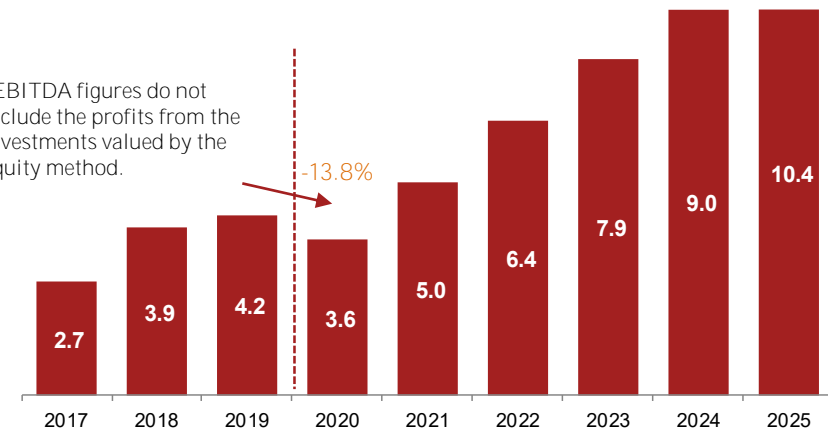
Combined sales of SISE are expected to grow at a CAGR of 13.7% between 2019-2025. The consolidated EBITDA, which is expected to be c. TL 4bn in 2020, is expected to increase to TL 10bn in 2025.

Combined Sales (TL million)

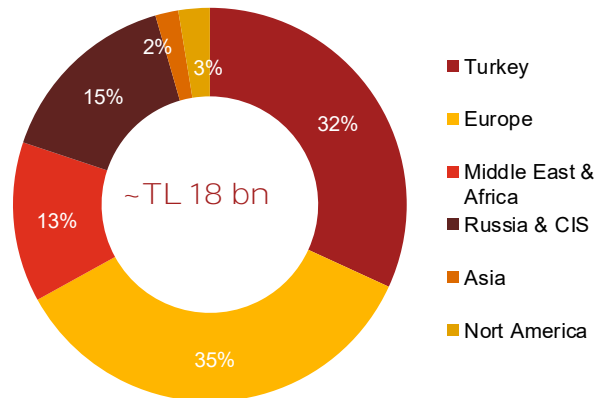


Consolidated EBITDA* (TL million)

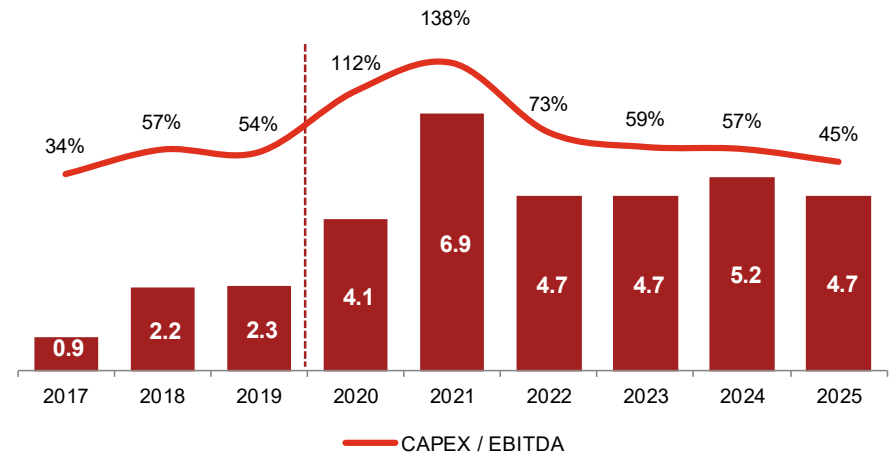
*EBITDA figures do not include the profits from the investments valued by the equity method.



Geographic Breakdown of Sales - 2019



CAPEX (TL million)

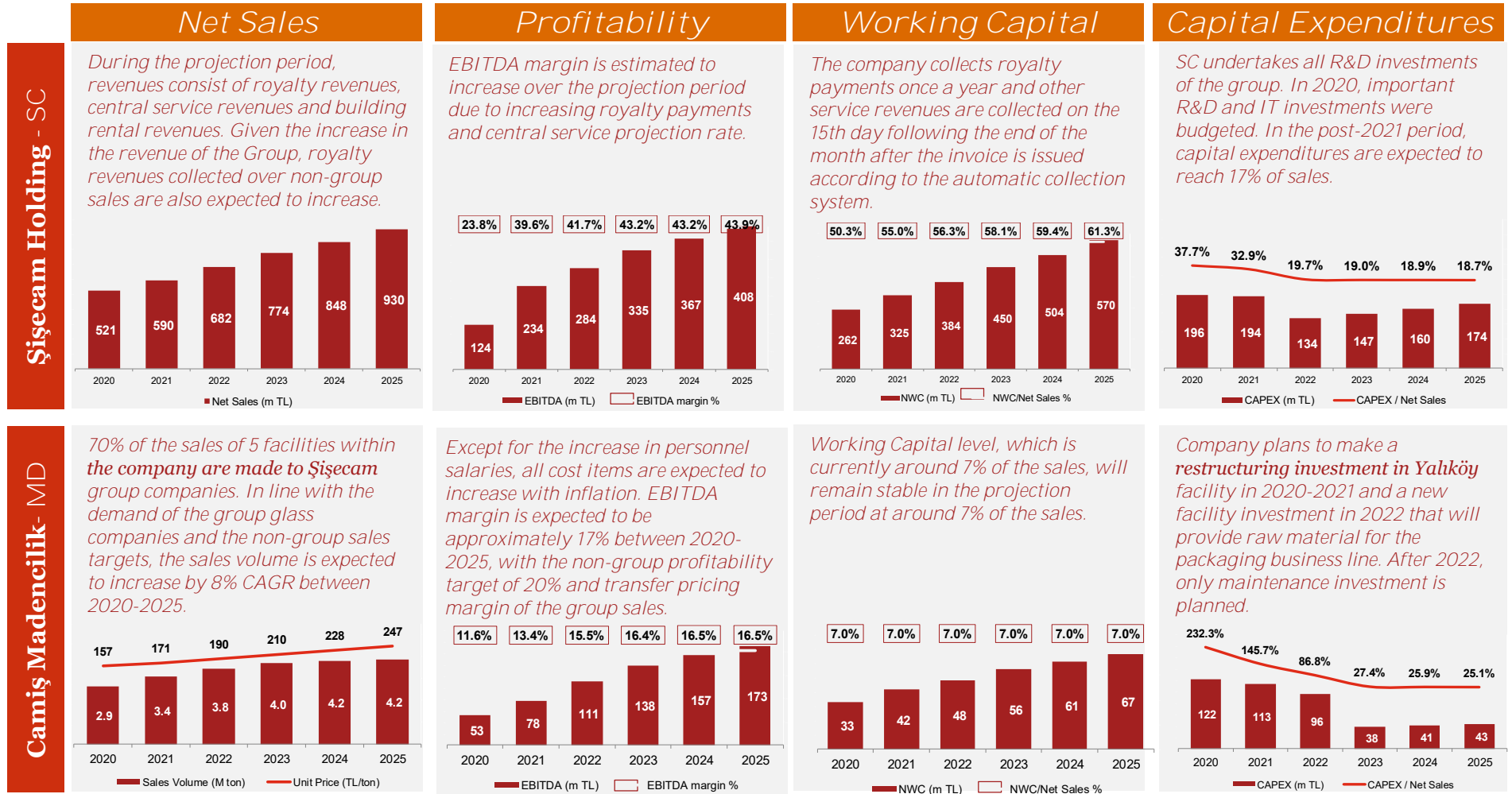


Source: Şişecam management, PwC analysis

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.

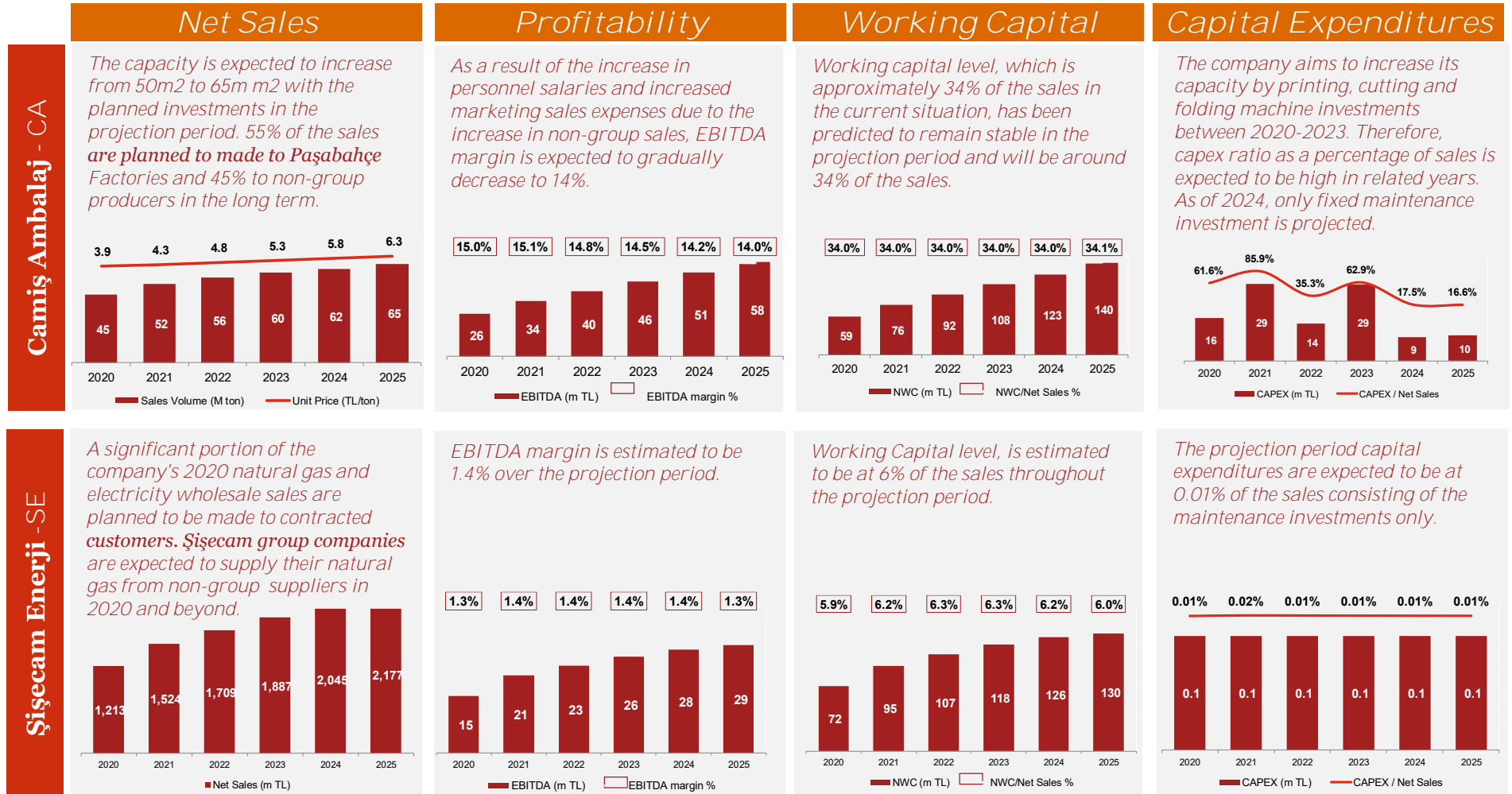


Source: Şişecam management, PwC analysis

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.

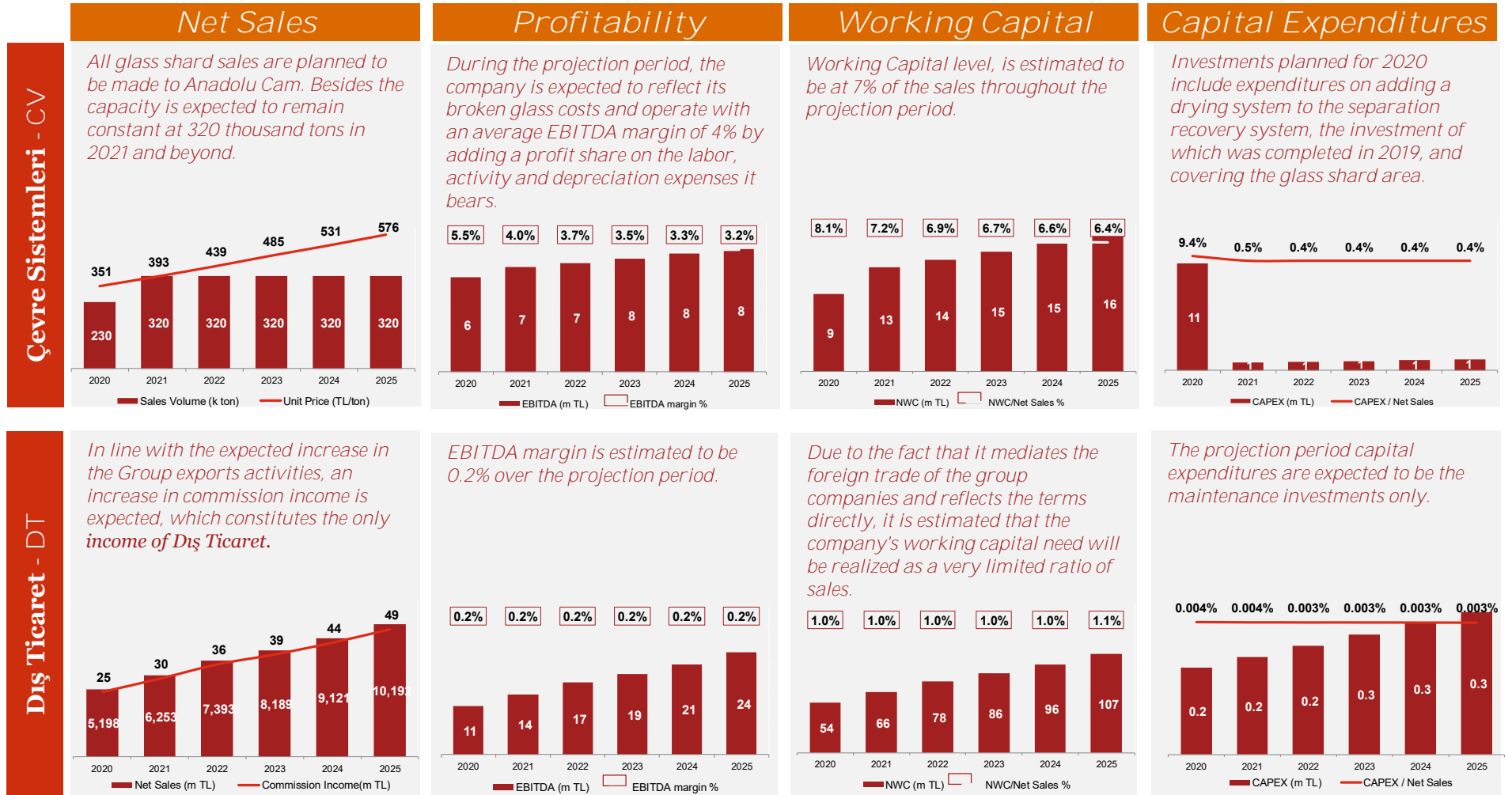


Source: Şişecam management, PwC analysis

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.

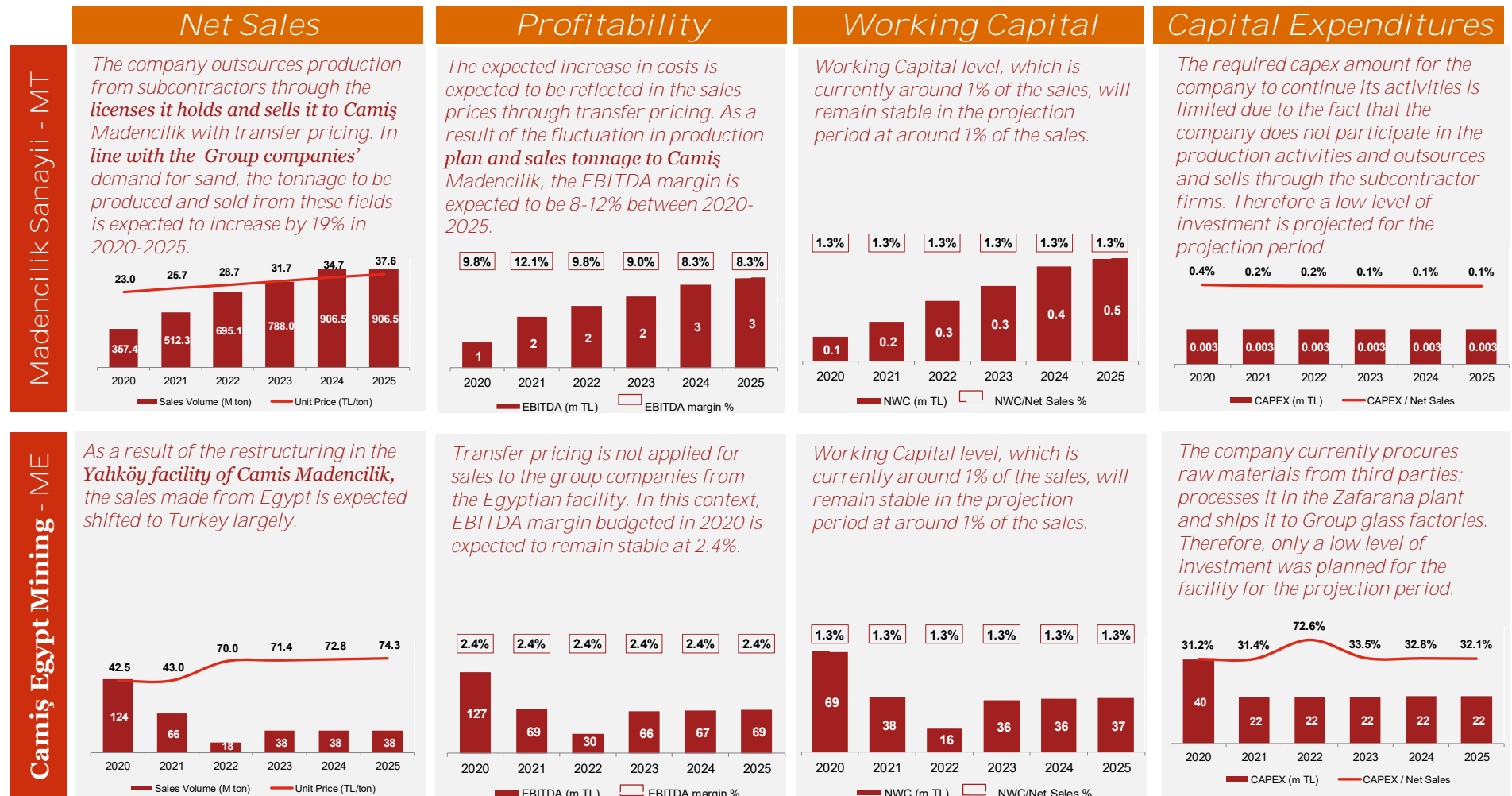


Source: Şişecam management, PwC analysis

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.



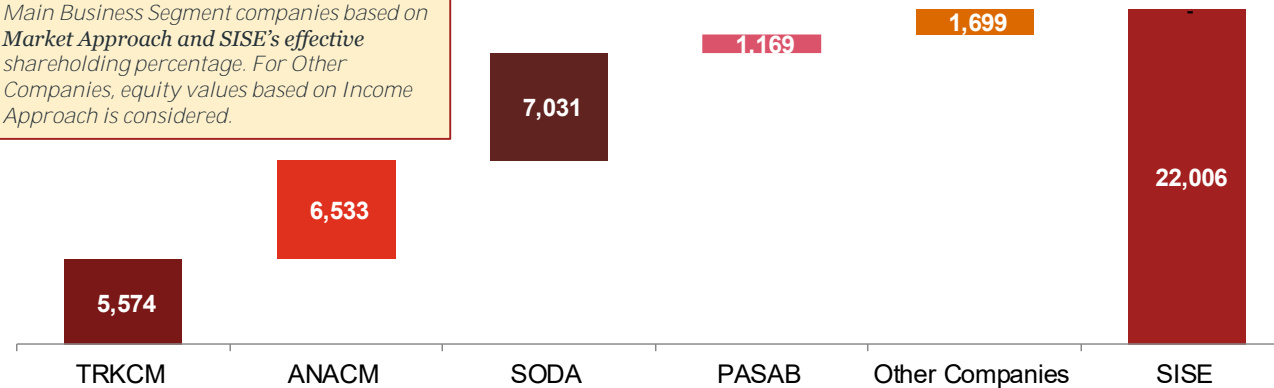
Source: řiřecam management, PwC analysis

SISE Market Approach

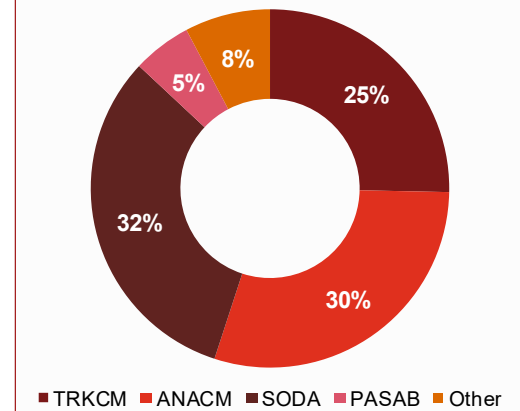
Based on the Market Approach, the total equity value of SISE is estimated to be TL 22.0bn as of the valuation date.

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.

mTL	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
Currency Translation Differences	2,279
Hedging gains (losses)	5
Gains/(Losses) on Revaluation and Reclassification	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. Adjustments related with the profit and tax liabilities after the sale of certain real estates in January 2020
- b. 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).

Source: Şişecam management, PwC Analysis

1 Sermaye Piyasasında Finansal Raporlamaya İlişkin Esaslar Tebliği

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.

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	Amount	Effective SISE Ownership	Adjustment
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.

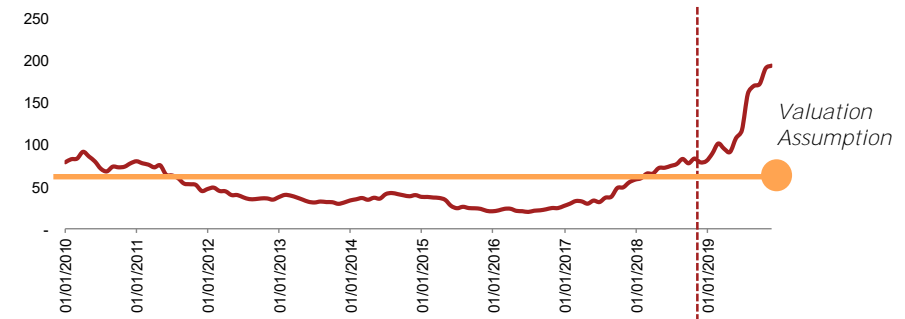
Platinum: 31.12.2019 platinum price announced by London Metal Exchange was taken into consideration.

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

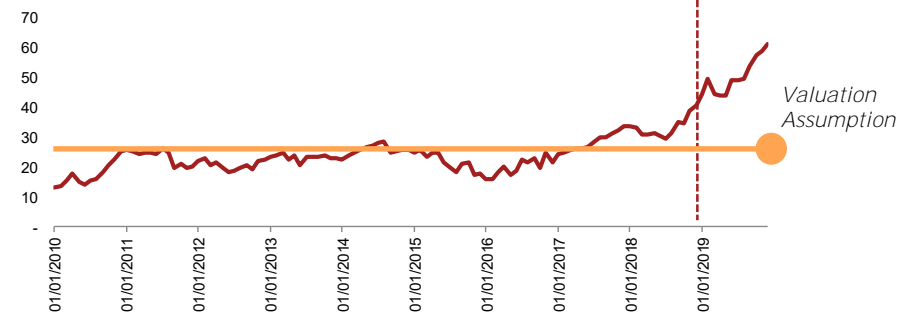
Silver: 31.12.2019 Silver price announced by the London Bullion Market Association was taken into account.

