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List of Abbreviations

ADR	Agreement concerning the International Carriage of Dangerous Goods by Road
ANDEAN	And Mountains Trade Block- Bolivia, Colombia, Ecuador and Peru
ASEAN-4	The Association of Southeast Asian Nations – Indonesia, Malaysia, Thailand, the Philippines
BRSA	Banking Regulation and Supervision Agency
BSEC	Black Sea Economic Cooperation
BTYK	Supreme Council for Science and Technology
CCT	Common Customs Tariff
CE	Compatibility with Europe (Conformité /Community Européen)
CEN	European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization
CIP	European Union Competitiveness and Innovation Framework Program
COMCEC	Standing Committee for Economic and Commercial Cooperation of the Organization of the Islamic Conference
DDR	Doha Development Round
DIBS	Government Domestic Borrowing Instruments
ECO	Economic Cooperation Organization
ECSC	European Coal and Steel Community
EFTA	European Free Trade Association
EIA	Environmental Impact Assessment
EIE	General Directorate of Electrical Power Resources, Survey and Development Administration
EKK	Economic Coordination Council
EN	European Norms
EPDK	Energy Market Regulatory Authority
ERG	Educational Reform Initiative
EU	European Union
EU 12	Belgium, France, Holland, Italy, Germany, Luxembourg, Denmark, Ireland, UK, Spain, Portugal, Greece
EU 15	EU 12 and Austria, Sweden, Finland
EU 25	EU 15 and Cyprus, Slovenia, Estonia, Lithuania, Latvia, Czech Republic, Slovakia, Hungary, Poland, Malta
EU 27	EU 25 and Romania, Bulgaria
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
GAP-GIDEM	Small and Medium Enterprise Development in Southeast Anatolia Project
GCC	The Cooperation Council for the Arab States of the Gulf
GDP	Gross Domestic Product
GIWC	General Industry Workplace Count of TurkStat
GMP	Good Manufacturing Practices
GNP	Gross National Product
GTIP	Turkish Customs Tariff and Tariff Classification of Goods
HACCP	Hazard Analysis and Critical Control Points
IMF	International Monetary Fund
ISCED	International Standard Classification of Education
ISGEM	Business Development Center
ISKUR	Turkish Employment Organization
IPA	Pre-accession Financial Instrument
KOSGEB	Small and Medium Enterprises Development Organization

MERCOSUR	Southern Common Market
MERNİS	Central Population Management System Project
MPM	National Productivity Center
NACE	Classification of Economic Activities in the European Communities
NBER	National Bureau of Economic Research
NGO	Non-Governmental Organization
NRP	National Reconstructing Plan
OECD	Organization of Economic Co-operation and Development
OIC	Organization of the Islamic Conference
OIZ	Organized Industrial Zone
PISA	Programme for International Student Assessment
P&D	Production and Development
RCOP	Regional Competitiveness Operational Programme of Ministry of Industry and Trade
REACH	EU Regulation on Registration, Evaluation, Authorization and Restriction of Chemical substances
R&D	Research and Development
SACU	Southern African Customs Union
San-Tez	Industrial Thesis Supporting Programme of the Ministry of Industry and Trade
SCT	Special Consumption Tax
SDIF	Savings Deposit Insurance Fund
SIGL	Integrated system for the management of licences for imports of textiles, clothing, footwear and steel to the EU
SME	Small and Medium-sized Enterprise
SPO	State Planning Organization
SSIE	Small Scale Industrial Estates
TAF	Turkish Armed Forces
TARAL	Turkish Research Area
TBMM	Turkish Grand National Assembly
TC	Republic of Turkey
TEIAS	Turkish Electricity Transmission Corporation
TEPAV	Economic Policy Research Foundation of Turkey
TEYDEB	Technology and Innovation Funding Programmes Directorate of TÜBİTAK
TOBB	The Union of Chambers and Commodity Exchanges of Turkey
TSE	Turkish Standards Institution
TTGV	Technology Development Foundation of Turkey
TÜBİTAK	The Scientific and Technological Research Council of Turkey
TURKONFED	Turkish Enterprise and Business Confederation
TurkStat	Turkish Statistical Institute
TUSIAD	Turkish Industrialists' and Businessmen's Association
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States of America
VTS	Vessel Traffic Service
YOİKK	Coordination Council for the Improvement of Investment Environment
YPK	High Planning Council

Executive Summary

Introduction

1. Enterprise and Industrial Policy is the focus of one of the 35 negotiation chapters held with the European Union (EU) in the accession process of Turkey into the organization. Revision of the industrial strategy paper entitled 'Industrial Policy for Turkey' (Towards EU Membership) published in 2003 is among the closure criteria of this chapter. To this end, since April 2007, the Ministry of Industry and Trade has been coordinating the work to revise the paper dated 2003.
2. A participatory approach has been adopted in the revision process of this paper. At every stage of the preparation process of the Industrial Strategy for Turkey, representatives of public and private sector have been consulted. During the revision process, various policies and measures directly concerning competitiveness and which have been referred to in policy papers prepared by various public and private industries have been taken into account.
3. The strategy paper consists of seven main parts. Chapter one examines the present situation of the Turkish economy, together with the current conjuncture in the world. Chapter two reviews the industrial vision of Turkey, built under the leadership of the Ministry of Industry and Trade with the participation of all the relevant stakeholders. Chapter three explains the basic components of the strategy. Chapters four and five describe the core and horizontal industrial policy areas, respectively. Chapter six deals with the industrial policies by sectors, and finally, chapter seven discusses the implementation, monitoring and coordination mechanism.

Current Situation

4. **The Turkish economy has been undergoing a substantial transformation since 2001.** Macroeconomic stability produced major drop in interest and inflation, while increased productivity rates enabled the Turkish economy to maintain an average annual growth rate of 5.9%, which is considerably above the historical average, during the 2002-2008 period.
5. **During this period of rapid growth, structural transformation in the economy also continued apace. As a result, the share of agriculture in the economy dropped while that of the service and manufacturing sectors expanded.** The growth ratio in the subsidiary industries reflects a dual structure in the industry. Industries with modern manufacturing structures that adapted to the changes in the world grew rapidly while traditional, labor-intensive industries contracted. A similar trend is seen in almost all areas of the service sectors. The transformation of the structure of the retail trade from traditional to modern is a striking example of this process. Among other significant examples of the transformation in the services is the rising number of foreign investors in the finance sector and of large scaled companies in the logistics.

