



The Manufacturing Industry in Turkey

REPUBLIC OF TURKEY PRIME MINISTRY
INVESTMENT SUPPORT AND
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Glossary of Terms

Acronym	Definition
ACP	The African, Caribbean and Pacific Group of States
ARI	Advanced Research and Innovation
BMI	Business Monitor International
BR	Brazil
CAGR	Compound Annual Growth Rate
CBRT	Central Bank of the Republic of Turkey
CEO	Chief Executive Officer
CIS	Commonwealth of Independent States
CT	Communications Technology
CZ	Czech Republic
DE	Germany
EC	European Community
EFTA	European Free Trade Association
EIU	Economist Intelligence Unit
EMI	Emerging Markets Insight
ES	Spain
EU	European Union
EUR	Euro
EUROMED	Euro-Mediterranean Partnership
FDI	Foreign Direct Investment
FOB	Free On Board
FR	France
FTA	Free Trade Agreements
GDP	Gross Domestic Product
GE	General Electric
	Global Manufacturing Competitiveness Index
GMCI	
IASP	International Association of Science Parks

Acronym	Definition
ICT	Information and Communications Technology
IMF	International Monetary Fund
INSEAD	European Institute of Business Administration
ISO	Istanbul Chamber of Industry
IT (Country Code)	Italy
IT	Information Technology
İTÜ	Istanbul Technical University
LCV	Light Commercial Vehicle
LED	Light Emitting Diode
M&A	Mergers and Acquisition
NL	Netherlands
N/A	Not Available
OECD	Organization for Economic Co-operation and Development
OIZ	Organized Industrial Zones
OSTIM	Middle Eastern Industry and Trade Center
ÖSYM	Turkish Student Evaluation, Selection and Placement Center
P&G	Procter & Gamble
PIP	Project Inventive Premium
PISA	Program for International Student Assessment
PL	Poland
PPP	Purchasing Power Parity



Glossary of Terms

Acronym	Definition
PMI	Purchasing Managers' Index
R&D	Research and Development
RU	Russian Federation
RUSF	Resource Utilization Support Fund
SAN-TEZ	Industrial Thesis Program
SME	Small-Medium Enterprises
SSI	Social Security Institution
TCDD	Turkish State Railways
TDZ	Technology Development Zones
TOBB	Union of Chambers and Commodity Exchanges of Turkey
TÜBİTAK	The Scientific and Technological Research Council of Turkey
TÜLOMSAŞ	Turkish Locomotive & Engine Industries
Turkstat	Turkish Statistical Institute
UAE	United Arab Emirates
UK	United Kingdom
UNIDO	United Nations Industrial Development Organization
UNSD	United Nations Static Division
USA	United States of America
USD	United States Dollar
VAT	Value Added Tax
VTS	Vocational Training School
WEO	World Economic Outlook



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Executive Summary

- Turkey has shown robust macroeconomic growth in recent years thanks to the government's growth program and is expected to show continuous growth. The Economist Intelligence Unit (EUI) expects an annual average growth rate in real GDP to be around **5% until 2017**. Moreover, OECD forecasts a real GDP growth of 3.8% in 2014 and 4.1% in 2015.
- The manufacturing industry is one of the main drivers of the Turkish economy, accounting for 24.2% of total GDP. According to Turkstat, Turkey's manufacturing industry has been increasing at a **CAGR of 12% since 2003**, exceeding the growth levels of the gross domestic product and reached **TL 220 billion in 2012**.
- According to the World Bank, Turkey's per capita household final consumption expenditure reached **USD 5,900 in 2011**. Turkey's increasing level of disposable income and the high disposable income levels of its export partners – mostly EU countries, which exceeded **USD 15 billion** – make Turkey an attractive investment destination.
- Turkey's has a young and extremely large workforce – 7.5 million people between the ages of 24 and 34 – with competitive wage rates of **USD 572* per month as of October 2013**.
- Students graduating from **manufacturing-related** departments in universities numbered over 32,000 in 2012, while there were more than 35,000 **graduates from vocational training schools** during the same period.
- According to the Ministry of Economy, Turkey has **Free Trade Agreements with 19 countries** and has started negotiations with another **13 countries**. There are also **19 free trade zones in Turkey** which enable **corporate, income and customs tax, VAT and RUSF exemptions**, along with many other opportunities.
- The Turkish investment incentive program provides varying **tax reductions between 15-65%** depending on investment region and scale and **social security support for 2 to 12 years** depending on region.
- Total R&D expenditures exceeded **TL 11 billion in 2011**, according to Turkstat.
- Turkey's 2023 goals include reaching certain benchmarks for exports in various sub-sectors, including: **machinery** (USD 100 billion), **chemicals** (USD 50 billion), **textiles** (USD 20 billion), **automotive industry** (USD 75 billion), and **electronics** (USD 45 billion).

* Converted using 31 October EUR/USD exchange rate of 1.3672



A. Overview of the Industry in Turkey

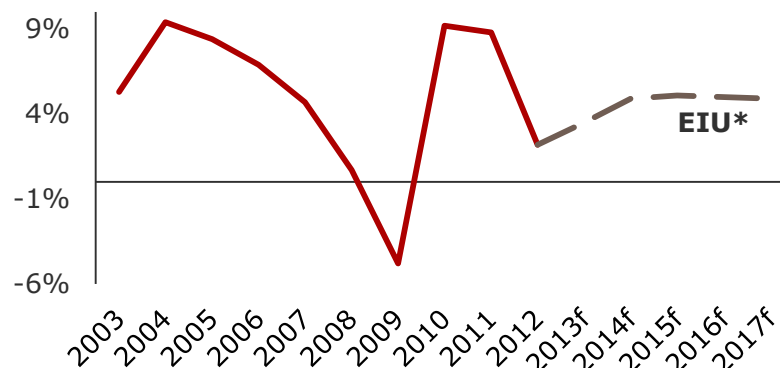
- i. A Brief Macroeconomic Outlook of Turkey
- ii. A Glance at the Manufacturing Industry in Turkey
- iii. A General Overview of Foreign Trade in the Manufacturing Sector
- iv. Overview of Disposable Income in Turkey and Neighboring Countries
- v. Overview of Logistics in Turkey
- vi. FDI in Turkey



Turkey's fast-growing economy is expected to attract more investment in the future

- Turkey has undergone profound economic transformation over the last decade and its economic foundation is quite solid. It is the 16th largest economy in the world, in purchasing power parity terms and the 6th largest economy in Europe with a current GDP of approximately USD 786 billion in 2012.
- Having boomed as fast as 9.3% and 8.8% in real terms in 2010 and 2011 respectively, EIU projects that Turkey is expected to grow by 3.5% in 2013, 4.9% in 2014, 5.1% in 2015, 5.0% in 2016 and 4.9% in 2017. OECD also projects a positive outlook for the Turkish economy with a 3.8% growth rate in 2014 and 4.1% growth rate in 2015.
- Monetary policy played a vital role in reining in inflation over recent years. The rate of inflation in Turkey has stayed under 10% since 2004 and year-end inflation was capped as 6.2% in 2012. EIU forecasts that the average inflation rate will further ease to 4% by 2018.

Figure 1: GDP Growth Rate (Constant Prices)



Source: Turkstat, EIU
f: forecast

Figure 2: Inflation, 2004-2012

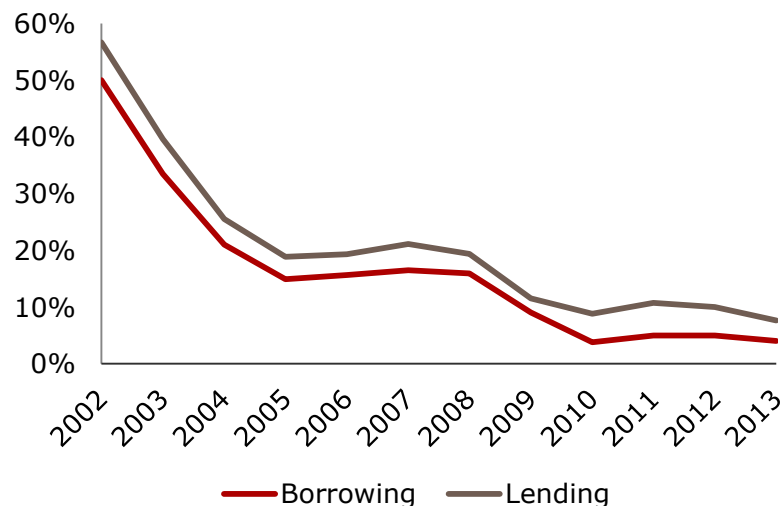


Source: Turkstat



Capitalizing on its economic policies, the investment environment in Turkey has become more welcoming to foreign investors

Figure 3: The Central Bank of the Republic of Turkey O/N Interest Rates



Source: CBRT

- The overnight lending rates have steadily decreased over the years and were around 7.5% in September 2013, which is a 500 basis point decrease from 2002.
- Fitch Ratings announced Turkey's investment grade rating as BBB in November 2012 and Standard & Poor's announced a rating of BB+ in March 2013. These events signal further upgrades and are expected to boost the inflow of institutional funding.
- Moody's raised Turkish government bond ratings to Baa3 and revised its outlook to stable from positive in May 2013.

Table 1: Turkey's Credit Ratings

	Rating (Local Currency)	Outlook (Local Currency)	Rating (Foreign Currency)	Outlook (Foreign Currency)
Standard & Poor's	BBB	Stable	BB+	Stable
Fitch	BBB	Stable	BBB-	Stable
Moody's	Baa3	Stable	Ba1	Positive
JCR	BBB-	Stable	BBB-	Stable

Source: Moody's (May 2013), S&P (March 2013), Fitch (December 2013), JCR (May 2013)

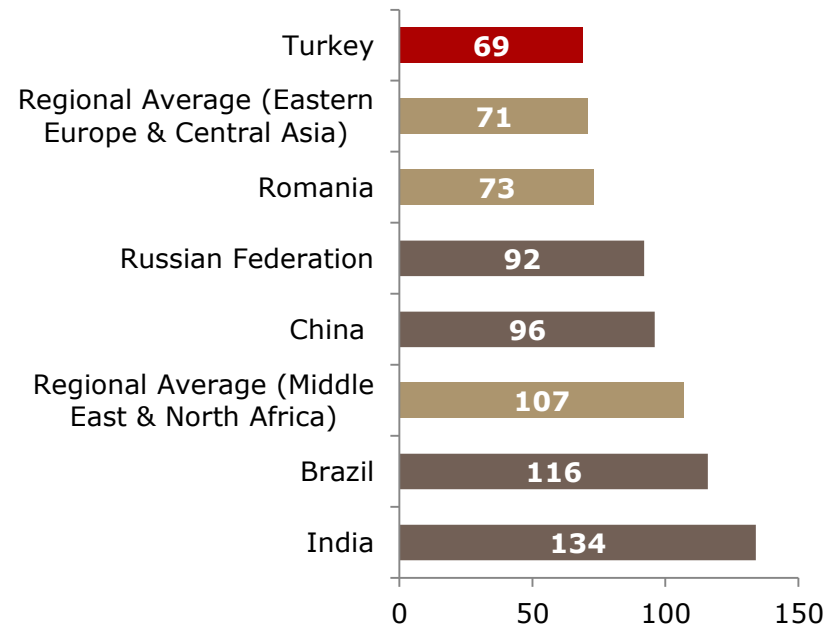


Overall, Turkey is 69th in Doing Business 2014 Report

- Foreign Direct Investment Law in Turkey – which complies with international standards- came into force in 2003. The objective of this Law is to regulate the principles to encourage foreign direct investments; to protect the rights of foreign investors; to define investment and investor in line with international standards; to establish a notification-based system for foreign direct investments rather than screening and approval; and to increase foreign direct investments through established policies.
- With this law, unless stipulated by international agreements and other special laws:
 1. Foreign investors are free to make direct investments in Turkey,
 2. Foreign investors shall be subject to equal treatment with domestic investors.
- As a result, the number of expats has increased significantly. According to the Ministry of Labor and Social Security, number of work permits given to foreigners increased by 86% in 2012 reaching 32,272. Since 2003 a total of 125,697 permits were provided to foreigners.
- It is also crucial to note that the availability of free transfer of funds in Turkey adds positively to its investment friendly environment.

- According to Doing Business 2014 report by the World Bank, Turkey is ranked 69th among 189 countries on the ease of doing business.
- Turkey has a higher ranking compared to BRIC countries. The averages of Eastern & Central Asia and Middle East & North Africa are ranked 71st and 107th respectively, below the rank of Turkey.

Figure 4: Ease of Doing Business Analysis Ranking, 2014

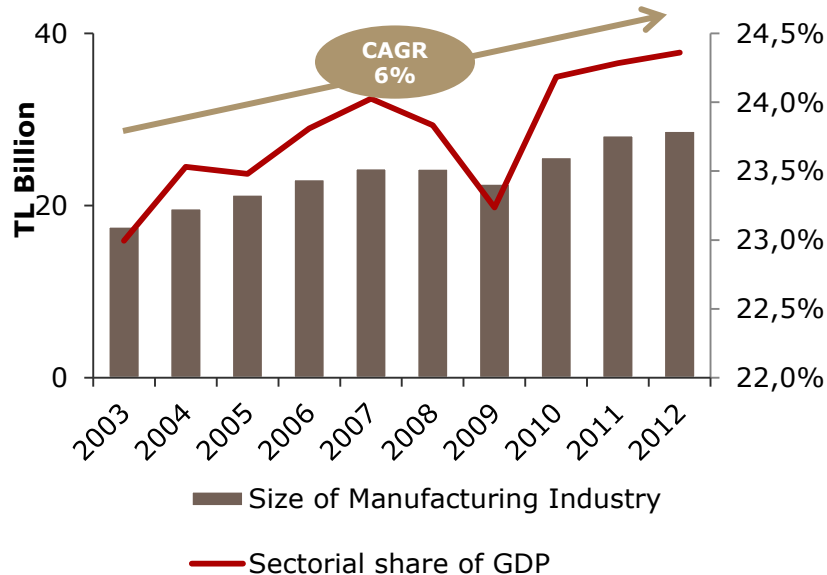


Source: Doing Business 2014, The World Bank



The impact of manufacturing within Turkey's economy is rapidly increasing as the economy continues to grow

Figure 5: The Size of the Manufacturing Industry in Turkey, (in 1998 Constant Prices)

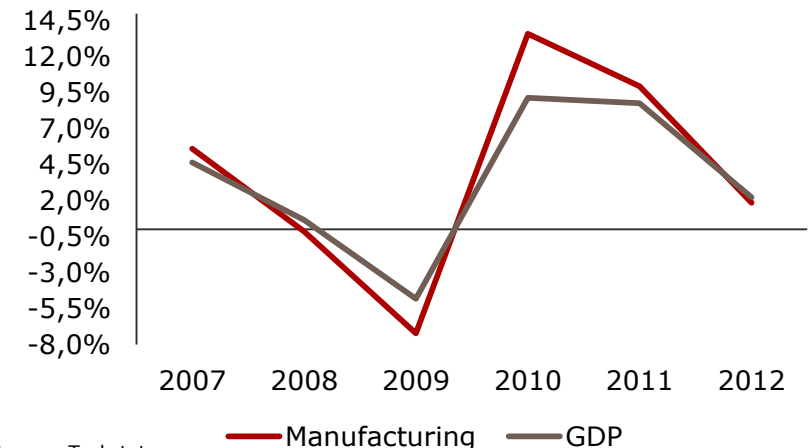


Source: Turkstat

- The manufacturing industry has a significant share in Turkey's economy with a 24.4% share and a total of more than **TL 29 billion**, in constant prices, in 2012. The industry has been one of the main drivers of the Turkish economy.
- After the 2009 global economic recession, the industry recovered quickly and exceeded pre-crisis levels with a **CAGR of 8%** from 2009 to 2012.

- Strong growth in manufacturing industry was accompanied by strong growth in the overall economy. The growth in manufacturing in the last 2 years was **10% and 2%**, respectively.
- Turkey achieved a respectable manufacturing output growth rate of 4% in the first quarter of 2013, where industrialized countries suffered significantly. According to UNIDO, manufacturing output dropped by 2.9% in the Eurozone during the same period. Manufacturing output fell by 2.6% in the Czech Republic and 3.1% in Russia, while it increased slightly in Brazil with 1.4% and in India with 2.5%.

Figure 6: Growth Rates of GDP

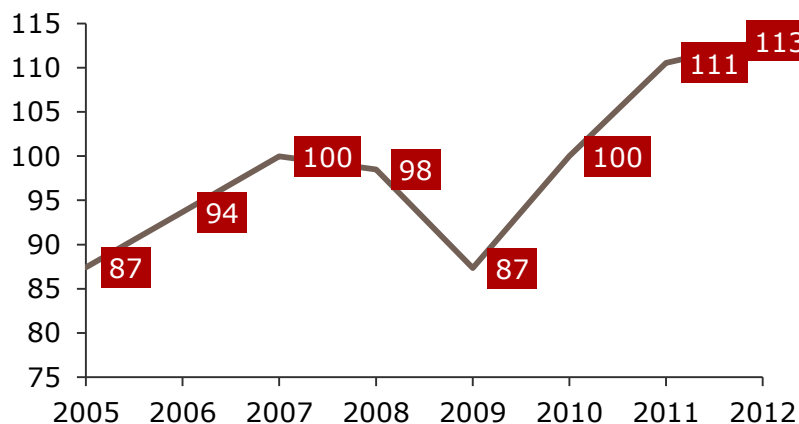


Source: Turkstat



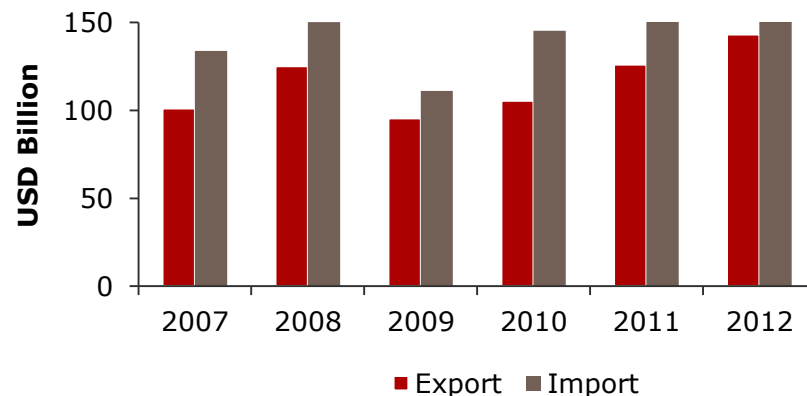
Strong growth has been accompanied by an increase in production and exports in turn

Figure 7: The Industrial Production Index (2010=100), 2005 - 2012 (Gross Indices)



Source: Turkstat

Figure 8: Total Manufacturing Exports, 2007-2012



Source: Turkstat

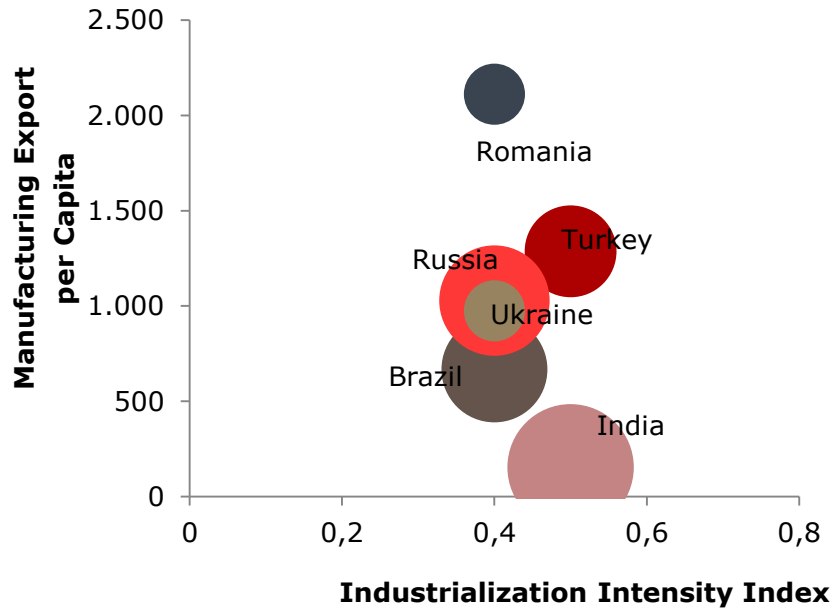
- The manufacturing industry has grown since the economic crisis in 2009, as seen in the graph above.
- Turkey's geographic proximity to **Europe, Asia, the Commonwealth of Independent States (CIS), Middle Eastern and North African countries** make it a trade hub and an attractive base for production for manufacturing companies.

- Strengthened production within the manufacturing industry is manifested by an increasing number of exports. Exports grew by a **CAGR of 7%** from 2007 to 2012 and 13% from the previous year to more than **USD 143 billion**. An analysis of Turkey's manufacturing export data in 2012 reveals that the manufacture of basic metals had the highest share in total manufacturing **exports with 20%**, followed by textiles and apparel with 18%.
- Turkey's imports grew a CAGR 5.6% from 2007 to 2012 to more than USD 176 billion.



Turkey's manufacturing industry as a whole is outpacing such countries as Russia, the Ukraine and Romania...

Figure 9: Competitive Industrial Performance



Source: UNIDO

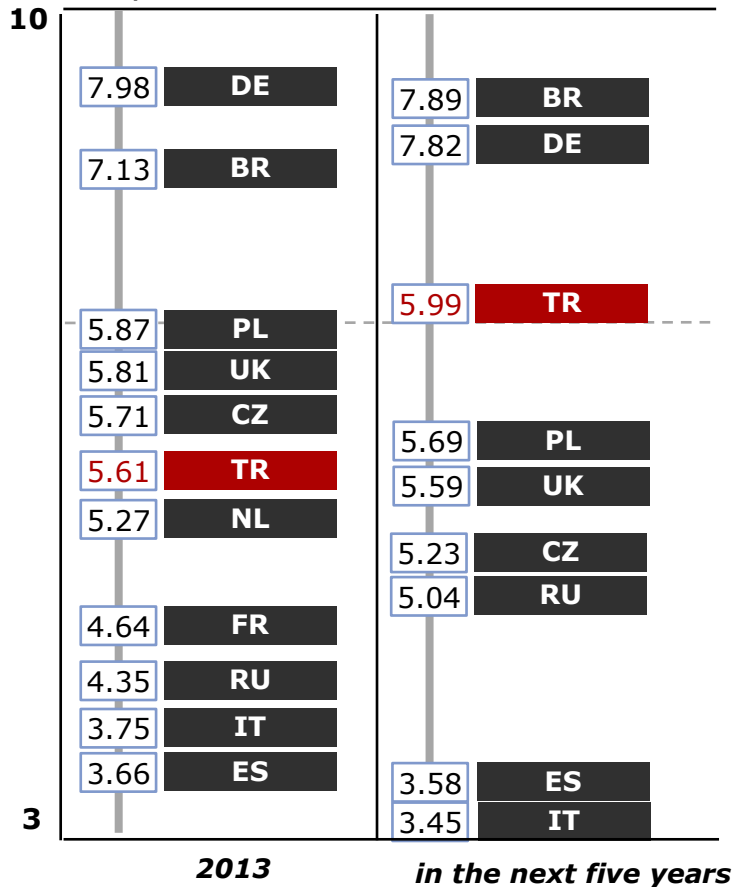
Note: The size of the bubble represents the share in world manufacturing exports. (2010)

The industrialization intensity index measures the share of the manufacturing industry's value added to the GDP. According to UNIDO, Turkey scored 0.5 in industrial intensity. Moreover, Turkey's share in total exports for the manufacturing sector was 0.9% in 2010 and manufacturing export per capita was more than USD 1,200.