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



Source: CapitalIQ, PwC Analysis

Türkiye Şişe ve Cam Fabrikaları A.Ş.
PwC

Strictly private and confidential

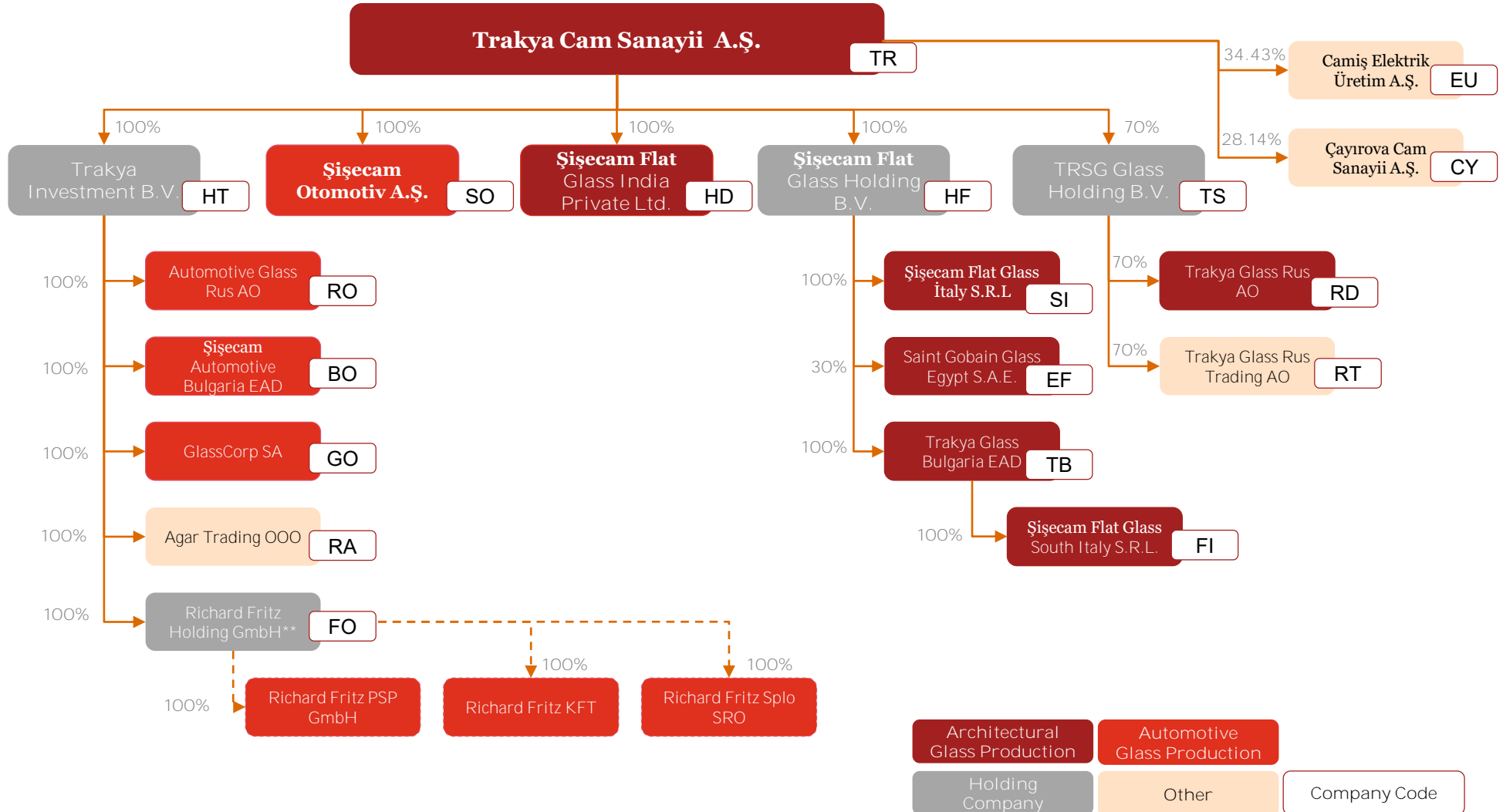
27 Nisan 2020

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)	<p>Trakya Cam Sanayii A.Ş. (Solo) ("TR" or "Architectural Glass Turkey") has activated Yenisehir coated glass plant in 2018 and initiated the investment in Polatli factory for the 8th furnace in Turkey. It is foreseen that the number of furnaces will remain at 8 and 5 furnaces in Yenisehir, Mersin and Luleburgaz 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 upto 2m tonnes (with the exception of cold repair periods).</p> <p>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.</p> <p>Prior to 2019, in 2017-2018, TR has been conducting its Turkey operations with two separate entities (Trakya Yenisehir Cam Sanayii A.Ş. and Trakya Polatli 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.</p> <p>The TL 130m dividend payment to be made and dividends to be received from Trakya Glass Rus AO and Çayirova 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.</p>
Trakya Glass Bulgaria EAD (TB)	<p>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.</p> <p>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.</p>

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.

Camiş Elektrik Üretim A.Ş. (EU)

TRKCM is a 34.43% shareholder of **Camiş 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

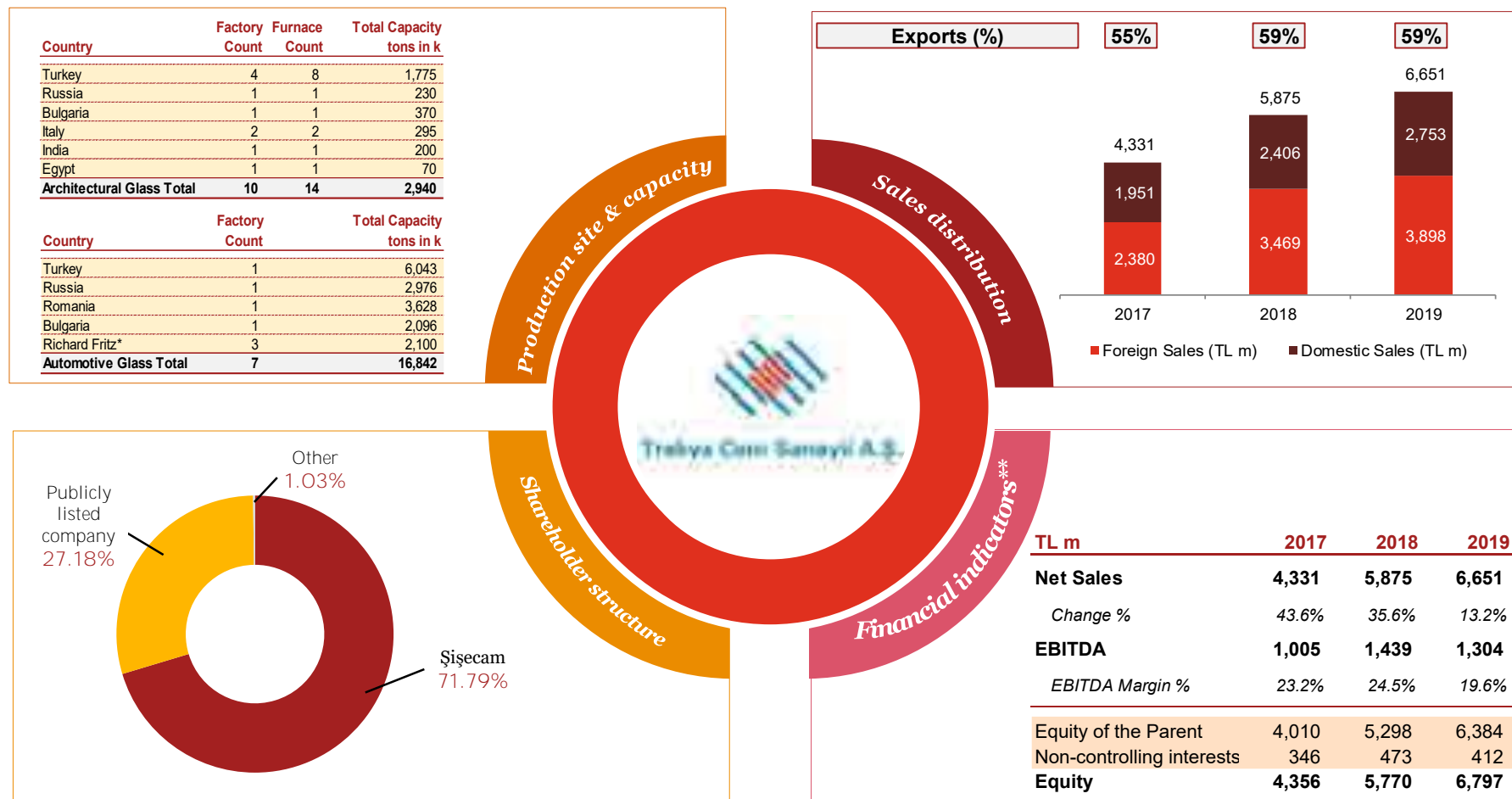
In order to understand the effects of the COVID-19 pandemic, whose effects started to show especially after the second half of March in Turkey and other countries where Flat Glass Group has operations, a meeting has been held with TRKCM management, and the business plans provided by the management has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



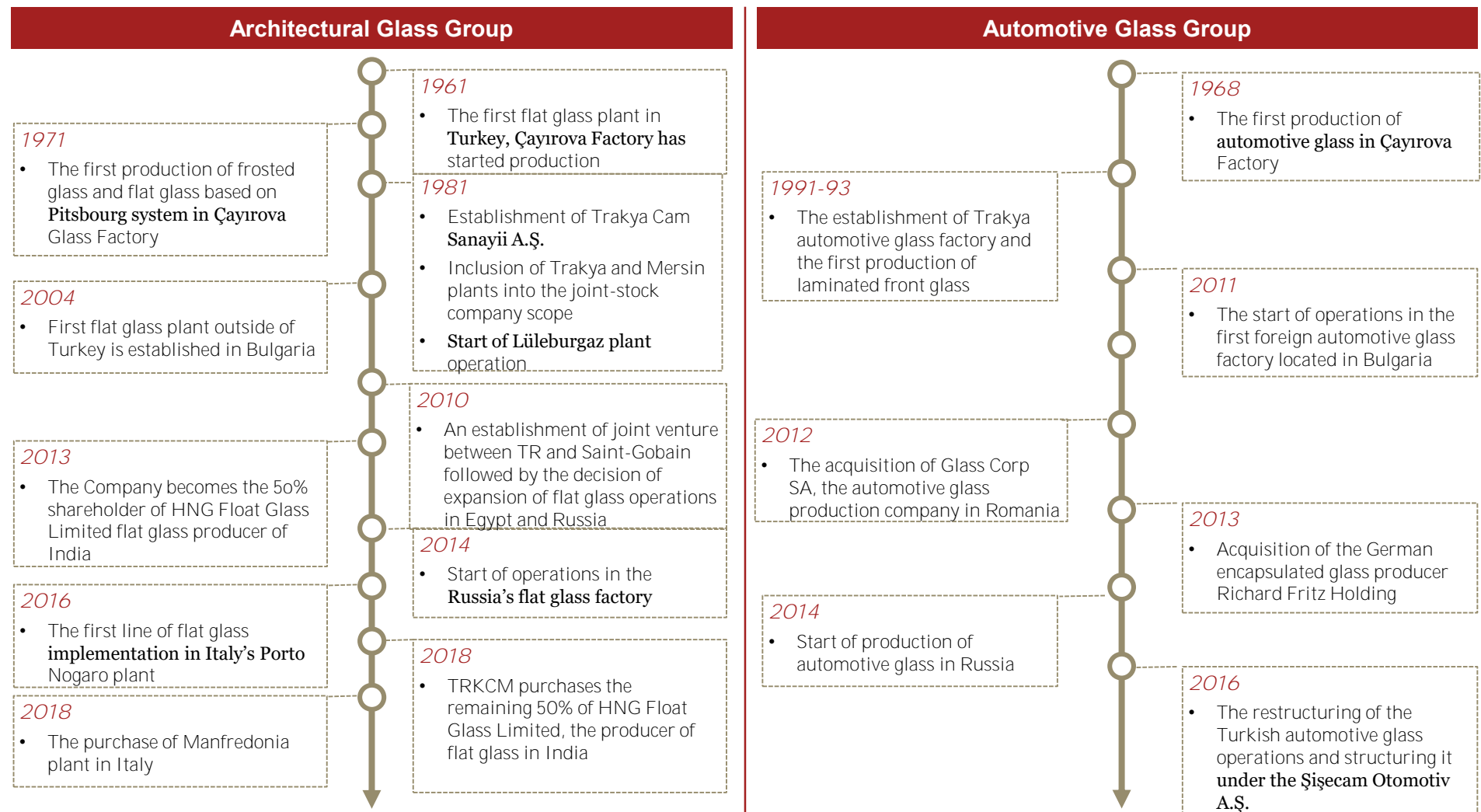
* Represents the capacity and furnace number as of 2019. It does not represent the effect of the cold repair. Russia and Egypt operate with a single furnace each, with the ownership percentage as follows (Russia – 70% and Egypt- 30%), so when multiplied, the effective furnace number is calculated as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



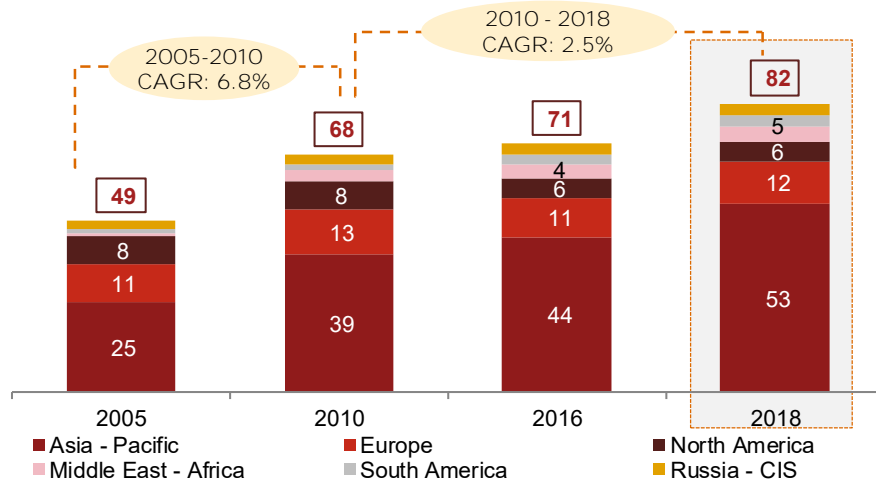
- 3 worldwide brands performing sales in various sectors (flat glass, automotive glass and encapsulation)

Source: Management

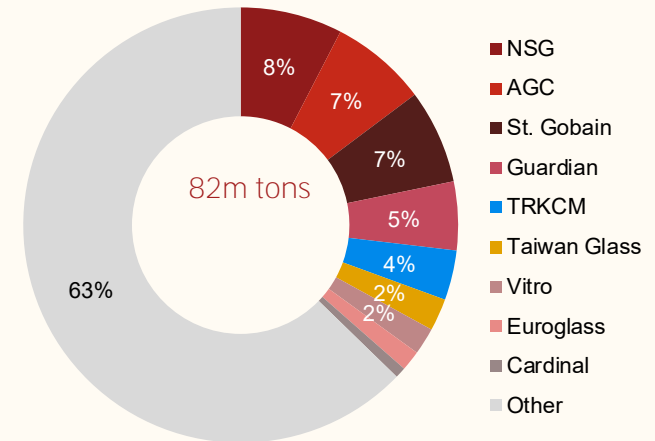
Global Flat Glass Market

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.

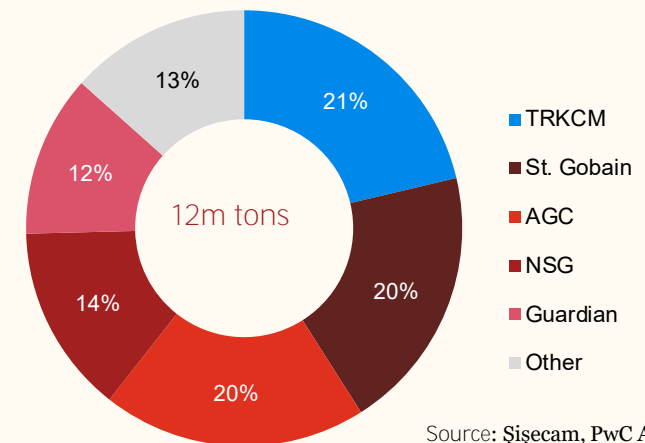
Global Flat Glass Production Capacity (m tons/year)*



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

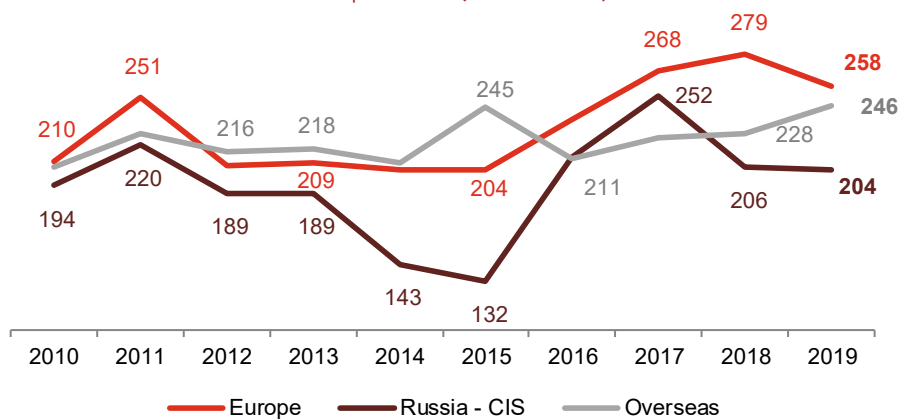


Europe Capacity-based Market Shares (2018)



Source: Şişecam, PwC Analysis

Flat Glass Price Development (EUR/ton)**



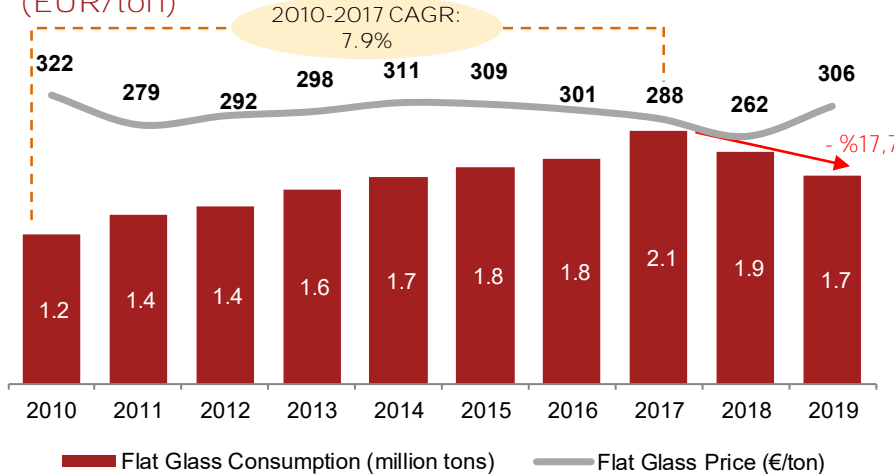
* The capacity calculation does not include the short term cold repairs.

** The prices presented are 4 mm colourless EUR/ton FOB prices.

Turkish Flat Glass Market

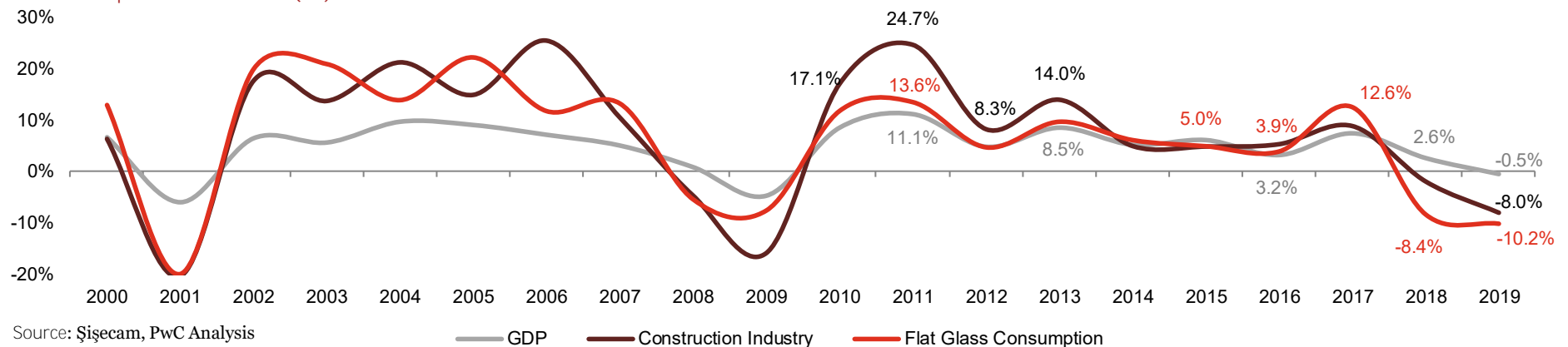
The consumption of flat glass in Turkey has grown by 7.9% annually between 2010-2017 and has reached 2.1m tons. After 2017, due to the slowdown in the construction industry, the annual flat glass consumption has decreased to 1.7m tons. TRKCM is the market leader with a market share of 68% in Turkey.