6. **Despite its rapid growth after the crisis in 2001, the Turkish economy falls short of expectations with respect to global competitiveness.** According to 2009 data of the World Economic Forum, Turkey ranks 61st among 133 countries on the competitiveness index. Turkey must make improvements in its weakest areas to be able to move upwards on this list. Therefore, first measures to be taken should be in improvements within the labor market, higher education and vocational training, financial markets, health-care and elementary education, macroeconomic situation and physical infrastructure.
7. **Increasing global competitiveness has become even more critical in the current period.** Global developments that started in the second half of 2008 have adversely affected private sector in Turkey. After an expansion aided by productivity increases for 27 consecutive quarters between 2001-2008, Turkish economy shrank under the impact of the crisis by an annual 6.2% in the fourth quarter of 2008. Another unfavorable development in the global economy having a potential impact on Turkey is the integration of China and India into the global economy and the increasing global competition pressure on Turkish enterprises.
8. **Particularly with the integration of China and India into the global economy, it no longer seems possible for Turkey to be able to rely upon cheap labor to get ahead in the competitiveness.** Increasing Turkish competitiveness requires the creation of an efficiently functioning market mechanism, an attractive investment environment and institutionalization. Companies have to be able to sustain themselves through a highly skilled workforce. Furthermore, revisions must be made to ensure that infrastructure industries can provide qualified and low-priced inputs. Turkish industrial strategy will be creating the roadmap through which these measures can be implemented.
9. **With efficient implementation of a skillfully designed industrial strategy, the added value of manufacturing in Turkey can be increased.** While drafting this strategy, trends in target markets and the changing patterns of doing business, should be taken into account. Productivity in such indispensable parts of the value chain as design, logistics and distribution must be increased, and the private sector must be encouraged to develop specialization in specific areas and improve innovation capacities.
10. An integrated approach that takes into account the service industry in the strategy-building process must be adopted in the design of the industrial policy. Before problems and bottlenecks in the service industry are eliminated, it is not possible to achieve productivity increases in the manufacturing industry. This process will encompass industrial policies that cover services. Moreover, a major component will be increasing the productivity in every link of the value chain. However, this comprehensive transformation process calls for a road map. As the experience of such countries as Japan, Korea, Thailand, Indonesia shows, success depends on right industrial processes.

11. **The framework used by the European Union in preparing industrial policies makes important contributions to the strategy determination process of Turkey, both in terms of content and methodology.** With the Lisbon Strategy, the Union intends to make Europe attractive for investment and employment, and to set targets focusing on knowledge and innovation for growth. Its main goal has been determined to be creating more and better employment opportunities.’ Accordingly, to implement the revised Lisbon Strategy, a horizontal and sectoral policy framework has been established to strengthen the EU manufacturing industry and its structural transformation. Quantitative and qualitative screening were carried out in 27 sectors and problems encountered were evaluated in horizontal areas (knowledge and technology, innovation, finance, regulatory framework, environment-energy, trade).
12. **Industrial and regional development policies will aim at increasing productivity and competitiveness of the regions taking into account compliance with EU concerns and industrial strategy goals.** Regional development strategy will be designed and implemented according to industrial strategy, and the results of clustering and value chain analyses. Local advantages offered by regions with different levels of development for various sectors will be made more pronounced and efforts will be made to eliminate imbalances among different regions.
13. **It is obvious that the main objective of this strategy is to achieve continued growth in the Turkish economy, must be to increase the competitiveness of private sector.** For this, obstacles to competitiveness must be removed within the framework of a certain strategy and prioritization plan.

Vision and Strategic Objectives

14. A conference attended by all relevant stakeholders was held under the auspices of the Ministry of Industry and Trade to establish the industrial vision of Turkey. This conference resulted in establishment of the long-term vision of Turkey’s strategy: **“Becoming the production base of Eurasia in medium and high-tech products.”** Pursuant to this long-term vision, the overall objective of the Industrial Strategy for Turkey for the period of 2011-2014 is as follows: **“increasing the competitiveness and efficiency of Turkish Industry and expediting the transformation to an industry structure which has more share in world exports, where mainly high-tech products with high added value are produced, which has qualified labor and which at the same time is sensitive to the environment and the society.”**
15. In line with this vision and overall objective, the following basic strategic objectives have been set:
- Increasing the weight of mid- and high-tech sectors in production and exports,
 - Transition to high added value products in low-tech sectors,

- Increasing the weight of companies that can continuously improve their skills (strong).

In keeping with the overall objective of the Industrial Strategy of Turkey and its strategic goals, various policy areas are established by taking into consideration the priorities of the 9th Development Plan and the strengths and weaknesses of Turkish industry as well as existing opportunities and threats. Policies determined in relation to vertical and horizontal policy areas will also be implemented concomitantly.

Horizontal Industrial Policy Areas

16. During this process, public organizations will contribute to productivity increases in all sectors with making improvements in horizontal policy areas. Accordingly, public industry will assume a proactive role in eight horizontal industrial policy areas and aim at removing obstacles to private sector's productivity. The said horizontal industrial policy areas are as follows:

- **Investment and business environment:** The studies conducted within YÖİKK are important for improving the investment and business environment. In this context, there is a special need for improving the institutional and legal infrastructure, reducing the bureaucratic barriers at the central government and local administration level, regulatory impact assessment and progress at the area of competition law. In addition it is of great importance to overcome the bottlenecks for effective regulation of network industries.
- **International trade and investment:** In international trade and investment, policies that will contribute to diversity of trade goods must be implemented. To achieve this objective, an industrial structure that can access global markets in compliance with demand conditions and that works by the principle of production on time is needed. The foreign economic relations structure must be redefined and Foreign Direct Investments (FDI) that provide high added value and will create positive externality for local companies must be attracted. To do this restructuring is needed to achieve coordination between public and private sectors and NGOs.
- **Skills and human resources:** It is crucial that industrial policies and human resources policies be consistent with one another. To accomplish this, obstacles to investments and rigidities in labor force market must be eliminated, supply and demand of qualified workforce increased, the general and vocational training system reformed, and active workforce policies developed.
- **SMEs' (Small and Medium Sized Enterprises) Access to Finance:** In Turkey, companies need new investments and financing to increase their effectiveness and grow their scales. Particularly today where profits are shrinking due to global competition, their own resources are insufficient most of the time. In order to develop alternative financing

options, new financial tools for SMEs must be developed, venture capital encouraged, the credit guarantee system improved, delay penalty subsidies offered and administrative and legal obstacles eliminated.