...and is expected to continue to grow in the future

Figure 10: Global Manufacturing Competitiveness Index, 2013



- **The Global Manufacturing Competitiveness Index (GMCI)** shows the rankings in terms of current and future manufacturing competitiveness. The ranking is done through a survey of CEOs taken by Deloitte.
- According to expectations, Turkey will move up from **20th position** in 2013 to **16th position** within the next five years. The country's manufacturing competitiveness ranking is bound to improve because of the government's recent initiative to boost employment levels and its ability to leverage potential in alternative energy generation as well as within R&D and production.
- The factors in Turkey's favor for improving manufacturing competitiveness in the future are:
 - **low corporate tax rates,**
 - **low labor costs and**
 - **a high growth rate for per capita personal disposable income.**
- Turkey's strategic central location, extensive trade relationships, an abundance of available labor, and policies that enable the increasing of manufacturing competitiveness could further elevate Turkey's positioning.

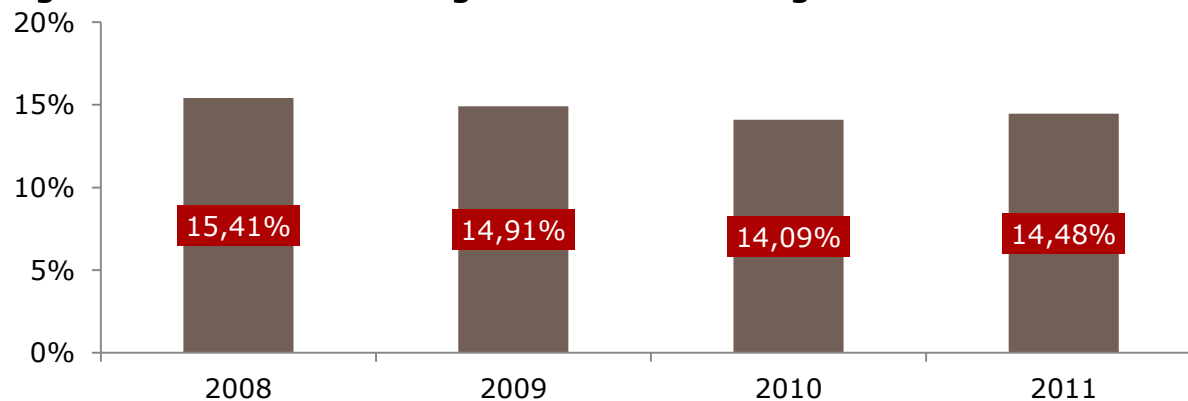
Investment Tip: CEOs believe that Turkey will become a major global player in the manufacturing industry.

Source: Deloitte Global Manufacturing Competitiveness Index, INSEAD



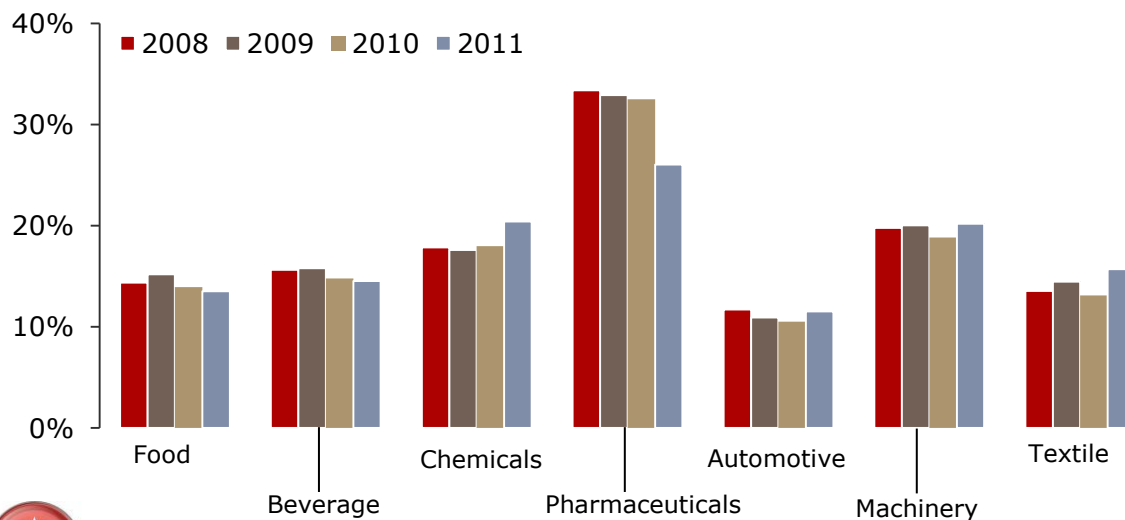
Gross profit margins in the manufacturing industry remained stable in the recent years

Figure 11: Gross Profit Margins in Manufacturing



Source: CBRT, Deloitte Analysis

Figure 12: Profit Margins in Manufacturing Sub-Sectors



- The overall profit margins in the industry remained stable in the last five years.
- While the pharmaceutical industry suffered a sharp fall, it still remains the most profitable sector among its peers with a profit margin of 26% in 2011. The profit margins for machinery and chemicals were as high as 20%, while the consumer electronics, automotive and textile industries enjoyed increases in their **profit margins finishing with 19.5%, 11% and 15% growth** respectively in 2011.



Source: CBRT, Deloitte Analysis

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Another advantage of Turkey is ease of trade. The trade volume for the manufacturing industry surpassed USD 319 billion in 2012

Figure 13: Total Manufacturing Exports by Country, 2012

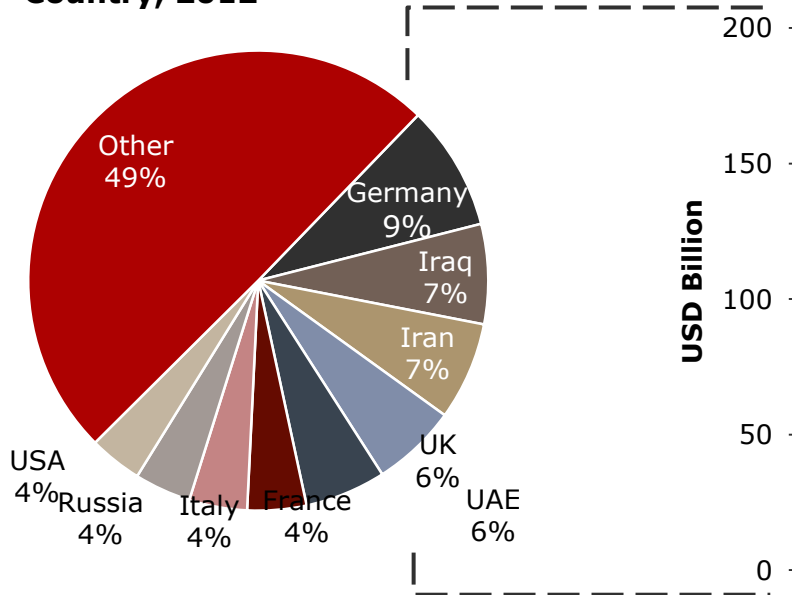
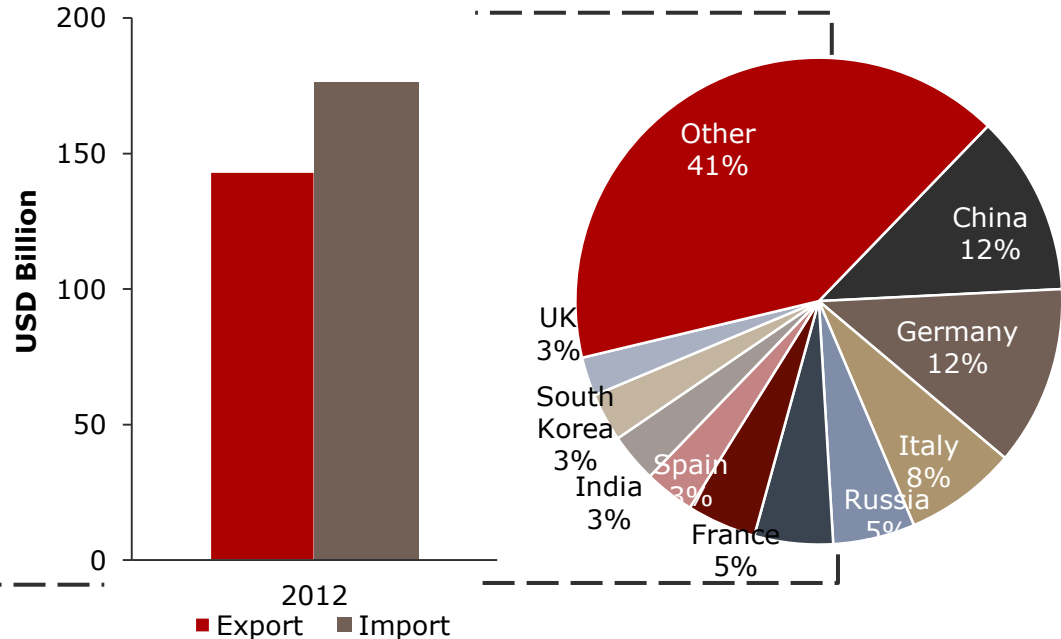


Figure 14: Total Manufacturing Imports by Country, 2012



Source: Turkstat (ISIC Rev 3 Codes 15, 16,17,18,19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29,30, 31, 32, 33, 34, 35, 36), Deloitte Analysis,

- Turkey uses its geographic advantage in manufacturing, exporting to a diverse range of countries from Europe to the Middle East. Germany is Turkey's leading export partner constituting 9% of total exports followed by Iraq and Iran with a 7% share each.
- The top two countries Turkey imports from are China and Germany with a little more than 12% each, followed by Italy with 8% and Russia with 5%.



Turkey is a regional hub and will expand its trade volume because of its advantageous geographical positioning

- Turkey is situated between Europe and Asia, allowing the country to create a link between three continents with over 1.5 billion people and a GDP of USD 25 trillion.
- As major airway hubs in the region, Istanbul and Ankara airports provide a practical route of travel with a maximum 4-hour direct flight to the capital cities in Europe, Western & Central Asia, the Middle East and Africa.
- Turkey's geographical location and logistics capabilities, its unique positioning at the intersection of trade routes and its rapidly progressing investment climate are the major factors contributing to Turkey's strategic and regional importance.

Figure 15: Turkey's Geographical Positioning

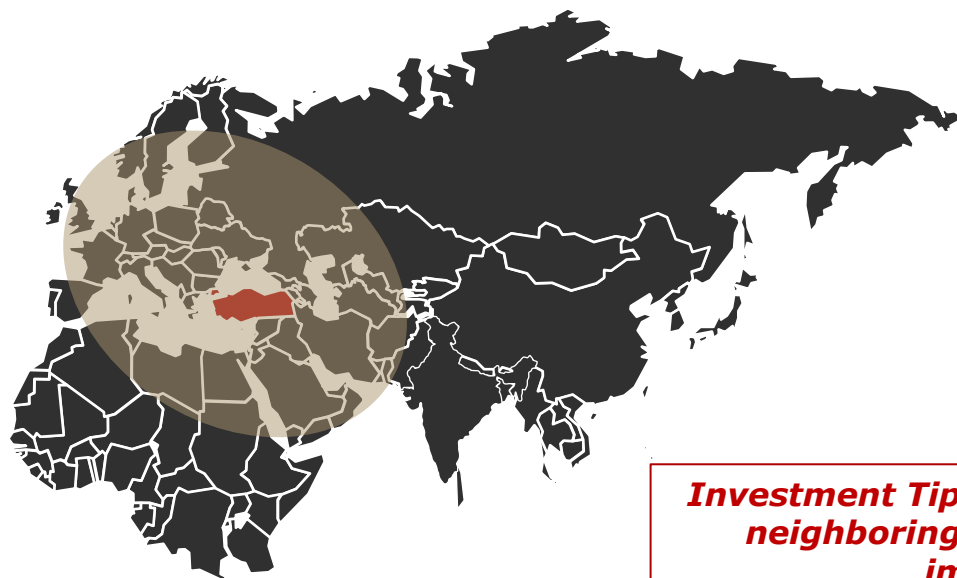


Table 2: Turkey's Total Foreign Trade Volume by Region

Regions	Trade Volume (USD billion)
Free Zones in Turkey	3.34
Europe (EU)	146.65
Europe (Non-EU)	51.78
North America	21.75
Central & South America	8.11
Middle & Near East	63.86
Africa	19.28
Asia & Pacific	61.53
Other	12.71
Total	389.01

Investment Tip: Acceleration in Turkish foreign trade with neighboring as well as distant countries underlines the importance of Turkey as a major trade route.



Moreover, trade volume is likely to continue expanding because of Turkey's trade relationships with the European Union and its partners

- To accelerate growth in exports, Turkey derives trade benefits from the following partnerships:

- **The European Community (EC) - Turkey Customs Union:**

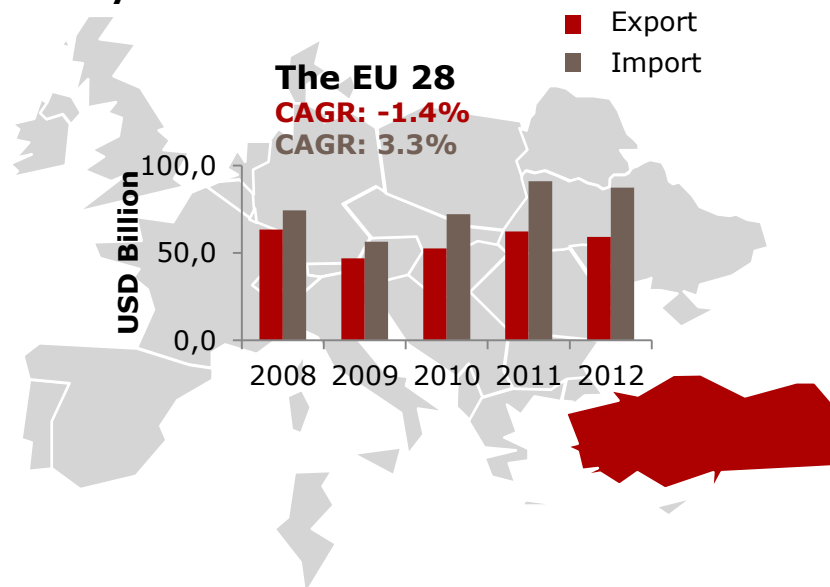
- The EC-Turkey Customs Union facilitates the free movement of goods, which eliminates customs duties and quantitative restrictions on industrial products and processed agricultural products between the two parties.

- The free movement of goods does not apply to agricultural products and coal & steel products, which are subject only to preferential treatment.

- **Euro-Mediterranean Partnership (EUROMED):**

- Turkey is a member of EUROMED, which promotes economic integration and democratic reform across 16 neighboring nations of the EU in North Africa and the Middle East.

Table 3: Trade between EU 28 Countries and Turkey



Source: Turkstat, Deloitte Analysis



Turkey has taken crucial steps to increase Free Trade Agreements all around the world



Selected Countries in Negotiations with Turkey for FTAs



Selected Countries Falling Under Turkey's FTA Negotiation Initiative



- Turkey negotiates agreements with countries that participate in EU free trade agreements.
- FTAs support the development of Turkey's trading activities with neighboring countries and creates a level playing field for Turkish exporters.
- Turkey does not have to sign FTAs with the same requirements as the EU and is free to tailor its own agreements with third party countries.
- As of 2012, Turkey has FTAs with 19* countries. These countries include: the European Free Trade Association (EFTA), Macedonia, Bosnia-Herzegovina, Albania, Israel, Palestine, Morocco, Tunisia, Egypt, Georgia, Serbia, Montenegro, Chile, Jordan, South Korea and Mauritius. The top countries that Turkey exports to are Egypt, with a total amount of USD 3.7 billion, followed by the EFTA countries with USD 2.6 billion of exports, followed by Israel with USD 2.3 billion, and Morocco with USD 1 billion.
- Also it is important to note that there are a total of 13 countries/country blocks that Turkey has started FTA negotiations. These countries include the following: the Ukraine, Colombia, Ecuador, Malaysia, Moldova, the Democratic Republic of the Congo, Ghana, Cameroon, the Seychelles, the Gulf Cooperation Council, Libya and the Faroe Islands
- Additionally, Turkey has launched initiatives to start negotiations with the USA, Canada, Japan, Thailand, India, Indonesia, Vietnam, Peru, the Central American countries, other ACP countries, Algeria, Mexico, Singapore and South Africa.

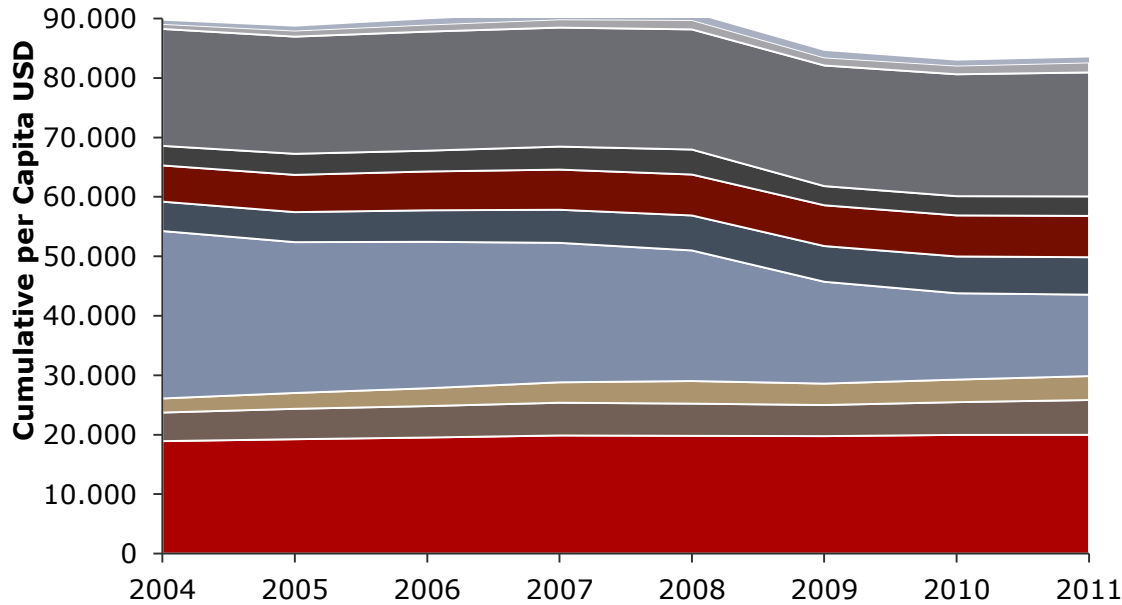
Source: Ministry of Economy

* Including EFTA: Iceland, Liechtenstein, Norway and Switzerland



The industry will also benefit from Turkey's growing disposable income as well as that of its export partner

Figure 16: Turkey's Attractiveness in the Local Market and Export Markets



Source: World Bank, Deloitte Analysis

* Constant 2005 USD

** 2010 data

- Turkey's vibrant domestic consumer base make it an attractive market for the manufacturing industry.
- Moreover, Turkey's largest export market, the **EU**, already has significant spending power and has established a middle-class consumer base that demands high-quality goods. However, the EU is not the only significant trade partner, other trade partners such as Azerbaijan, Russia and the Ukraine have also managed to increase their household final consumption expenditure per capita from 2003 to 2011, thus opening the door for Turkish exports.



Its heavy investment on infrastructure will create effective links spanning Europe to Asia and Russia to Africa

- According to the Global Manufacturing Competitiveness Index, physical infrastructure is vital for decreasing costs and increasing efficiency as well as improving productivity. Therefore, Turkey aims to ramp up not only traditional infrastructure (e.g. roads, ports and bridges), but also to increase advanced technology investments (e.g. information and communications technology) in order to remain globally competitive.
- Some of the major infrastructure projects include:
 - The 3rd Bosphorus Bridge (Yavuz Sultan Selim Bridge) Project
 - The new airport project, which will be constructed on the European side of Istanbul
 - The Marmaray Project, which will connect the Asian side of Istanbul to the European side via an underground railway tunnel
 - Increasing the length of high-speed railway from 888 km to 10,000 km (with a CAGR of 25%)
 - According to the Ministry of Transport, Maritime Affairs and Communications' Strategy Plan, the Ministry's goal is to grow the information and communication technology sector to a size of USD 160 billion.