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

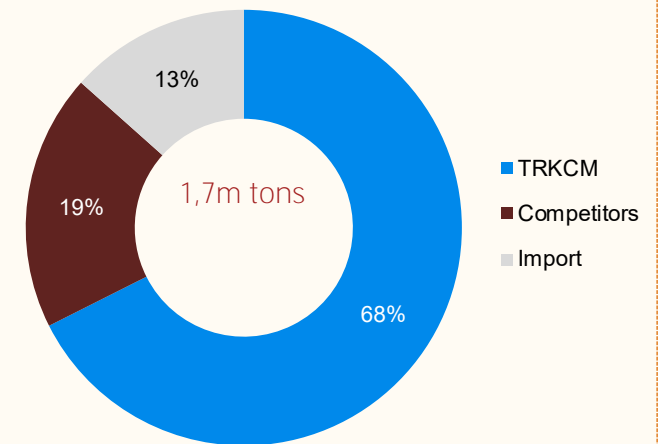


* 4mm colourless EUR/ton FOB

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



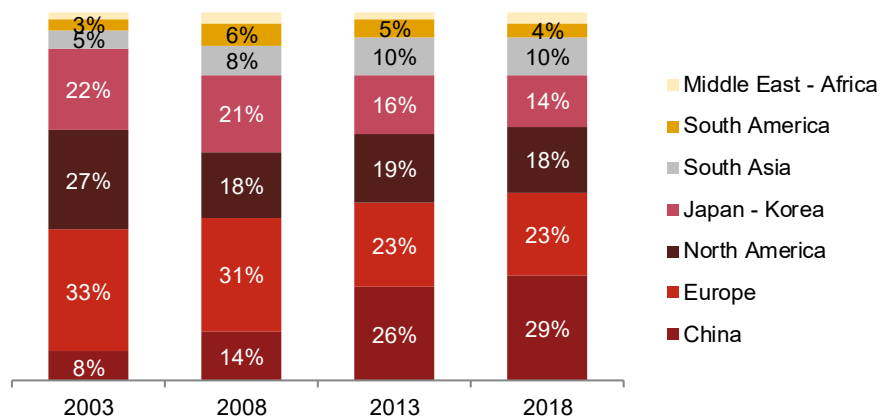
Sales-based Market Shares (2019)



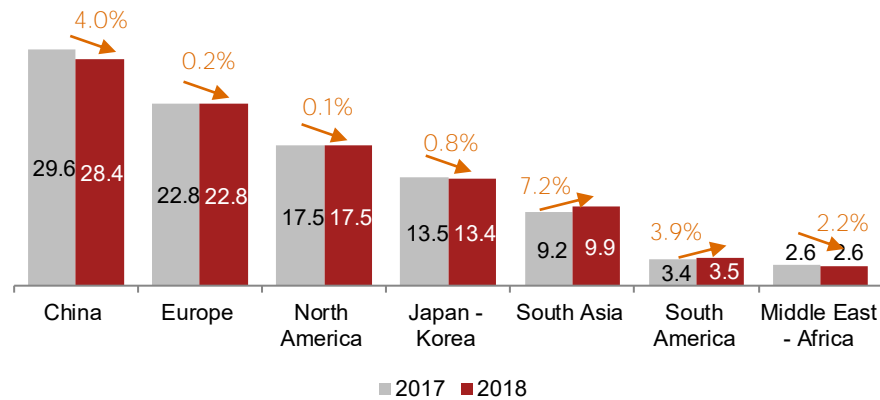
Global Automotive Glass Market

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

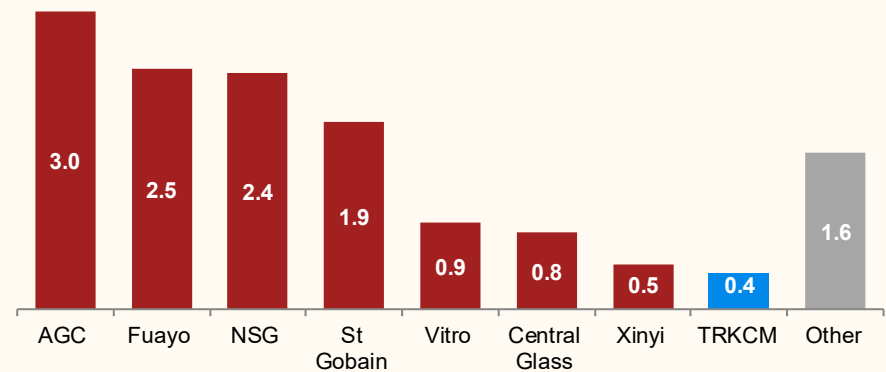


Automotive Production Units (m)

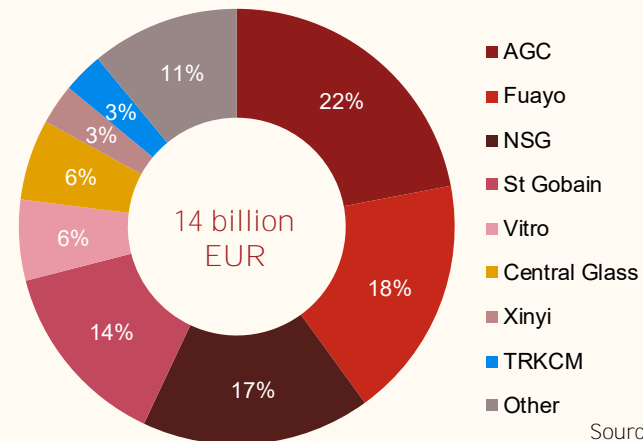


Source: Şişecam, PwC Analysis

Automotive Glass Market Sales in 2018 (billion EUR)



Automotive Glass Market Share by Sales (2018)

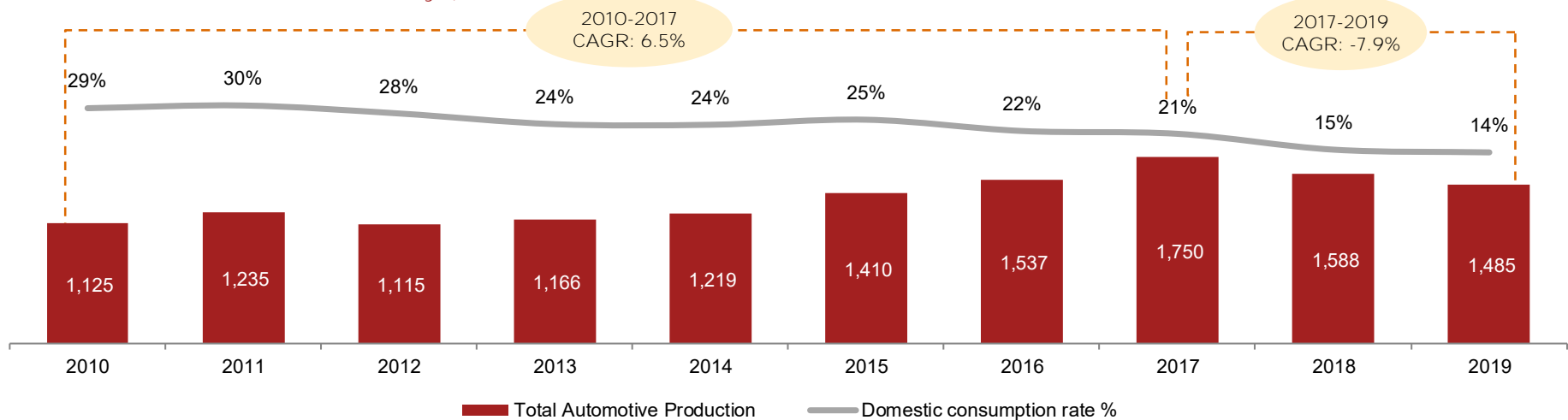


Source: Şişecam, PwC Analysis

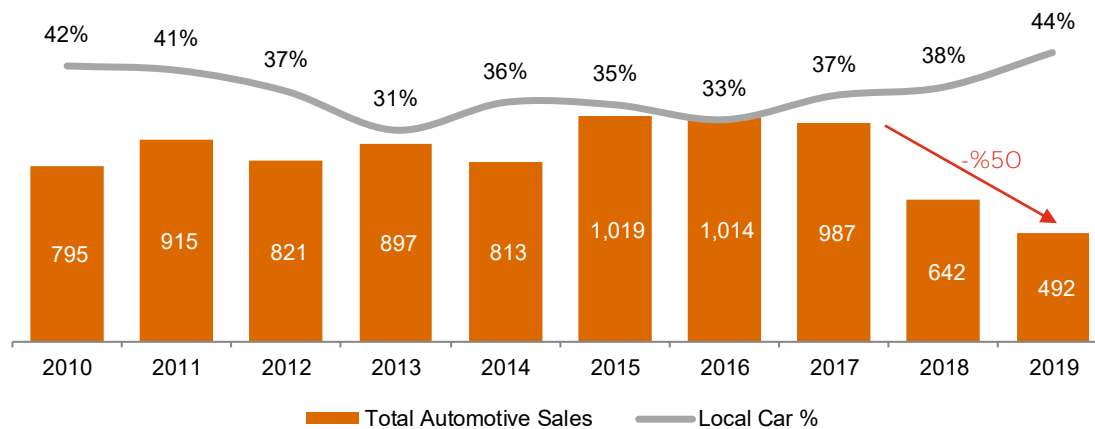
Automotive Production And Automotive Glass Market in Turkey

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.

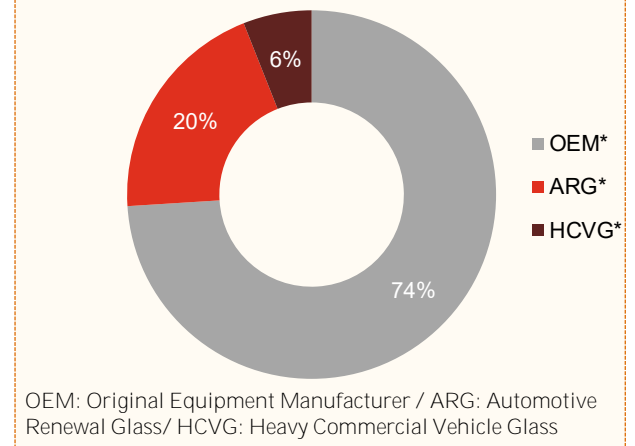
Automotive Production in Turkey (units in k)



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 Çayırova Cam Sanayi A.Ş. (28%).

4 Flat glass production is a capital-intense 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.

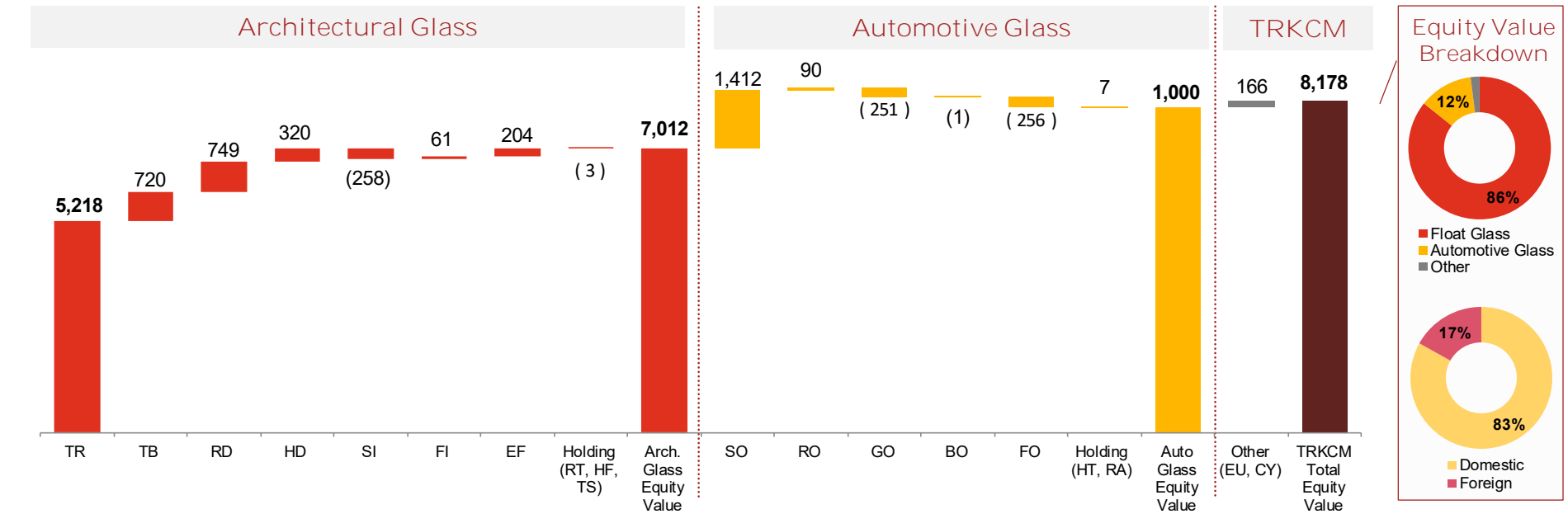
Source: Şişecam Management, PwC Analysis

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)



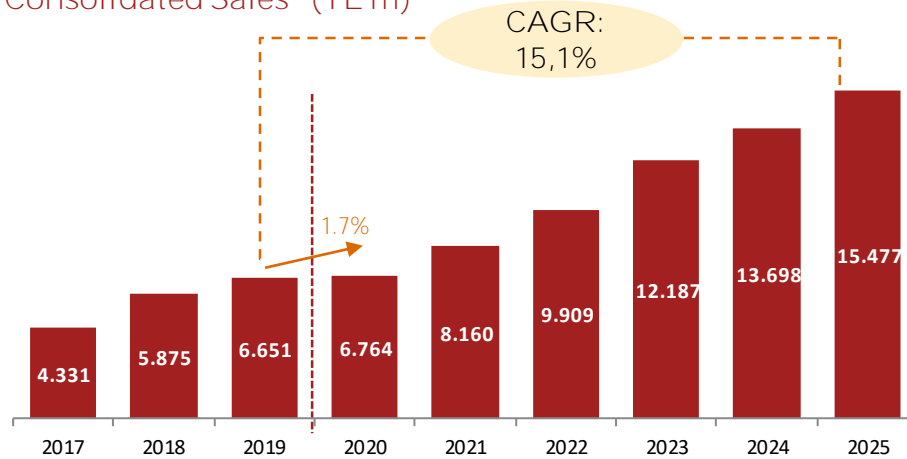
TL m	TR	TB	RD	HD	SI	FI	EF	Holding (RT, HF, TS)	Total Arch. Glass	SO	RO	GO	BO	Fritz	Holding (HT, RA)	Total Automotive Glass	Other (EU, CY)	Total TRKCM
Enterprise Value	4,977	1,341	840	225	(85)	226	-	-	7,524	1,147	166	172	299	145	-	1,929	-	9,454
Net Cash/(Debt)	143	(620)	377	89	(174)	(174)	-	-	(359)	264	(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

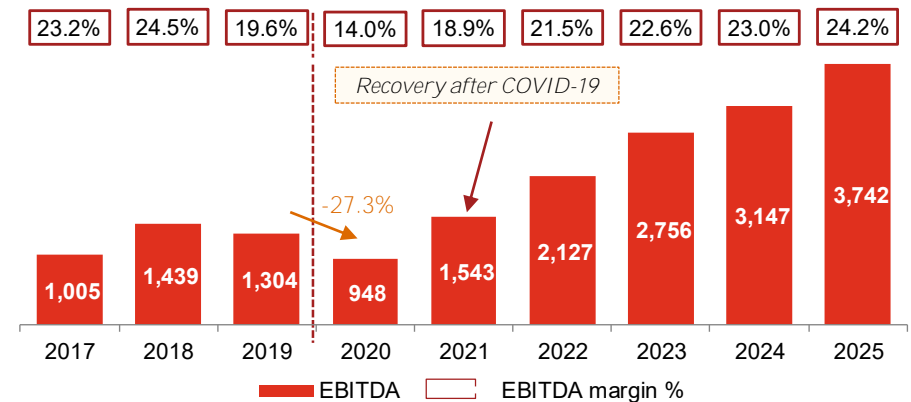
TRKCM Income Approach

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.

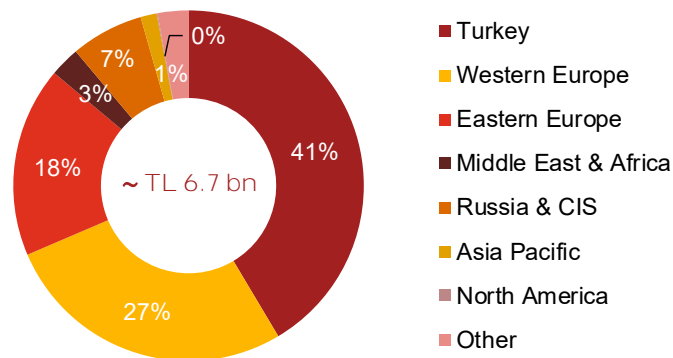
Consolidated Sales* (TL m)



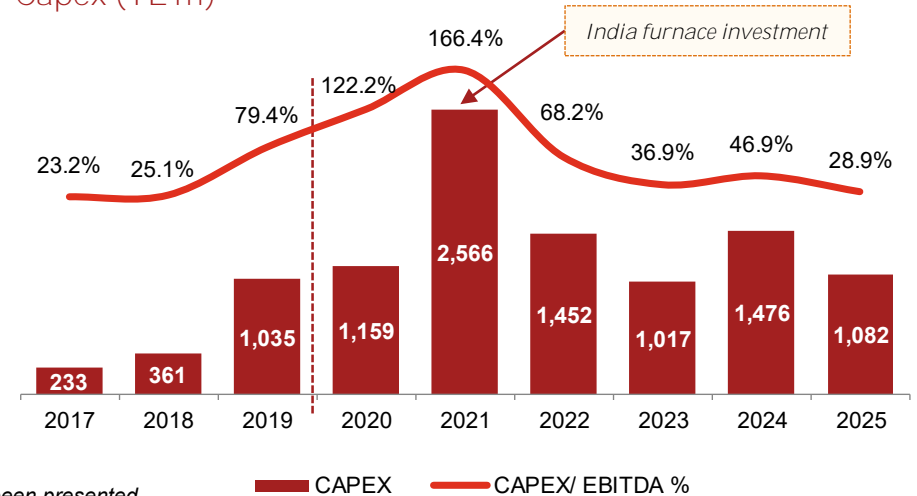
Consolidated EBITDA* (TL m)



Geographic Breakdown of Sales- 2019



Capex (TL m)



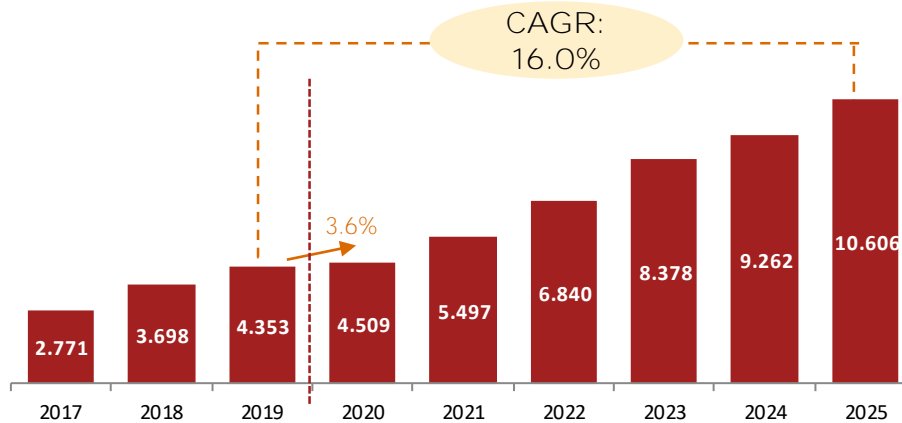
*For the 2017-2019 period, the consolidated sales amounts, stated in the TAS/ TFRS reports have been presented.

Source: Management, PwC Analysis

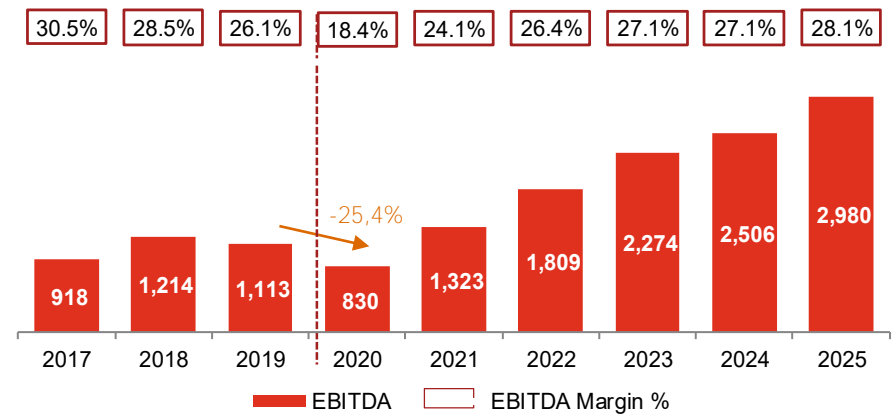
TRKCM Architectural Glass Income Approach

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.

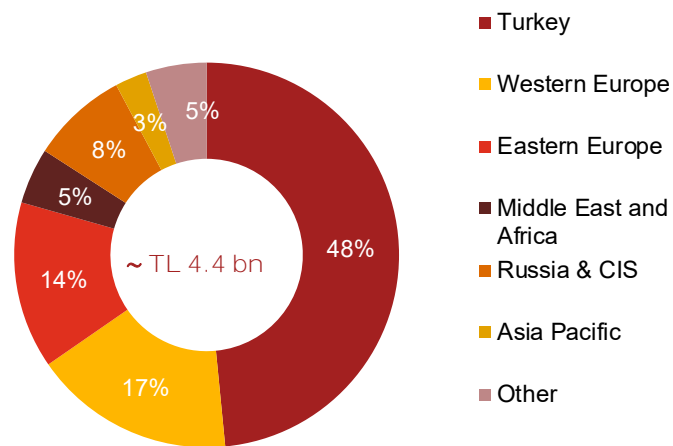
Consolidated Sales (TL m)



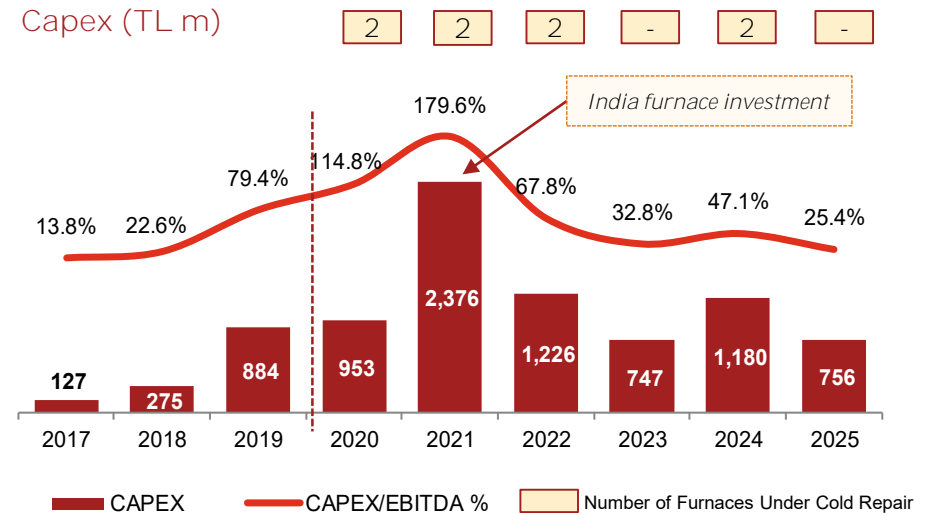
Consolidated EBITDA (TL m)



Geographic Breakdown of Sales- 2019



Capex (TL m)

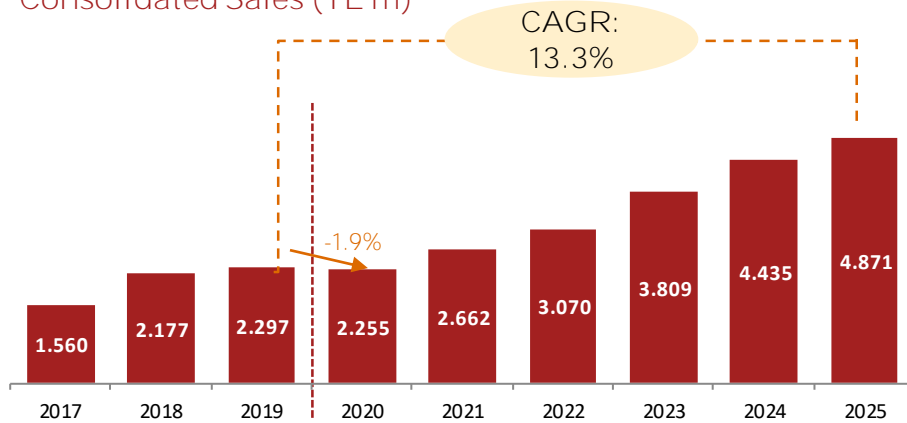


Source: Management, PwC Analysis

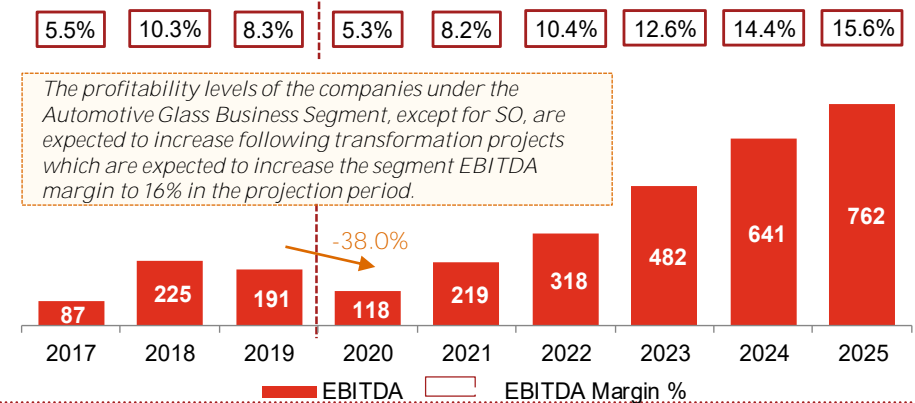
TRKCM Automotive Glass Income Approach

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.