- **Technological Development of Companies:** In the coming period, innovation and improvement of the technological infrastructure must be the basis for competitiveness policies. For this, the weight of the high-technology industries and the value added of the traditional industries must be augmented. In turn, this requires the development of Research and Development (R&D) and innovation activities. Accordingly, private sector must engage in R&D, the law on the Support of R&D must be implemented, the activities of The Scientific and Technological Research Council of Turkey (TÜBİTAK) must be improved, information and communication technologies must be used more efficiently and industrial and intellectual property rights must be protected.
- **Infrastructure Sectors and Input Costs:** In order to increase competitiveness of the manufacturing industry, the infrastructure industries that supply inputs to the manufacturing industries should improve productivity. Energy (electricity) costs must be lowered and supply security ensured. Furthermore, it is important that competitiveness is enhanced in order to improve the quality/cost balance in the telecommunication industry and develop and utilize various transportation modes in the logistics industry.
- **Environment:** Increasing environmental awareness around the world requires the production of environmentally-friendly products, use of environmentally-sensitive technologies, and measures intended to decrease industrial pollution. However, it is possible that such measures will have an unfavorable effect on the competitiveness of the industry in the short and medium term. In order to minimize the possibility of such effects being carried over to the long term, environmental regulations must take into account the new international climate change treaty that will replace the Kyoto Protocol after 2012 within the scope of the United Nations Framework Convention on Climate Change (UNFCCC), EU Regulation on Registration, Evaluation, Authorization and Restriction of Chemical substances (REACH). Furthermore, impact and cost analysis of regulations relating to an environmental action plan must be conducted and a flexible implementation schedule must be set.
- **Regional Development:** In terms of industrial policy, regional development has two aspects. In policies that concern only regions, regional targets must be set and the state aid system must be location-oriented. In order to implement national policies regionally, the obstacles to business and productivity must be removed (human capital, clustering, university-industry collaboration, etc.) and the governance mechanisms between regional actors must be efficiently used.

Sectoral Industrial Policy Areas

17. The success of policies applied in specific sectors will be one of the main indicators of industrial strategy. Turkey will need to identify the obstacles to the competitiveness of the sectors and implement policies to eliminate them so that it can achieve its industrial vision.
18. The sectors examined in terms of their competitiveness were identified in line with the commitments made to the EU. The competitiveness analysis of the automotive, machinery, white goods, electronics, textile and garments, food and iron-steel sectors was conducted as follows and included in the strategy paper.
19. The sectoral strategy approaches of the EU were taken into account while establishing Turkey's industrial strategy. Accordingly, the sectoral competitiveness analysis is assessed under six main headings. It was based on the sectoral competitiveness reports prepared by the Ministry's Sectoral Technical Committees and the TOBB Sectoral Committees, coordinated by the Ministry of Industry and Trade.
 - a. **Knowledge and technology** focuses on the innovation capacities of the companies.
 - b. **Competition** focuses on the competition environment in the domestic market and in company structures.
 - c. **Regulatory Framework** deals the administrative burdens, technical standards, health and safety issues as well as the impact of the Customs Union with the EU on the sector.
 - d. **Environment and energy** looks at existing regulations and those that will be effective in the medium term regarding climate change, wastes and high energy use as well as measures that must be taken.
 - e. **External competitiveness and trade** focuses on the factors that adversely affect the competitiveness of the industry and anti-dumping and trade obstacles that could create unfair competition in the international arena.
 - f. **Employment and geographical** aspect probes the sector within the context of relevant employment figures and emphasizes the obstacles to the expansion of employment. In addition, clusters in sectors were noted considering the areas where employment and companies are mostly grouped geographically.

Implementation, Monitoring and Coordination Mechanism

20. **To execute the strategy, the development of implementation, monitoring and coordination mechanisms is critical.** Under the coordination of the Ministry of Industry and Trade, and with the participation of all other relevant organizations and companies, the implementation process will need to be monitored and coordinated so that the goals can be achieved. A mechanism allowing for the identification of different requirements and enables rapid intervention needs to be created.

21. **Under its auspices, the Ministry of Industry and Trade will form a Monitoring and Steering Committee in which all stakeholders will participate and form initiatives with the involvement of public organizations.** During this process, the outputs of initiatives under the Secretariat of the Ministry of Industry and Trade and the Entrepreneur Information System will be a basic tool. **For the industrial strategy, a monitoring and evaluation report will be prepared every 6 (six) months.**
22. In this context, Monitoring and Steering Committee will be in-cooperation with various dialog mechanisms existing between the private sector and public sector. Also, the issues which are subject to discussion between the public and private sector at the Monitoring and Steering Committee will be submitted to Economy Coordination Council by the Ministry of Industry and Trade, and it will be ensured that decision making political authority is informed and actuated.

Introduction

- 1 The Industrial Strategy Paper for Turkey draws upon various studies, including the Ninth Development Plan with the contribution and involvement of the State Planning Organization Undersecretariat, Undersecretariat of Treasury, Undersecretariat for Foreign Trade, Secretariat General for EU Affairs, Ministry of Finance, Revenues Administration, Ministry of National Education, Ministry of Energy and Natural Resources, Ministry of Environment and Forestry, Ministry of Labor and Social Security, Ministry of Transportation, Investment Support and Promotion Agency, the Scientific and Technological Research Council of Turkey (TÜBİTAK), Information and Communication Technologies Authority, Small and Medium Industry Development Organisation (KOSGEB), Turkish Patent Institute, Turkish Standards Institution (TSE), Turkish Accreditation Agency, The Union of Chambers and Commodity Exchanges of Turkey (TOBB), the Confederation of Turkish Tradesmen and Craftsmen, Turkish Industrialists' and Businessmen's Association (TÜSİAD), Istanbul Chamber of Industry, Gaziantep Chamber of Industry, Kocaeli Chamber of Industry, Economic Development Foundation, Economic Policy Research Foundation of Turkey (TEPAV), and other relevant industrial organizations and NGOs, and taking into account the evaluations and contributions of the members of the Permanent Committee for the Development of Industrial Competitiveness.
- 2 The start of the works was based on the 'Industrial Policy for Turkey towards European Union (EU) Membership' prepared in 2003. This was followed by the initiation of studies in 2005 for the 'Ninth Development Plan,' in which the vision, strategic priorities and policies of Turkey for 2007-2013 were prepared with the involvement of 2,252 people from public and private sectors and academic circles. Industrial Policies Ad-hoc Committee, formed within the scope of the Development Plan, produced the "Industrial Policies Ad-hoc Committee Report" with the collaboration of 32 representatives from public and private sector and universities and NGOs and reflected in the Development Plan. The medium-term (3-year) policy priorities are included in the Medium-Term Programs, while the annual developments, evaluations and action plans are incorporated into the Annual Programs.