Table 4: Targeted Transport Areas for 2023

Domestic Passenger Transport	2010	2023
Highway	89.59%	72%
Railway	2.22%	10%
Airway	7.82%	14%
Seaway	0.37%	4%

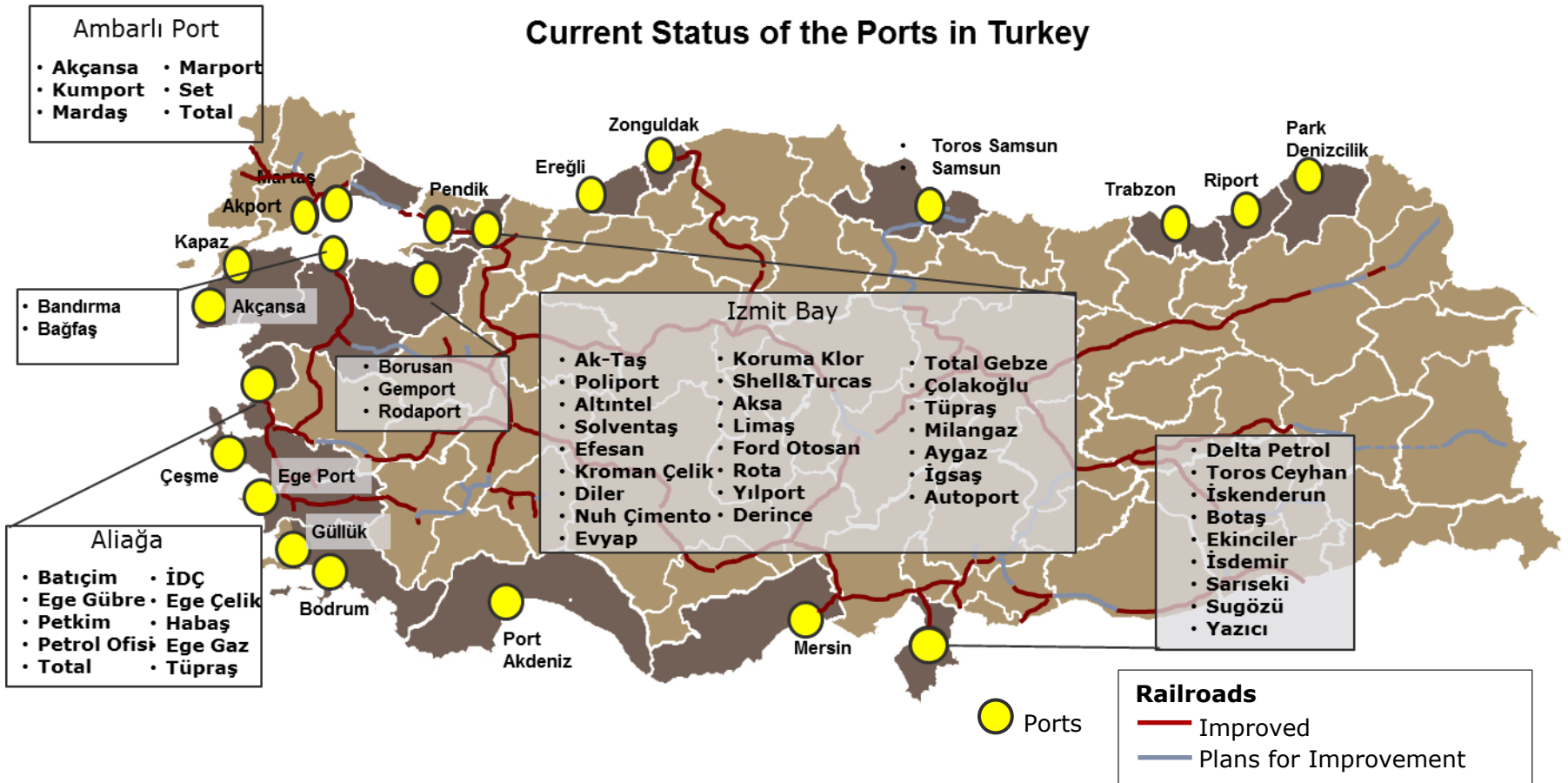
Domestic Freight Carriage	2010	2023
Highway	80.63%	60%
Railway	4.76%	15%
Airway	0.44%	1%
Seaway	2.66%	10%
Pipeline	11.51%	14%

Source: Ministry of Transport, Maritime Affairs and Communications



Turkey has extensive infrastructure as ports are connected to railways

Figure 17: Ports and Railways in Turkey

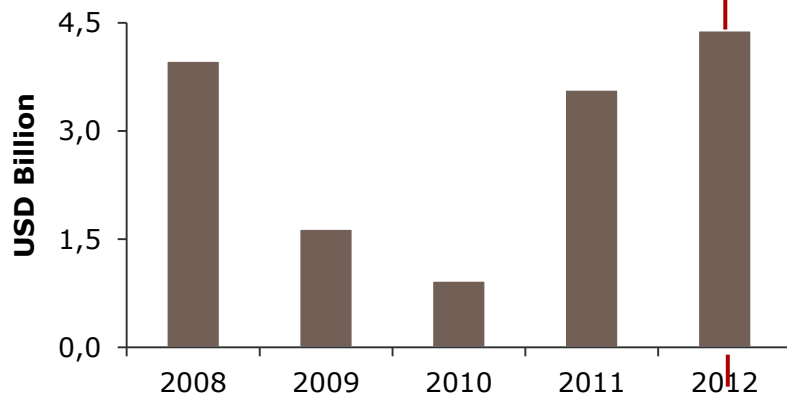


Source: Ministry of Transport, Maritime Affairs and Communications



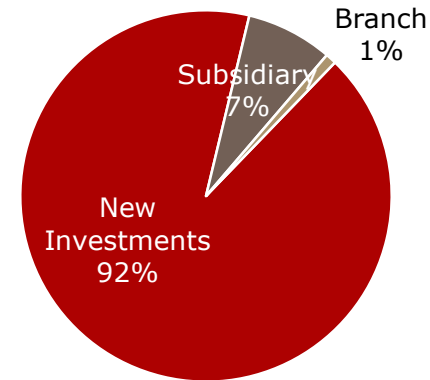
Foreign investors noting the number of opportunities have already invested in Turkey's manufacturing industry

Figure 18: FDI in Manufacturing



Source: Ministry of Economy

Figure 19: Types of FDI in Manufacturing



- The manufacturing industry has garnered great interest from foreign investors over recent years with FDI in 2012 surpassing **USD 4.3 billion**.
- 319 foreign investors made investments in Turkey. According to the Ministry of Economy, **36 of these investments** were above USD 500,000; 30 of them were between USD 200,000-500,000 and 253 of them were less than USD 200,000.



There have been numerous M&A deals in 2012...

Table 5: M&As in the Manufacturing Sector in 2012

Acquirer	Origin	Target	Sector	Stake	Deal Value (USD million)
Dunapack	Austria	Dentaş Ambalaj	Paper & Paper Products	79.3%	110
Nitto Denko	Japan	Bento Bantçılık	Rubber and Plastic Products	100%	100
International Paper	USA	Olmuksa	Paper & Paper Products	43.7%	56
Essilor International	France	İşbir Optik	Medical, Precision and Optical Instruments, Watches	70%	45
Universe Capital Partners	USA	Transtürk Holding	Textile & Apparel	N/A	27
Gemalto	France	Plastikkart	Electrical Machinery and Apparatus	14.3%	7
Eaton Corporation	USA	Polimer Kauçuk	Rubber and Plastic Products	100%	N/A
Asda Stores	UK	Gaat	Textile & Apparel	100%	N/A
Johnson Controls	USA	Karat Güç Sistemleri	Electrical Machinery and Apparatus	49%	N/A
Imtech	Netherlands	AE Arma Elektropanç	Electrical Machinery and Apparatus	80%	N/A

Source: Deloitte Annual Turkish M&A Review, Deloitte Analysis
Note: Turkstat USTS codes were used in sector specific classification.



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... with considerable FDI in manufacturing industry

Table 6: M&As in the Manufacturing Sector in 2012

Acquirer	Origin	Target	Sector	Stake	Deal Value (USD million)
ADM	Hong Kong	Cevher Jant	Manufacture of Basic Metals	46,2%	N/A
Silgan	USA	Öntaş Teneke	Paper and Paper Products	100%	N/A
Atlas Copco	Sweden	Ekomak	Electrical Machinery and Apparatus	100%	N/A
Universe Capital Partners	USA	İdaş	Textile & Wearing Apparel	N/A	N/A
Systemair	Sweden	HSK	Electrical Machinery and Apparatus	70%	N/A
Assa Abloy	Sweden	Sekotek Elektronik	Electrical Machinery and Apparatus	100%	N/A
Essilor International	France	İpek Optik	Medical, Precision and Optical Instruments, Watches	70%	N/A
Essilor International	France	Opak Optik	Medical, Precision and Optical Instruments, Watches	51%	N/A

Source: Deloitte Annual Turkish M&A Review, Deloitte Analysis
 Note: Turkstat USTS codes were used in sector specific classification.



B. The Competitiveness of Turkey's Manufacturing Industry

- i. Turkey's 2023 Targets
- ii. Availability of Factors of Production and Costs
- iii. Competitiveness of the Industry
- iv. Government Incentives



Turkey has ambitious 2023 targets in each sub-sector of manufacturing

Table 7: Turkey's 2023 Targets

Manufacturing Industry	Industry Goals	Export Goals
Machinery and Equipment Manufacturing	<ul style="list-style-type: none"> • Create custom-designed, high-quality, affordable and environmentally friendly products • Create joint R&D centers while increasing R&D spending • Become the preferred machine manufacturer in the world 	<ul style="list-style-type: none"> • Turkey's 2023 export goals for machinery is USD 100 billion, securing a 2.63% share of the global machinery market. The sector aims to provide 18.34% of Turkey's total exports. The sub-sector's quantitative export targets for 2023 can be summarized as follows: <ul style="list-style-type: none"> • power generating machinery and equipment totaling USD 31 billion • special machinery and equipment for specific industries totaling USD 24 billion • metal processing machines totaling USD 13 billion • industrial machinery equipment and parts totaling USD 33 billion
Chemicals Manufacturing	<ul style="list-style-type: none"> • Develop new and special products with high value-added features • Establish new brands 	<ul style="list-style-type: none"> • Turkey's 2023 export goal for chemical manufacturing is USD 50 billion, securing a 0.79% share of the global chemical market. The sector aims cover 9.17% of Turkey's total exports. The sub-sector's quantitative export targets for the industry can be summarized as follows: <ul style="list-style-type: none"> • organic and inorganic chemicals totaling USD 5.9 billion • mineral fuels and mineral oils totaling USD 11.7 billion • paints and raw materials totaling USD 2.5 billion • soaps-detergents-cosmetics totaling USD 3.3 billion • plastic and rubber products totaling USD 23.3 billion • pharmaceuticals totaling USD 3.3 billion

Source: Turkish Exporters' Assembly, Source: Ministry of Science, Industry and Technology



And offers a transparent investment environment

Manufacturing Industry	Industry Goals	Export Goals
<p>Electricity and Electronics Manufacturing</p>	<ul style="list-style-type: none"> • Changing Turkey's status in the sector from implementing existing technologies to producing new technologies • Promoting R&D activities concerning medical electronics, LED, wind and solar energy • Increasing investments to improve environmentally friendly technologies 	<ul style="list-style-type: none"> • Turkey's 2023 export goal for electronics is USD 45 billion, securing a 0.64% share of the global market. The sector aims to provide 8.25% of Turkey's total exports. The sub-sector's quantitative targets can be summarized as follows: <ul style="list-style-type: none"> • electricity and energy totaling USD 14.9 billion • electronic devices and components totaling USD 14.9 billion • appliances and other devices totaling USD 10.6 billion • information and communication technologies totaling USD 0.5 billion • other instruments and apparatuses totaling USD 4.1 billion
<p>Furniture Manufacturing</p>	<ul style="list-style-type: none"> • Produce original, high quality designs 	<ul style="list-style-type: none"> • Turkey's 2023 export goal for wood and wood products is USD 16 billion, securing a 1.6% share of the global market. The sector aims to represent 2.93% of Turkey's total exports. Turkey aims for furniture export to bring in revenue of USD 6 billion by 2023.

Source: Turkish Exporters' Assembly, Source: Ministry of Science, Industry and Technology



It will remain an attractive candidate for investment

Manufacturing Industry	Industry Goals	Export Goals
Textile Manufacturing	<ul style="list-style-type: none"> • Boosting productivity with modernization and restructuring of production capacity • Focusing on high value-added specialty fiber and yarn production through the use of new technologies • Focusing on technological textiles and multifunctional products with the R&D orks 	<ul style="list-style-type: none"> • Turkey's 2023 export goal for textiles is USD 20 billion, securing a 3.6% share of the global textile market. The sector aims to cover 3.67% of Turkey's total exports by 2023, with the following targets: <ul style="list-style-type: none"> • <i>fiber and yarn totaling USD 2.5 billion</i> • <i>woven fabric totaling USD 5 billion,</i> • <i>knitted fabrics totaling USD 3.5 billion,</i> • <i>technical textiles and non-woven surface fabrics totaling USD 4 billion,</i> • <i>textiles for the home totaling USD 4 billion</i> • <i>other textiles totaling USD 1 billion.</i>
Automotive Manufacturing	<ul style="list-style-type: none"> • Finding alternative uses for steel so as to customize and enhance its use. • Accelerating the transition from low value-added products to high value-added products • Improving the infrastructure for the local supplies • Improving the export potential of all products 	<ul style="list-style-type: none"> • Turkey's 2023 export goal for land vehicles is USD 75 billion, securing a 2.4% share of the global market. The sector aims to be 13.76% of Turkey's total exports, with the following targets: <ul style="list-style-type: none"> • <i>passenger vehicles totaling USD 31.3 billion</i> • <i>motor vehicles for transportation of goods totaling USD 22.5 billion</i> • <i>motor vehicles for the transportation of 10+ people totaling USD 7.5 billion</i> • <i>spare-parts-chassis-body totaling USD 12 billion,</i> • <i>motorcycle-bicycle-seat for invalids USD 1.67 billion,</i> • <i>trailers and semi-trailers totaling USD 1.5 billion.</i>

Source: Turkish Exporters' Assembly, Source: Ministry of Science, Industry and Technology



Turkey has stronger numbers than most peer country averages according to the 2013 Global Manufacturing Competitiveness Index

Table 8: Key Statistics of Turkey

Supplemental Data Analysis: Key Statistics	Turkey	Peer Average
Manufacturing GDP CAGR (2005–2010)	3.8%	2.9%
Manufacturing GDP/Percentage of Total GDP (2010)	17.8%	18.3%
Labor Costs (USD/hour) (2011)	3.2	21.9
Manufacturing Exports/Percentage of Total Exports (2011)	77.3%	59.9%
Manufacturing Jobs Created per Hundred Persons (2001–2010)	1.1	-0.8
Highest Corporate Tax Rate (2012)	20.0%	26.2%
Researchers per Million Population (INSEAD 2012)	1,592.8	2,980.0
Per Capita Personal Disposable Income (USD) (2011)	7,797	15,886
Per Capita Personal Disposable Income CAGR (2001–2011)	14.1%	8.5%

Source: 2013 Global Manufacturing Competitiveness Index, Deloitte Analysis

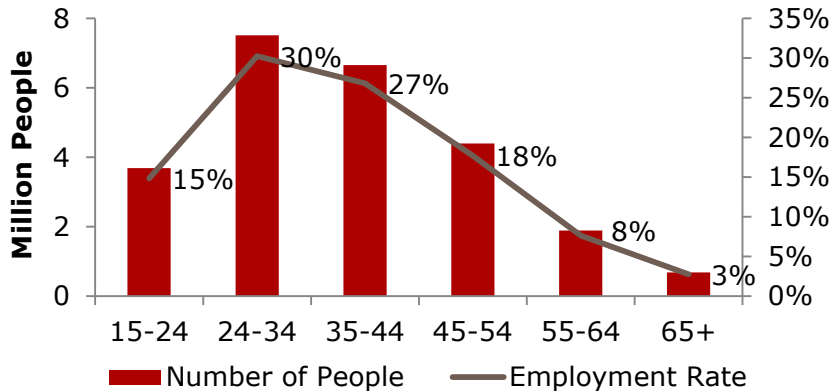
Note: Peer countries include China, Germany, the USA, India, South Korea, Taiwan, Canada, Brazil, Singapore, Japan, Thailand, Mexico, Malaysia, Poland, the UK, Australia, Indonesia, Vietnam, Czech Republic, Turkey, Sweden, Switzerland, the Netherlands, South Africa, France, Argentina, Belgium, Russia, Romania, the UAE, Colombia, Italy, Spain, Saudi Arabia, Portugal, Egypt, Greece, and Ireland.

- Turkey's manufacturing **GDP achieved a 3.8% CAGR** for the period of 2005-10 compared to the peer countries' **average of 2.9%**. In 2011, the country's manufacturing sector share in total exports was 77.3% compared to the peer countries' **average of 59.9%**. This strong performance is an indicator of strong growth and developing potential.
- Given the manufacturing industries' contribution to Turkey's GDP is slightly below the peer countries' average and per capita personal disposable income is well below the peer average, Turkey still has significant room for manufacturing growth.



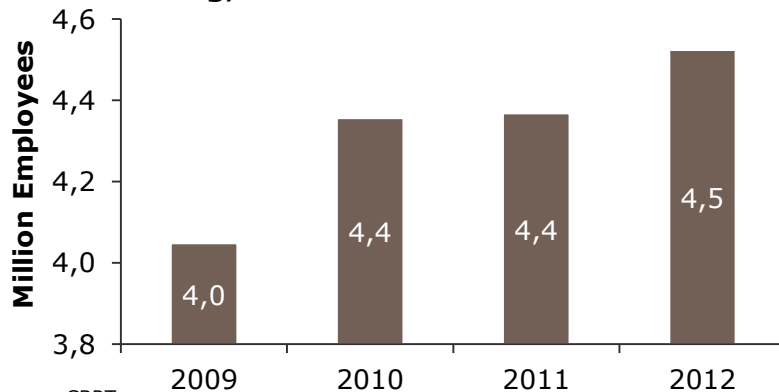
A positive outlook on the human resources side - young and cost-effective labor

Figure 20: Employed Population, 2012



Source: Euromonitor

Figure 21: Number of Employees in Manufacturing, 2009-2012



Source: CBRT

- Turkey's workforce is one of the **youngest and largest** in **Europe**, with the necessary with the necessary education, skills, knowledge, expertise and performance.
- **More than 65%** of the population is aged **between 24 and 54**, which is a huge economic advantage for Turkey.
- According to the Central Bank of Turkey, the manufacturing industry generated 11% more employment opportunities between 2009 and 2012, employing more than 4.5 million people in 2012.
- Moreover, Turkey has one of the lowest minimum wage rates in Europe with USD 572* per month in October 2013.

Investment Tip: Many executives are aware of the impact they can have because of the availability and cost of Turkey's highly-skilled workforce.

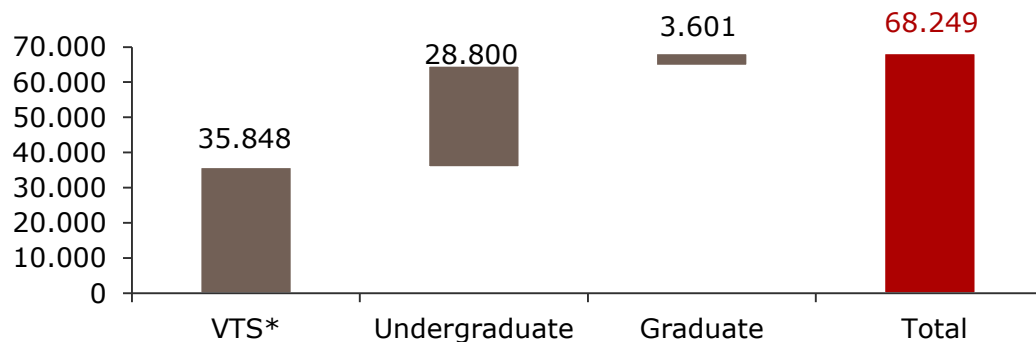
Source: Eurostat

*Converted using 31 October EUR/USD exchange rate of 1.3672.



Turkey provides a superior, skilled workforce dedicated to improving the manufacturing industry...

Figure 22: 2011-2012 Manufacturing Related Graduates in Turkey



Source: ÖSYM, Deloitte Analysis





* Vocational Training Schools

- There were a total of more than 68,000 students that graduated from vocational training schools and universities in the 2011-2012 academic year. These students are trained and educated in Turkey's premium universities specifically training for manufacturing and manufacturing-related industries. They then become a part of Turkey's growing manufacturing industry.
- Turkey is continuing to put emphasis on education to improve the quality on its workforce. There are many departments that are specifically designed to teach both theoretical and applied work in manufacturing. The departments related to the manufacturing industry include: textile manufacturing, electric-electronics, chemical engineering, manufacturing engineering, petroleum studies, industrial studies, mechatronics and the like.



...and easy access to talent

Figure 23: Snapshot of Key Factors for Talent

	Program for International Student Assessment (PISA) Math Scores out of 1,000 (2009)	445
	Program for International Student Assessment (PISA) Science Scores out of 1,000 (2009)	454
	Program for International Student Assessment (PISA) Reading Scores out of 1,000 (2009)	464
	Patents Granted (Turkish Patent Institute 2012)	4,543
	Innovation Index Score (INSEAD 2013)	36/100
	Researchers in R&D per Million People (2010)	884

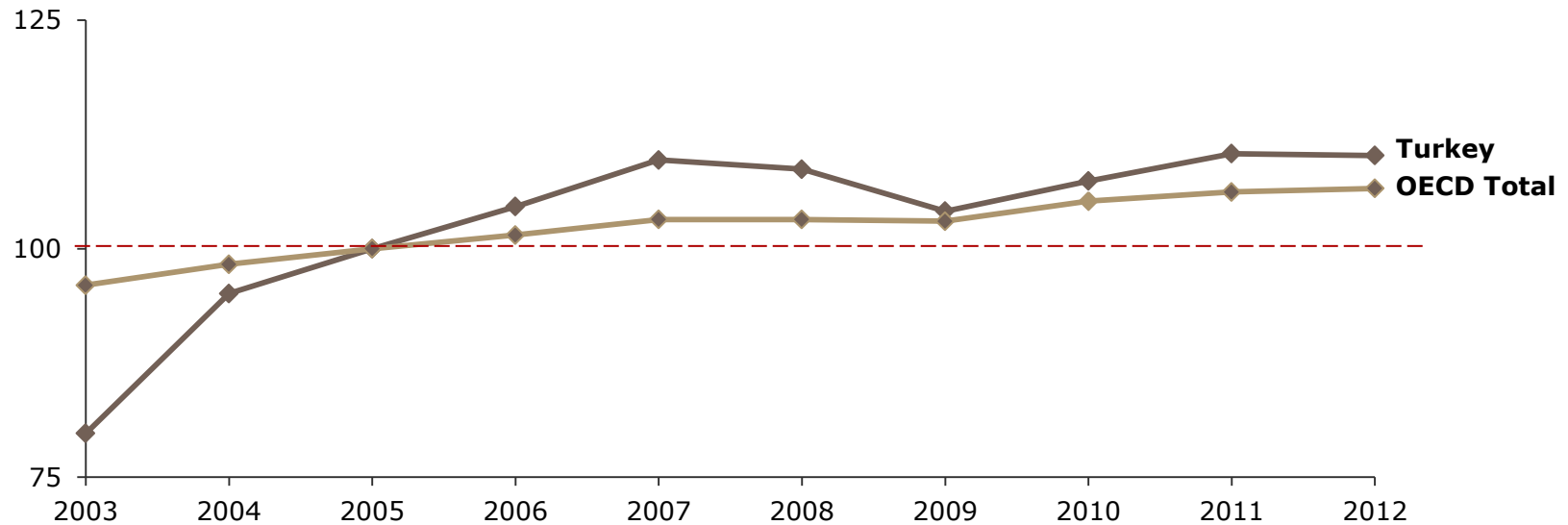
Source: PISA, Turkish Patent Institute, INSEAD

- The quantitative metrics indicated in **Figure 24** provides a picture of the talent and capabilities of Turkey. In this regard, Turkey has been developing in key performance areas such as number of researchers and within the Innovation Index. Turkey ranked **68 out of 142** countries in the Innovation Index, scoring high on knowledge and technology.
- PISA scores are given in three broad categories that include reading, math and science. Out of 66 countries, Turkey placed 44th in math and science and 42nd in reading.
- The country is making the following efforts to enhance the skills of its labor force:
 - The Ministry of Education launched projects within the framework of EU programs to meet the needs of high-tech industries and improve the number of qualified high-tech workers.
 - The Ministry of Science, Industry, and Technology launched a program with the Union of Chambers and Commodity Exchanges of Turkey (TOBB) to provide skilled laborers to meet manufacturing sector needs.



Productivity in Turkey increased approximately 10% from 2005 to 2012 surpassing total OECD productivity

Figure 24: Productivity Growth in Total Economy (2005=100)



Source: OECD

- OECD measures labor productivity as GDP per hour worked. Turkey's productivity has been increasing since 2005 and reached 110.2 in 2012, indicating a productivity increase of 10% from 2005, while total OECD productivity only increased 6% during the same period.