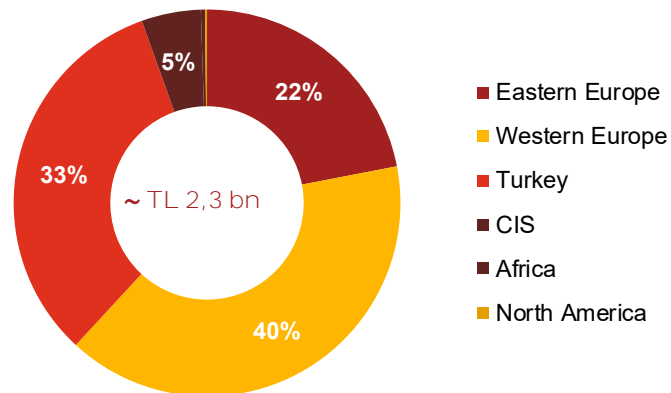
Consolidated Sales (TL m)



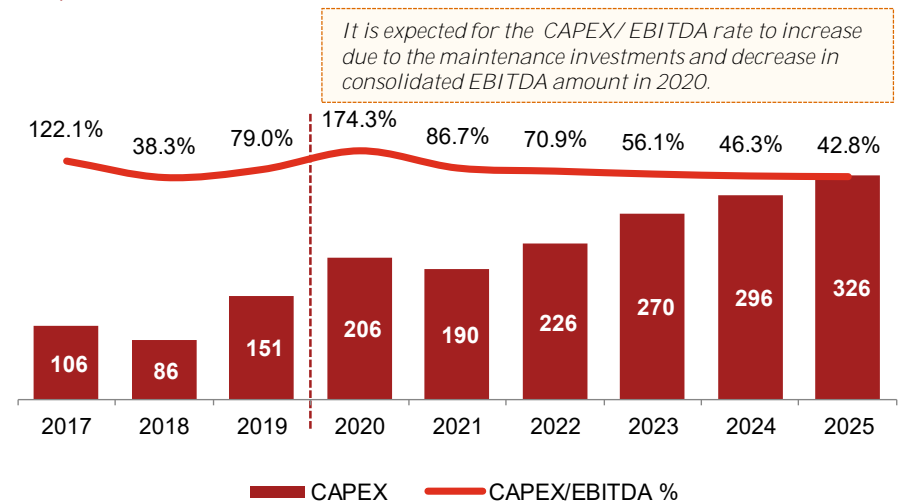
Consolidated EBITDA (TL m)



Geographic Breakdown of Sales- 2019



Capex (TL m)

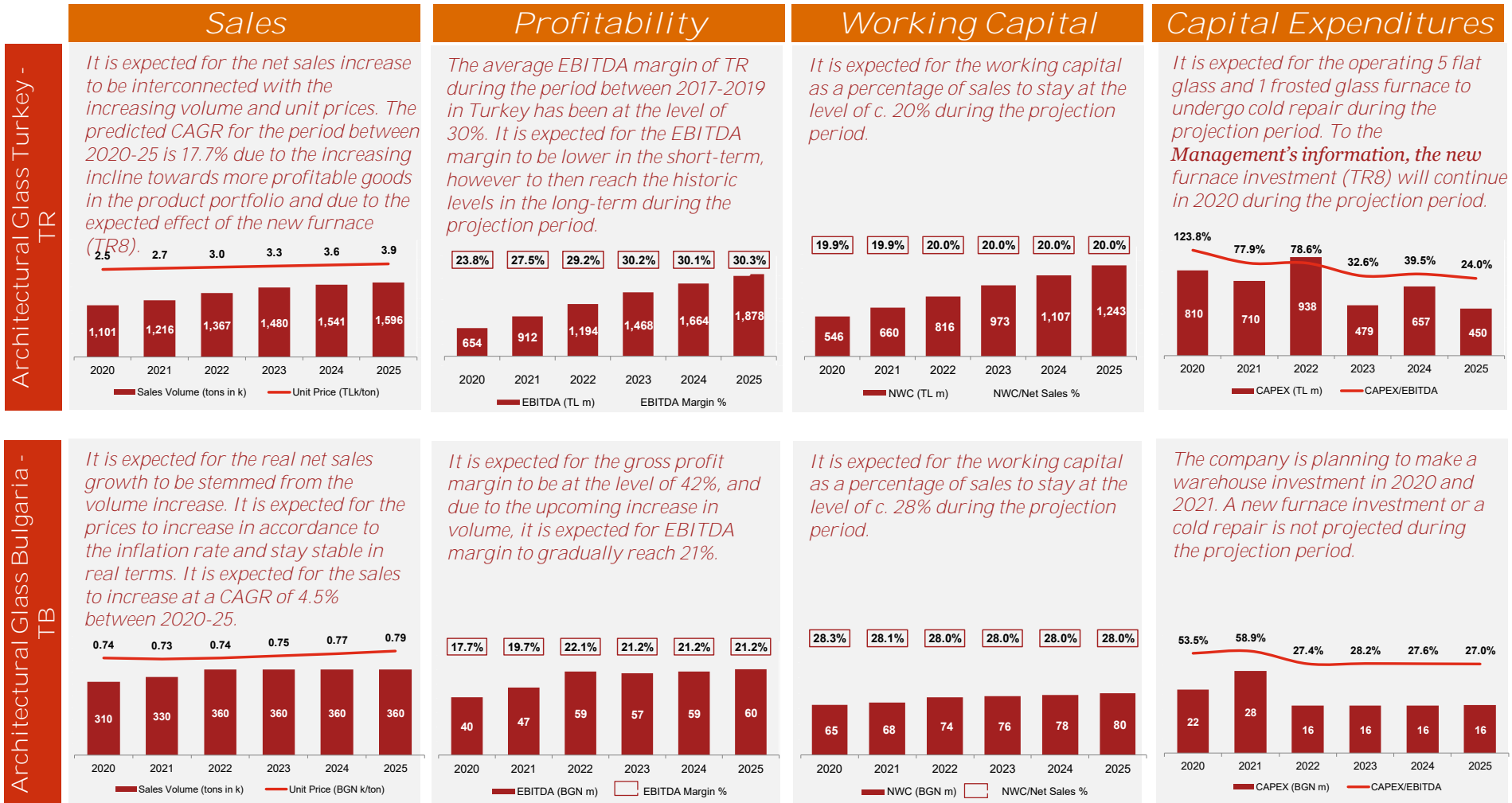


Source: Management, PwC Analysis

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.

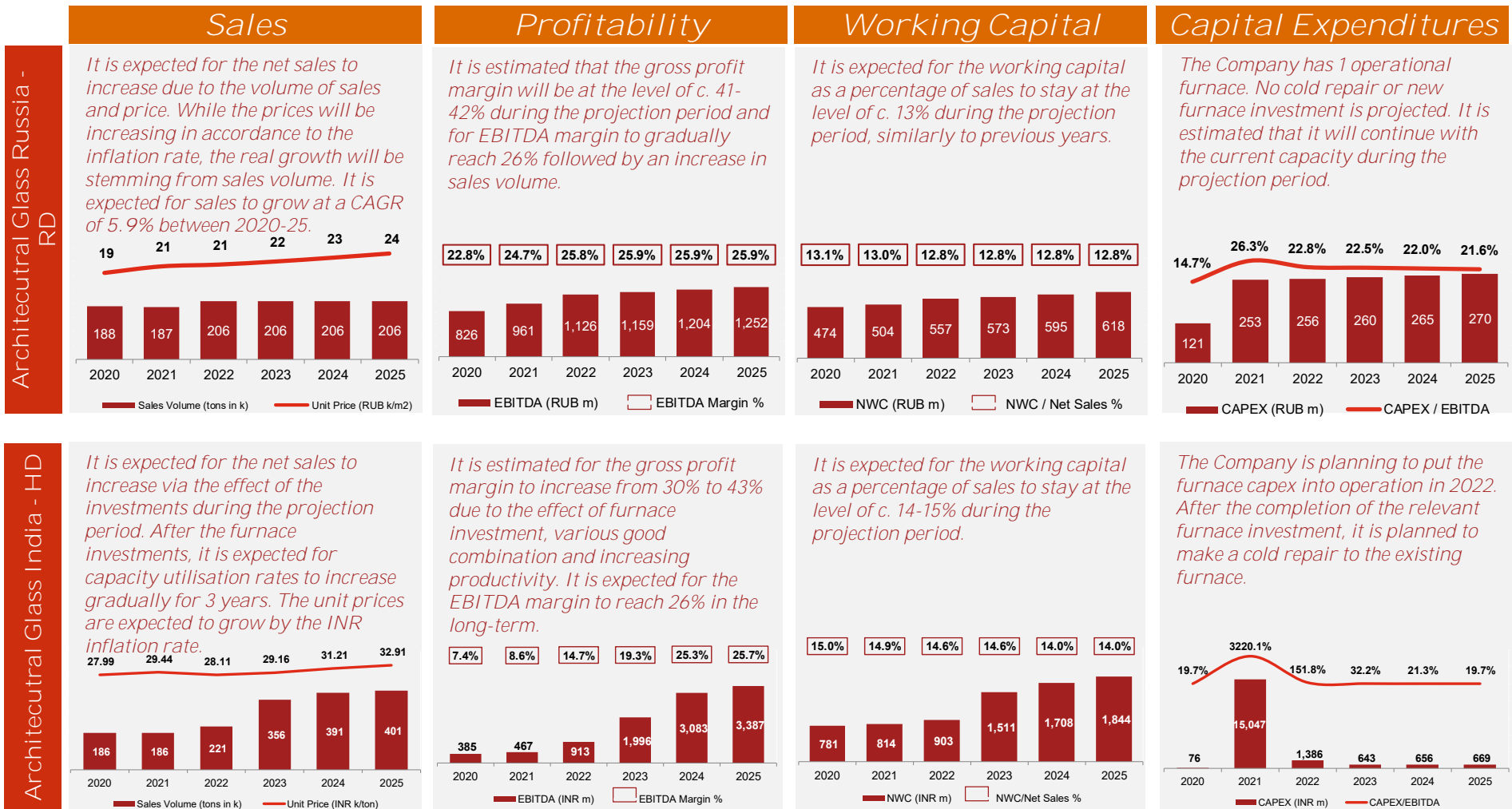


Source: Management, PwC Analysis

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.

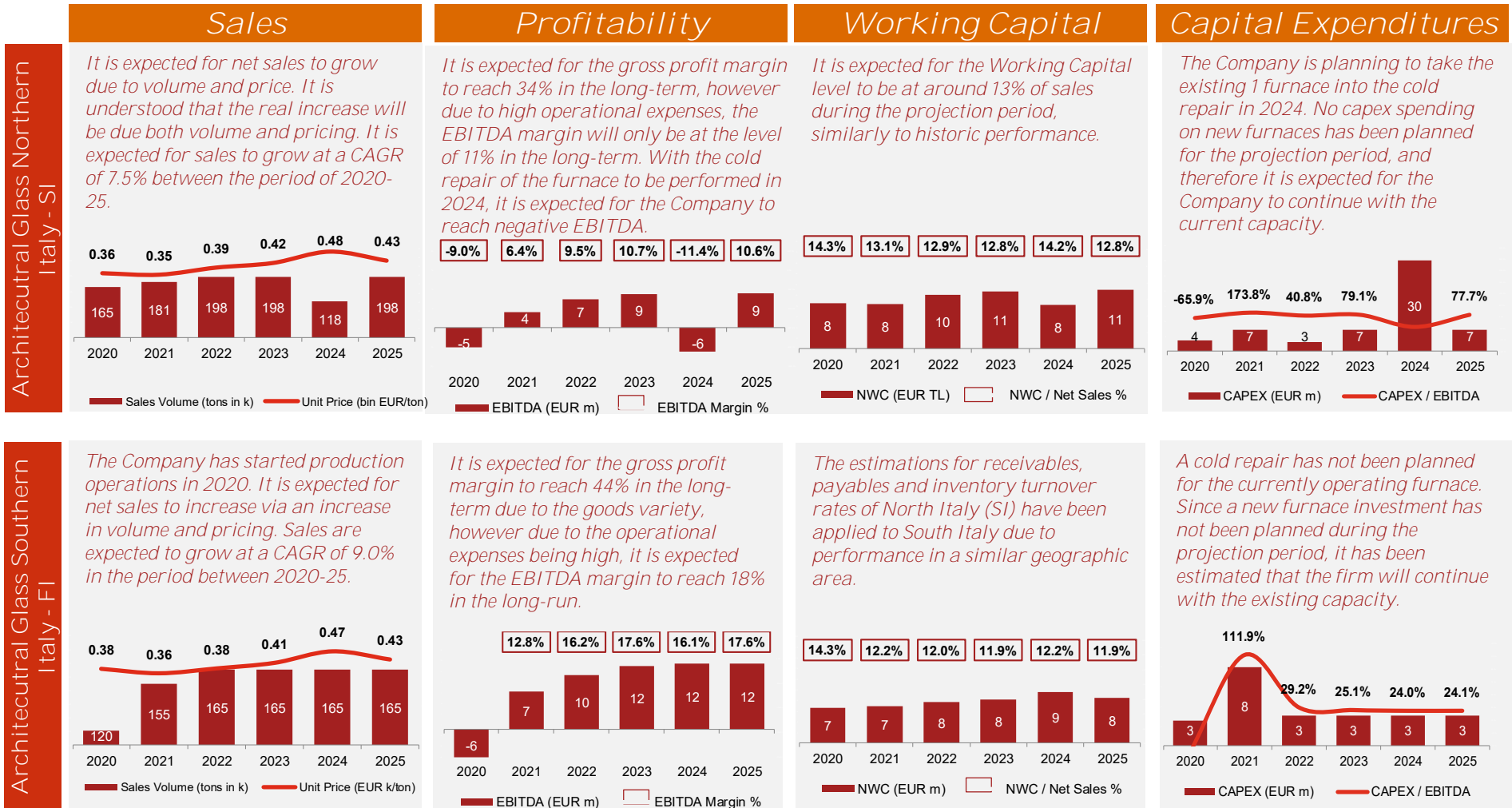


Source: Management, PwC Analysis

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.

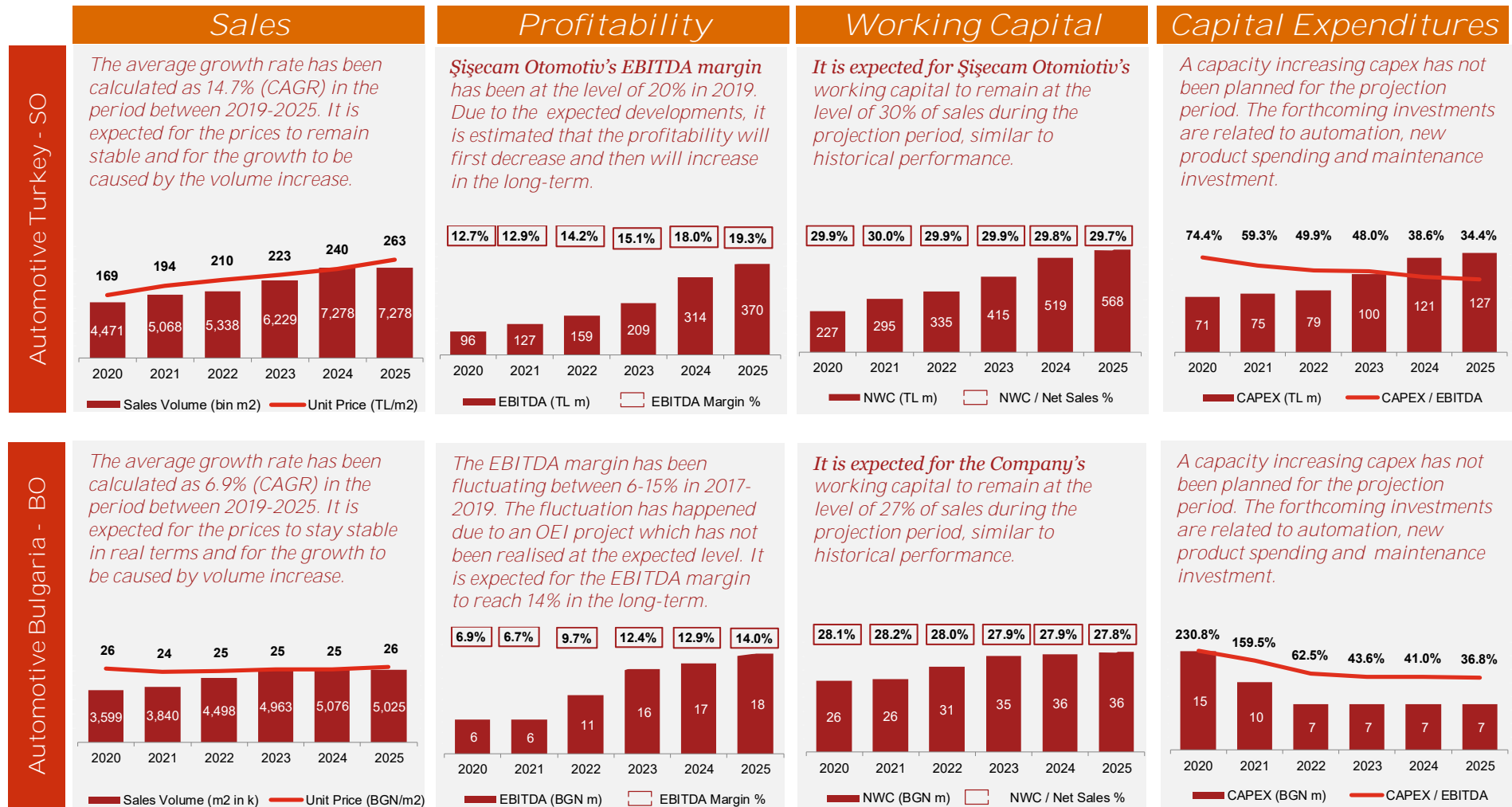


Source: Management, PwC Analysis

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.

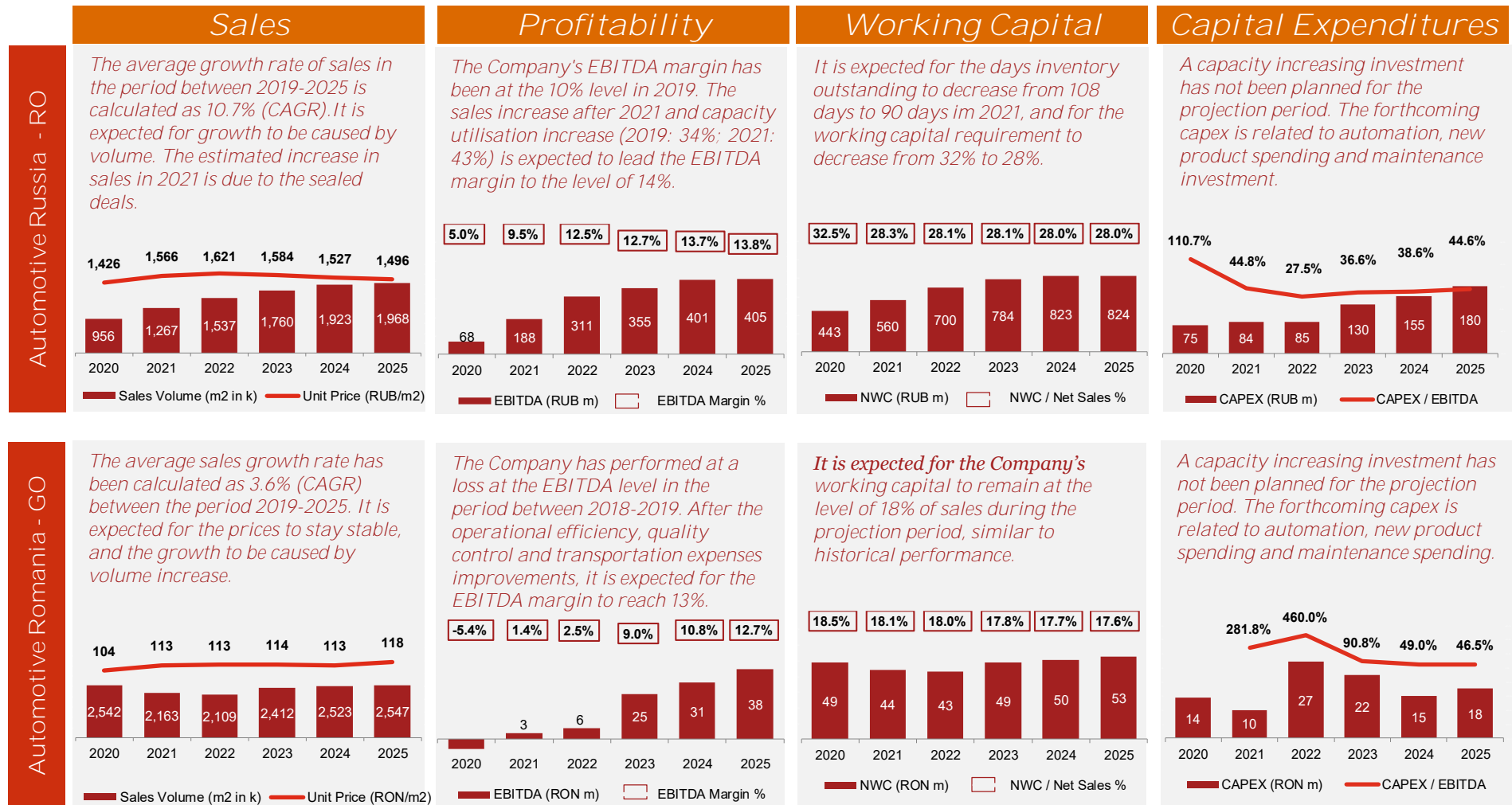


Source: Management, PwC Analysis

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.

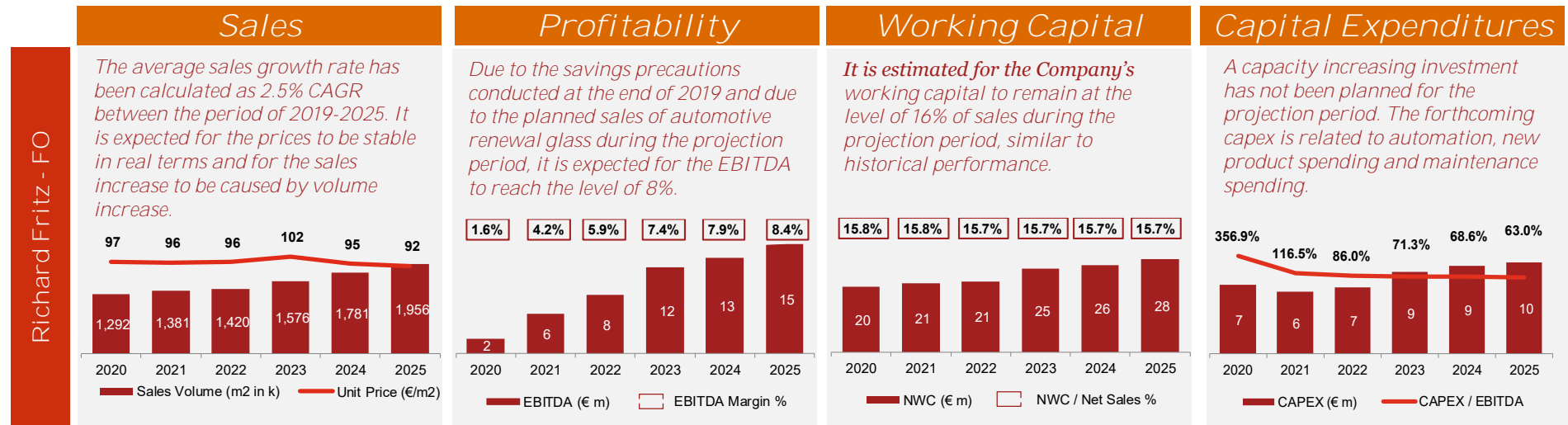


Source: Management, PwC Analysis

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
Çayirova 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 Çayirova 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.

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.