- 3 Within the scope of negotiations held with the EU in 35 chapters, the industrial policies of Turkey were evaluated in the explanatory and bilateral screening meetings under the 'Enterprise and Industrial Policies' chapter held in March 2006 and May 2006. As a result of the screening meetings, industrial policies developed in Turkey were found to be compliant with those of the EU. The areas in which Turkey needs to improve include development of sectoral competitiveness, basing the evaluation of industrial policies on detailed competitiveness analysis, and increasing ownership and efficiency of policy implementation. To this end, the European Council has determined that the revision of the 'Industrial Policy for Turkey (towards membership in the EU)' published in 2003 is the final criterion of the chapter on 'Enterprise and industrial policy' in March 2007. Accordingly, the Ministry of Industry and Trade has been leading efforts to revise existing documents since April 2007.
- 4 In 2008, under the direction of the Ministry of Industry and Trade, the "Turkish Industrial Strategy Vision" was prepared through the joint effort of more than 200 people from public and private sectors. In this process, the Information Society Strategy and the annexed Action Plan (2006-2010), the SME Strategy and Action Plan (2007-2009), the National Innovation Strategy (2008-2010), as well as many other policies and measures directly concerning competitiveness, were taken into account. Furthermore, during the same periods, private sector and NGOs conducted competitiveness analyses and developed general and industrial strategy suggestions. On a local scale, work to reinforce the clusters and improve the regional competitiveness was expedited.
- 5 The new industrial strategy of Turkey was designed through a collaborative approach based on the analysis of the developments in the world, the EU and Turkey. This strategy will be implemented through coordinated efforts of the relevant authorities. The strategy paper will serve as a dialog and communication paper and ensure awareness and policy ownership in the relevant parties and stakeholders. In addition, the developments related to the measures in the action plan as well as the outcomes will be continuously monitored, and necessary updates made for efficient implementation.
- 6 The basic priorities for improving competitiveness in Turkey are explained in the Ninth Development Plan; however, it is important that an industrial strategy providing guidance to Turkish industry and a vision for it be considered in a

separate strategy paper. In particular, because of the uncertainty in the global economy, a foreseeable investment and business environment in Turkey for local and foreign investors and industrialists needs to be ensured. To this end, this strategy paper, which contains the vision, plan and detailed measures to improve the competitiveness of Turkey, will have a critical role to play.

- 7 Part 1 of the strategy paper analyzes global developments and trends in the EU and the present situation in Turkey and describes the implications they have for the industrial strategy that Turkey will apply in the coming period. Part 2 clarifies the long-term vision of Turkish industry in order to help set the targets. Part 3 discusses the industrial strategy to implement the vision and the relevant policy framework to be used. Part 4 studies the investment environment, international trade and investments, skills and human resources, SMEs' access to finance, technological development of the companies, infrastructure industries and input costs, and environmental and development policies within the scope of horizontal industrial policies in terms of their impact on the industrial strategy. Part 5 discusses the competitiveness analysis of various sectors,¹ sectoral issues that serve as inputs to the industrial strategy and main policy priorities. Finally, Part 6 summarizes the points that must be attended to in the implementation, monitoring and coordination of the industrial strategy.

¹ The sectors examined in this strategy paper are Automotive, Machinery, Electronics, White Goods, Textile-Garments, Food and Steel-Iron. The total value added created by these sectors in 2004 adds up to 63% of the total added value of the Turkish manufacturing industry. Moreover, these sectors realized 62% of the manufacturing industry in 2006 and 72% of the total manufacturing industry export in 2007. In the Negotiation Position Paper for the Enterprise and industrial policy, it was stated that industrial strategies for Automotive, Machinery, Electronics, and White Goods would be prepared under the coordination of the Ministry of Industry and Trade. Also in the closure criteria set by EU, the importance of including the sectors referred to in the 2003 Industrial Policy paper in the Revised Industrial Strategy Paper, the Iron-Steel and Automotive Subsidiary Industries were referred to. It was emphasized that the results of the works of the Sectoral Technical Committees reporting to the Ministry of Industry and Trade should be taken into account. For these reasons, in addition to the four industries mentioned by our country, the Steel-Iron industry, the Food industry mentioned in the paper of 2003 as well as the Textile-Garment industry are included in this text. It is estimated that the competitiveness strategies for all sectors will be completed by the end of 2010 under the coordination of the Ministry of Industry and Trade.

1. Current Situation

8 The trend towards integration in world economies, the increasingly leading role of international organizations such as the EU and WTO in economic policies, rapid developments in technology, the rise of developing countries such as India and China, and increases in commodity prices directly affect the economic growth capacity of Turkey. Turkey must adapt to increasing global competition, improve its own competitiveness and maintain its high-growth areas; therefore, industrial strategy becomes even more significant. This part of the paper, which is specified as the beginning component of this industrial strategy design, summarizes the trends in global economies, the situation in the EU, the competitiveness of Turkey and the implications of these developments for industry.

1.1. Global developments and industrial strategy

9 In the ten-year period (1997-2007) , the world economy grew by an annual rate of 4.0% and world trade developed more rapidly than world trade revenues. During this time, commensurate with the liberalization of trade all around the world, demand for non-petroleum products swelled and the trade volume among developing countries expanded . The globalizing commodity and finance markets continued to develop in 2007. In 2008, the global economy grew by 3.0%.

10 In 2008, a global financial crisis of monumental proportions surfaced. The starting point of the crisis was mortgage loans, which have always been important to the portfolios of USA banks. The problems in loan repayments, withdrawn loans and resulting sales of guarantees led to a significant decline in the price of housing.

11 The financial crisis which deteriorated after September 11, 2008, resulted in entering into to global recession period which has not been seen since Second World War. The global economy contracted at a rate of 0,6 percent in the year 2009. Global economy has given signs of recovery recently. The world economy has started to grow again since the last quarter of 2009 with respect to the previous year, the growing rate accelerated at the first quarter of 2010. The countries where economic recovery is most evident are the developing countries

which were not directly affected from the economic collapse, especially the Asian countries. Among the developed countries, it is seen that USA economy has a more rapid recovery than Euro Area and Japan. Expansionary fiscal and monetary policies are effective during recovery process. Stocks which increased significantly in the crisis have been reduced in an environment in which the orders were increased and share certificates gained value. The partial recovery signs which have been seen in US labor market in the last period are positive developments. High domestic demand and increasing commodity prices supported the growth in developing countries. Political support prevented the systemic collapse in the global economy and ensured that confidence indicators recovered faster than expected.

- 12 All international institutions emphasize the increasing possibility of downward risks, despite the fact that recent global economic recovery has been realized faster than expected. Especially with the increasing worries about public finance and decreasing trust, the expectations that global economy will slow down in the following period have increased.

Table 1.1: Growth Rate Projections of the International Monetary Fund (IMF) (July 2010)

IMF Projections	Projections for the year 2010	Projections for the year 2011
World growth	-1,3	1,9
Developed economies	-3,8	0,0
USA	-2,8	0,0
Euro Zone	-4,2	-0,4
Japan	-6,2	0,5
China	6,5	7,5
Brazil	-1,3	2,2
Turkey*	-5,1	1,5
India	9,4	8,4

(*)The estimations for Turkey are taken from the publication WEO April 2010 of IMF, the estimations for other countries and regions are taken from the WEO Update version of the publication which was published in July.