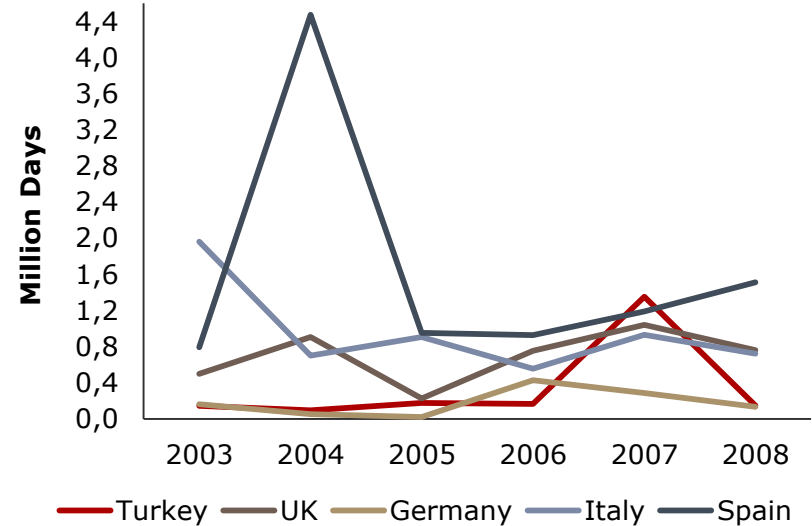
A transparent relationship between employers and employees was enacted with Law No. 6356

Employment and Severance Payment

- Termination of employment is governed by labor law. According to Article 18 of the law, termination of the employment contract of an employee having at least 6 months' service with an employer in a workplace operating with 30 or more employees should be based on a valid reason relating to efficiency or behavior of the employee, or the requirements of the enterprise, workplace or the work.
- Calculation of the severance paid is based on the employee's latest salary. However, the maximum limit of severance pay for the second half of 2012 was **TL 3,033.98**. In the second half of 2013, the ceiling for severance pay was increased to **TL 3,254.44**.

- As indicated in the Union Law, individuals are free to join a trade union, but they cannot be forced to join one.
- According to Law No. 6356, Article 41 that governs Trade Unions and Collective Bargaining Agreements, labor unions have the right to sign collective bargaining agreements with employers provided that more than 40% of the total number of employees of that employer are members of the labor union.

Figure 25: Days not Worked due to Strikes and Lockouts, 2003-2008



Source: ILO

- In Turkey, the workdays missed were a **mere 142,000** in 2008, while in developed countries such as UK there were more than **750,000 days missed** and Italy surpassed 720,000 days.
- Both the employer and the employee can terminate the employment contract. Moreover, the employer may terminate the employment contract of the employee by paying, in advance, the salary of the employee that corresponds to the period of notice.

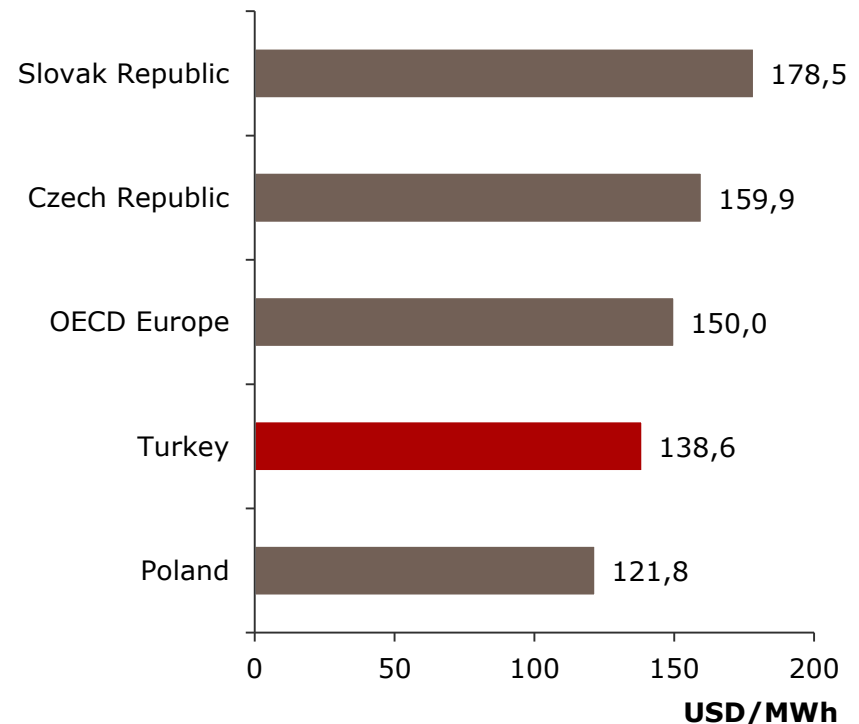
Source: Ministry of Finance, Official Gazette No. 28460, HSBC Country Guides



Another factor in manufacturing, the cost of energy, is among the lowest for Turkey

- Lowering electricity prices is vital to relieve the burden of the high cost of energy for the manufacturing industries of many different countries. International investors have to be wary of a country's industrial electricity prices since it may be one of the factors deciding the future profitability of their investments.
- The figure reveals that Turkey's average electricity prices in 2011 are well below OECD-member European countries.
- Turkey continues to have lower energy prices than the Slovak Republic and the Czech Republic.

Figure 26: Electricity Prices for Industry in USD/MWh by Country, 2011

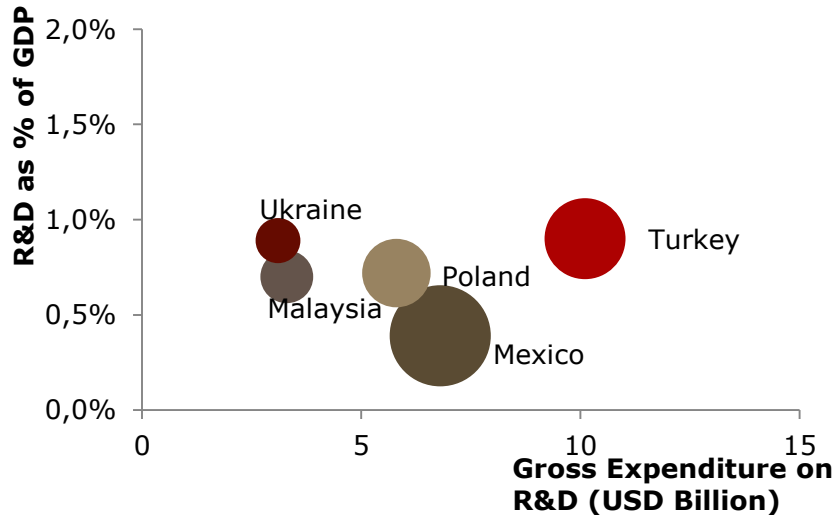


Source: IEA Statistics of Energy Prices and Taxes



The manufacturing industry has been receiving a boost from growing R&D grants.

Figure 27: Gross Expenditures on R&D, 2012

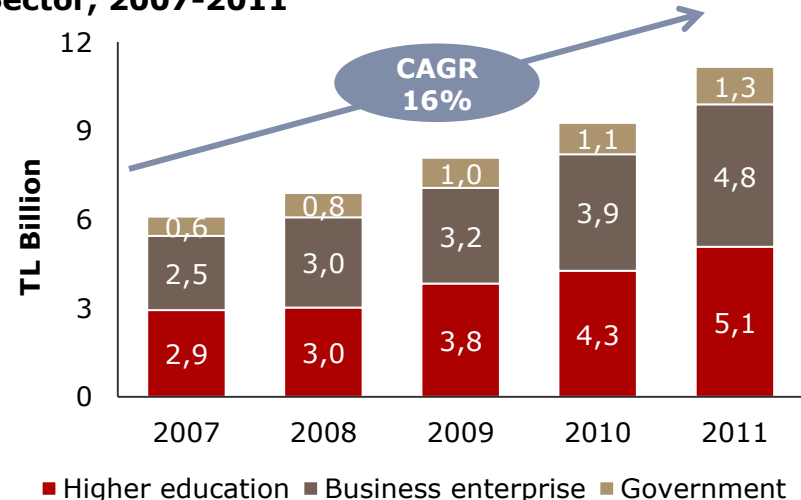


Note: Bubble size represents countries' GDP in terms of PPP USD Billion.
Source: 2013 R&D Global Funding Forecast Report

- According to *R&D Magazine*, which is a highly respected authority on R&D funding, Turkey is above its emerging market peers such as India, Mexico, Malaysia, Poland and the Ukraine in terms of R&D spending as a percentage of the GDP.
- Although, the R&D spending is percentage wise below European countries with **0.90% in 2012**, the spending has been increasing.
- Moreover, *R&D Magazine* expects Turkey's R&D's percentage of the GDP to increase to 0.95% in 2013.

- Total R&D expenditures increased a stunning 16% from 2007 to 2011 exceeding **TL 11 billion** in 2011.
- Higher education received more than 45% of the expenditures for R&D, while business enterprises and the government received 43% and 11%, respectively.
- 51% of the total R&D expenditures consist of labor costs, followed by machinery and equipment expenditures with 12%.

Figure 28: Gross Domestic Expenditure on R&D by Sector, 2007-2011



Source: Turkstat



TÜBİTAK, Turkey's scientific and technological research council, has many R&D programs...

Table 9: TÜBİTAK Support Programmes

Support Program	Explanation
TÜBİTAK Industrial R&D Project Support Program	<ul style="list-style-type: none">• Any company with share capital that is located in Turkey can benefit from the program.• TÜBİTAK supports the project for a maximum of 36 months.• The amount of support given to R&D-related projects is a minimum of 40% of the budget up to the maximum of 60% of the budget.• A TL 7,500 incentive is given to the owner of the company
TÜBİTAK Projects Markets Support Program	<ul style="list-style-type: none">• This program supports entities that come together to share information and to work cooperatively on projects.• At least one university must be a part of the group along with one of the following entities: a chamber of industry, a board of trade and/or an exporters' association.• If the organization is locally based, the grant given is TL 25,000. If it is an international organization, the grant amount is TL 30,000.
TÜBİTAK Industry - University Cooperation Program	<ul style="list-style-type: none">• This program supports the transfer of know-how and technology from universities to SMEs and large corporations in order to create a product or a process.• The program grants 5% of the project budget in the form of Project Incentive Premium (PIP). The PIP can be up to TL 1 million• TÜBİTAK supports the project for a maximum of 24 months• If the company is an SME, 75% of the project budget is given as a grant from TÜBİTAK. If it is a large corporation, TÜBİTAK grants up to 60% of the project budget.



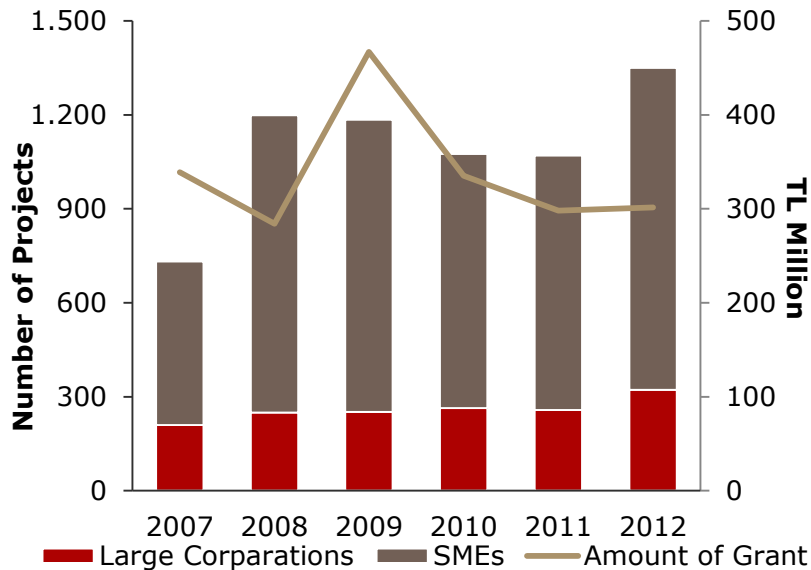
... supporting cooperation between industry and academia

Support Program	Explanation
• TÜBİTAK SME R&D Initiative Program	<ul style="list-style-type: none"> • Only, SMEs that are located in Turkey can apply for this program. • TÜBİTAK supports the project for a maximum of 18 months. • TL 500,000 is the upper limit of the project budget – for support of the project. • 75% of the total budget is given for R&D-related projects.
TÜBİTAK International R&D Project Support Program	<ul style="list-style-type: none"> • The program supports corporations located in Turkey that take part in international partnership support programs (i.e. EUREKA, EUROSTARS and EU Framework Program). • The duration for support begins at the project's starting date and ends when the project is completed. • There is a grant of 60% provided for the project's budget for large corporations that conduct R&D and 75% grant for SMEs that conduct R&D.
TÜBİTAK Technology R&D and Support Program for Primary Fields	<ul style="list-style-type: none"> • The program supports corporations that invest in fundamental technology R&D specified by TÜBİTAK. • There are no fixed time periods unless explicitly specified in the announcement. • There is 60% grant for the project's budget for large corporations that conduct R&D and a 75% grant for SMEs that conduct R&D. • A 10% grant is given for general expenses and more than 20% grant is given for international service procurements.



The total grants awarded surpassed TL 300 million as a result of TÜBİTAK's specially tailored R&D program

Figure 29: TÜBİTAK R&D Grants for the Private Sector, 2007-2012



Source: TÜBİTAK

- TÜBİTAK increased its project support from 732 to **1,350 projects**, which is an increase of 84% from 2007 to 2012.
- The total amount granted, in 2012, was more than **TL 300 million**. More than **TL 175 million** of these grants were given to SMEs, while an excess of TL 120 million were given to large corporations.
- 28% of the projects supported by TÜBİTAK were machinery and manufacturing projects, followed by IT with 16% and electrics and electronics by 13%.

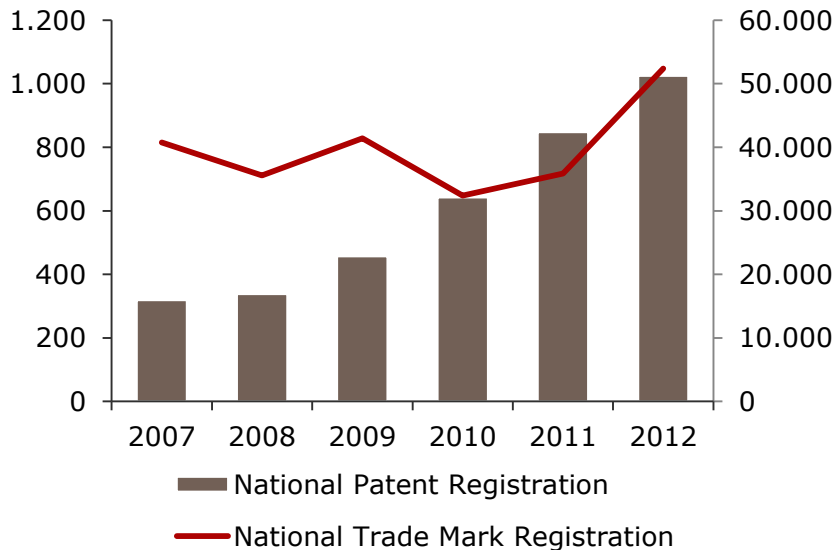
SAN-TEZ

- **SAN-TEZ program** supports R&D and innovation partnerships between industry players and universities.
- The program enables the participants to commercialize their research findings by increasing the number of academic masters and doctorate theses.
- The program grant is given as cash to participants. **75% of the project budget is met by the Ministry of Science, Industry and Technology**, while the rest is given by firm(s) in partnership with the university.
- The total duration for support is **36 months**. If the stakeholders allow, the duration of the grant can be extended up to 6 months.
- The program support can include expenditures made for hardware, consumables, service procurement, travel and personnel. However, the hardware expenditures cannot surpass **65% of the project budget** and service procurement cannot exceed 20% of the project budget.



As investment in R&D sped up, the number of registered national patents and trademarks skyrocketed

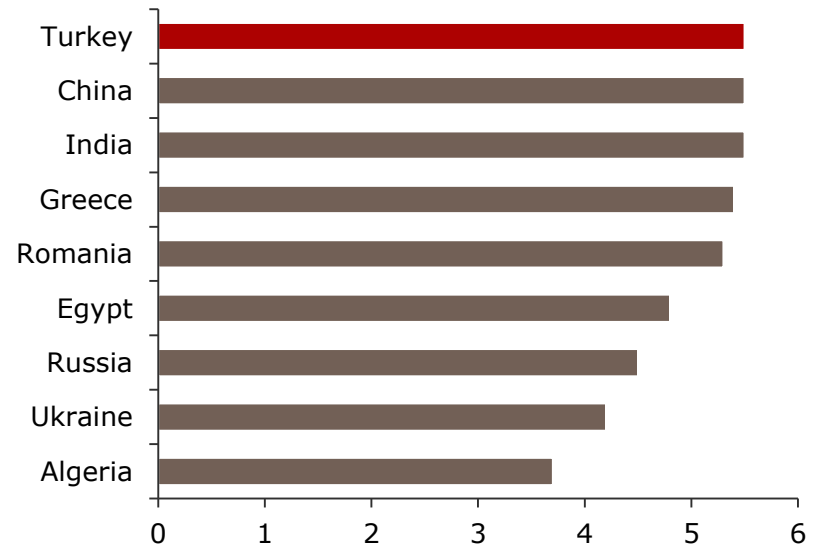
Figure 30: Number of Patents and Trademark Registrations in Turkey, 2007-2012



Source: Turkish Patent Institute

- As investments in R&D sped up, the number of national patents skyrocketed in 2012 **exceeding 1,000 registrations**, which is a threefold increase from 2007.
- Moreover, national trademark registration is on the rise with a **CAGR 5%** growth from 2007 to 2012, **surpassing 52,000 registrations**.

Figure 31: Intellectual Property Rights Index, 2013



Source: International Intellectual Property Rights Index

Note: Index is rated from 1- 8

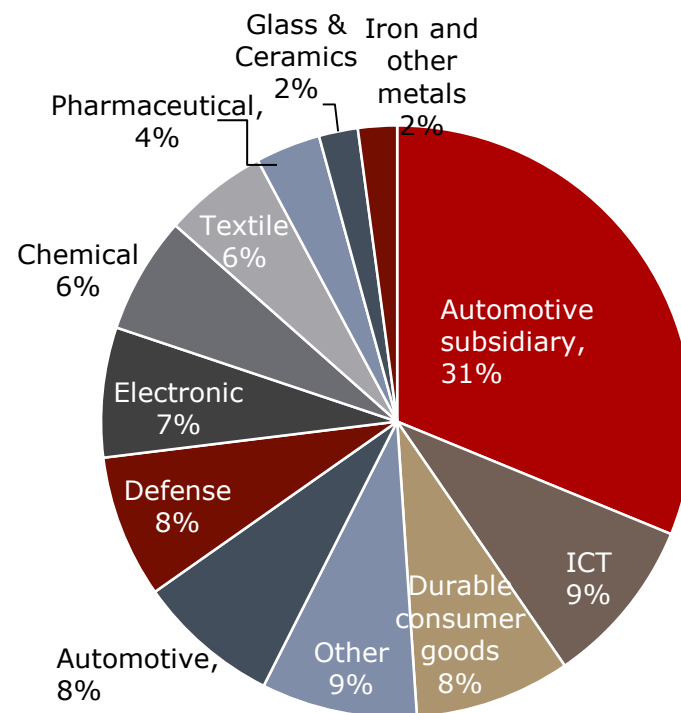
- Turkey scored an overall intellectual property rights score of 5.5 in 2013, increasing its score by 0.2 from 2012. Turkey has achieved a significant position among top emerging markets on the Intellectual Property Rights Index and even surpassed some Eastern European countries like Greece and Romania.



R&D centers are fundamental for Turkey's global competitiveness

- Law No. 5746 supports and encourages developing technology so the Turkish economy can become globally competitive through R&D and innovation, increasing product quality and standards, creating innovation in products and manufacturing, decreasing production costs, increasing productivity, commercializing technical knowledge, developing pre-competitive R&D cooperation between rival companies, increasing technology-intensive production and entrepreneurship, increasing the amount of FDI directed at R&D and innovation funding, and increasing employment for R&D personnel and other qualified workforce.
- This law encompasses the support, incentives and exemptions given to R&D centers that meet the following requirements: they employ at least 50 employees, have R&D projects funded by public institutions or international funds, that are in partnership with at least one R&D center (these institutions and R&D centers may operate in the same or different sectors), they facilitate pre-competitive R&D collaborations, have entrepreneurs supported by Techno-Enterprise Capital Support Programme, and are technology centers established by the SME Development Administration.

Figure 32: R&D Centers According to Sector



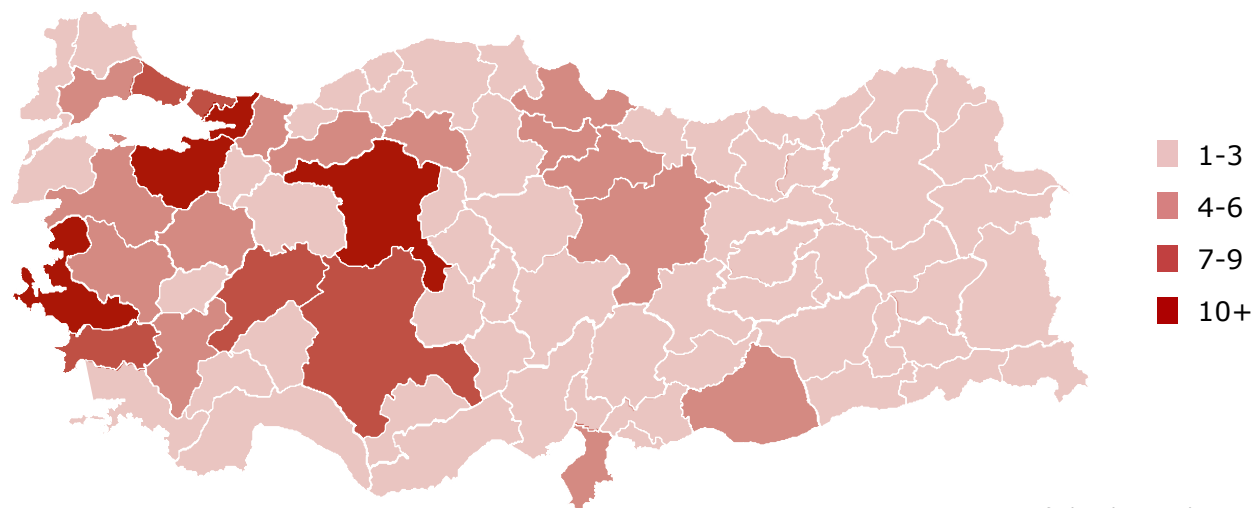
Source: ISPAT



Turkey has signed agreements with the EU ensuring an increase in R&D expenditure

- Turkey will increase R&D spending to 3% of its total GDP up until 2023. Two thirds of this will be funded by the private sector as is stated in its agreement with the EU.
- These incentives that are backed by law will secure Turkey's position as a R&D base by encouraging foreign investors to house R&D centers in Turkey.
- The Ministry deemed 153 institutions suitable for obtaining a R&D Center Certificate of which 11 have had their certificates cancelled for various reasons, leaving 142 active R&D centers which employ a total of 15,686 R&D personnel.
- These R&D centers spent TL 7.3 billion on R&D research between 2008-2012.