Source: Holding Management, PwC Analysis

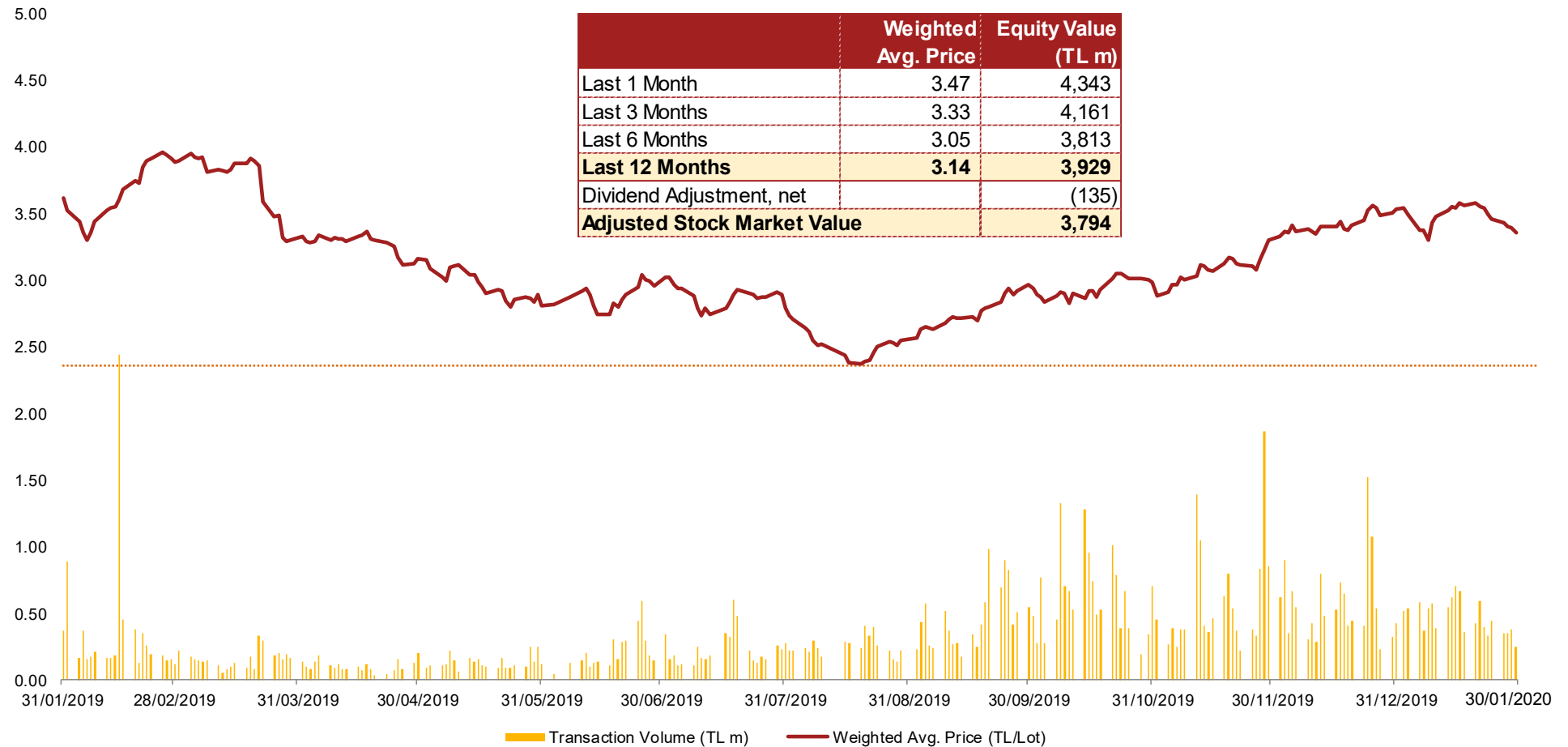
1 Sermaye Piyasasında Finansal Raporlamaya İlişkin Esaslar Tebliği

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)

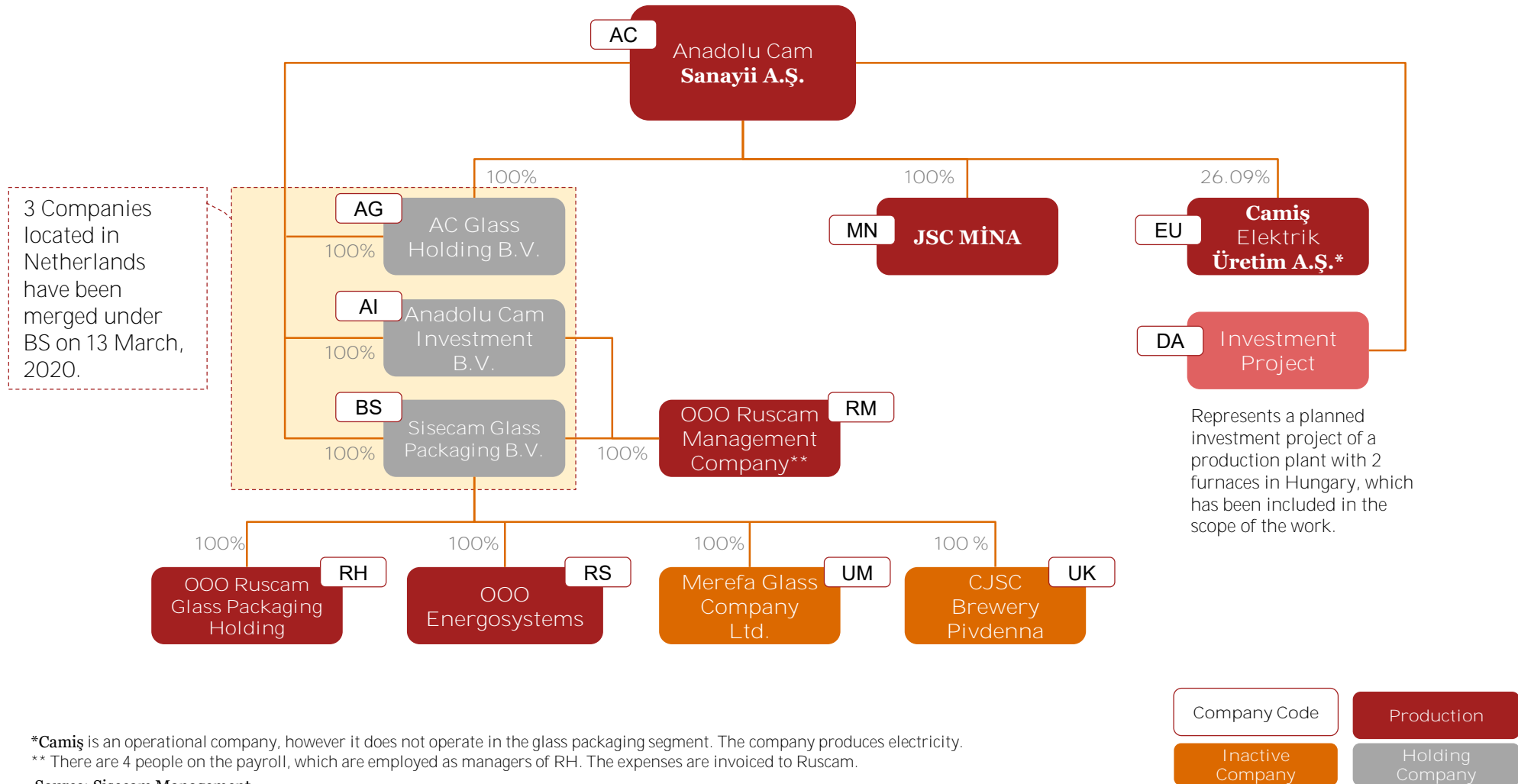


Source: CapitalIQ, PwC Analysis

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, Yenisehir 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 MİNA (MN)	JSC MİNA ("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 Pivdena 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.

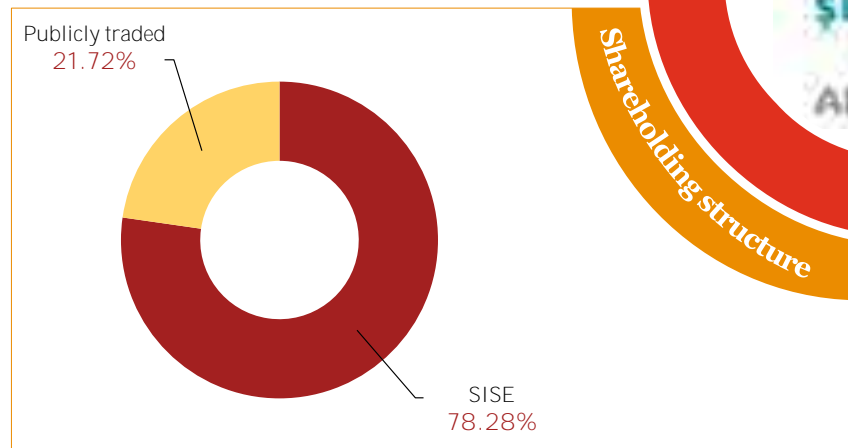
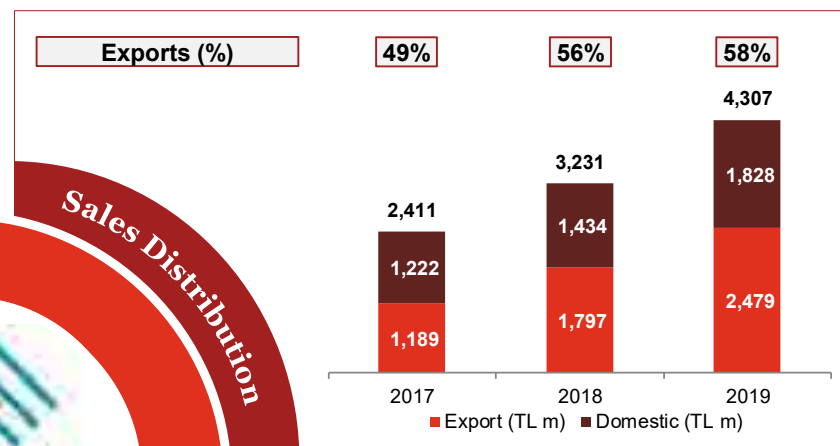
Therefore, unlike in other business segments, it is assumed that the COVID-19 outbreak will not have a negative impact on short-term projections provided for the Glass Packaging Group.

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
Pokrovsky	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*

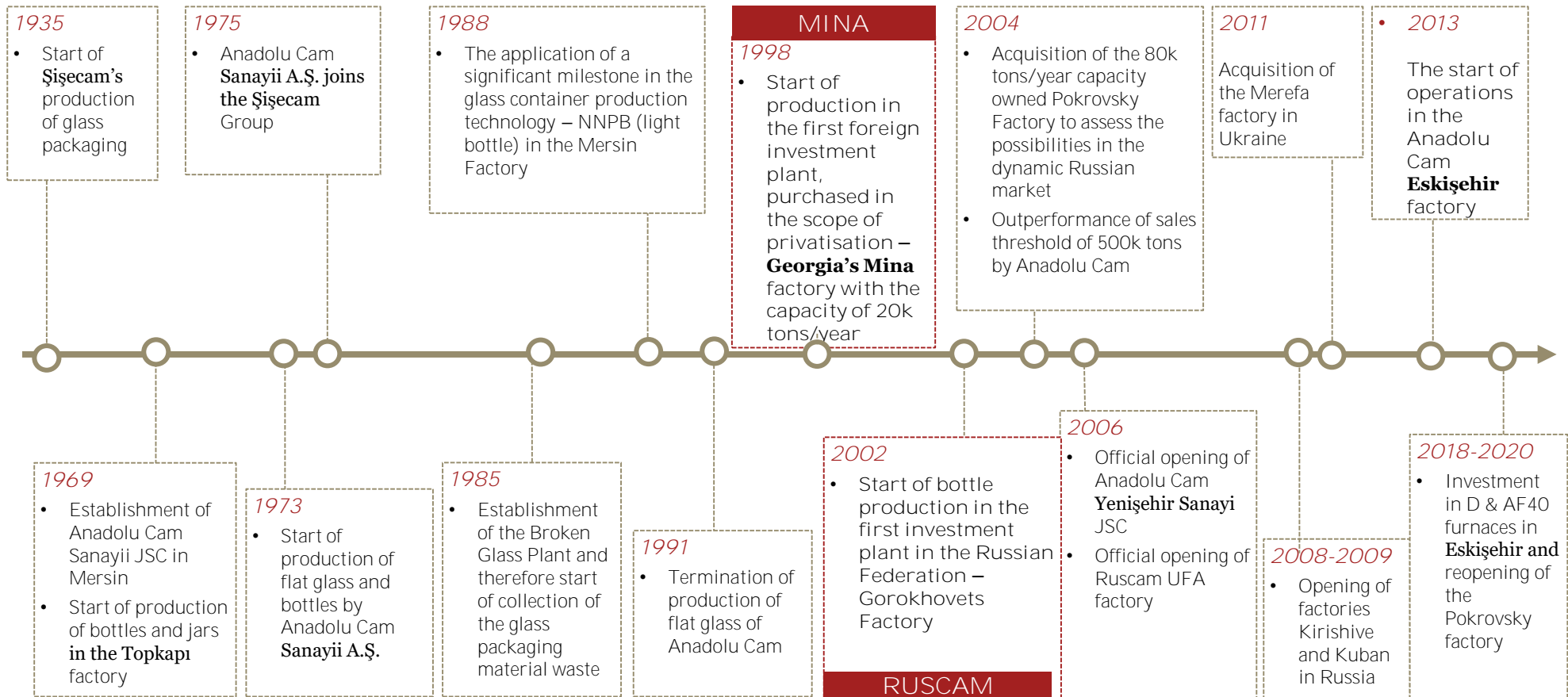
(TL m)	2017	2018	2019
Net Sales	2,411	3,231	4,307
Change, (%)	32%	%34	%33
EBITDA	544	801	1,129
EBITDA margin, (%)	23%	25%	26%
Equity of the Parent	1,892	2,309	2,826
Equity	1,892	2,309	2,826

* 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



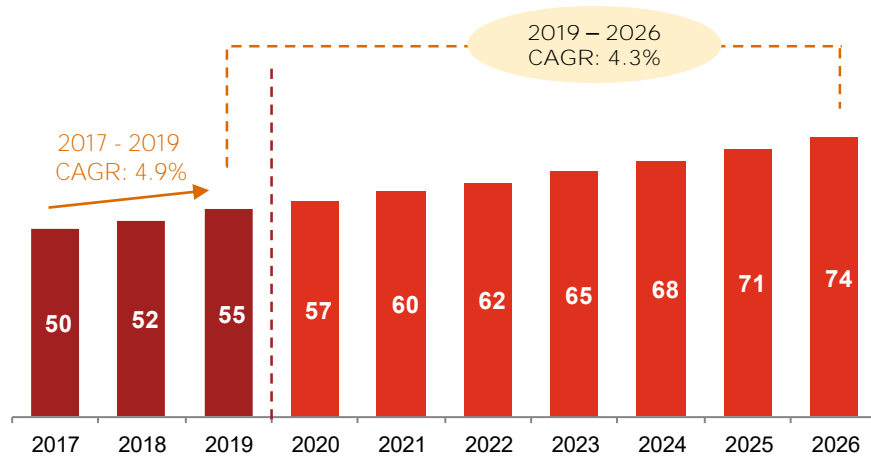
- *Production of glass packaging of various volumes and colours for food, water, sparkling water, soft drinks, juices, milk, beer, wine and other highly alcoholic beverages, as well as for the cosmetics and pharmaceutical industries.*
- *Won various design awards in 2019, such as Turkish Exporters Assembly,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

Source: Şişecam Management

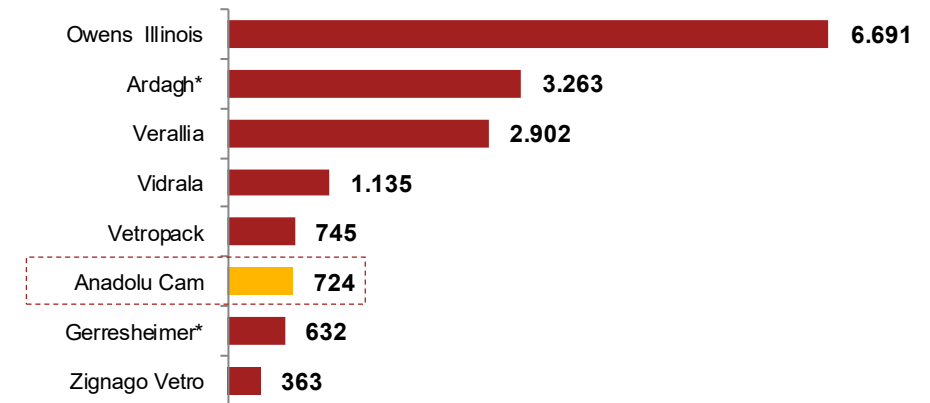
Global Glass Packaging Market

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)

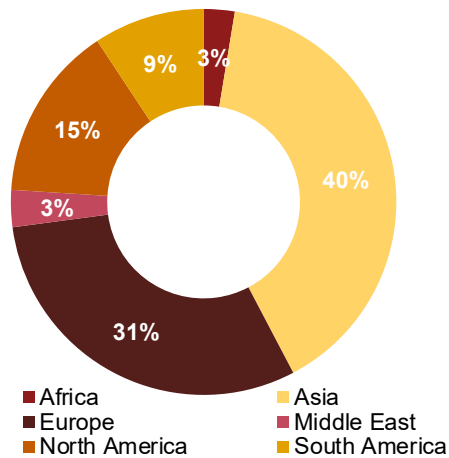


Revenue of the Global Players 2019 (\$ m)

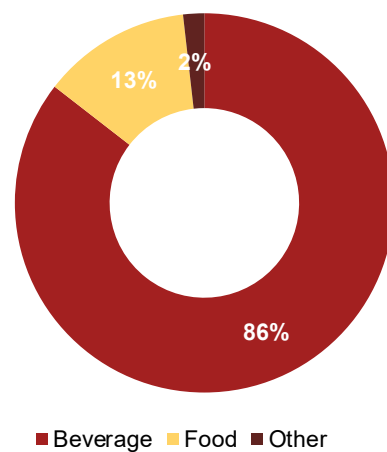


*Only the income from the glass packaging operations has been taken into consideration.

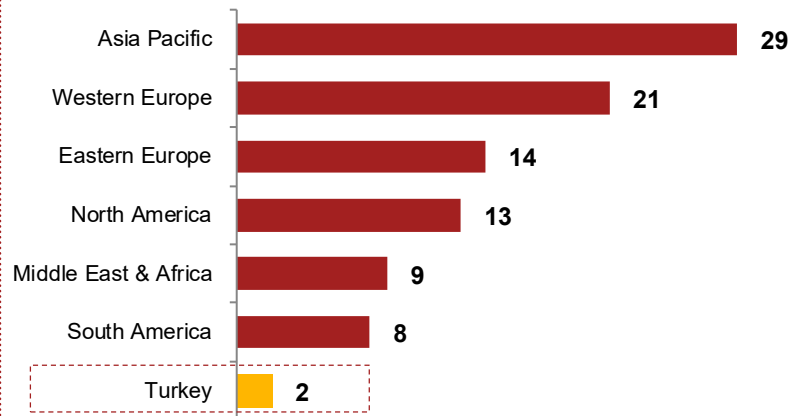
Geographical Breakdown (2019)



Industry-based breakdown (2019)



Regional production capacity (m tons)

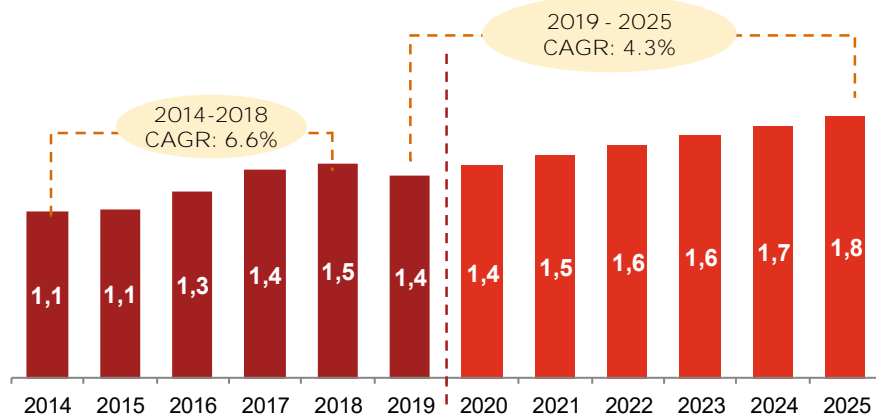


Source: Capital IQ, Şişecam Management, PwC Analysis

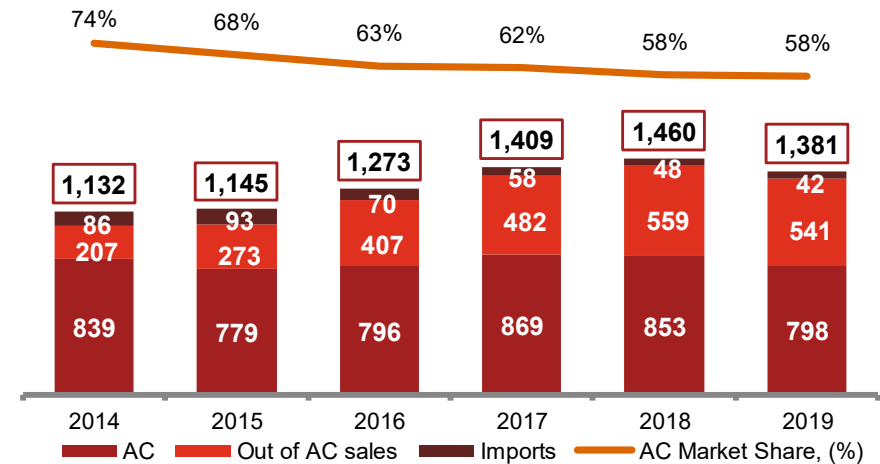
Turkish Glass Packaging Market

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.

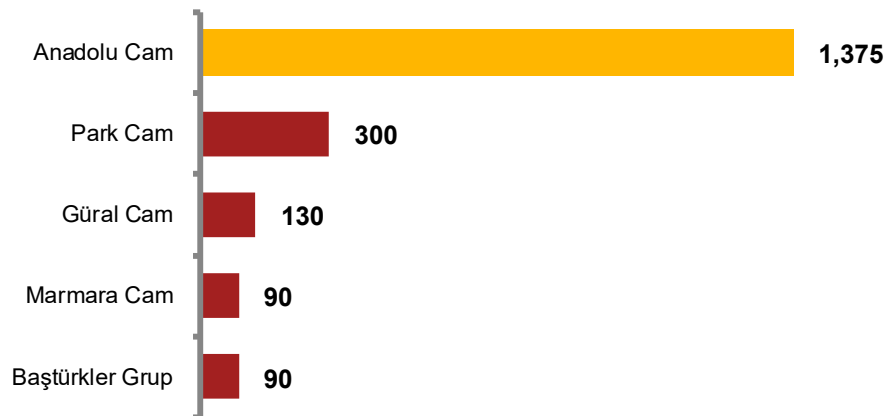
Turkish Glass Packaging Industry (m tons)



Turkish Glass Packaging Industry (k tons)

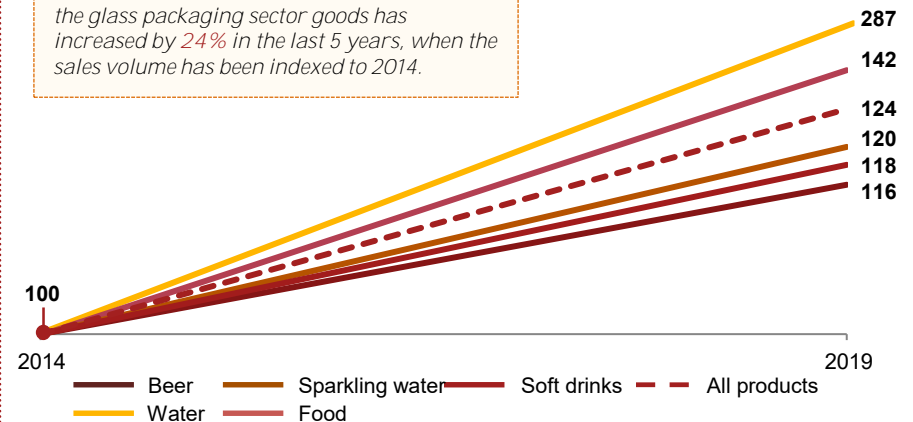


2019 Glass Packaging Production Capacity in Turkey (k tons)



Turkish Glass Packaging Market Product Index

It has been observed that the sales volume of the glass packaging sector goods has increased by 24% in the last 5 years, when the sales volume has been indexed to 2014.