- 13 However, the spectacular performance of China in the past year has had a direct impact on developments in the global economy. China has adopted a strategy focusing on export, foreign investments and technology-intense activities. Steps taken, particularly in the area of education, have expanded the qualifications of hundreds of millions of laborers and restricted the employment-

creation capacity of other developing countries.² The membership of China in WTO in 2001 affected Turkey and many other developing economies, especially in terms of their labor-intensive industries.

- 14 A similar growth process is transpiring in India. India has a great share in the non-traditional service export and is gaining a foothold in the software industry. If China and India continue their reforms, they may maintain their growth rates and continue to affect global competition for a long time. In addition, Brazil and Russia are acquiring more importance for the world economy, especially with the natural resources they have. The increase in the energy-sector raw materials contributes positively to the growth of these countries. Thus, it is seen that the developing countries lead the global economic recovery in the first half of year 2010.
- 15 Competition used to depend on cheap labor and raw materials to compete on a global scale; today, however, developing countries need to have an efficiently functioning market mechanism, an efficient investment environment and institutionalized structure, a competitive labor force, and infrastructure industries with quality and low-priced inputs.³ Developing countries can improve their competitiveness only if their economic growth is based on productivity increases and if they increase their competencies in the new sectors/activities.
- 16 Within the new global framework, creating high value added depends on such factors as specializing, benefiting from new technologies, and developing innovation capacities. Increase in the growth capacity of an economy is contingent upon the number companies revamping and continually enhancing their competitiveness. Other ways to increase per capita income are the regular development of human capital, spread of information and communication technologies, and focus on innovations.
- 17 Rapid development of technology worldwide combines with the on-going liberalization of international finance and trade system to significantly alter the way of doing business. Producing information-intensive commodities and services with high value added is a determinant of competitiveness; educational

² For the evaluation of the export of China, please see. Rodrik, D. 2007. What does China export, China and the World economy; For the works of China in education please see. Li et al., 2008. "The Higher Educational Transformation of China and Its Global Implications", NBER Working Paper No. 13849

³ World Bank., Commission on Growth and Development, 2007. "The Growth Report," Washington, D.C.

and skills level of the workforce is becoming more and more important. Within such a setting, main indicator of the competitiveness of a company in the area of manufacturing will not only be manufacturing competence but also performance in such areas as design, logistics, distribution and many other service areas. As a result, industrial policy is becoming more widespread and other stages in the value chain which are not directly linked to manufacturing are beginning to incorporate service and support activities.

- 18 In the countries where they are adopted, industrial strategies are a tool facilitating the adjustment of national economies to the global economy.⁴ In the past, economic development in the countries of the Far East was countries made possible through the industrial policies adopted. Japan and Korea supported the development of 'infant industries' that were pre-selected and could create value added by means of trade tariffs, foreign trade obstacles, direct and indirect government subsidies through public banks and companies. These countries set export targets on a company, product and market basis, rewarded well-performing companies, and adopted an export-oriented industrial strategy. They did not emphasize gaining foreign licenses and direct foreign capital for technological development. However, the effects of the 1997 Asian Crisis and the rules of the WTO restricting the government intervention in markets made the applicability of such industrial policies in other countries questionable.
- 19 On the other hand, Malaysia, Thailand, Indonesia, and the Philippines, which are called the Association of Southeast Asian Nations (ASEAN4), based their industrial strategies on the principle of attracting foreign direct investments (FDI) and introduced tariffs as importation obstacles to protect the domestic market, and required the foreign companies to become localized. In this way, the externality of the direct capital and their positive contribution to the local industries has been fully exploited.
- 20 The most successful country examples in the industrial policy area demonstrate that policy implementation, monitoring and coordination capacities are just as important as the quality of the designed policies. Furthermore, it is seen that industrial policies of the past, which were based on the principle of selecting

⁴ See. UNCTAD. 2007. "Trade and Development Report, 2007," New York ve ve Rodrik, D.2007. Industrial Policy for 21st Century.

certain sectors and supporting them, had very limited effects. Therefore, today many nations adopt industrial policies that do not simply target certain sectors and support them, but rather also improve competitiveness of the companies through horizontal policies. This can enhance the position of existing and new sectors, which will contribute to companies producing higher value added in the global economy. Such policies also reduce regional inequalities. This new industrial strategy approach aims at helping to restructure existing industries and companies, and supporting them in their efforts to become more productive and efficient and provides fertile ground for the emergence of new activities and new competence areas in the economy.

- 21 Layers of decision-making in industrial policy areas are becoming more varied in the world. Bilateral agreements among states, WTO and EU implementations directly affect competitiveness of companies. However, national policies also are vital in terms of accelerating the integration of the companies into the global economy, and helping solve the national/local problems of industries and countries (e.g., employment, regional development and agriculture). Moreover, as successful applications around the world suggest, local initiatives to improve the competitive of companies have resulted in a shift of authority and responsibility in industrial policies from central to local administrations.

1.2. Developments in the European Union

- 22 The deceleration of the USA economy and the problems in its financial markets have had an impact on the EU as well. In such a setting, the competitiveness of the EU, which already lags behind the USA in areas such as innovation and entrepreneurship, and has been unable to attain desired growth performance, depends on the completion of internal market process that includes the labor market and the acceleration of reforms intended for integration with the financial markets. The debt crisis which has emerged after the financial crisis in Europe has prevented the European countries from reaching high growth rates and increasing their competitiveness. The delayed decisions that the authorities have taken against the deterioration of their financial structures, have caused the debt crisis deepened further, and the confidence of environment was shaken. It is aimed to eliminate the effects of the crisis, to strengthen the fiscal structures of the countries and to reestablish the confidence environment in the

medium period by taking additional fiscal measures in European Countries, especially in Portugal, Italy, Ireland, Greece, Spain (PIIGS Countries). Also, “European Financial Stability Mechanism“ was established by cooperation of EU, Europe Commission and IMF, has a total value of 750 Billion Euros, constitutes a guarantee against the problems that countries may face in the future despite all measures taken. In the following years, the countries which have problematic public financial structures, will try to decrease their budget deficit/income rate under 3 percent, public debt stock/income rate under 60 percent, so as to satisfy the Maastricht criteria. It was agreed in G-20 Leader’s Summit which was held in Toronto city of Canada in 26-27 June 2010 that budget deficit will be halved by 2013, the rate of debt stocks to national income will be reduced or will be made stable by 2016. At the same time, each country will decide the amount and time of fiscal consolidation herself. Although it seems that there is an agreement to apply growth friendly fiscal consolidation strategies, focusing on structural problems which arise from lack of competitiveness must be in the forefront in order to ensure a permanent and sustainable growth in the region.