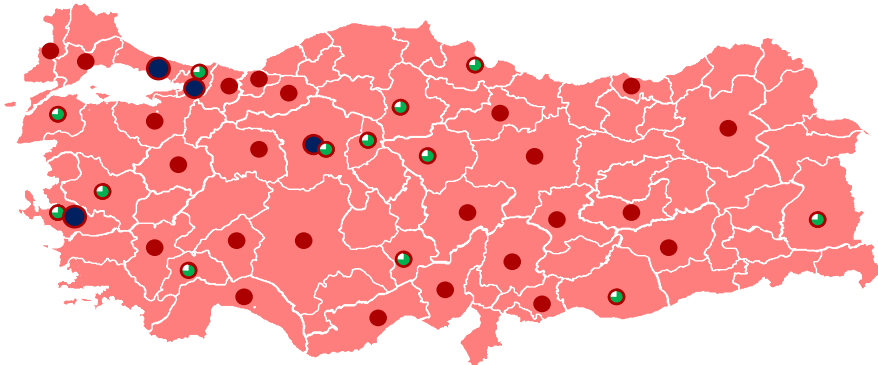
Figure 33: The Spread of R&D Centers Across Turkey



Source: Union of Chambers and Commodity Exchanges of Turkey



Technology Development Zones also contribute significantly to research and development in the manufacturing industry



● One TDZ ● More than one TDZ ● Under construction

- TDZs are organized research and business centers where academic, economic and social structures become integrated and universities, research institutions, and industrial foundations work together for innovation, information and technology transfer; increasing productivity and reducing production costs; increasing product quality and standards; working on product development; commercializing know-how; supporting technological investments and entrepreneurship; and creating jobs for researchers.
- The regulation of TDZ is governed by Law No. 4691 for Technology Development Areas.
- The support and exemptions for TDZs provided by the law can be viewed under 3 headings: companies, entrepreneurs and faculty members.

Former Minister of Science, Industry and Technology Nihat Ergün:

"The 2023 goals for TDZs are 5,500 companies employing 65,000 personnel and 10 billion dollars in exports."

- ✓ The Ministry Science, Industry and Technology will meet the fixed costs of the companies that cannot afford their respective expenditures. Companies do not have to pay income tax until 2023. They can obtain free access to state-owned intangibles for 5 years, but later have to pay 0.2% of the property tax of the intangible.
- ✓ Entrepreneurs operating in this region are exempt from income tax until 2023 from income made from R&D operations and software. Taxes on the wages of R&D personnel are exempt until 2023.
- ✓ 50% of the Social Security premium is supported for 5 years for R&D personnel under Law No. 5746 called R&D Operations Support.

Source: Ministry of Science, Industry and Technology, Association of Turkish Technology Parks



The number of TDZs has doubled and number of companies active in TDZs has quadrupled in the last 7 years

Figure 34: Firms in TDZ

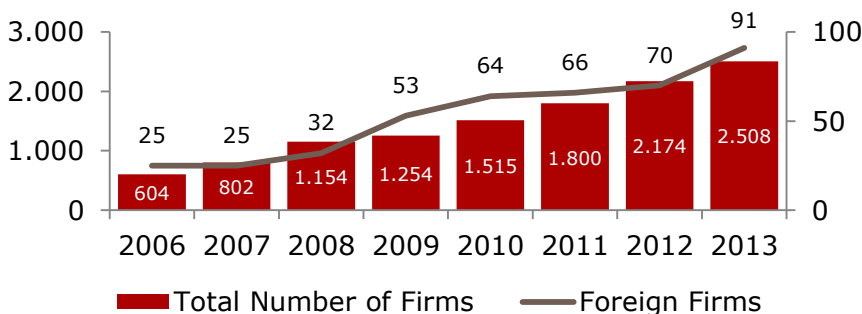


Figure 35: Firms by Sector in TDZs

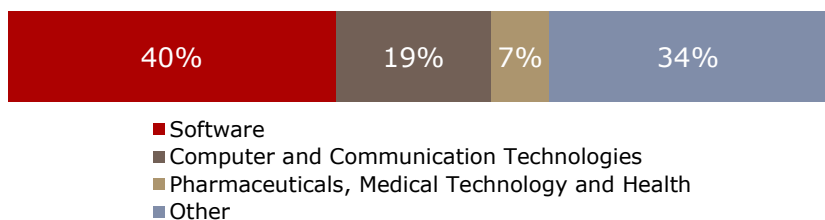
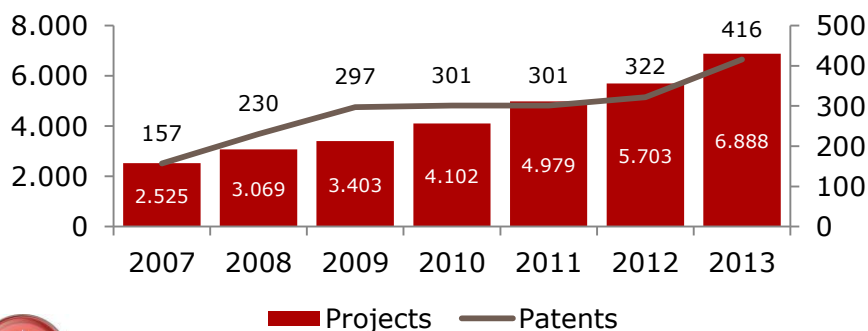


Figure 36: Total Projects and Patent Applications in TDZs

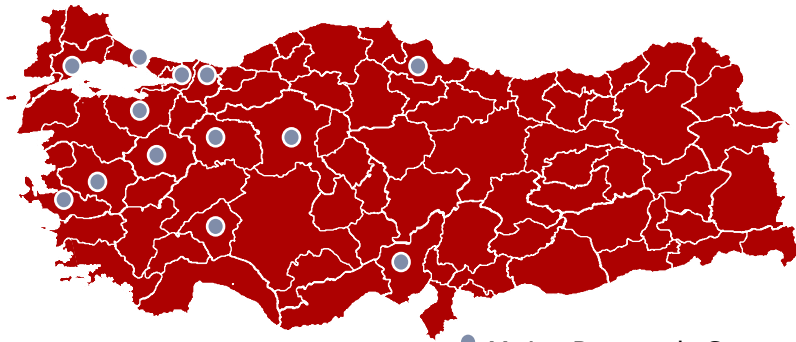


- Every year, on average 4 new TDZs are opened in Turkey. This trend increasing TDZs is expected to continue as Turkey proceeds towards its goals for the year 2023.
- 40% of the firms in TDZs are engaged in software. Other areas of focus are computer and communications technologies and pharmaceuticals, medical technology and health.
- There are **91 foreign investors among the 2,508 firms** in TDZs and their investments total approximately USD 683 million.
- In November 2013, the total number of projects were 6,888 and total exports reached USD 1.48 billion.
- The firms in TDZs applied for a total of **416 patents**.
- Employment in TDZs consists of **26,500 R&D, 881 support** personnel, and 2,958 other personnel with a total of **26,500 employed altogether**.

Source: Ministry of Science, Industry and Technology



Moreover, there are more than 150 universities and public research centers that cooperate with the industry



• Major Research Centers

- To encourage research and foster innovation in Turkey, research centers have been established.
- These centers conduct research in many areas including nanotechnology, energy, ICT and engineering.

Research Centers



- Future networks, network technologies, novel internet architectures, future computing systems, cloud computing, future internet technologies addressing societal challenges, advanced software engineering, CT for health, ICT for governance and policymaking, e-learning, intelligent tutoring systems, embedded systems, adaptation of business & manufacturing processes



- Electronic materials production and the application research center of 9 Eylül University in Izmir conducts research in areas such as nanotechnology, biomedical technology, aerospace, defense industry research and textiles



- ITU's mechatronic education and research center was established to conduct research in areas such as electric and hybrid vehicles, rail vehicles and robotics as well as many other subjects
- The center works cooperatively with producers in the automotive, electric and electronics industry to foster innovation and growth within these industries



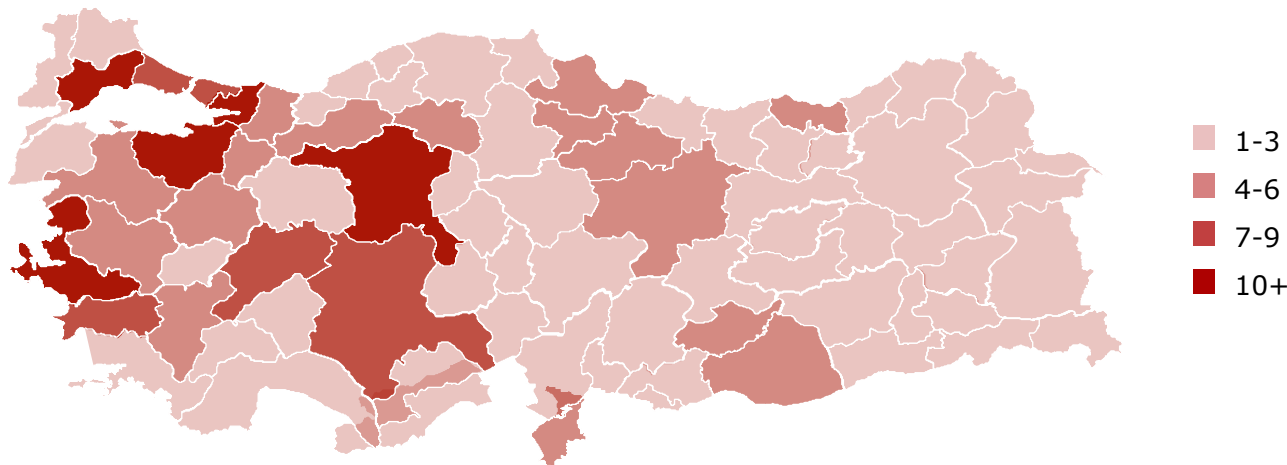
- The Marmara Research Center has various institutes that work under its auspices. These institutes are the Environmental Institute, the Energy Institute, the Genetic Engineering and Biotechnology Institute, the Food Institute, the Chemistry Institute, the Material institute and the Earth and Sea Institute.
- The center has various industry partners and works cooperatively with entities that include the Turkish Armed Forces, universities and other national R&D centers.



Organized Industrial Zones are also key to achieving industry's global ambitions

- Organized Industrial Zones (OIZs) are designed to allow companies to operate within approved boundaries with necessary infrastructure, technoparks and social facilities.
- There are a total of **263 OIZs in Turkey**, of which **148 are currently operational**.
- The main objectives for establishing OIZs are promoting industry in less developed regions, eliminating the use of agricultural land for industry, enabling relationships among industries to grow easily including ones that are complementary and encourage each other's growth and creating the increase in profits these synergies provide.
- Investors operating in OIZs can benefit from advantages such as **exemption from VAT in land acquisitions**, exemption from real estate duty for five years starting from the construction of a plant and exemption from the municipality tax for construction and usage of a plant.

Figure 37: Distribution of OIZs across Regions



Source: Union of Chambers and Commodity Exchanges of Turkey



Free trade zones encourage investors to focus on export-oriented production

- There are 19 free trade zones in Turkey, where export-oriented production is encouraged and no restrictive legal or administrative legislation is applied (or, at most, partly applied). There are many advantages and incentives given to companies in free trade zones, which can be summarized as follows:

- Companies are **exempt from corporate and income tax** until Turkey becomes a member of the European Union*.
- Companies, who export at least 85% of the products' FOB value have a right to deduct employee salaries from their corporate tax payments.
- Companies are exempt from VAT and customs **tax**.
- Profits can be transferred domestically or abroad without any permits.
- Companies **have easy access to** world class infrastructure.
- A company's monetary transactions are conducted in their own foreign currency. Therefore, companies are not affected by inflation.
- The Aegean Free Trade Zone has the biggest share of the total trade volume with 23% followed by Mersin with 17%.
- Total trade volume in free trade zones exceeded **USD 23 billion** in 2012.

Figure 38 : Free Trade Zones in Turkey

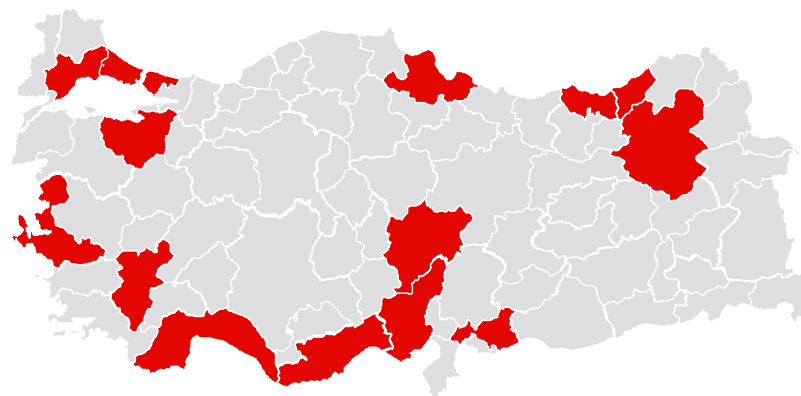
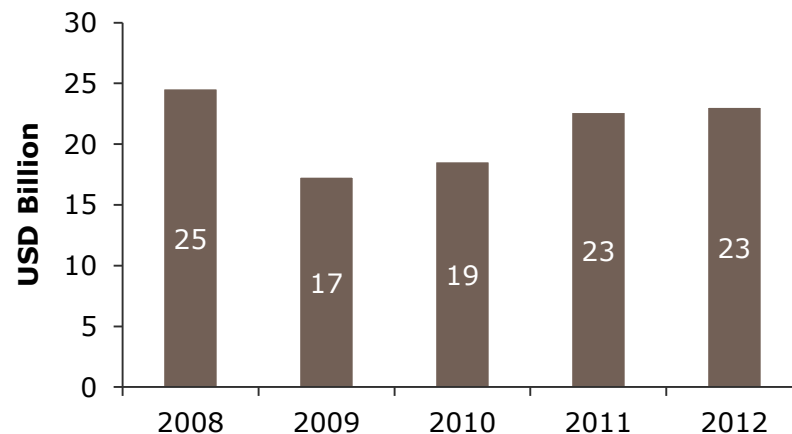


Figure 39 : Annual Trade Volume for Free Trade Zones, 2008-2012



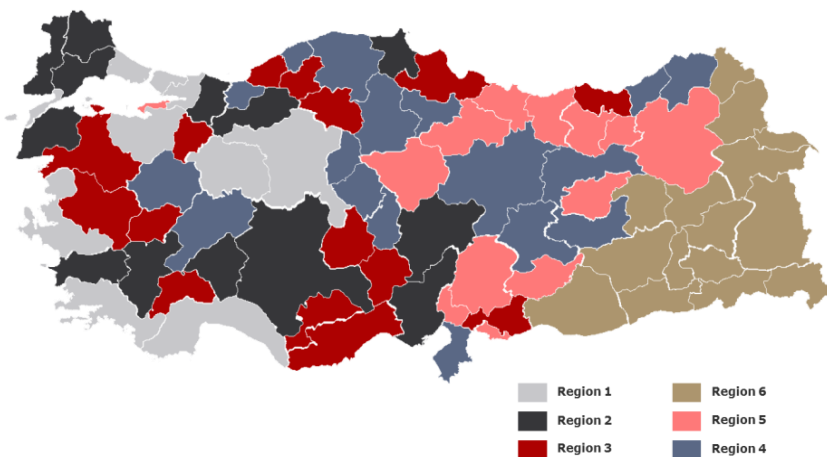
Source: Ministry of Economy

*: The incentive is given only to companies with production related operating licenses.



Several incentives are available to investors through the Turkish Investment Incentives Program.

Figure 40: Incentive Regions



- The Investment Incentive Program of 2012 comprises 4 different plans: general, regional, large scale and strategic. Moreover, specific priority investments are supported by measures of Region 5 even if they are made in Regions 1, 2, 3 and 4.
- All investment types, except the ones that are specifically excluded from the Investment Incentives Program, will be supported by the General Investment Incentives Program. Under this scope, the minimum fixed investment amount is TL 1 million in Region 1 and 2 and TL 500,000 in Regions 3, 4, 5 and 6.

Support	General Inv.	Regional Inv.	Large Scale Inv.	Strategic Inv.
Vat Exception	✓	✓	✓	✓
Customs Duty Exemption	✓	✓	✓	✓
Tax Deduction	✗	✓	✓	✓
Land Allocation	✗	✓	✓	✓
Interest Support	✗	✓	✗	✓
Vat Refund	✗	✗	✗	✓
Employer's Social Security Premium Support	✗	✓	✓	✓

Only For Region 6

Income Tax Withholding Support	✓	✓	✓	✓
Employees' Social Security Premium Support	✗	✓	✓	✓

REGIONAL INVESTMENTS INCENTIVE PLAN MEASURES

Region	OIZ	1	2	3	4	5	6
Tax Reduction (%)	Out of OIZ	15	20	25	30	40	50
	Within OIZ	20	25	30	40	50	55
Employer's Social Security Premium Support Within OIZ Period (Years)	Out of OIZ	2	3	5	6	7	10
	Within OIZ	3	5	6	7	10	12



The specifics of the incentive program changes with each sub-sector.

- Certain investment categories are supported by the **Large-Scale Investment Incentive Plan** with varying minimum investment amounts for certain industries in order to receive incentives. **Table 7 details** which industries may receive state support depending on investment amount.
- Strategic investment incentives are given to support production of intermediate and final products with high import dependence with a view to reduce current account deficit. The criteria to gain this support would be: to be made for production of intermediate and final goods with high import dependence of which more than **50% of these goods** are supplied by imports, to have a minimum investment amount of **TL 50 million**, to create a minimum **40% value added** (not applicable to refined petroleum and petrochemicals production investments), to have an import amount of at least **USD 50 million** for goods to be produced in the previous one-year period (not applicable to goods with no domestic production).

Table 10: Large-Scale Investment Requirements

Investment Area	Minimum Investment Amount (TL Million)
Production of Refined Petroleum Products	1,000
Production of Chemical Products	200
Automotive OEM Investments	200
Automotive Supply Industries Investments	50
Electronics	50
Pharmaceuticals	50
Machinery	50
Medical, High Precision and Optical Equipment	50
Aircraft and Space Vehicles and/or Parts	50
Railway and Tram Locomotives and/or Railway and Tram Cars	50
Integrated Metal Production	50

Source : Turkish Ministry of Economy



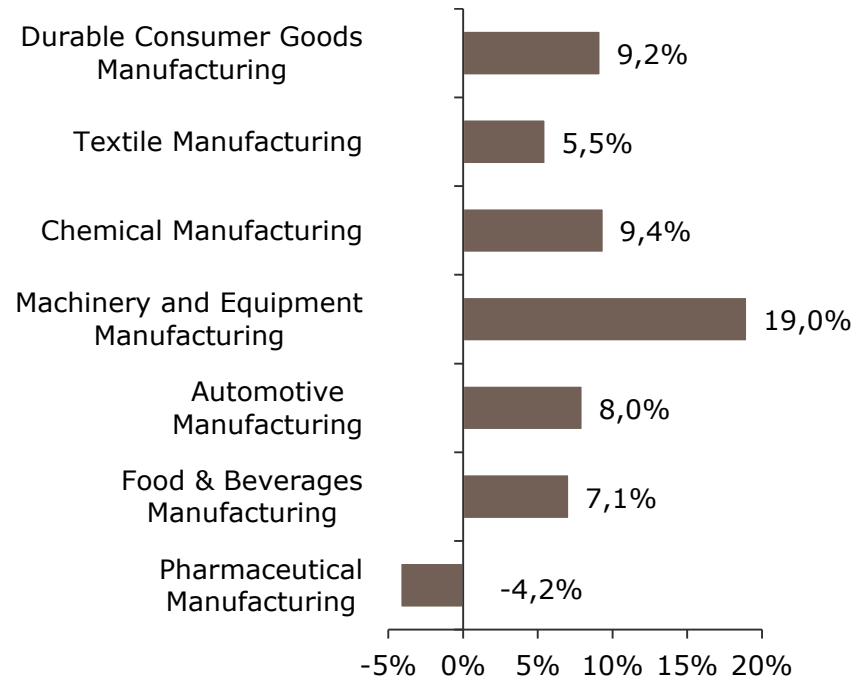
A. Analysis of the Manufacturing Industry's Sub-Sectors

- i. Overview of Manufacturing Industry in Turkey
- ii. Pharmaceutical Manufacturing
- iii. Food and Beverage Manufacturing
- iv. Automotive Manufacturing
- v. Machinery and Equipment Manufacturing
- vi. Chemical Manufacturing
- vii. Textile Manufacturing
- viii. Durable Consumer Goods Manufacturing



A number of manufacturing sub-sectors in Turkey have been growing in recent years

Figure 41: CAGR of Manufacturing Sub-Sectors between 2009-2012



Source: Turkstat

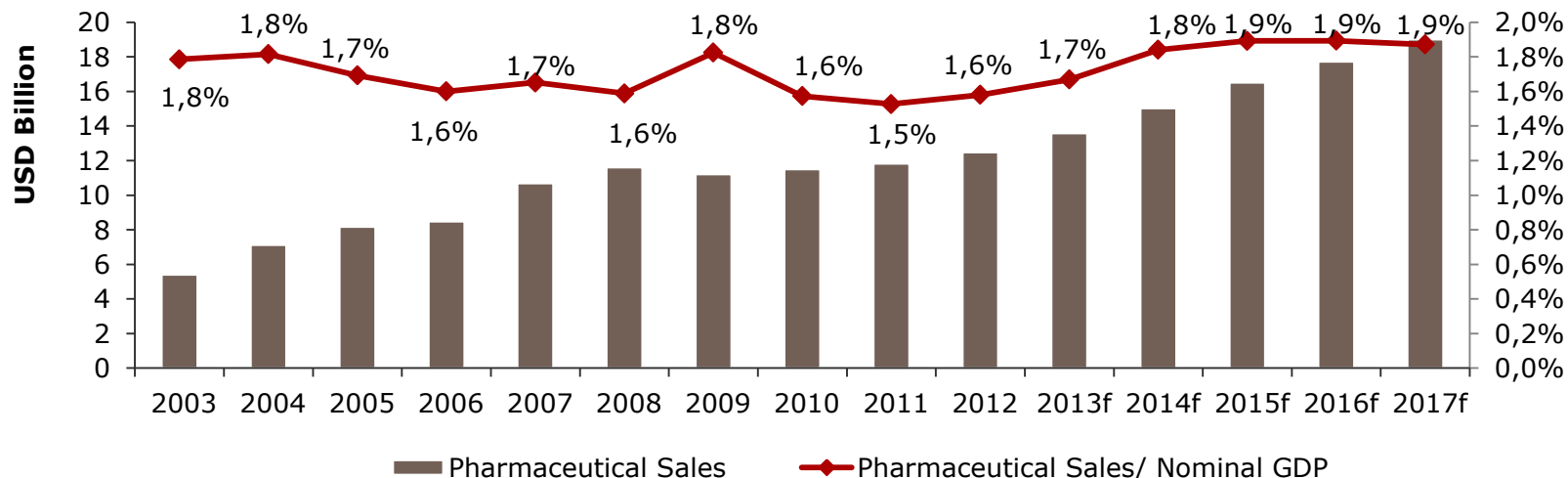
- Machinery and equipment manufacturing was the fastest growing sector with a stable **CAGR of 19%**, followed by **chemical manufacturing with 9.4%** and durable consumer goods manufacturing with **9.2% CAGR** from 2009 to 2012.
- Overall, total manufacturing grew with a **CAGR of 15%** from 2009 to 2012 despite some setbacks in the pharmaceutical industry.
- HSBC Turkey Manufacturing PMI, which is a seasonally adjusted composite index that shows performance of the manufacturing industry, continued to improve during 2012 and through October 2013.
- According to HSBC, output levels and new orders increased, while the workforce numbers grew in the manufacturing industry.
- The index posted 53.3 points in October 2013 and the operating conditions improved for the third month in succession. The increase was due to expansion to new markets and new product launches.