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 an 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.

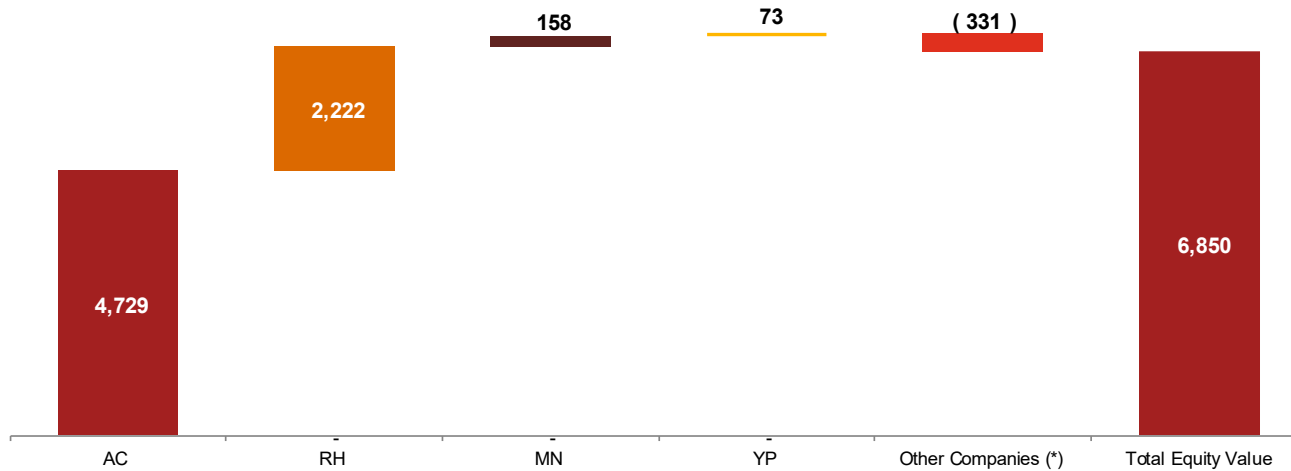
Valuation Method	Equity Value	Explanations
Income Approach 	TL 6,850 m	Consolidated equity value has been calculated from the stand-alone equity values via the “Sum of the Parts” method. “DCF” method has been used for the operational companies and the “NAA” method has been applied for the Holding and 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

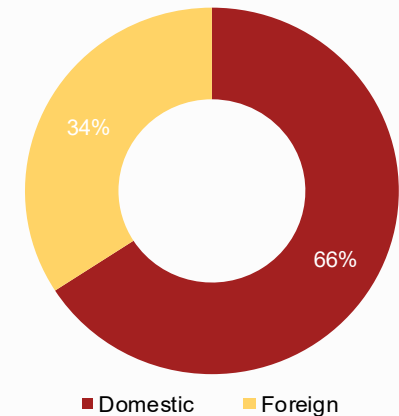
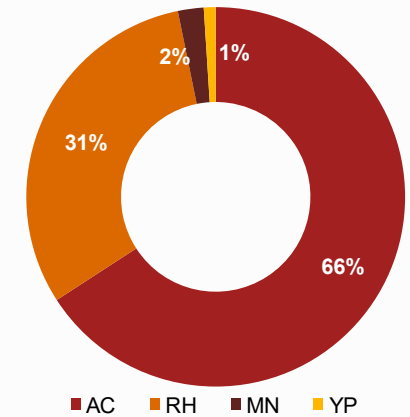
ANACM Income Approach

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

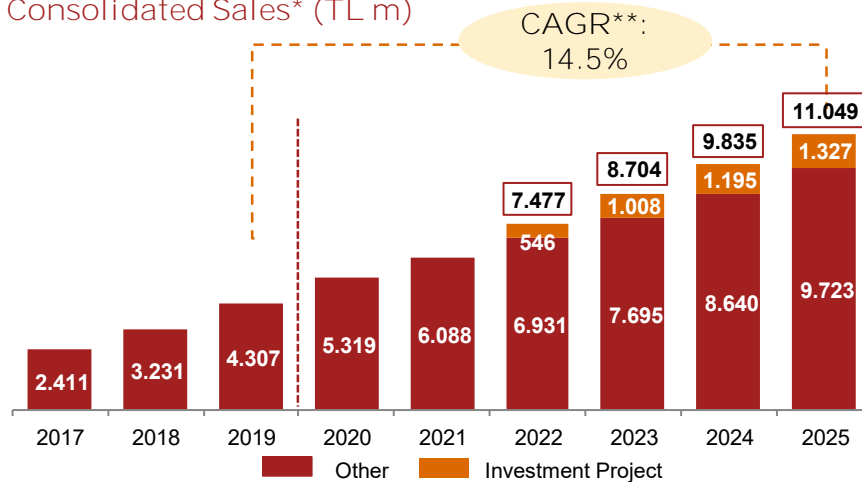
* Other Companies include Camiř Elektrik, SPVs and non-operational companies. The value estimates for SPVs and non-operational companies are estimated acc. To Net Asset Approach and exclude the impact of investments in subsidiaries, for SPVs.

Source: Holding Management, PwC Analysis

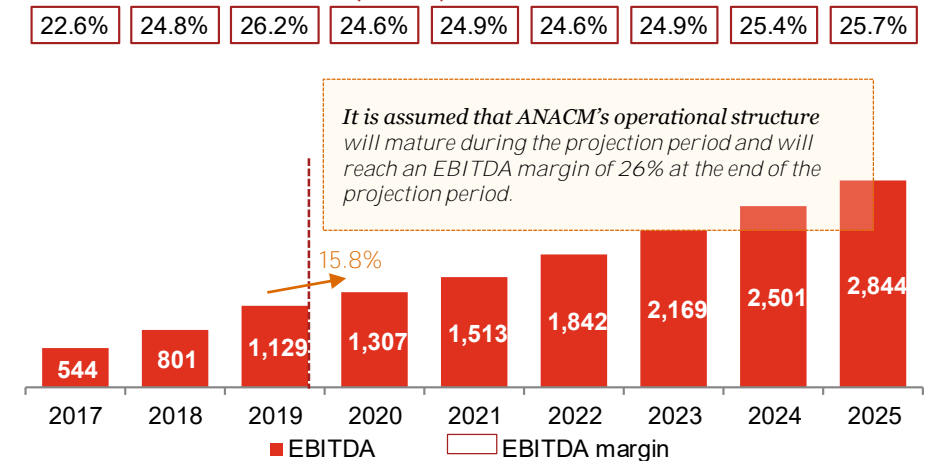
ANACM Income Approach

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.

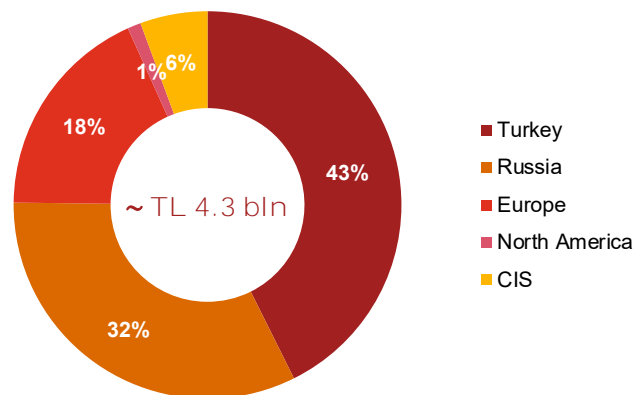
Consolidated Sales* (TL m)



Consolidated EBITDA* (TL m)



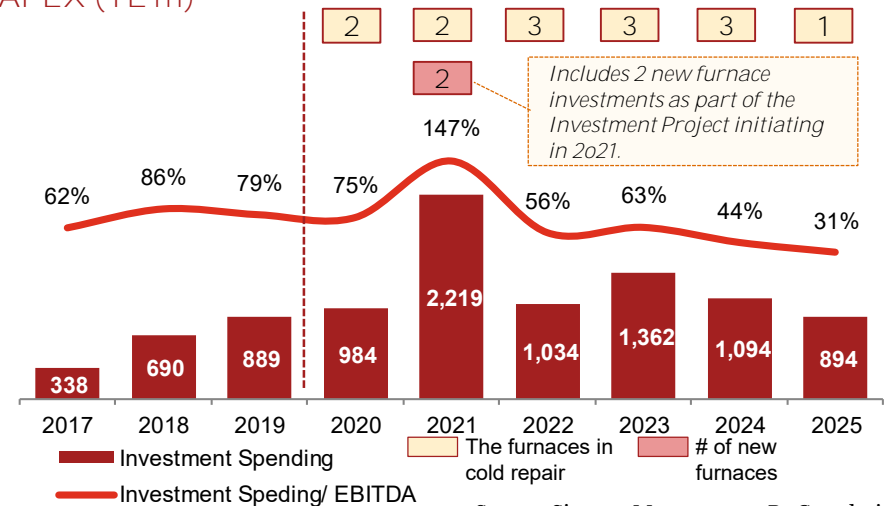
Geographical Breakdown of Sales - 2019



* 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)

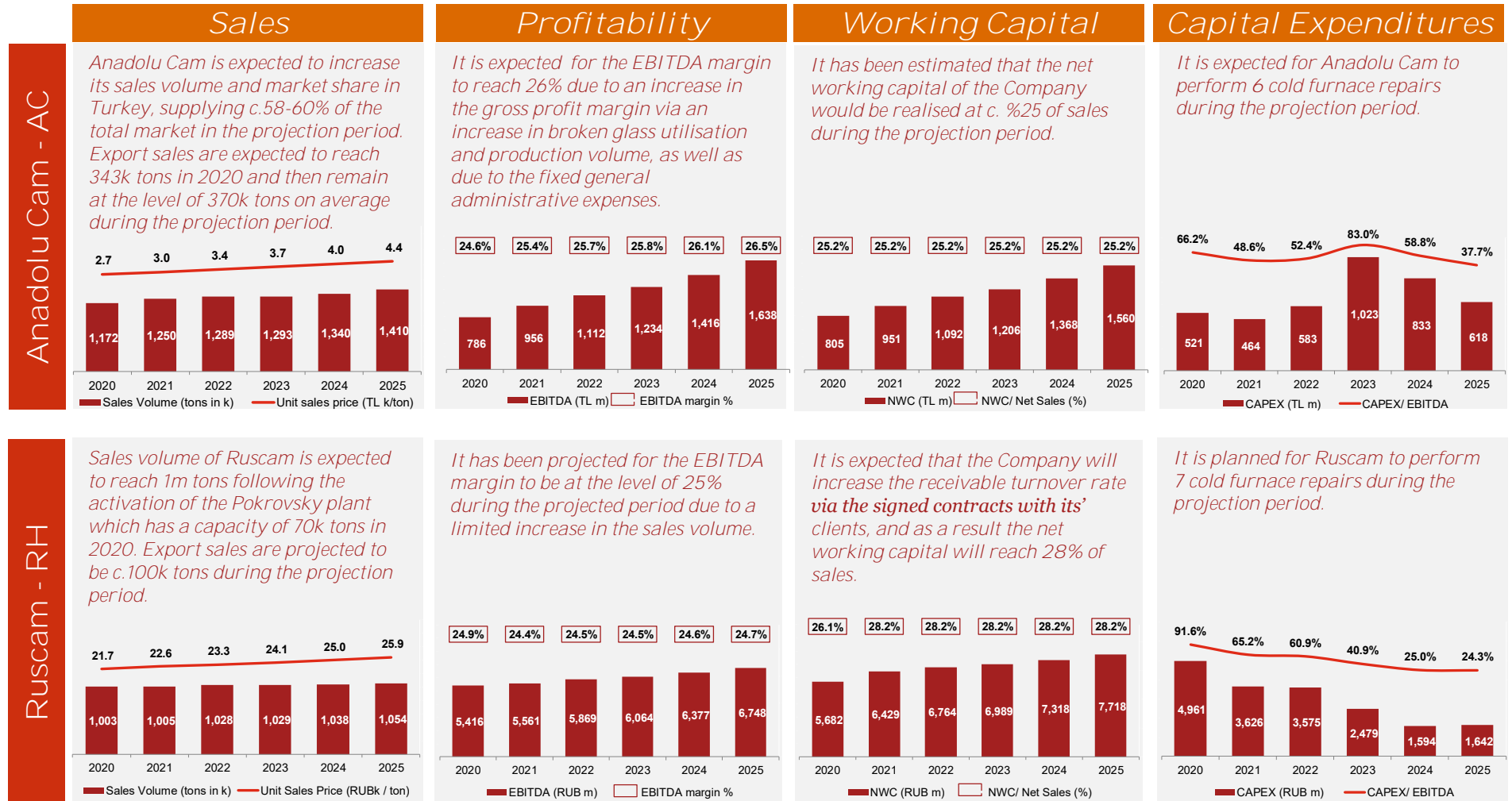


Source: Şişecam Management, PwC analysis

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.

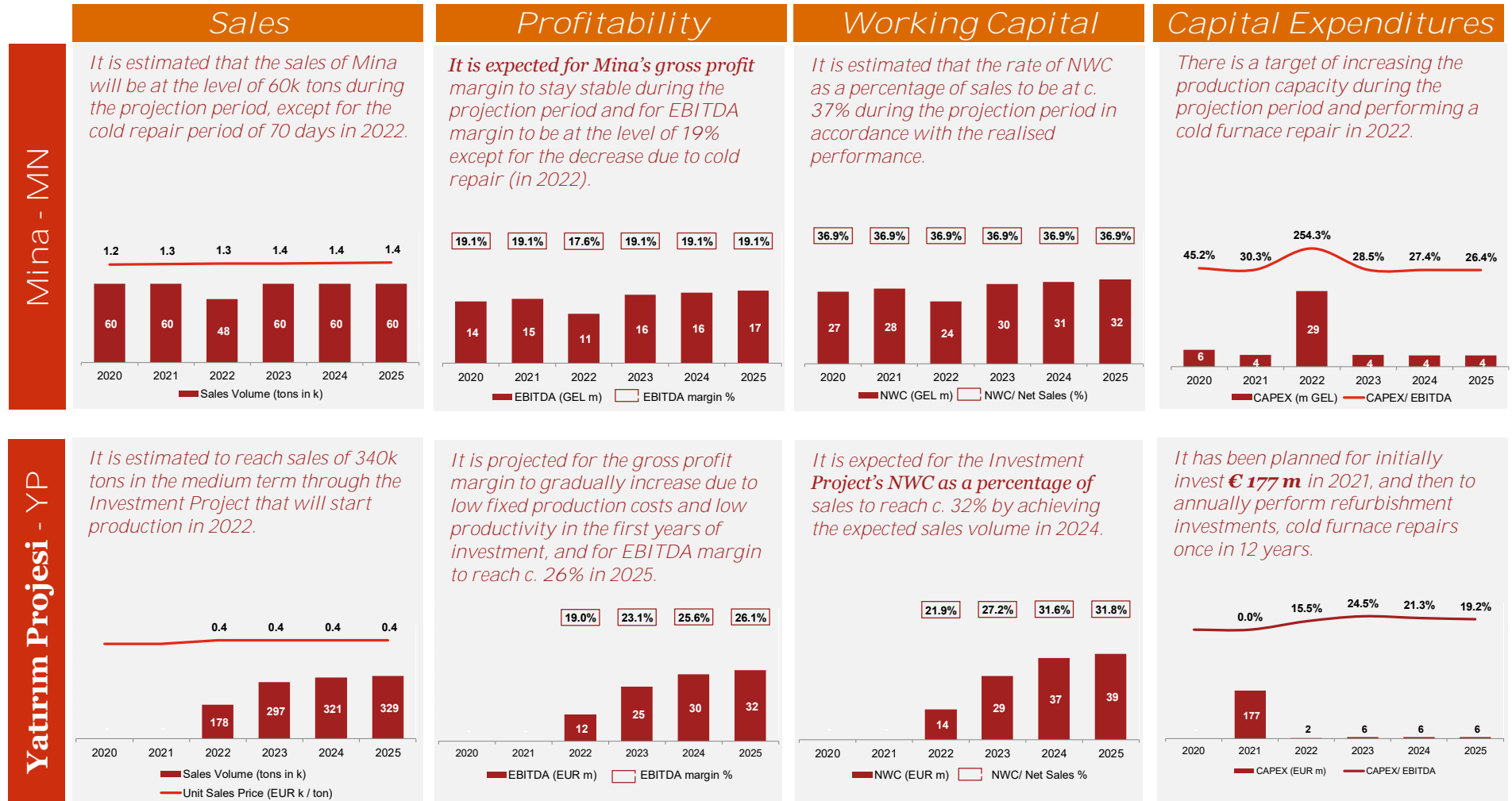


Source: Şişecam Management, PwC Analysis

ANACM

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

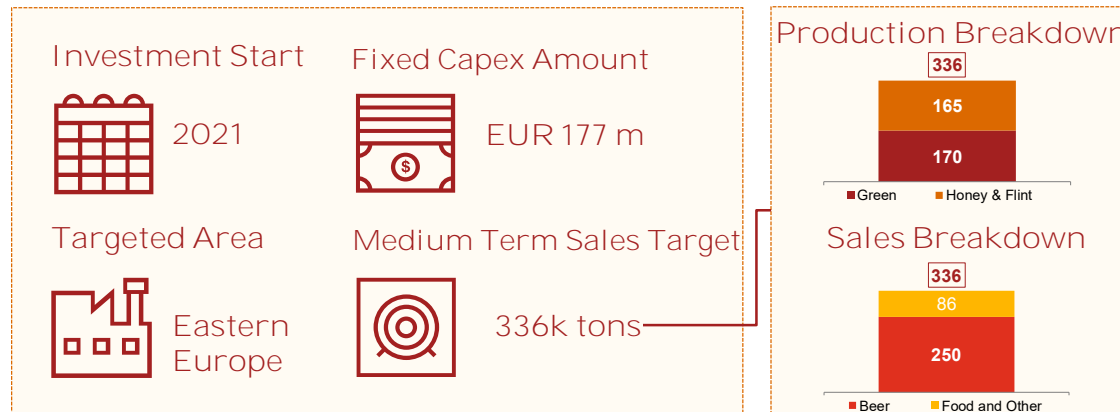
The main assumptions that have been taken into account when estimating the value of the companies under the Income Approach are presented below.



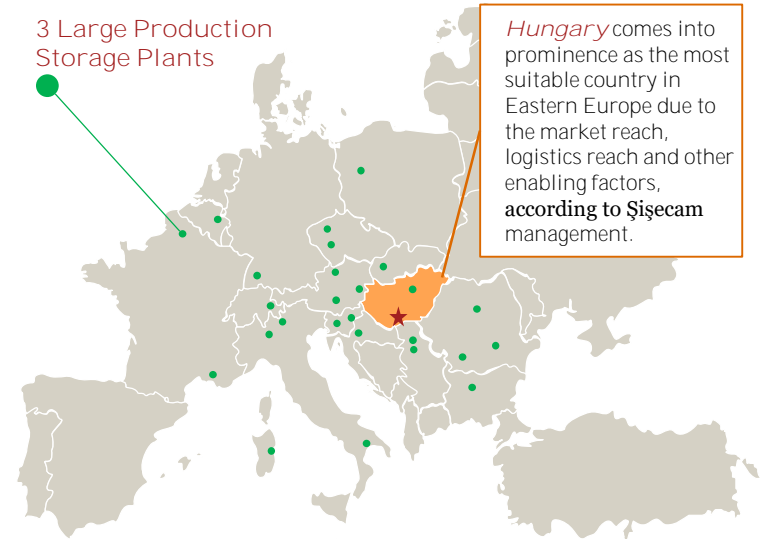
Source: Şişecam Management, PwC Analysis

ANACM Investment Project

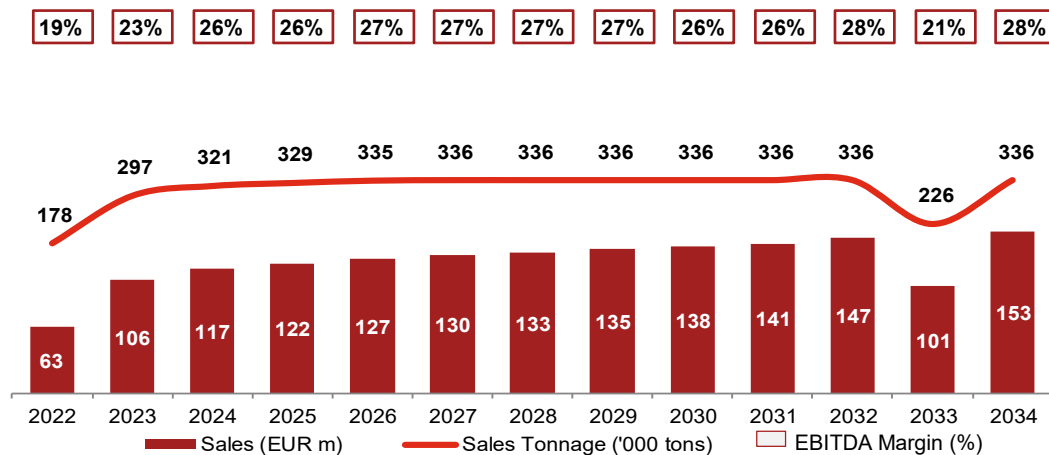
ANACM is planning to invest in a new production plant located in Eastern Europe in order to play a more active role in the European market. The plant is expected to specialise in beer and food packaging. The investment is expected to go forwards regardless of the status of the ongoing negotiations with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



3 Large Production Storage Plants



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



Source: Şişecam Management, PwC Analysis

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.

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	
Inflation Indexation	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
Camış Elektrik Üretim A.Ş.					22
6 Other Companies					(353)
AC Glass Holding B.V.					(0)
Anadolu Cam Investment B.V.					(2)
Sisecam Glass Packaging B.V.					(316)
OOO Ruscam Management Company					0
Merefa Glass Company Ltd.					18
CJSC Brewery Pivdenna					(52)
OOO Energosystems					(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 Camış Elektrik Üretim A.Ş. 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 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)
Currency Translation Differences	(203)
Hedge Reserves	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. Dividend adjustment is included in our assessment with respect to its effect on the net asset value of ANACM.