- 23 The Lisbon Strategy of 2000, which lays out long-term economic and social development targets of European countries, and aims at increasing EU competitiveness is still important for the future of the EU, with “growth and jobs” being the most important targets. The objectives of the ‘Renewed Lisbon Strategy’ of 2005 is transforming Europe into a more attractive place for investments and working, focusing on information and innovation for growth and ‘creating more and better jobs’. It is anticipated that as of 2010, the ratio of the R&D expenditures to GDP and the rate of employment will 3% and 70%, respectively.
- 24 The manufacturing industry is a major sector in the EU; nearly one-fifth of the income, 75% of export and 80% of the R&D activities of the private industries belong to the manufacturing industries.⁵ The manufacturing industry in the EU-27 grew by 2.2 % annually between 1993-2007, lagging behind the USA but showing a more favorable performance than Japan. However, due to the effects of the global crisis, EU-27 manufacturing industry production decreased at a rate

⁵ Commission Staff Working Document, SEC(2005)1215 “Implementing the Community Lisbon Programme: A policy framework to strengthen EU manufacturing – towards a more integrated approach for industrial policy”

of 1,9 percent in 2008. This downward trend accelerated in 2009 and contraction rate was realized at a rate of 14,8.

- 25 Industries in the EU are facing severe competition from China and the rising Asian economies. Recently, industrial activities in the EU are being transferred to regions with cheaper labor costs, increasing concerns among the citizens of the EU. Still, most investments of the EU-15 are made in the USA. Only 13% of their investments are in new EU members and 3.8% in China.⁶
- 26 Due to these trends, the horizontal industrial policy of increasing industrial competitiveness is becoming more important on the EU agenda. New approaches are being developed to support the restructuring of industrial innovations, R&D investments and the overhaul of industries. Among the priorities are improving the quality of the EU, transforming it into a center attracting R&D activities, and achieving advances in medium-high technology sectors, which make up a big part of the EU trade. Current EU actions include the Lead Market Initiative and those taken to improve and reinforce the networking and clustering of companies. The Lead Market Initiative aims at bringing a more innovative approach to legislation, standardization and public tenders in the areas of e-health, protective textile, sustainable construction, bio-products, recycling and renewable energy industries more innovative, increasing demand in these sectors, and creating value added and employment. Furthermore, the publication of new EU Communications for the development of innovation clusters, regional clusters and networks in line with the science-industry cooperation is also on the EU agenda.
- 27 The industrial policies of the EU countries generally focus on horizontal areas, but there are specific policies for sectors as well. They are also aiming at ensuring a balance among various policy tools to improve competitiveness such policies and the relevant legislation are not centrally decided in the EU; member countries are expected to align their own industrial policies to the strategies and priorities set by the EU. Accordingly, during the preparation of this report, the general EU approach to industrial policies and the necessity of alignment to the priority areas in the Lisbon Strategy have been considered.

⁶ Commission Staff Working Document, SEC(2005)1215 “Implementing the Community Lisbon Programme: A policy framework to strengthen EU manufacturing – towards a more integrated approach for industrial policy”

28 Turkey's situation is different than other new members and candidate countries. It has been in the Customs Union since 1996, prior to its acceptance as candidate country in 1999. In the industry area in particular, Turkey is becoming an important part of the EU. In 2009, 46% of Turkey's exports were to EU countries, while 77% of direct foreign investments in Turkey were from EU countries (2003-2008). Therefore, that Turkey is becoming an effective participant in industrial policy and competitiveness debates in the EU is important both in terms of the competitiveness perspective of EU member countries and the adjustment of Turkey to the EU.

1.3 Developments in Turkey and its competitiveness

29 Turkish economy went through difficult times in the 1990s. However, with the macroeconomic stability brought about through the structural reforms undertaken after the crisis of 2001, it has had one of the most successful growth performances in the world. Amid the technological, economic and political developments in the world, Turkey has begun to take its place in the world economy and the EU. This has led not only to opportunities but exposure to unfavorable circumstances in the world economy.

30 Turkish economy expanded for 27 consecutive quarters between 2002-2008 due to increases in productivity. It has made significant progress in terms of harmonization with the EU in economic, social and legislative areas. The wide and diverse manufacturing industry of Turkey, with strong international connections, and manufacturing mostly for export, entered a phase of rapid development after 2001. Its stability coalesced with the impact of the Customs Union with the EU and resulted in a significant transformation in manufacturing and foreign trade structure.

31 Rapid development of the Eastern Asian economies and the preservation of the EU's competitive edge have made Turkey's geographic location even more important. Compared to its neighbors, Turkey enjoys a dynamic industry and services infrastructure in addition to a wide and young market generally compliant with consumption trends in the EU. These qualities make Turkey a center of attraction for global investors. Turkey has the potential to assume a vital role in the inclusion of neighboring countries in the global economy, which will bring many new opportunities to Turkish industry in the future. Recently,

many multinational companies, primarily EU-based ones, have chosen Turkey as their production and investment base. The reinforcing of this trend in line with correct strategies will contribute to the competitiveness of both Turkey and the EU.

- 32 While additional employment growth was at an annual average rate of 1.9 percent level in the period of 2005-2008, because of the global crisis, growth of employment decreased to the rate of 0, 4 percent in 2009. Despite Turkey's successful growth performance in recent years, additional expansion in employment has not exceeded an annual rate of 1%. Basic reason for the lagging of the increase in employment behind economic growth is the fact that structural change trends in the economy are acquiring momentum, the share of agriculture in the economy is decreasing, and economic growth is driven by productivity increases. According to the data for sectoral distribution of employment, employment in agriculture dropped by 11.3% while that in industries, services and construction industries increased by 2.4, 7.4 and 1.4%, respectively. In the 2005-2009 period, there was an annual increase of 830,000 in the working age population. In addition, the structural change trend of the economy was affected negatively because of the global crisis. In 2009, compared to 2008, employment rate of agricultural sector increased at a rate of 1,0 percent , industrial employment rate decreased at a rate of 1,8. Service and construction sector employment rates respectively increased 0,5 and 0,3 percents.
- 33 Between 2007-2008, the labor force increased by 691,000 people and the number of new recruits in the same period increased by 456,000, for a total of 21,194,000. Accordingly, number of the unemployed rose by 235,000. In 2008, unemployment increased by 149,000, 138,000 and 168,000 in agriculture, industry and services, respectively. Non-agricultural employment grew by 306,000. General rate of unemployment in Turkey climbed by 0.7 from 2007 to 2008, reaching 11.0%. With the effect of the global crisis, employment decreased and unemployment rate increased in Turkey as in all countries across the world. The unemployment rate in 2009 was 14,0 percent, but it was lower than the 14,8 percent which was the estimation of the Medium Term Program (2009). Similarly, in Medium Term Program, it was predicted that the employment would be 20,9 million in 2009, but the employment realized more than the expectation and it was 21,3 million. Steady recovery trend in economic

activities affects the labor market positively. Thus, the unemployment rate gradually decreased in the period of January-April of year 2010 compared the same period of previous year.