Pharmaceutical Manufacturing:

Turkey's pharmaceutical industry has quadrupled sales over the last decade

Figure 42: Pharmaceutical Sales in Turkey, 2003-2017



Source: EIU, Espicom, Deloitte Analysis
f: forecast

- Turkey's pharmaceutical sales have surged a CAGR 9.7% from 2003 to 2012 and are expected to continue to increase a CAGR 8.8% from 2012 to 2017 surpassing USD 19 billion indicating a high local demand for pharmaceuticals.
- As the country's total pharmaceutical sector has grown larger, the major local players have flourished. The most significant players in Turkey's pharmaceutical market are international companies – **Novartis, Pfizer and GlaxoSmithKline** - and combined account for 38.1% of the total market, but local manufacturers such as **Abdi İbrahim (10.4%)** and **Bilim İlaç (7.5%)** also hold a considerable share. The market is heavily fragmented with approximately 300 pharmaceutical companies in Turkey and nearly all of them add up to a market share of 44%.

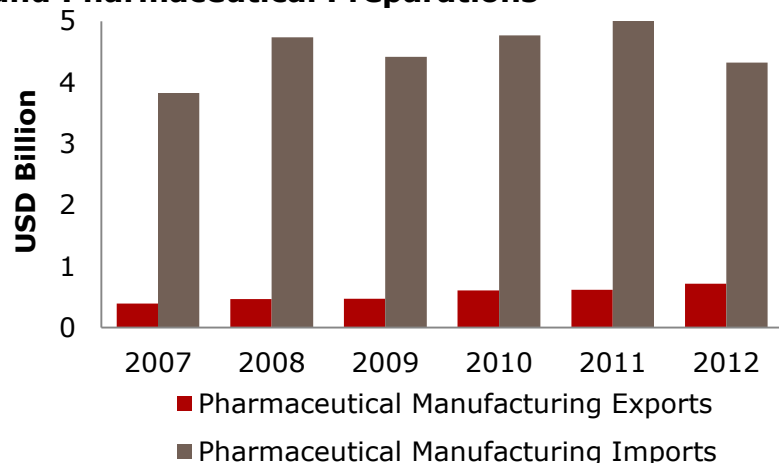
Source: Emerging Markets Insight



Pharmaceutical Manufacturing:

The growth of the sector is expected to continue with a CAGR of 16% over the next five years

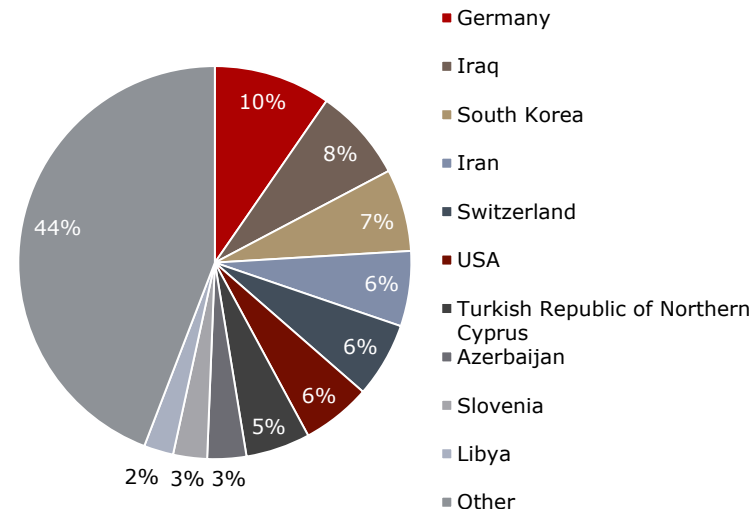
Figure 43: Foreign Trade Statistics for the Manufacture of Basic Pharmaceutical Products and Pharmaceutical Preparations







Source: Turkstat, Deloitte Analysis
Note: ISIC Rev. 4 Code: 21

- Turkey's manufacture of basic pharmaceutical products and pharmaceutical preparations for export was more than USD 715 million in 2012, an increase of a CAGR of 13% from 2007 to 2012.
- Turkish manufacture of basic pharmaceutical products and pharmaceutical preparations reached a diverse set of countries, the lead export partner being Germany with 10%, followed by Iraq with 8% and South Korea with 7%.
- Imports in the sector increased a CAGR 2% from 2007 to 2012, surpassing USD 4.3 billion. The majority of Turkey's imports were from neighboring countries. Germany was the largest import partner with 18%, followed by France with 13%, Switzerland with 10% and the USA with 10%. The top 10 countries Turkey imports from constitute more than 80% of Turkey's basic pharmaceutical products and pharmaceutical preparations.

Figure 44: Top Export Markets for the Sector, 2012



Pharmaceutical Manufacturing: Selected Players

GlaxoSmithKline	Novartis	Pfizer	Bayer
<ul style="list-style-type: none"> • GlaxoSmithKline (GSK) is a global pharmaceutical company operating across 40 countries with 102 production facilities and 42,000 employees. • GSK announced sales of GBP 28.4 billion in 2010. • GSK has been operating in Turkey for over 50 years and has 10 offices across the country. • GSK has made Turkey its regional base and Istanbul its headquarters for its MEA Middle East/Africa region. 	<ul style="list-style-type: none"> • Novartis is a global pharmaceutical company based in Switzerland. • Novartis Turkey began operating in Turkey in 1997. It bought a production facility in Gebze from Roche in 2007. • Alexandre Jetzer-Chung, a board member of the company, expressed their desire to house a production facility in Turkey to sell their products in the Middle East, Central Asia and Africa. 	<ul style="list-style-type: none"> • Pfizer is a global pharmaceutical company based in the USA. • Pfizer Turkey began operating in Turkey in 2006. Turkey became the regional headquarters of the Caucasus and Central Asia region in 2008. • Pfizer Turkey opened its R&D center in Hacettepe Teknokent in 2010. • In 2012, Pfizer opened a production facility in Pendik that has a production capacity of 75 million. 	<ul style="list-style-type: none"> • Bayer is a German pharmaceutical company based in Germany. • Bayer Turkey has been operating in Turkey for more than 60 years and employs 1,300 people. • Bayer Turkey has 18 offices across Turkey with its headquarters located in Ümraniye, Istanbul. Bayer Turkey reached gross sales of EUR 533 million in 2012. • The company has invested more than EUR 75 million in Turkey since 2000. 

Source: ISO 500, Emerging Markets Insights, GlaxoSmithKline, Novartis, Pfizer, Bayer



A Success Story: Recordati

"The acquisition of Frik İlaç is an important step forward in our strategy to increase our business in the emerging markets of Central and Eastern Europe, where the pharmaceutical market is growing at rates significantly greater than those of the Western European market. With the acquisition of Frik İlaç, Turkey becomes our third most important market after Italy and France. This market is expected to continue growing at average rates of between 10% and 13% in the next few years and we believe that, thanks to the addition of the new products acquired in our portfolio and the launch of our corporate products, the growth of our Turkish operations will exceed the market trend."

Giovanni Recordati, Chairman and CEO of Recordati, July 2011



Source: Reuters

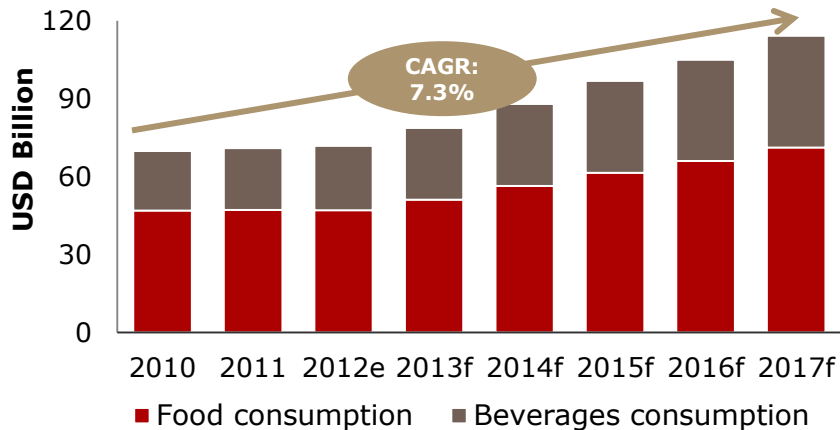
- Dr. F. Frik was founded on November 29, 1968 by Dr. Feridun Frik and is one of the fastest growing pharmaceutical companies in Turkey. The company has a core portfolio of original prescription products, both in primary care and specialized areas and employs 350 personnel, of which around 260 are medical representatives. Net sales in 2010 were around **EUR 44 million**.
- In July 2011, Recordati, a European pharmaceutical group established in 1926, announced the acquisition of 100% of the shares of Dr. F. Frik İlaç A. Ş. The transaction value was approximately **USD 130 million**. This was the second acquisition Recordati made in Turkey, it had previously acquired Yeni İlaç in December 2008.
- Recordati, listed on the Italian Stock Exchange, has a total staff of **over 2,800** and is dedicated to the research, development, manufacturing and marketing of pharmaceuticals. It is headquartered in Milan, Italy, and operates in the main European countries and has a growing presence in the new markets of Central and Eastern Europe. Consolidated revenue for 2010 was **EUR 728.1 million**, operating income was **EUR 154.8 million** and net income was **EUR 108.6 million**.



Food and Beverages Manufacturing:

Turkey's proficiency in the food and beverage sector has increased in order to meet augmented and evolving demand.

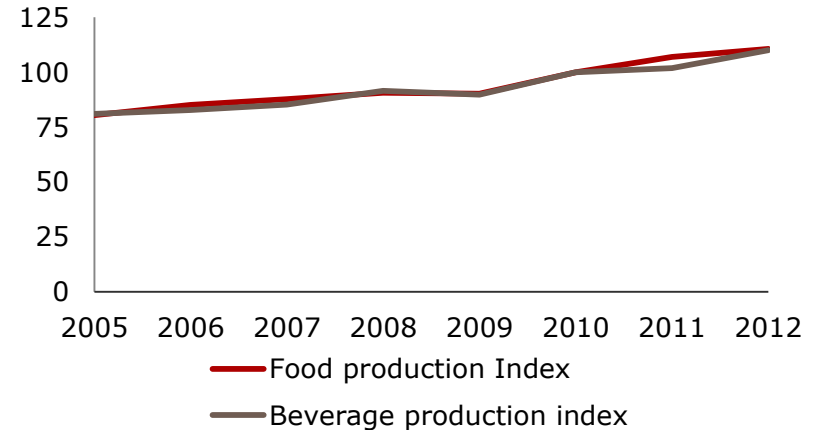
Figure 45: Food & Beverage Consumption Indicators, 2010-2017



Source: BMI
f: forecast

- Food and beverage consumption is expected to increase at a **compound annual growth rate of 7.3%** until 2017 and surpass USD 117 billion by 2017. Per capita food consumption is expected to increase as economic growth improves food spending.

Figure 46: Food & Beverage Products Manufacturing Production Index, 2005-2012



Source: Turkstat

- Production has been ever increasing in both the food and beverage sector. Production rose nearly by a third between 2005 and 2010 and it has **increased 10%** from 2010 to 2012.
- The fact that organized retail sales still contributes less than a third to overall food retail sales indicates the immaturity of the overall consumer sector in Turkey and the potential profits that can be gained in the future.



Food and Beverage Manufacturing:

Turkey is a significant exporter of food reaching a total of USD 9.5 billion in 2012

Figure 47: Foreign Trade Statistics for Food and Beverage Manufacturing

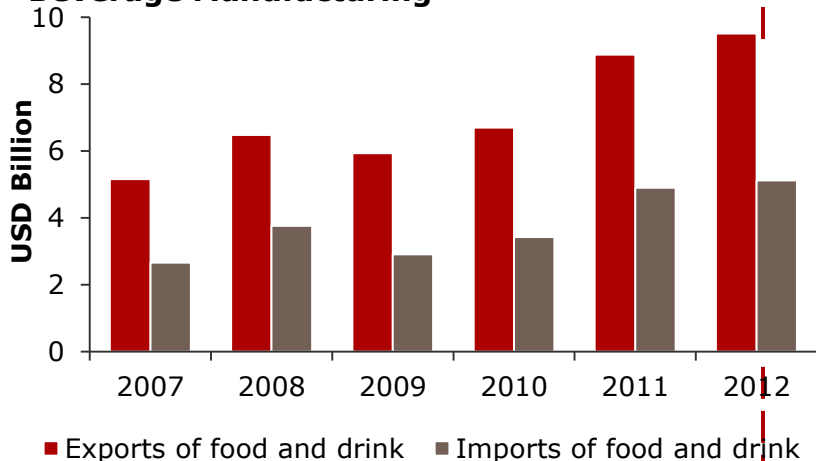
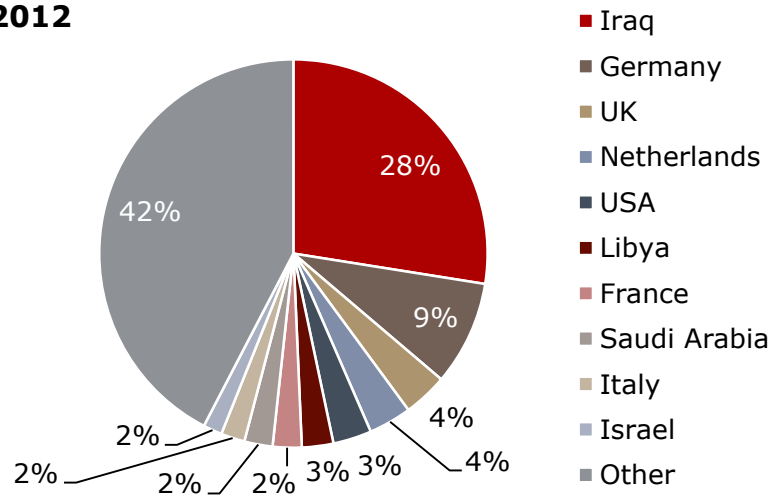


Figure 48: Top Export Markets for the Sector, 2012



Source: Turkstat (ISIC, Rev 3, Code 15), Deloitte Analysis

- Turkey has been **an important food exporter** in the global arena as it has relied on an agriculture-fueled economy for more than half of its history. **The CAGR of the industry's export and import totals from 2007 to 2012 are 6% and 7%, respectively.** The export totals of the food and beverage industry reached USD 9.5 billion in 2012, while the import totals remain at USD 5.1 billion, resulting in a positive trade balance.
- The largest export market was Iraq with 28% of total exports, followed by Germany with 9% and the UK with 4%, while the largest import market was Russia with a share of 17%, followed by the Ukraine and Germany with 8% each.
- The government is working on creating new export markets in the industry to further increase the country's future reach. In this regard, the government's latest move was eliminating obstacles that prevented the dairy industry from exporting to the EU.



Food and Beverages Manufacturing:

Turkey has attracted a number of global giants to the industry

Table 11: Top Players in Turkey's Food & Beverage Industry (2012)

ISO 500 - 2012 Ranking	Company Name	Production Based Sales in 2012 (TL billion)
16	Türkiye Şeker Fabrikaları A.Ş..	2.68
33	Coca-Cola İçecek A.Ş..	1.76
43	Ak Gıda San. ve Tic. A.Ş..	1.45
44	Konya Şeker San. ve Tic. A.Ş..	1.45
53	Çay İşletmeleri Genel Müdürlüğü	1.26

Source: Istanbul Chamber of Industry

- Unlike Turkey's other industries, the major players of the country's food and beverage manufacturing industry mostly consists of local companies with the exception of Coca-Cola, an international beverage leader.

Future Expectations of the Sector

- Nanotechnology and robotics will be used in Turkey's food and beverage manufacturing.
- Countries will specialize in terms of food products and quality and brand consciousness will gain importance.
- Environmental consciousness will be raised, natural resources will be better protected and recycling will proliferate.
- Production will produce better yields in order to feed the population increase.
- Demand will increase for product variety.
- Demand and consumption of organic foods will increase.
- Bio-friendly technologies will increasingly be used for growing food.

Source: Ministry of Science, Industry and Technology



Food and Beverages Manufacturing: Selected Players

Coca-Cola İçecek A.Ş.

- Coca-Cola İçecek is the 6th largest bottler in Coca-Cola in terms of sales volume.
- The unit of cases sold was up by 4% from 2011 reaching 569 million cases.
- The company has 8 plants through out Turkey and 10 warehouses.
- Net sales of the company was up 11.5% from 2011 to 2012 surpassing TL 2,757 million.



C.P. Standart Gıda Sanayi Ve Ticaret A.Ş.

- The CP Group is an international organization and the biggest animal food producer in the world, with an annual production of 23.2 million tonnes.
- It established its first forage factory in Turkey in Inegol in 1986 under the name CP Standard Gıda A.Ş..
- The company has a capacity of 1 million tonnes forage production per year and produced 140,000 tonnes of chicken meat per year.



Bunge

- Bunge Ltd. is a food processing corporation based in Bermuda.
- Bunge has been active in Turkey since 2000, processing seed oil and distributing corn, wheat and rice.
- The company has facilities in Thrace, the southern Marmara, Aegean and Mediterranean regions.
- The company is the main supplier of chicken, egg and fodder in Turkey.



Cargill

- Cargill is a privately held, American global food and agriculture company based in the United States.
- The firm has 280 employees in Istanbul, Bursa, Adana and Ankara.
- Cargill began operating a grain storage silo and port facilities in Yarimca in 1999.
- Cargill acquired Cerestar and with it Cerestar's 50% shares in Pendik Industry (PNS) and its corn wet milling plant in Istanbul in 2002.



Source: ISO 500, Emerging Markets Insights , Coca Cola, CP, Bunge, Cargill



A Success Story: Karper

"From now on Turkey will become a market where our international brands shall localize. We want to identify products that the Turkish population will consume and procure them with Turkish tastes."

Paul Alberge, *Chief Executive of Bel Group Turkey,*
April 2007



Source: Referans Gazetesi

- Bel Groupe, a French cheese producer, agreed to buy a 51% share of Karper Cheese from its founders in January, 2006. The group commenced manufacturing activities after finalizing the deal.
- Karper Cheese was founded in Istanbul in 1964. The company has an annual production capacity of **6,000 tonnes** and **employs 160 workers**. Today it operates in a modern manufacturing facility which has an enclosed area of 11,000 square meters and is located in Çorlu.
- Bel Groupe is a 140-year-old cheese-making company based in Paris. The company has factories in 26 countries and operates in 120 countries with a total of 20,000 employees. Bel Groupe also owns 20 world-famous brands and has an annual revenue of over EUR 2 billion.
- Bel Groupe wishes to become the market leader in Turkey in the coming years by marketing its own customized products and traditional Turkish cheeses.

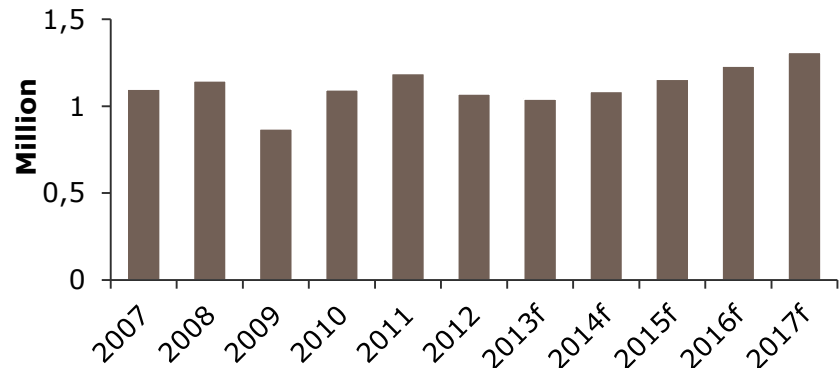


Automotive Manufacturing:

Turkey's automotive sector manufactured 1.24% of the world's total output in 2012

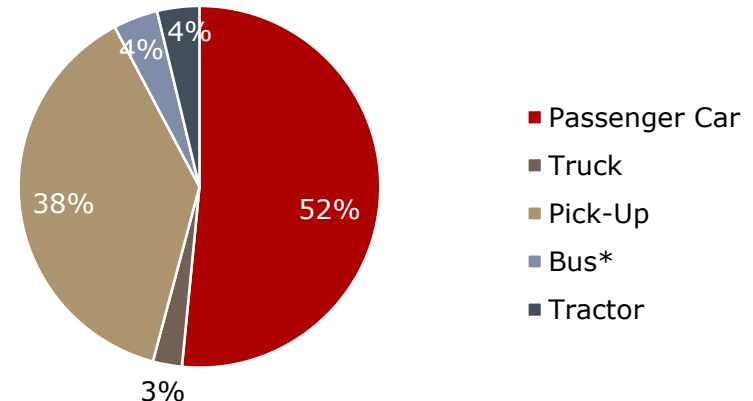
- Turkey's proportion in global automotive production has risen from **0.53% in 1999 to 1.24% in 2012**, which ranked Turkey 17th in the global automotive manufacturing arena with over **1 million units** produced.
- Turkey's total motor vehicle manufacturing is expected to increase a CAGR 2% from 2007 to 2012, surpassing 1.3 million vehicles in 2017.
- According to the Automotive Manufacturers Association of Turkey, the country ranked largest producer of light commercial vehicles and second largest bus manufacturer among European countries. Moreover, it is ranked 7th largest producer of trucks and 8th largest producer of automobiles.
- Automobiles constitute more than 50% of total vehicle production with an amount of a little more than 577,000.
- The majority of production in the sector was passenger cars with 52%, followed by pick-up trucks with 38% and buses with 4%.

Figure 49: Total Motor Vehicle Production in Turkey



Source: OSD, Deloitte Analysis using Emerging Markets Insight Forecasts
f: forecast

Figure 50: Production Percentages of Automotive Manufacturers in Turkey, 2012



Source: OSD, Deloitte Analysis
* Includes bus, mñibus and midibus.



Automotive Manufacturing:

The automotive export market surpassed USD 16 billion in 2012

- The majority of Turkish exports are to Germany with 16%, followed by France with 13% and Italy with 9%. Along with the fact that European countries are Turkey's biggest export partners, Turkey has also exported to Russia and the USA with a 5% share each of total exports.
- Turkey's largest import partner is also Germany with almost 32% of total imports, followed by France with 10% and Spain with 8%.
- Turkey's automotive exports have stayed relatively stable contracting only by a small margin between 2007 and 2012, while imports increased slightly at 3% during the same period.
- The automotive industry accounted for **12.6% of Turkey's entire exports** in 2012. In value terms, it ranks **first** in exports, followed by the chemical and textile industries.