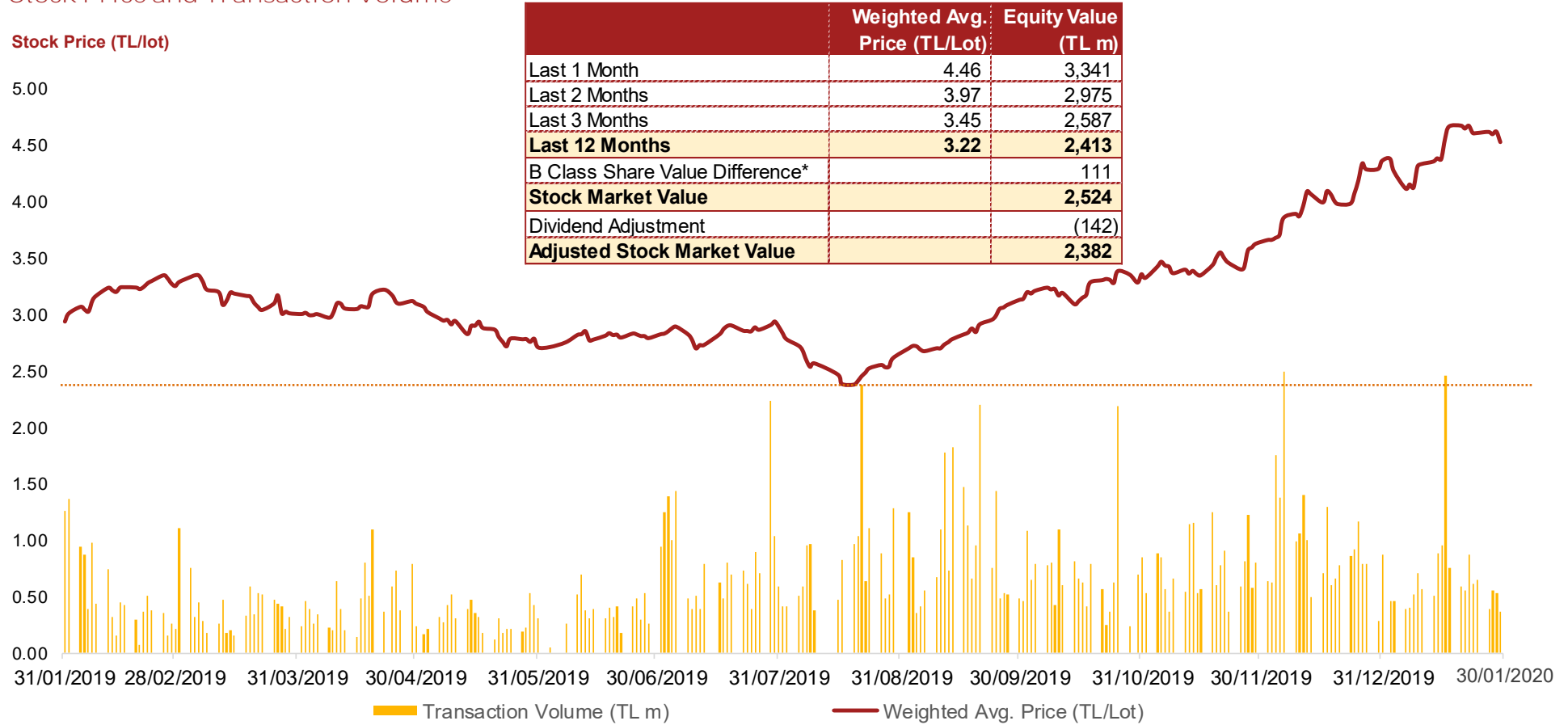
Source: Holding Management, PwC Analysis

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



* 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)

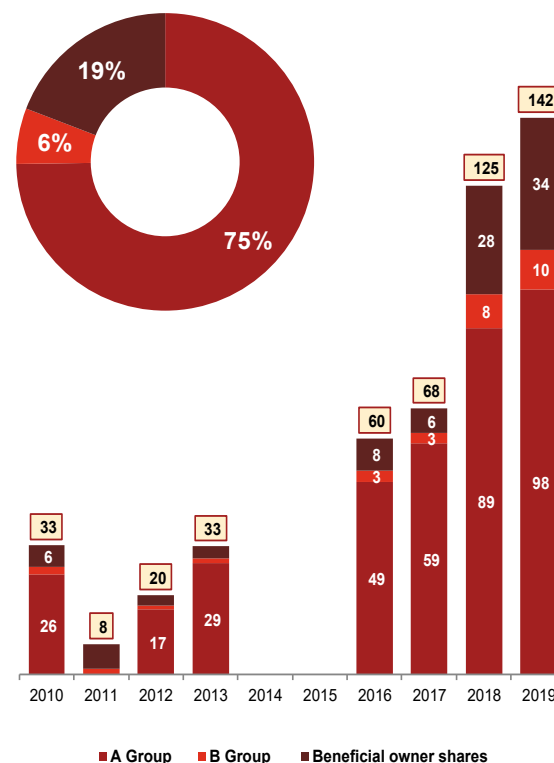
According to the company's shareholder's agreement, ANACM has 3 different share groups. B Group Shares and the Beneficial Owner Shares have different preferred stock rights from the A Group Shares, which constitute the majority of shares, at the dividend distribution level.

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 kuruş	1,284,610,568 shares TL 12,486,105.679 with a nominal value of 1 kuruş	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 of a B Group share is estimated to be 3.76x of an A Group share.

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

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 Privilege	(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	
Index		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.

Source: Şişecam Management, PwC Analysis

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.

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 been distinguished, and it is assumed that shareholders hold the shares in the rate of equity held.

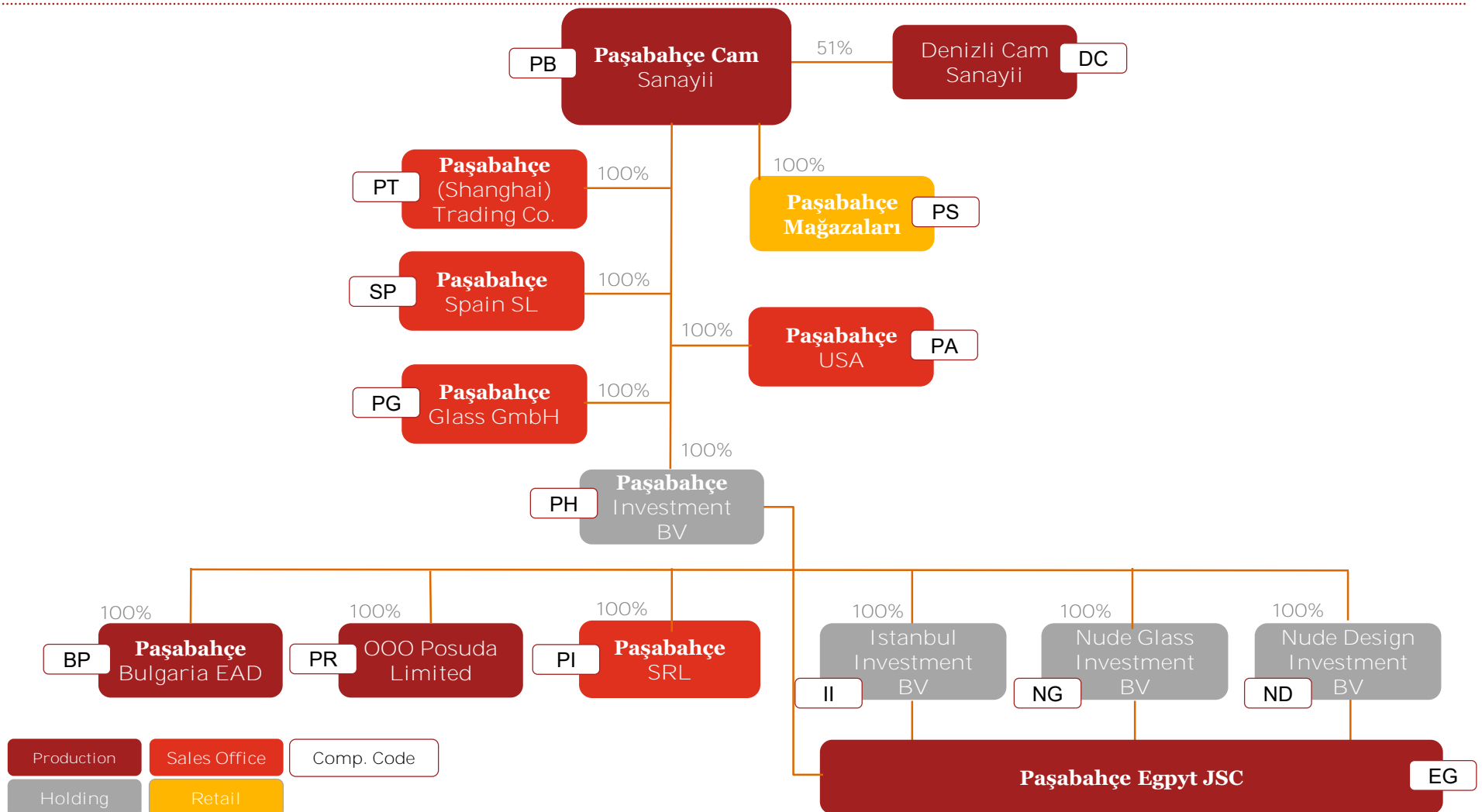
In the Table I under the Stock Market Value, only the A Group shares value has been taken into consideration, because only A Group shares perform operations on stock exchange market and the realised market prices represent the value of A Group shares. When the Stock Exchange Value has been calculated 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

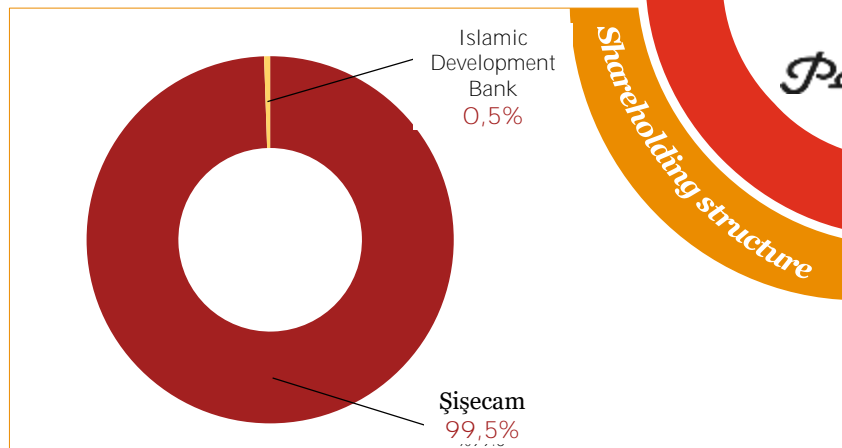
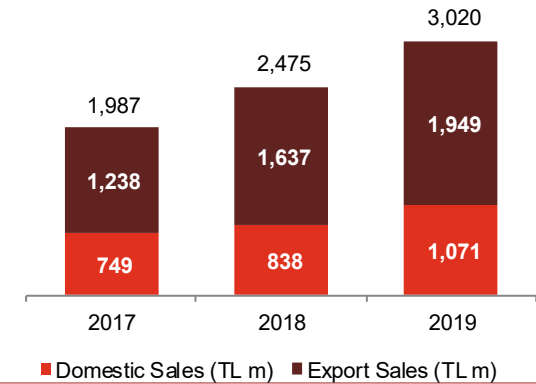


Foreign sales percentage

62%

66%

65%



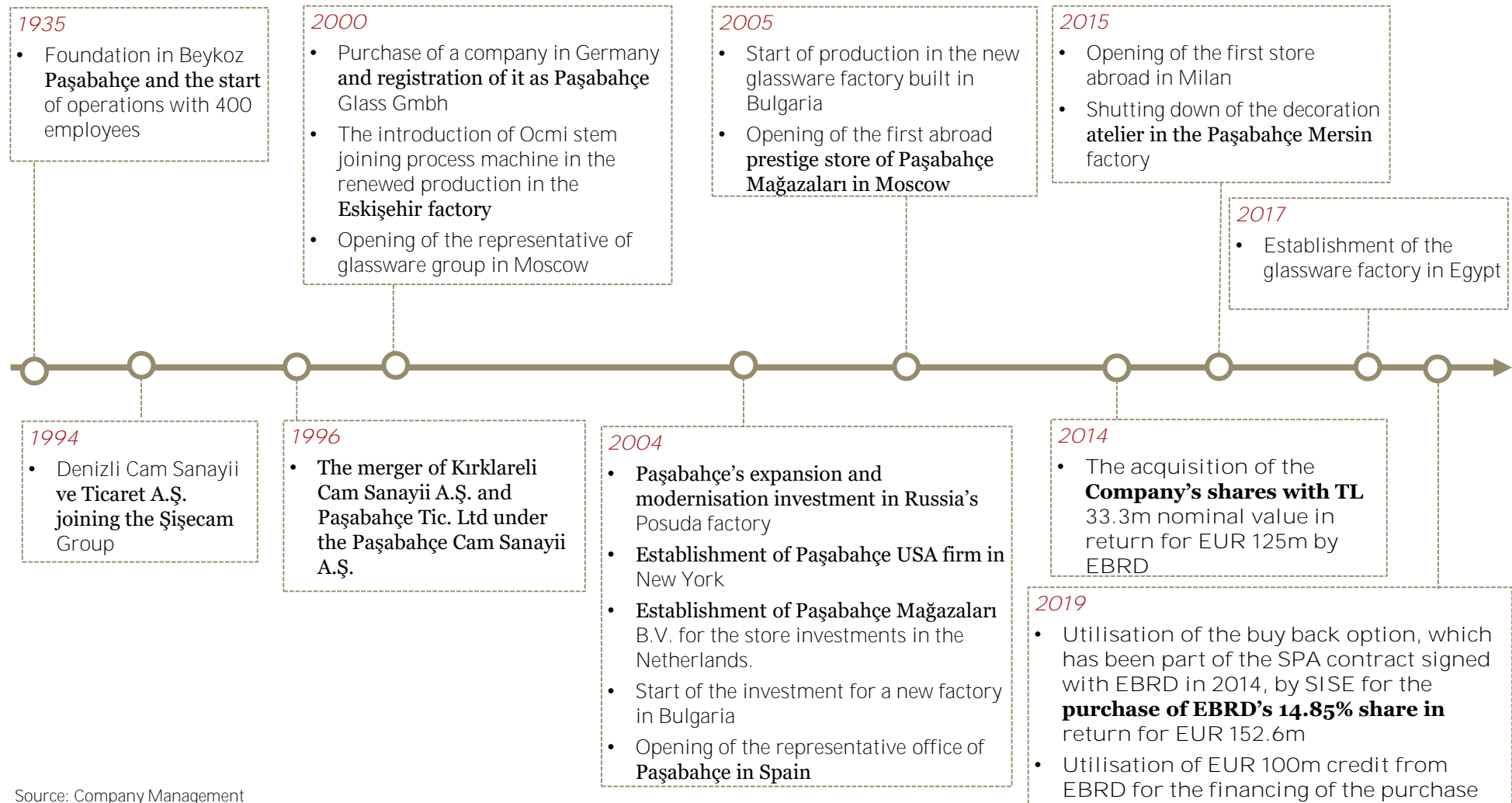
Financial indicators

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.)

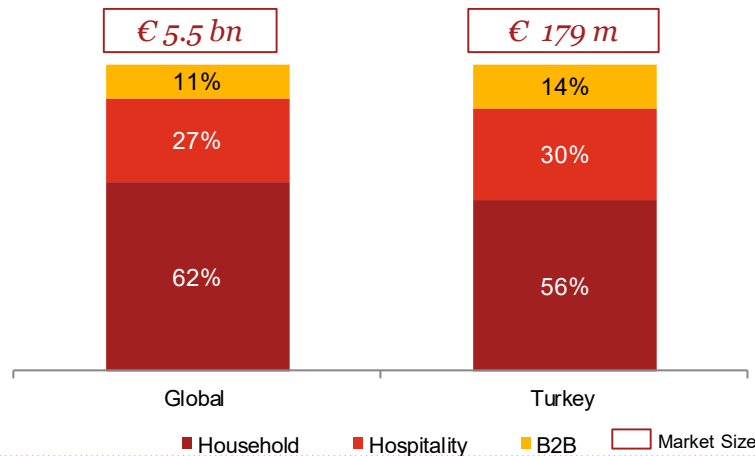
Source: Company Management

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

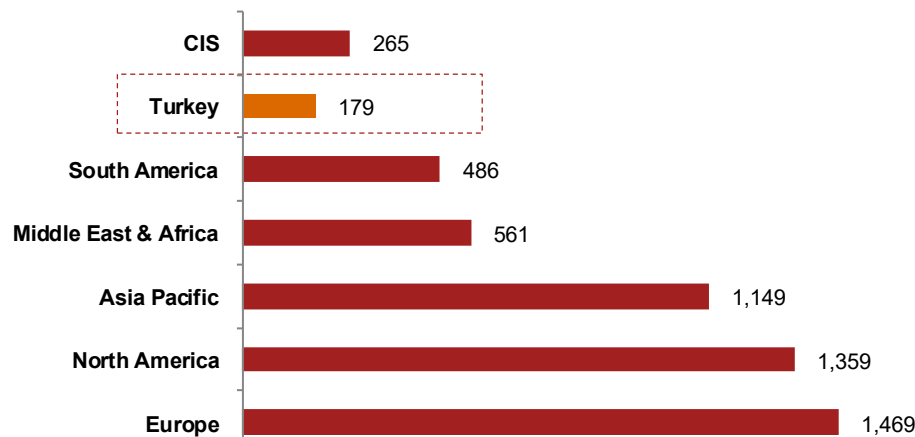


B2B represents sales made to corporate firms (Coca-Cola, McDonalds etc.). The glass products given by firms to their customers as promotion are followed under this channel.

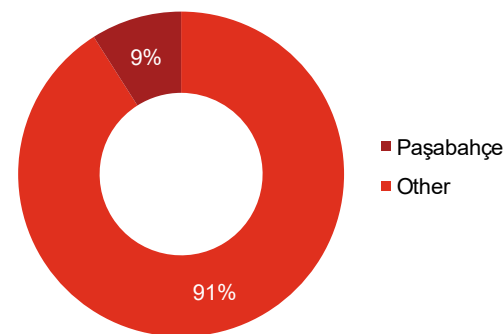
Hospitality channel's customer portfolio includes large hotel chains, restaurants and firms operating under food and beverage sector (Hilton, Divan, Rixos, Turkish Do&Co vb.).

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.).

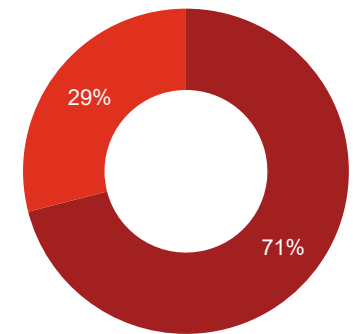
Glassware market size (€ m) - 2019



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.

England

- Market size of GBP 145m
- 16% market share
- 5% CAGR target between 2019-2025

Russia

- The largest glassware market of CIS (\$ 166m)
- The target of increasing the market share from 22% to 25%

United States

- The largest glassware market (\$ 1.5 billion)
- 2019 sales: \$ 16.1m
- Increase of sales by utilising the tax advantage of sales from **Egypt's plant**
- 22% CAGR target between 2019-2025

Egypt

- The largest glassware market in the Middle East (\$ 80m)
- Current market share: 19%
- Targeting 8% CAGR by taking advantage of the Egypt plant in 2019-2025

Germany

- **Europe's largest glassware market** (c. EUR 400m)
- 2019 sales: EUR 30m
- Target of increasing the market share from 8% to 12%

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

Source: Company Management

- 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.

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

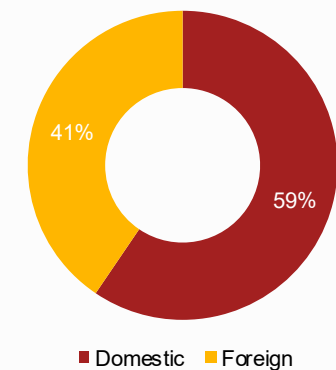
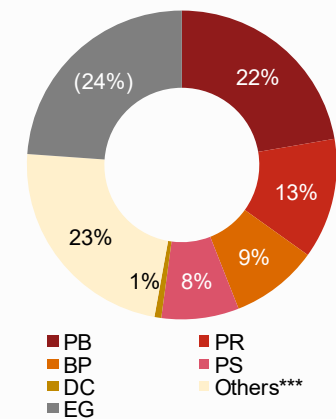
Income Approach

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.

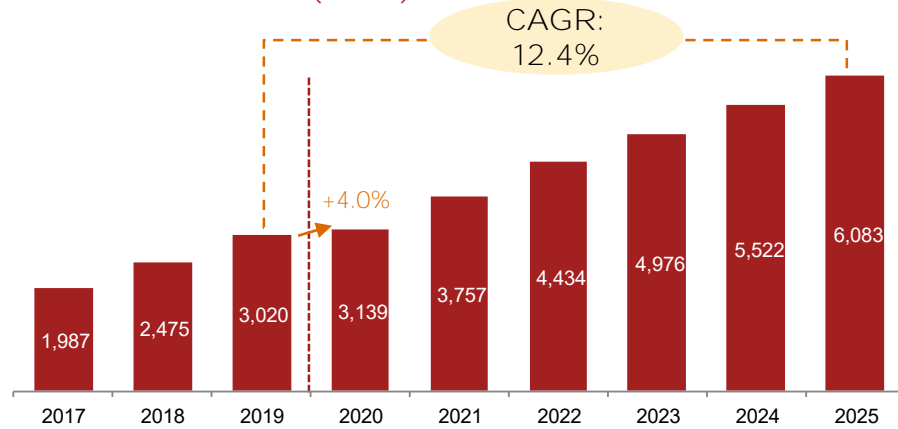
** Tax assets consisting of tax incentives from investments and carry-forward losses

Source: Holding Management, PwC Analysis

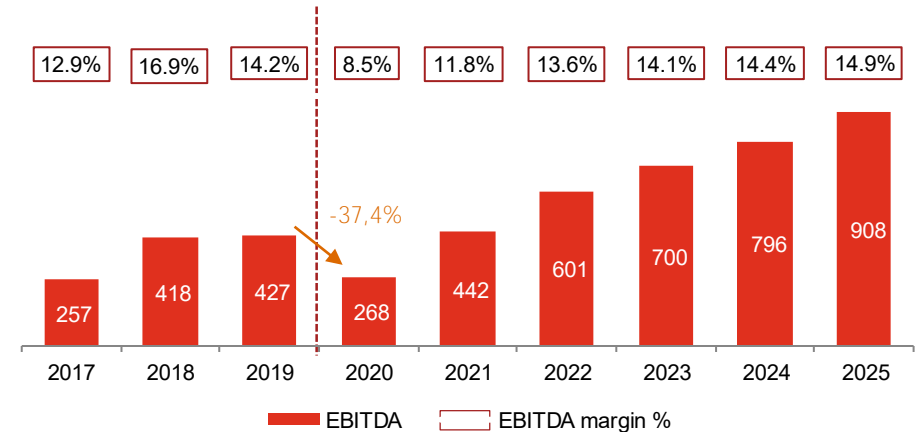
PASAB Income Approach

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.