- 34 Between 2002-2007, productivity grew by 6% in the economy as a whole while it increased by 7% in the manufacturing industry. During the same period, the employment performance of the manufacturing industry was poorer than in previous terms. However, it had an impressive performance in 2008, with employment rising by 3.2%. In 2009, because the global crisis affected industrial sector negatively, industrial employment decreased at a rate of 8,2 percent. In the same period, employment in agriculture and services sectors increased.

Table 1.2: Average annual growth rate in labor force productivity and employment, broken down into sectors

	General		Agriculture		Industry		Services	
	Productivity	Employment	Productivity	Employment	Productivity	Employment	Productivity	Employment
1992-1997	3%	2%	0%	0%	3%	3%	2%	3%
1997-2002	1%	0%	6%	-3%	-2%	1%	-1%	3%
2002-2007	6%	1%	5%	-4%	7%	1%	3%	4%
2008	-	2%	-	3%	-	3%	-	2%
2009	-	0,4%	-	%4,5%	-	%-8,2%	-	%1,9%

Source: TurkStat

- 35 Recently, expansion of productivity in the manufacturing sector has contributed to an impressive growth in production. In the same period, export and import figures of the manufacturing industry also rose significantly.

Table 1.3: Manufacturing Industry Indicators (percent), 2003, 2007, 2008,2009

	2003	2007	2008	2009
Share in GDP	23	24	24	23
Production increase (with fixed prices)	8,4	5,6	0,8	-7,2
Export increase (with current prices)	31,7	26	29,7	-23,8
Import increase (with current prices)	34,6	21,3	12,2	-26,1
Capacity Usage rate *	75,9	80,8	78,1	65,0

Source: TurkStat

Source *: Central Bank of the Republic of Turkey

- 36 The global financial crisis brought about a 10,6% decline in the value added provided by industry in the fourth quarter of 2008. During the same period, the share of manufacturing in industry was at 22,3% of total GDP.
- 37 From a long-term perspective, the most important sector linking Turkey to the global economy is manufacturing. The share of manufactured goods in the total exports of Turkey increased from 37% in 1980 to 93% in 2009. Increase in the volume of foreign trade between 2002-2008 is also remarkable. \$87 billion volume of foreign trade in 2002 rose at an annual rate of 25%, to reach \$334 billion in 2008, \$243 billion in 2009.

Table 1.4: Foreign Trade figures of Turkey between 2002-2010 (million dollars)

Year	Export	Import	Trade balance	Trade volume
2002	36.059	51.554	-15.495	87.613
2003	47.253	69.340	-22.087	116.593
2004	63,167	97.540	-34.372	160.706
2005	73.476	116.773	-43.297	190.249
2006	85.534	139.576	-54.041	225.110
2007	107.212	170.057	-62.844	277.270
2008	132.002	201.823	-69.821	333.825
2009	102.128	-140.899	-38.771	243.027
2010 January-May	45.546	-68.125	-22.579	113.671

Source: Undersecretariat for Foreign Trade

- 38 Commensurate with the volume increase in the manufacturing sector is diversification in the markets and the product patterns. This tendency towards diversification appears as a factor that sets Turkey apart from other new EU member states. In 2008, Turkey exported to only 30 countries at a volume of more than \$1 billion. Exports to 19 countries were valued at between \$501 million - 1 billion.
- 39 The effects of the slowdown of EU countries' economic growth became apparent in late 2008. In 2007, 56.2% of exports went to the EU while in 2009, it dropped to 46%.

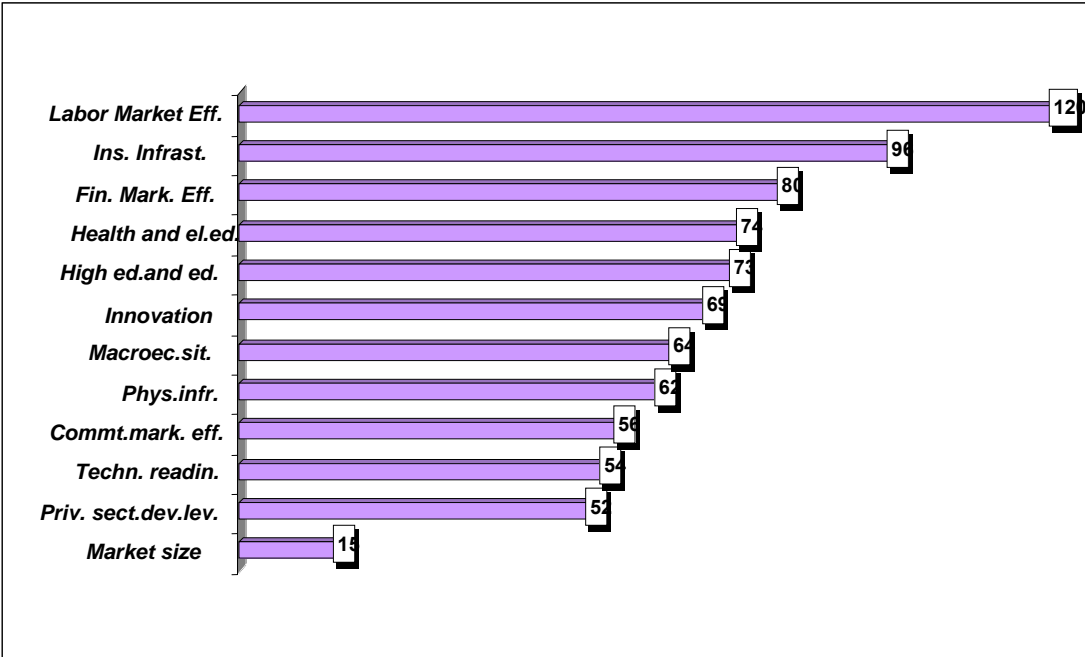
Table 1.5: Distribution of 2007,2008,2009 Exports According to Country Groups, Million Dollars

	2007	2008	2009	Variance (%)	Share
A- EU (27)	60,399	63,390	46.984	4,95	48,01%
B-FREE TRADE ZONES	2,943	3,008	1.957	2,21	2,28%
C-OTHER COUNTRIES	43,930	65,622	53.187	49.38	49.70%
1-Other Europe	10,843	15,678	11.358	44.60	11.87%
2-AFRICA	5,976	9,063	10.179	51.64	6.86%
North Africa	4,030	5,850	7.447	45.18	4.43%
Other Africa	1,947	3,212	2.732	65.02	2.43%
3-AMERICA	5,603	6,532	4.838	16.57	4.95%
North America	4,541	4,802	3.563	5.75	3.64%
Central America and Caribbean	549	829	597	50.99	0.63%
South America	514	901	678	75.47	0.68%
4-ASIA	20,309	32,505	25.891	60.05	24.62%
Near and Far East	15,081	25,430	19.187	68.62	19.26%
Other Asia	5,227	7,074	6.704	35.33	5.36%
5-Australia and New Zealand	343	435	360	26.99	0.33%
6-Other countries and regions	857	1,410	561	64.61	1.07%
Selected country groups					
OECD Countries	65,675	70,472	54.227	7.30	53.38%
EFTA countries	1,328	3,262	4.327	145.62	2.47%
Black Sea Economic Cooperation	16,784	20,867	12.315	24.33	15.81%
Economic Cooperation Organization	4,700	6,248	5.945	32.93	4.73%
Commonwealth of Independent States	10,088	13,938	8.742	38.16	10.56%
Turkic Republics	2,874	3,749	3.397	30.44	2.84%
Islam Conference Organization	20,311	32,597	28.663	60.49	24.69%