Figure 51: Foreign Trade Statistics for the Manufacture of Motor Vehicles, Trailers and Semi-Trailers

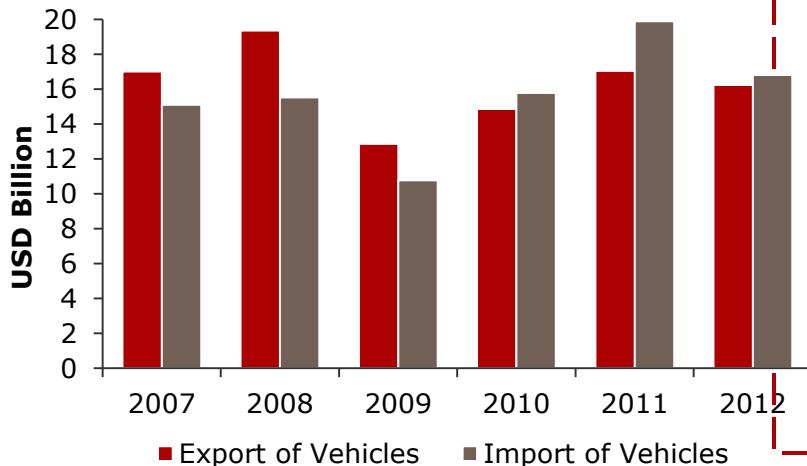
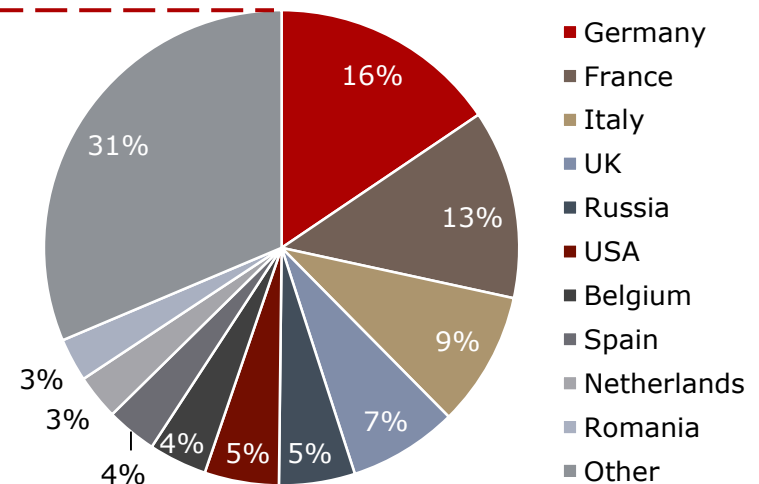


Figure 52: Top Export Markets for the Sector, 2012



Source: Turkstat (ISIC, Rev 3, Code 34), Deloitte Analysis

Source: OSD

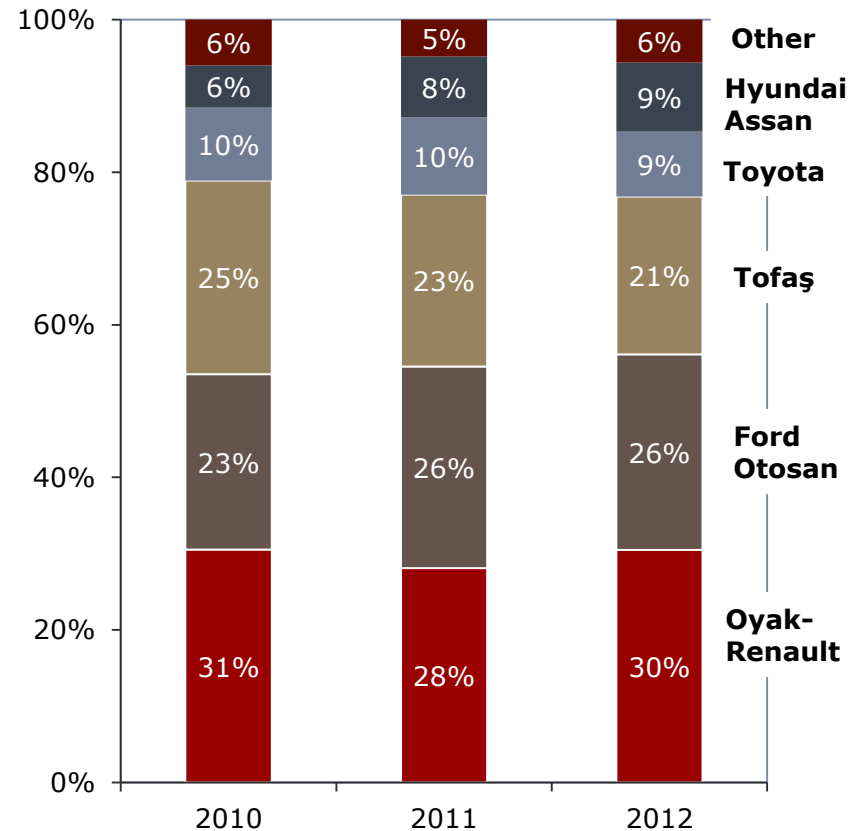


Automotive Manufacturing:

The local market supports the entry of international players as well.

- Oyak-Renault was the largest exporter of motor vehicles in 2012 exporting more than 227,000 vehicles, followed by Ford Otosan with more than 191,000 and Tofaş with a little more than 154,000 vehicle exports.
- The automotive supply sector's exports also increased since 2007. According to the Automotive Manufacturers Association of Turkey, the automotive supply sector's total exports increased a stunning CAGR 6% from 2007 to 2012 and realized more than USD 8.2 billion in profits.
- Turkey's lower labor costs compared with EU countries, well-trained workforce and strategic location – being the 'bridge' between Europe and Asia as well as its proximity to attractive markets such as North Africa and the Middle East - has helped the country attract investments from major international players. Turkey's favorable regulatory environment and free-trade agreements with export markets such as Europe and the Middle East have also been helpful when attracting foreign investment to the sector. Turkey has attracted many foreign investors such as Toyota Ford, Hyundai, MAN, Renault, Fiat, Mercedes and Isuzu.





Figure 53: Exports of OSD Member Companies



Source: OSD, Deloitte Analysis
 Note: Units were converted to percentage points.



Automotive Manufacturing: Selected Players

Renault	Fiat	Honda	Ford
<ul style="list-style-type: none"> Renault is a French multinational vehicle manufacturer established in 1899. Renault manufactured its first vehicle in Turkey in 1971. The Renault factory in Bursa has a production capacity of 360,000 automobiles and 450,000 engines per year. The factory in Turkey has the highest capacity of all of Renault's factories outside Western Europe. Renault was 3rd largest automotive company in Turkey in 2012. 	<ul style="list-style-type: none"> Fabricca Italiana Automobili Torino (Fiat) was founded in 1899 in Italy. Fiat automobiles have been produced in the Tofaş factory in Bursa since 1968. Tofaş Fiat is jointly owned by Fiat and Koç Holding. Today the factory has a production capacity of 400,000 cars and has more than 7,000 employees. The vehicles are exported to more than 80 countries. 	<ul style="list-style-type: none"> Honda was established in 1946 by the Honda Technical Research Institute in Japan. The company joined forces with Anadolu Honda Otomobilcilik A.Ş. in 1992 so it could enter the Turkish market. The factory's operations started in 1998 in Gebze. The facility is Honda's second factory in Europe. The factory's manufacturing capacity is 50,000 vehicles per year. 	<ul style="list-style-type: none"> The Ford Motor Company was founded in 1902 in Michigan. Today it has 166,000 employees worldwide. In 1959, Koç Holding, Ford's distributor in Turkey, partnered with Ford to establish Ford Otosan. Today, Ford Otosan has 4 facilities in Turkey with one specifically focusing on R&D. The company produced approximately 272,000 vehicles in 2012. Ford Otosan plans to expand its LCV capacity to 415,000 vehicles by 2014.
			

Source: ISO 500, Emerging Markets Insight, renault.com.tr, hyundai.com/tr, honda.com.tr, ford.com.tr



A Success Story: Hyundai

"In this period, we have been explicitly receiving signals of a recovery in the automotive sector on the global scale, especially in Turkey. This country is a very significant market for us with its burgeoning economy, potential in the commercial vehicle market, production quality, dexterity in design and qualified labor force. It is a very important area of export for us because of its position in the region."

Han-Young Choi, Chairman of Hyundai Motor Group, October 2010



HYUNDAI

Source: Today's Zaman

- Hyundai is a global automaker based in South Korea. It started its operations in the Turkish market in 1990 with Kibar Holding as its distributor.
- The factory opened in Izmit with an investment of USD 180 million in 1997 and a production capacity of 200,000 vehicles.
- Hyundai is present in over 50 cities in Turkey and has 73 authorized sales points and 83 technical assistance services .
- Turkish commercial vehicles manufacturer Karsan made a deal with Hyundai to manufacture a brand new product range in Turkey, along with the Euro 5 version of the HD series autos. These are currently produced in its plant in Bursa. Karsan and Hyundai will jointly **invest USD 260 million** for the production of a Hyundai-branded light commercial vehicle (LCV) with various configurations in Turkey.
- According to the contract, Karsan will manufacture **3-6 tonnes range LCVs** for Hyundai in Turkey beginning at the end of 2014. Total production will reach **200,000 vehicles in 7 years**, comprising panel vans, light trucks and minibuses.

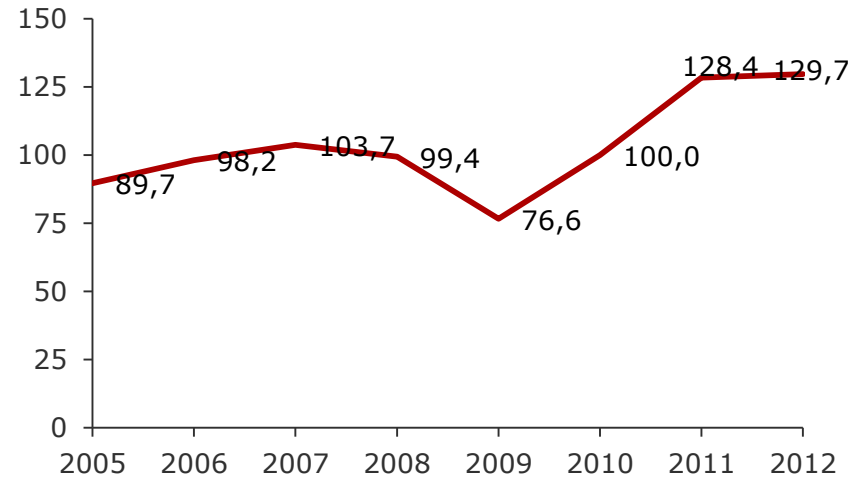


Machinery and Equipment Manufacturing:

Turkish machinery and equipment manufacturing has prodigiously recovered from the recent crisis

- The machinery and equipment manufacturing industry is one of the driving forces in Turkey as it provides the necessary equipment needed to sustain the growing manufacturing industry. Its position as a vital provider for the manufacturing industry – other vital inputs being labor and raw material – places it in a strategic collaboration with other major manufacturing industries. Thus, it is directly responsible for the economic development of the country and the competitiveness of its industrial branches in the global markets.

Figure 54: Industrial Production (2010=100, Gross Indices)



Source: Turkstat

- The industry enjoyed high growth rates until the global recession in 2009. However, the industry recovered spectacularly and demonstrated a **growth rate of 29.7%** between the years 2010 and 2012.
- The industry reached a total of **TL 20.8 billion** in 2010 and represented 4% of the total production of the manufacturing industry.
- According to the Ministry of Science, Industry and Technology, the machinery industry utilizes approximately **85% domestic input** in the production stage, which in turn, reduces its dependency on foreign suppliers.



Machinery and Equipment Manufacturing:

Turkish machinery manufacturers have been exporting to the world's principal manufacturers

Figure 55: Foreign Trade Statistics for the Manufacture of Machinery and Equipment

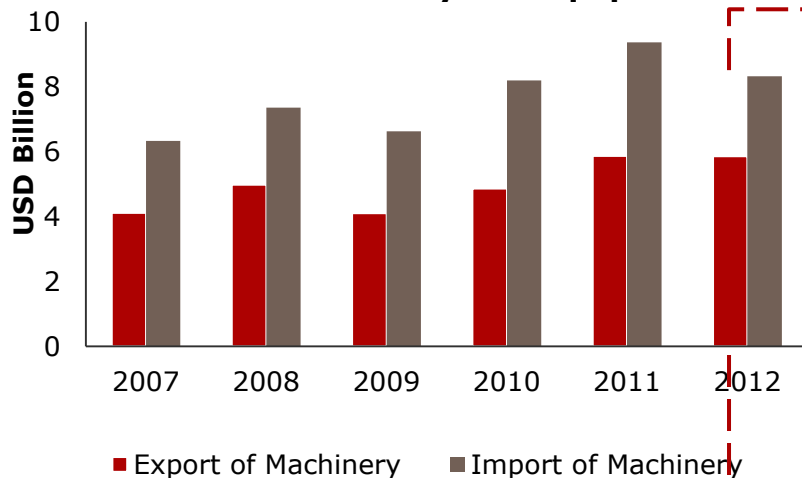
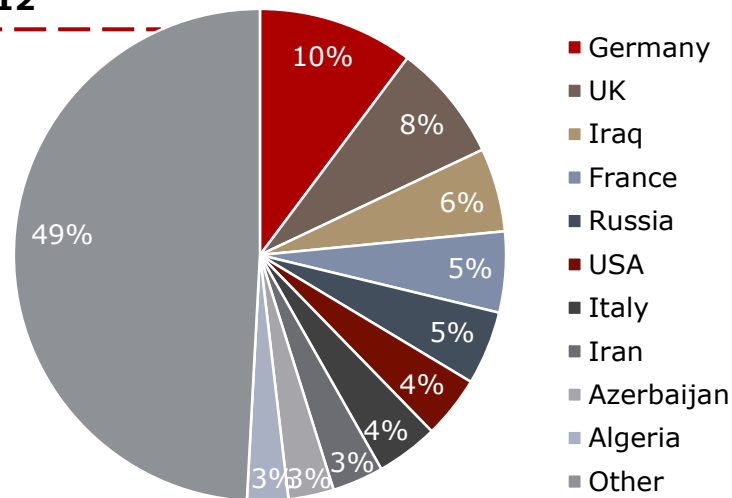


Figure 56: Top Export Markets for the Sector, 2012



Source: Turkstat (ISIC, Rev 3, Code 29), Deloitte Analysis

- The exporting of the country's machinery and equipment increased a CAGR 7% between 2007 and 2012. Despite the decrease in 2009 due to the global economic crisis, exports have remained steady as has the country's production. It rapidly recovered by surpassing the previous export record of 2008, with 2012 **exceeding USD 5.8 billion**.
- Germany had the highest individual **share with 10%** of Turkey's total machinery and equipment exports in 2012. Germany is followed by the UK with 8%, Iraq and France each having a 5% share of total machinery and equipment exports. The total export share of the top eight countries **added up to 45%** of the total exports of Turkey for the sector.
- Turkey's main import partner for the machinery and equipment sector is Germany with a 20% share of the imports, followed by Italy with 16% and China with 15%. Other top ten countries include Japan, France and the USA with 5% each, South Korea with 4%, Belgium and the UK with 3% and Spain with 2%.

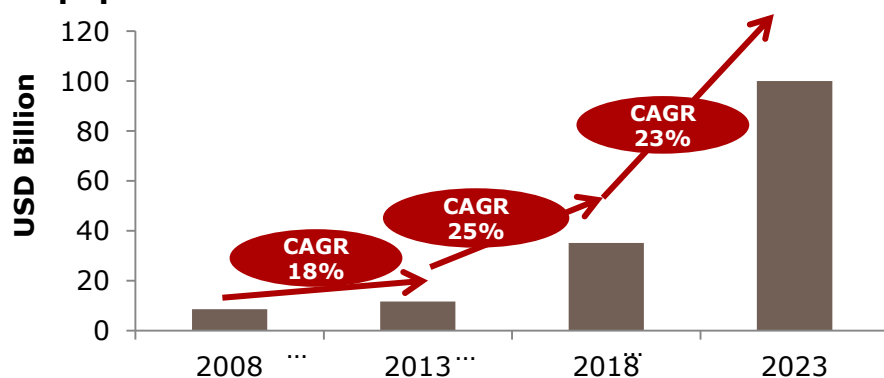


Machinery and Equipment Manufacturing:

Turkey aims to increase machinery exports to more than USD 100 billion by 2023

- Operating SMEs in the sector collectively increases the industry's competitiveness in global markets by commanding highly qualified engineering skills and the advantage of accessing cheap labor supply.
- The R&D investment within the machinery and equipment sector has increased from **TL 171.5 million in 2010 to TL 234 million in 2011**, creating a 36.6% increase in a single year.

Figure 57: Export Targets for the Machinery and Equipment Sector



Source: TIM, Deloitte Analysis

Table 12: Top Players in Turkey's Machinery and Equipment Sector, 2012

ISO 500 - 2012 Ranking	Company Name	Production Based Sales in 2012 (TL Million)
32	Türk Traktör ve Ziraat Makineleri A.Ş.	1,782
103	Makina ve Kimya Endüstrisi Kurumu Genel Müdürlüğü	720
123	Hidrolik ve Mekanik Makina İmalat San. ve Tic. A.Ş.	570
156	Coşkunöz Metal Form Makina Endüstri ve Tic. A.Ş.	495
162	CMS Jant ve Makina Sanayii A.Ş.	478

Source: Ministry of Science, Industry and Technology, Istanbul Chamber of Commerce, ISO 500 2012 list



Machinery and Equipment Manufacturing: Selected Players

Siemens

- Siemens is a German multinational engineering and electronics company founded in 1847.
- Siemens entered the Turkish market in 1856.
- In 1958 the company founded Simko A.Ş.. with Koç Holding.
- Siemens Sanayi ve Ticaret A.Ş.. was founded in 2000.
- It operates in the lighting, energy, health and urban infrastructure sectors.
- The company has 2 factories and 8 offices in Turkey.
- In 2011, the total operating revenue of the company was TL 2.1 million. As of 2013, Siemens had 2,579 employees in Turkey.

SIEMENS

General Electric

- Founded in 1876 by Thomas Edison. It is the second largest company worldwide.
- GE entered the Turkish market in 1948 in partnership with Koç Holding.
- GE produces more than 60% of the electricity in Turkey through natural gas.
- 250 Turkish engineers are working in the Technology Center in Gebze, Turkey.
- GE is the producer of more than 1,000 types of light bulbs and LED systems to meet local market needs.



Türk Traktör ve Ziraat Makineleri A.Ş.

- Türk Traktör started operations in 1954 under the name Minneapolis Moline Türk Traktör and Ziraat Makineleri A.Ş.
- Koç Holding and CNH Global N.V. Company have equal shares in Türk Traktör and nearly one quarter is opened to public.
- Türk Traktör has a range machine park of 411 machines. In 2012, the company produced 25.597 tractors.
- The company exports to 90 countries worldwide. 30% of its products are exported to the USA.
- In 2013, a new factory opened in Sakarya with the production capacity of 50,000 tractors.

 **Türk Traktör**

Source: ISO 500, Emerging Markets Insight, Siemens, GE, Türk Traktör



A Success Story: GE Transportation

"Partnership would make significant contributions to Turkey's aim of becoming a center for scientific and technological innovation."

Lorenzo Simonelli, GE Transportation President & CEO



Source: GE

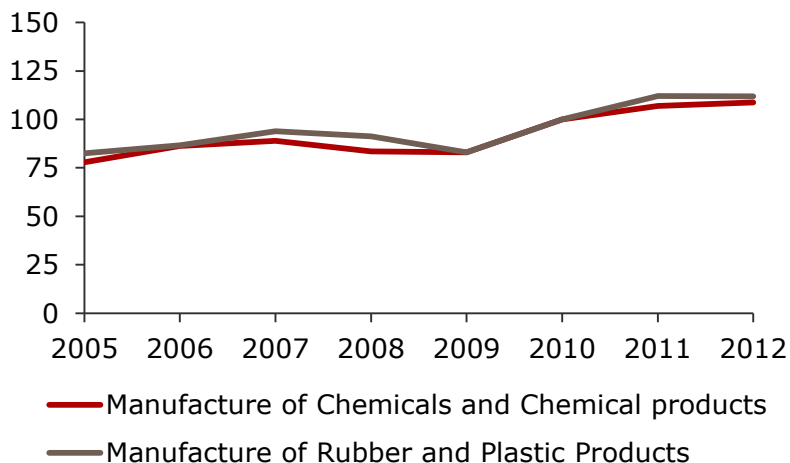
- In July 2010, **General Electric and Turkish Locomotive & Engine Industry (TÜLOMSAŞ)** signed a licensing agreement to manufacture locomotives in Eskişehir, Turkey. The main aim of the partnership was to supply leading technology and material to manufacture and assemble GE's PowerHaul series locomotives in Turkey for the European, Middle Eastern and North African markets.
- TÜLOMSAŞ is the exclusive locomotive supplier of Turkey and an affiliated company of TCDD. It has immense experience in manufacturing locomotive and wagon cars.
- The plan is to build **50 PowerHaul diesel locomotives** in two years, where TÜLOMSAŞ will manufacture **20 of them for TCDD** and the rest for regional export markets, including Europe and the Middle East.
- GE states that it is investing more than USD 150 million in PowerHaul design and development of the PowerHaul and its technology transfer to Turkey. In the longer term, the partners expect to manufacture between **50 and 100 locomotives a year**, of which up to 70% would be exported, generating potential export revenues for Turkey of up to **USD 1.5 billion**.



Chemicals Manufacturing:

Turkish chemical manufacturers have a competitive advantage because of their access to essential raw materials

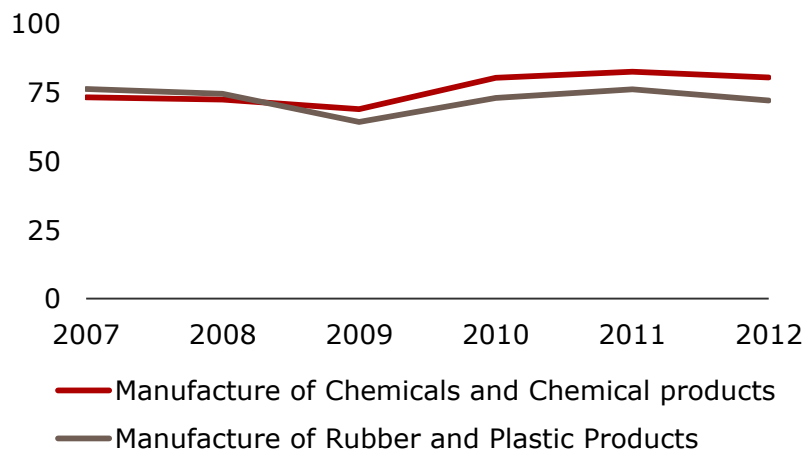
Figure 58: Industrial Production Index (2010=100, Gross Indices), 2005-2012



Source: Turkstat (ISIC Nace Rev. 2 Code: 20, 22)

- The country's industrial production index demonstrates a steady growth rate in the past decade, excluding the global recession in 2009, which only suspended the growth of the industry temporarily. Manufacture of chemicals and chemical products **increased almost 9%** from 2010 to 2012, while the manufacture of rubber and plastic products increased 12% during the same period.

Figure 59: Yearly Average of Capacity Utilization Rate of the Chemicals Manufacturing Sector



Source: CBRT (ISIC Nace Rev. 2 Code: 20, 22), Deloitte Analysis

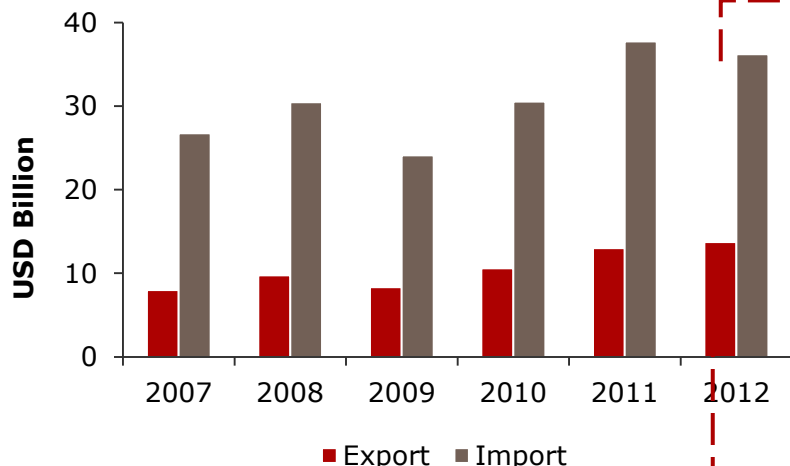
- The yearly average capacity utilization rate of the manufacture of chemicals and chemical products was 80%, while the manufacture of rubber and plastic products was 72% in 2012.
- Turkey's chemical sales per person is still below countries like the Czech Republic, Hungary and Poland with only EUR 195.5, but the sector will definitely catch up with European countries as Turkey's GDP grows.