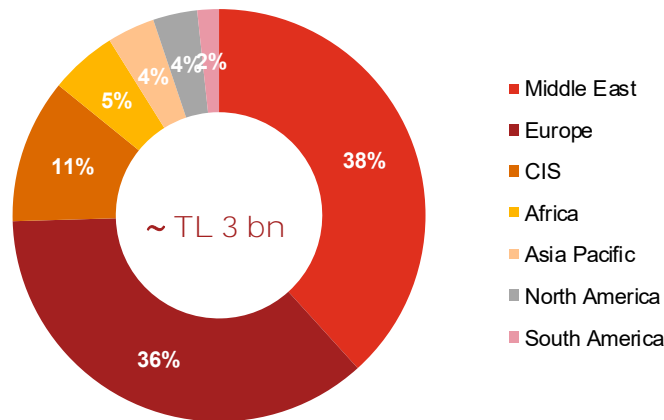
Consolidated Sales* (TL m)



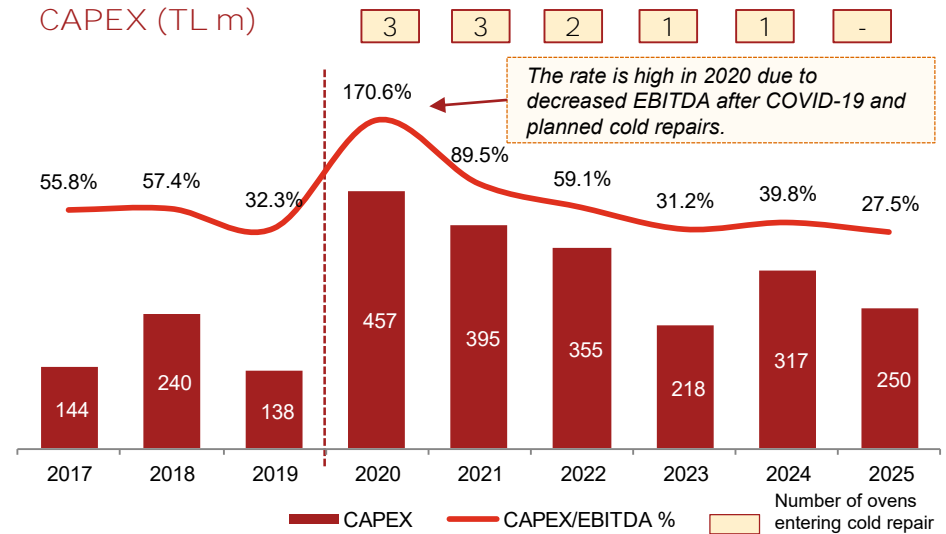
Consolidated EBITDA* (TL m)



Geographical Distribution of Sales- 2019



CAPEX (TL m)



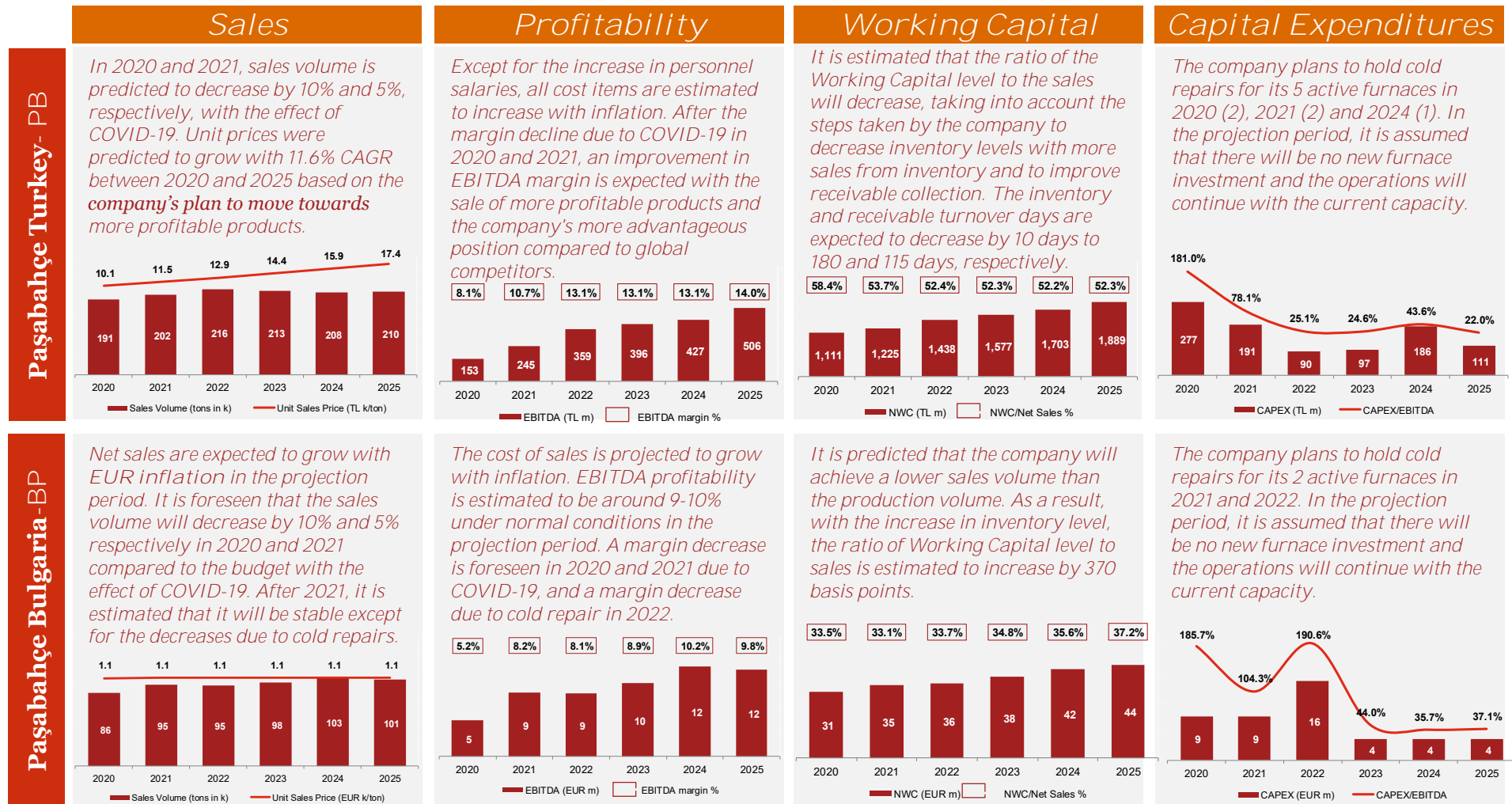
Source: Company Management, PwC Analysis

* 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.

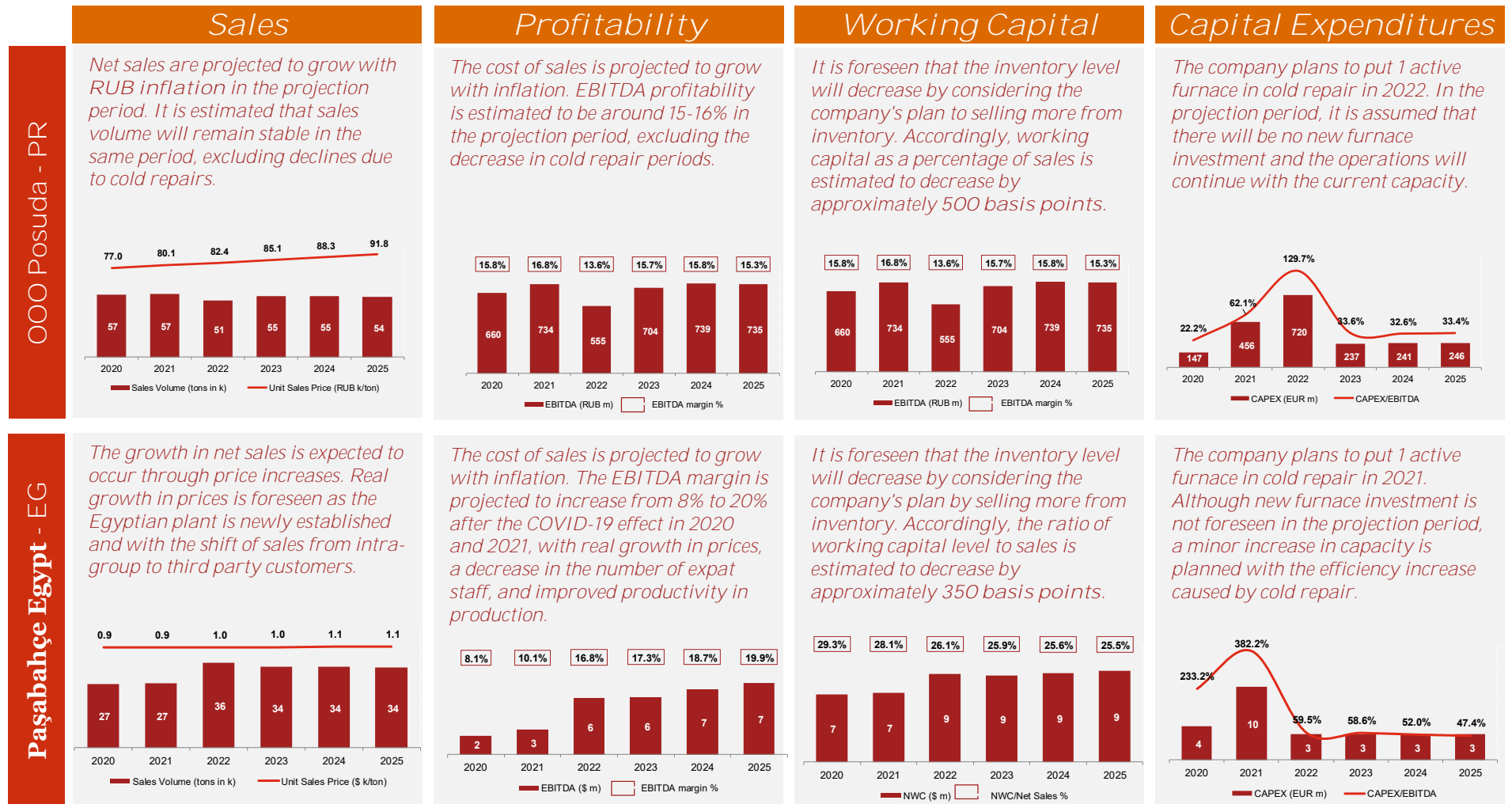


Source: Company Management, PwC Analysis

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.

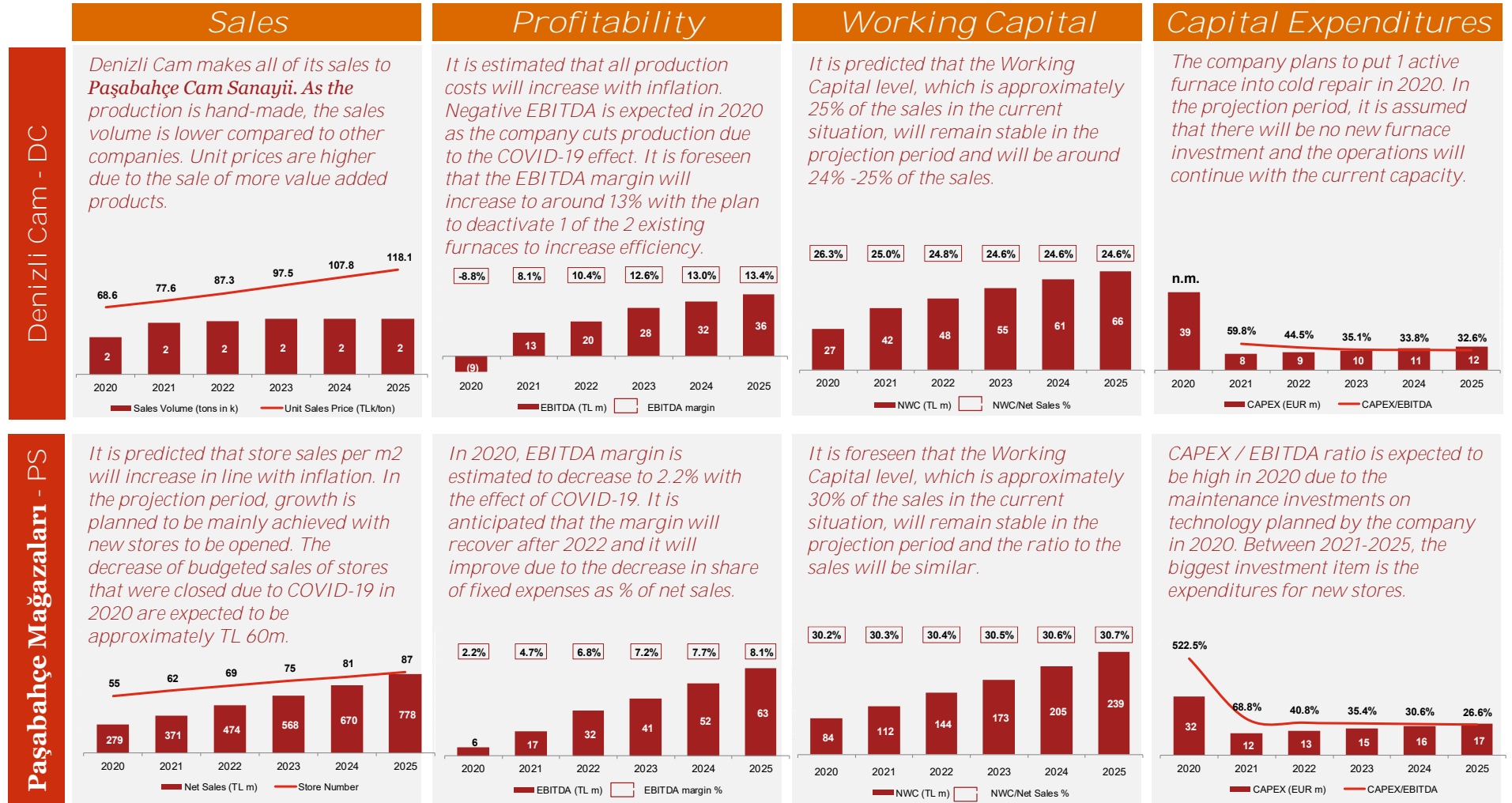


Source: Company Management, PwC Analysis

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

*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.

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.

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	
	EV / EBITDA (x)	EV / EBITDA (x)	
	FY15-FY19 Average	FY15-FY19 Average	Discount Rate
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.

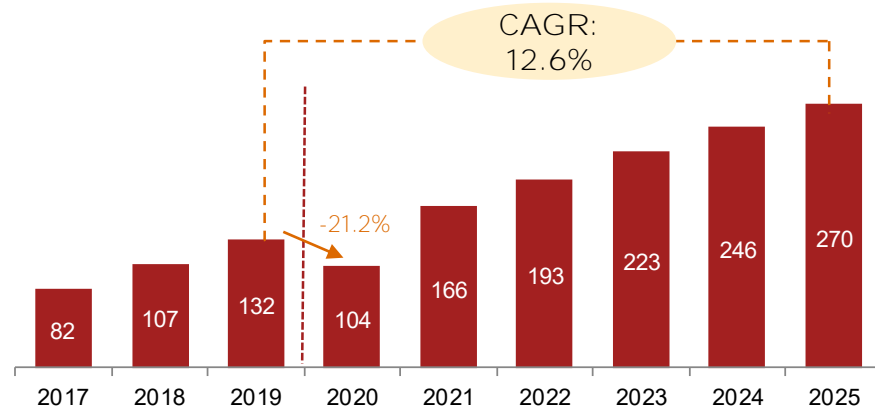
Valuation Method	Equity Value	Explanations
Income Approach 	TL 11 m	Calculated based on projections prepared to cover the years 2020-2025 over TL, the functional currency of DENCM, using the 'Discounted Cash Flow' method.
Market Approach 	TL 23 m	Comparable companies with similar operational and financial 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

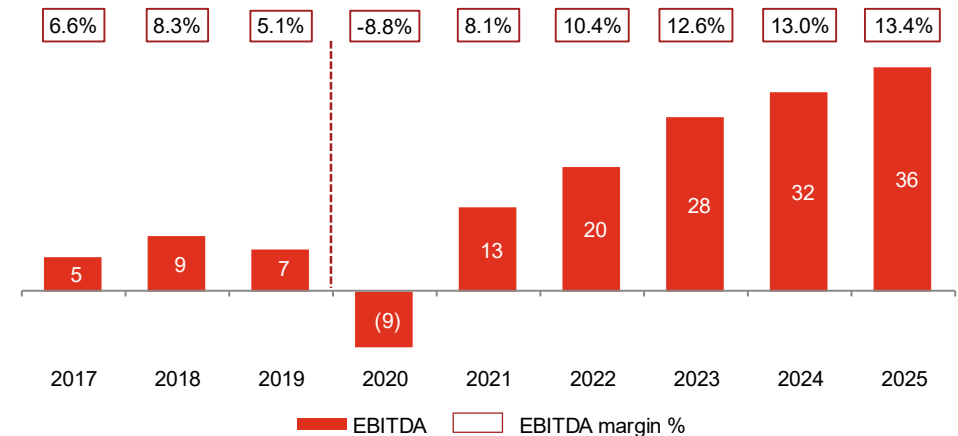
DENCM Income Approach

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.

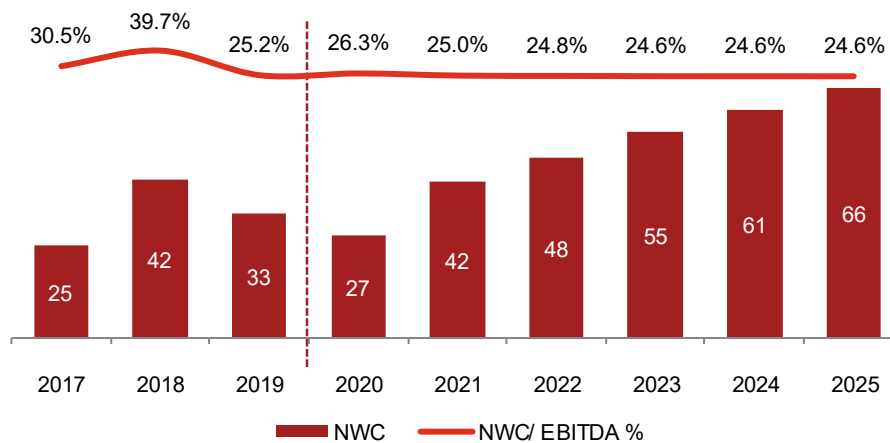
Net Sales* (TL m)



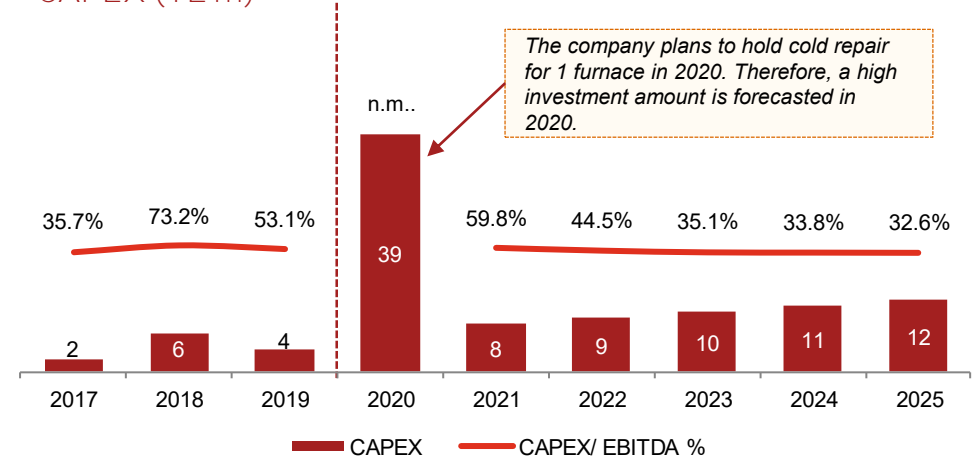
EBITDA* (TL m)



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
Currency Translation Difference	44
Hedge Reserves	(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.

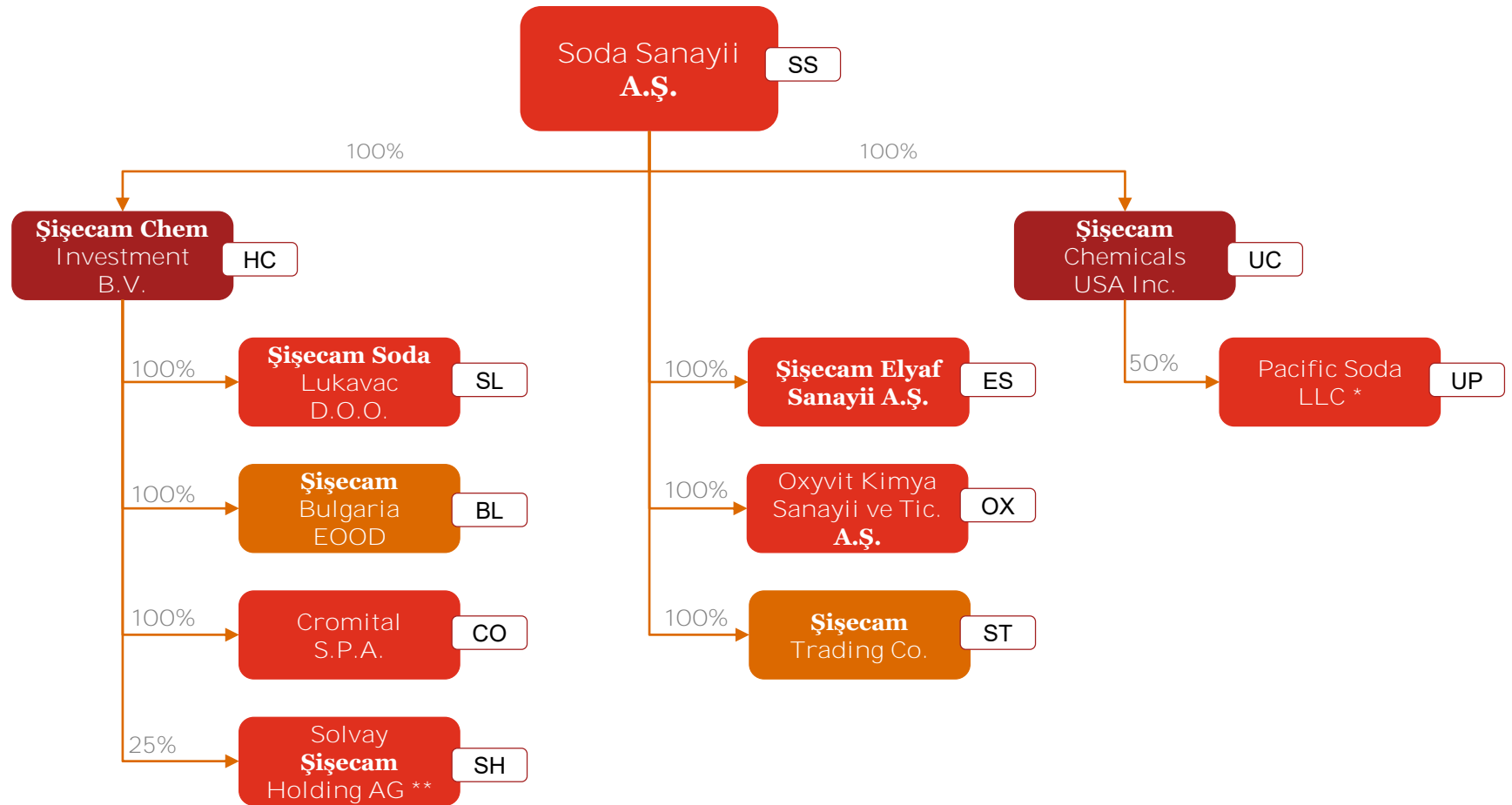
Transaction Volume (TL m) Adjusted Avg.Price(TL/lot)

Source: Capital IQ, PwC Analysis

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.



* Subsidiary

** Associate

Production Company

Trading Company

Company Code

Holding Company

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)

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.

- Natural Soda Ash Investment

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 SİSE 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%.

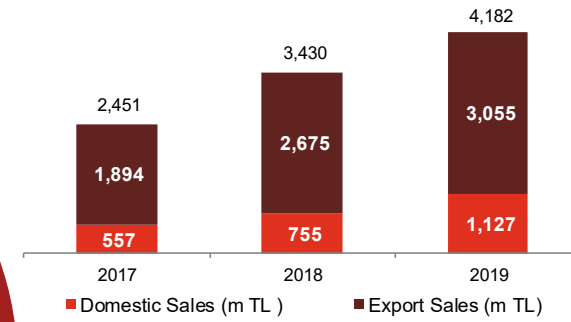
Business Segment	Productions	Number of Facility	Location	Capacity (k ton)
Soda Ash	Ligth Soda, Heavy Soda, Sodium Bicarbonate and Sodium Sulphide	3	Mersin Bosnia-Herzegovina	~ 2.430
Chrome	Sodium Bichromate BCS and Chromatic Asit	2	Mersin Italy	~ 260
Glass Fiber	CGF, MER, SER and Mats	1	Balıkesir	~ 70
Other	Vitamine K3 ve SMBS	1	Mersin	~ 26
Total		7		

Shares of Exports

77%

78%

73%



Soda Sanayii A.Ş.

Activities and Products

Sales

Shareholding Structure

Financial Indicators*

Public
36,98%Şişecam
63,02%

m TL	2017	2018	2019
Net Sales	2,451	3,430	4,182
Change %	18.6%	39.9%	21.9%
EBITDA	644	1,067	1,073
EBITDA Margin %	26.3%	31.1%	25.7%
Equity of Parent	3,188	4,863	5,742
Consolidated Non Controlling Interest	5	6	-
Equity	3,192	4,869	5,742

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