Chemicals Manufacturing:

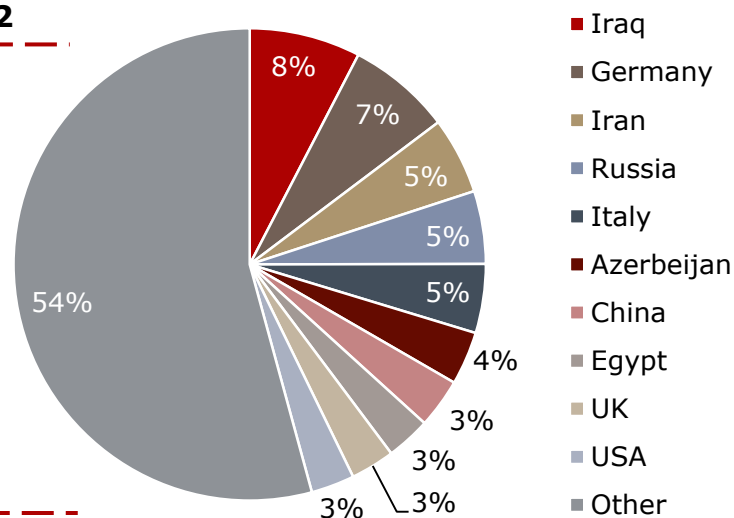
Turkey's chemical exports are increasing and diversifying in terms of markets

Figure 60: Foreign Trade in the Chemicals Manufacturing Industry



Source: Turkstat (ISIC, Rev 3, Code 24, 25), Deloitte Analysis

Figure 61: Top Export Markets for the Sector, 2012



- Turkey's chemical manufacturing sector consists of chemicals and chemical products as well as rubber and plastic products manufacturing. Turkey's total chemical manufacturing exports increased with a CAGR of 11% from 2007 to 2012, surpassing USD 13.7 billion from 2007 to 2012, while imports increased a CAGR of 6% reaching USD 36 billion during the same period.
- Turkey exploited its geographic advantage in the chemical manufacturing sector. The largest export share belonged to neighboring Iraq with 8%, while Germany followed Iraq with 7%, and then Iran, Russia and Italy with a 5% share each in 2012.
- The largest import market was Germany procuring a share of 13%, followed by China with 8% and the USA, France, Italy and Saudi Arabia each having a share of 6% in 2012.



Chemicals Manufacturing: Selected Players

Henkel	P&G	Unilever	Dow Chemicals
<ul style="list-style-type: none"> • Henkel is a German company founded in 1876. It has 3 lines of products, which are laundry & home care, beauty care and adhesive technologies. • The company entered the Turkish market in 1963. • Henkel Turkey made EUR 405 million in 2012. • In 2012, EUR 7 million was invested in the company's Ankara factory and another EUR 7 million is expected to be invested in 2013. 	<ul style="list-style-type: none"> • Procter & Gamble is an American consumer goods company founded in 1837. • The company is a global leader in cleaning agents and personal care products. • P&G has been operating in Turkey since 1987. • During its 23 years of operation, the company has invested USD 550 million in the Turkish market. • P&G Turkey has exported USD 1.5 billion in the last 14 years. 	<ul style="list-style-type: none"> • Unilever was created by a merger between the Dutch company, Margarine Unie and the British Lever Brothers in 1930. • The company first invested in Turkey in 1952 with the establishment of the Sana margarine factory and it has been growing ever since. • It has 5,086 employees, and 8 factories in Turkey. • The products made in Turkey are exported to 35 countries worldwide. 	<ul style="list-style-type: none"> • The Dow Chemical Company is an American multinational active since 1897. • The company's Turkish branch, Dow Türkiye Kimya ve Sanayi Tic. Ltd. Şti. was founded in 1971. • It has 4 facilities in Dilovası, Turkey. • Since 2010, Dow Türkiye has been the fourth fastest developing branch within the company. • Mardav (1995), Polisan (2009), DowAksa (2012) are its joint ventures in Turkey. 

Source: ISO 500, Emerging Markets Insights, Henkel, P&G, Unilever, Dow Chemicals



A Success Story: Groupe Yves Rocher

"Flormar realizes more than 50% of its sales not in the Eurozone, but in regions that have high growth potential such as Turkey... "

*The Board of Directors of the Yves Rocher Group,
August 2012*



Source: Hürriyet

- Flormar is an Italian cosmetics brand founded in the 1950s. The royalties of the firm were bought by Turkey's Şenbay family in 1972.
- The products of Flormar are manufactured in Kosan Kozmetik's Gebze factory which has a production capacity of 50 million units per year.
- With sales of more than USD 100 million per year; Flormar has a 30% share of the Turkish cosmetics market and its products are sold in 80 countries.
- The brand has sold over 35 million products in Turkey in 2012 and revenues of USD 120 million.
- In 2012, French cosmetics group Yves Rocher bought a 51% stake in Turkish beauty products company Flormar in a deal estimated at **USD 150 million**.
- Flormar has 105 stores in Turkey and more than 200 abroad.

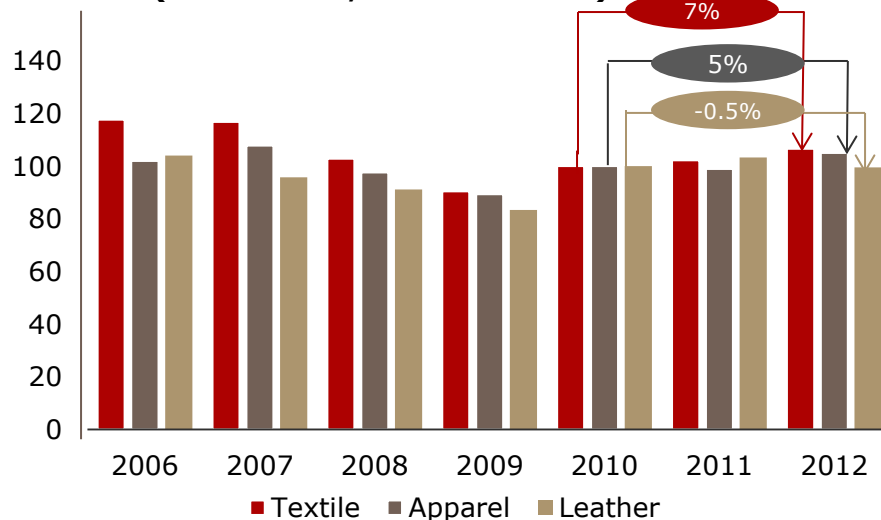


Textile Manufacturing:

Turkey will continue to be a key player in the textile market

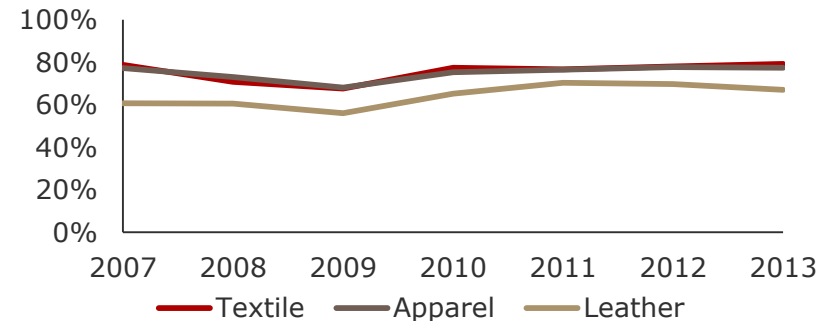
- Because of the 2009 economic crisis, production in the textile, apparel and leather sectors has dropped. However, since 2010, the numbers have significantly improved.
- The positive trend in the industrial production index was also reflected in the revenue index. The textile revenue index increased 42% from 2010 to 2012, while the apparel sector's index increased 35% and leather index increased 34% during the same period.

Figure 62: Industrial Production Index 2006-2012 (2010 =100, Gross Indices)



Source: Turkstat, Deloitte Analysis

Figure 63: Capacity Utilization Rate, 2007-2013



Source: Turkstat

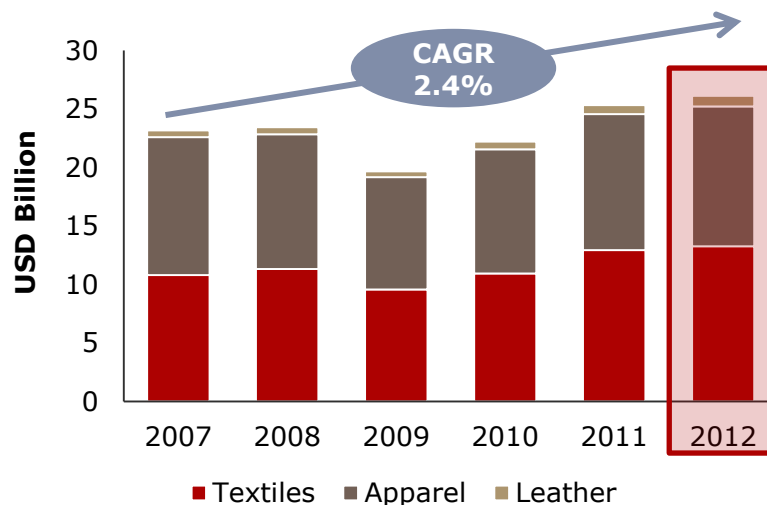
- The capacity utilization rates dropped after the 2008-2009 economic crisis. However, the rates have improved since 2011.
- The outlook for the sector is bright as local exporters who are willing to build international brands are being supported through the government's **Turquality program**, which is designed to provide assistance in marketing, quality upgrading and strategic positioning.



Textile Manufacturing:

Turkish textile exports exceeded USD 25 billion in 2012.

Figure 64: Exports of Textiles, Apparel and Leather



Source: Turkstat (ISIC Rev. 17,18,19), Deloitte Analysis

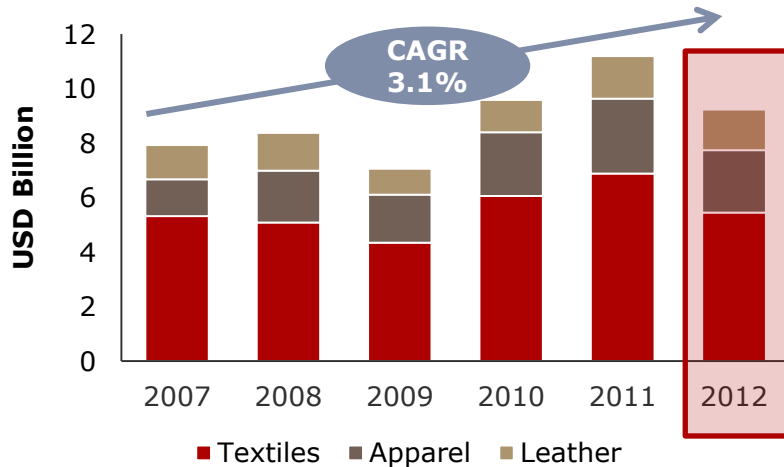
- Despite the fact that apparel exports remained constant between 2007 and 2012, leather exports reached double digit growth levels with a **CAGR 10%**, while textile exports increased a **CAGR 4%** during the same period.
- Turkey had a diverse range of export partners in 2012. The greatest export markets for textile, apparel and leather manufacturing are most **European countries**, although the USA, Russia and Middle Eastern countries are demanding Turkish products as well.



Textile Manufacturing:

Turkey's main import partner was China in 2012

Figure 65: Imports of Textiles, Apparel and Leather







Source: Turkstat (ISIC Rev. 17,18,19), Deloitte Analysis

- The sector's total imports grew a CAGR 3% between 2007 and 2012. When individually analyzed, Turkish textile imports grew a CAGR 1%, leather imports grew a CAGR 4% and apparel imports grew CAGR 11% over the period of 2007 to 2012.
- Turkey mainly imports from Asian countries. China is the primary import partner, whereas Bangladesh, Indonesia, India and Pakistan are other prominent importers to Turkey. Among European countries, Italy is one of the top ten import partners for all three sectors.



Textile Manufacturing: Selected Players

LC Waikiki	Levi Strauss & Co.	Hugo Boss	Benetton
<ul style="list-style-type: none"> • LC Waikiki was founded in 1985 in France. • In 1988, the company started working with Taha Tekstil in Turkey. • Taha Tekstil became Tema Tekstil in 1991. • In 1997, Tema Tekstil bought the franchise of the LC Waikiki brand. • Today, the company has over 380 stores in Turkey and has 65 stores in 18 other countries. • In 2012, LC Waikiki made revenues of TL 3.5 billion. 	<ul style="list-style-type: none"> • Levi Strauss was founded in 1853 in San Francisco. • The company has 10,500 employees with over 55,000 retail locations. • Levi's came to Turkey in 1987 and today has 330 stores. • 95% of the company's production is made by subcontractors. • In 2010, after an investment of USD 5 million, a production plant in Çorlu was opened. 	<ul style="list-style-type: none"> • The German apparel company was founded in 1923. • Hugo Boss started operating in Turkey in 1999 when it opened a factory in Izmir that employed 3,500. • The factory has a production capacity of 500 suits and 1 million shirts per year. Almost all of their product is exported. • Hugo Boss has 7 stores in Turkey, but they plan to increase the number to 15. 	<ul style="list-style-type: none"> • Benetton Group is a clothing retailer founded in 1965 and based in Milan, Italy. • The Group has entered the Turkish market with Altinyıldız Group as a producer and distributor in 1985. • In 1995, the Boyner Group bought Benetton Italy's shares. • Benetton now has 143 stores, 3.3 million product sales per year and USD 83 million of retail turnover in Turkey.
			

Source: ISO 500, Emerging Markets Insights, LC Waikiki, Levi's, Hugo Boss, United Colors of Benetton



A Success Story: Penti

"We are particularly excited to invest in a strong and growing company with great potential. In partnership with Penti's talented management team, we plan to invest in the business, and enhance the resources and facilities for customers which are integral to its continued success."

Can Deldağ, Co-President of Carlyle MENA and President of Carlyle Turkey Investment Group, September 2012



Source: Dünya Gazetesi

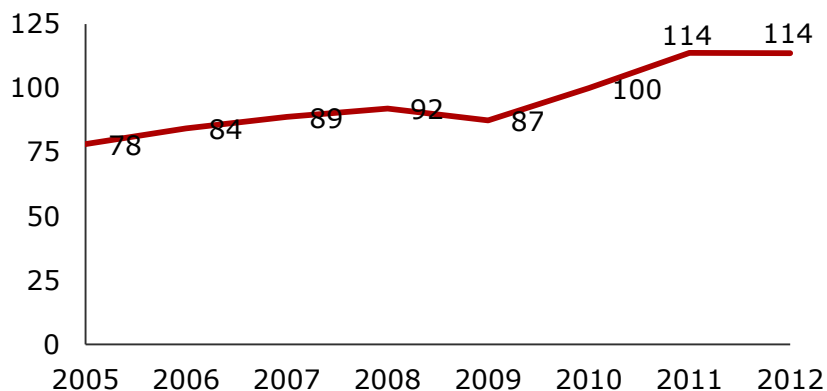
- The Carlyle Group **acquired 30% equity stake** in Penti, Turkey's top market retailer of women's clothing accessories.
- Established in 1950, Istanbul-based Penti is the largest manufacturer of hosiery and a leading retailer of women's hosiery, lingerie and swimwear. The company has 27 shops in 15 countries outside of Turkey and seeks to increase the number of its domestic outlets to 180 from 140, according to its website.
- The Carlyle Group, one of the world's largest private equity funds, is a global alternative asset management firm with more than **USD 156 billion** in assets under management across 99 funds and 63 fund vehicles.



Durable Consumers Goods Manufacturing:

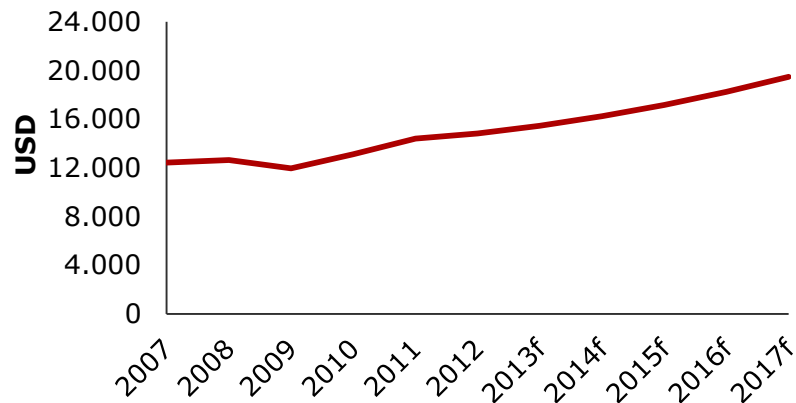
The general increase in purchasing power has boosted consumer-oriented production in Turkey

Figure 66: Industrial Production Index (2010=100, Gross Indices)



Source: Turkstat

Figure 67: Turkey's GDP per Capita



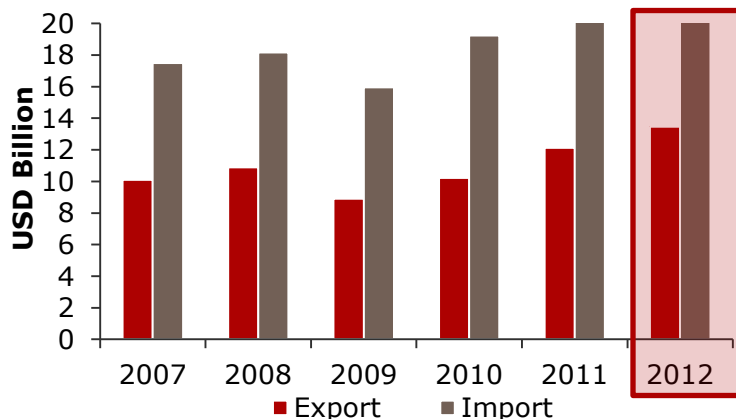
Source: EIU
f: forecast

- Industrial production of the sector increased a CAGR 9.2% since 2009, while total household consumption increased CAGR 12.1%.
- Durable consumer goods manufacturing has been on the rise for the past decade in line with the increase of Turkey's GDP per capita, which increased a CAGR 3% between 2007 and 2012, exceeding USD 14,000 in 2012.
- Durable consumer goods is set to increase as GDP per capita in Turkey increases, which is projected to increase a CAGR 6% from 2012 to 2017, with more than USD 19,000 per capita in 2017.

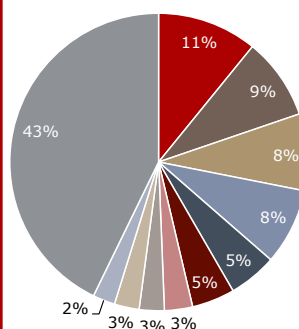


Durable Consumers Goods Manufacturing: Turkey's exports increased 6% from 2007 to 2012

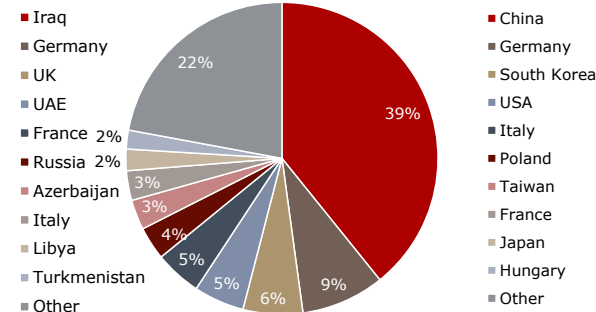
Figure 68: Foreign Trade Statistics for Durable Consumer Goods Manufacturing



Export of Durable Consumer Goods, 2012



Import of Durable Consumer Goods, 2012



Source: Turkstat (ISIC, Rev 3, Code 30,31,32, 36), Deloitte Analysis

- Turkey's durable consumer goods manufacturing exports have increased a CAGR 6% from 2007 to 2012, surpassing USD 13 billion in 2012.
- Turkey mainly exported to European and neighboring countries in this sector. The primary export market was Iraq with 11%, followed by Germany with 9%, with the UK and Italy each having a share of 8%.
- Turkish imports grew 4% from 2007 to 2012 totaling more than USD 21.7 billion in 2012.
- Turkey's biggest import partner is China with a share of nearly 40% of total imports, followed by Germany with 9%, South Korea with 6% and the USA with 5%.



Durable Consumer Goods Manufacturing: Selected Players

Bosch

- Bosch is a German home appliances company which was established in 1886.
- The company entered the Turkish market in 1910.
- Its first factory opened in 1972. Today Bosch has 6 operating facilities with 10,148 employees in Turkey.
- Bosch Turkey has EUR 2.1 billion of sales.
- Bosch Turkey has exported EUR 1.25 billion of consumer goods in 2012.



BOSCH

Indesit

- Indesit is an Italian domestic appliances company founded in 1975.
- Europe's largest refrigerator factory and a logistics center began operation in 2008 in Manisa, Turkey.
- The company has an 8% share in the Turkish white appliances market.
- The company plans to extend its presence in Turkey.
- Indesit Turkey employs 1,500 people and it exports 80% of its production.

The Indesit logo, featuring a stylized 'i' inside a circle followed by the word 'INDESIT' in a dark blue box.

INDESIT

Arçelik

- Arçelik was founded in 1955 and entered the Turkish white goods market by producing its first washing machine in 1959.
- Arçelik produces its products in 14 different factories located in Turkey, Romania, Russia, China and South Africa and serves customers in more than 100 countries.
- Total revenue of the company reached TL 10.5 billion in 2012.
- Arçelik wants to maintain the increase in the market share .

The Arçelik logo, featuring a red square followed by the word 'arçelik' in a stylized font.

arçelik

Source: ISO 500, Emerging Markets Insights, Bosch, Indesit,



A Success Story: BSH Ev Aletleri Sanayi ve Ticaret A.Ş

"In the long term, however, we still predict major growth opportunities for BSH in Turkey. That is why we continued to invest heavily in the Turkish market in 2012."

*Dr. Kurt-Ludwig Gutberlet
Chairman of the BSH Board of Management, CEO*

B/S/H/

BOSCH AND SIEMENS HOME APPLIANCES GROUP

Source: Annual Press Conference 2013
21 June 2013, Munich in www.bhs-group.de

- Bosch and Siemens Household Appliances, BSH, is the largest manufacturer of home appliances in Europe and one of the leading companies in the sector worldwide. BSH is in Turkey market since 1992.
- BSH produces innovative white goods in 42 factories located in Europe, America and Asia. Among these 42 factories the biggest one is in Çerkezköy, Turkey. The factory in Çerkezköy, increased its productivity by 44% in the last 5 years and reached an annual capacity of 4 million units.
- By increasing its investment in Turkey by 181% BSH shapes the future of the market with a promising R&D unit.
- BSH has a total revenue of EUR 9.8 billion in 2012. The Groups profit rose 25% from the previous year to more than EUR 466 million.
- BSH has 8 regional offices, 368 authorized services, 1,200 trained technicians, which makes BSH the most common service in Turkey.

* A location where BSH's biggest factory is.

* Converted at year end USD/TL exchange rate of 1.7776



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