Source: Undersecretariat for Foreign Trade

- 40 The EU is still important to Turkey’s exports, but the share of other regions is on the rise. In 2007, exports to the EU-27 countries, which valued \$60.3 billion, made up 56.3% of total exports. This dropped to 46,9% in 2009. However, exports to Near and Middle Eastern countries, which made up 19% of total exports, reaching \$19 billion. Exports to African countries rose to \$10.2 billion, an increase of 12,3%.
- 41 According to the Global Competitiveness Index 2009-2010 prepared by the World Economic Forum, Turkey ranked the 61st among 133 countries of the world. Among the elements that positively contribute to competitiveness, the market size, development of the private sector and efficiency of the commodity markets are cited while the negative factors include efficiency levels of the labor market, institutional infrastructure, higher education and vocational training as well as the development level of the financial markets.

Figure 1.1: Turkey's competitive rank among 133 countries



Source: World Economic Forum, Competitiveness Index, 2009

- 42 When the competitiveness components of Turkey are compared with 12 countries that have recently joined EU, Turkey is seen to have a better business sophistication, innovation, institutional infrastructure in the public industry, and better performance in institutional governance in private sector, but worse intellectual property rights, railway network quality, port quality, prevalence of ICT. In other areas, Turkey and other countries have almost equal

performances. With such a performance, Turkey has the competitive edge in a wide area, which covers the Middle East, the Caucasus, North Africa and the Balkans.

- 43 In terms of the subsectors of the Turkish manufacturing industry, a substantial qualitative transformation took place between 1996 and 2008. The share of automotives, machinery, white goods, electronics, petroleum products and rubber-plastic products in the total manufacturing industry rose considerably. On the other hand, the share of garments, textile products and food decreased from 1996 to 2008. Especially as a result of the international pressure coming from India and China, the share of traditional labor-intensive industries declined within exports as a whole, as these industries were compelled to switch to industries having higher added value and greater innovative production structures. Furthermore, it is expected that the change in commodity prices will affect the export and production structure of the Turkish manufacturing industry.

Table 1.6: Share of the Sub-industries of the Manufacturing Industry in the Total Exports (%)

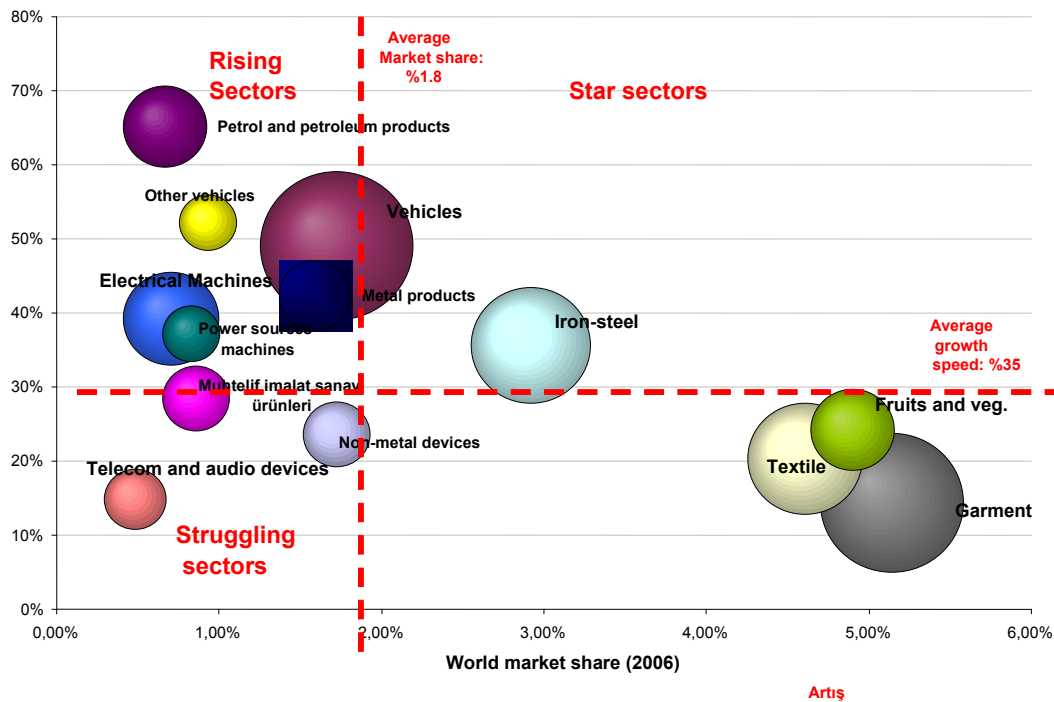
Sector	1996	2000	2007	2008	2009	2010 Jan.- May.
Basic Metal Industry	10.9	8.8	12.2	17.9	15,8	14,7
Motor Vehicles and Trailers	4.8	6.8	16.8	15.3	13,5	14,9
Garments	23.5	21.2	11.7	9.2	10,1	10,4
Textile Products	18.6	18.1	10.7	9.1	10,0	9,6
Machinery and Equipments Not Included in Other Groups	4.0	5.4	7.9	7.8	8,5	8,3
Coke, Refined Petroleum Products and Nuclear Fuels	1.3	1.2	4.9	5.8	3,8	4,2
Foodstuff and Drinks	12.0	7.2	5.1	5.2	6,2	5,8
Metal Commodities (except for machines and equipments)	2.3	2.6	4.2	4.4	4,7	4,5
Electrical Machines and Devices Not Included in Other Groups	3.8	3.2	4.1	4.0	4,3	4,3
Chemicals and Products	6.1	5.5	4.0	4.0	4,5	5,1
Plastic and Rubber Products	2.5	3.1	3.9	3.8	4,2	4,4
Other Non-Metallic Mineral Products	3.8	4.4	3.4	3.5	3,9	3,9
Furniture and Other Products Not Included in Other Groups	1.2	2.5	3.1	2.8	2,9	3,2
Other transportation vehicles	0.8	3.5	2.7	2.7	2,5	1,6
Radio, Television, Communication Equipments and Devices	1.5	3.8	2.7	1.9	2,0	1,9
Paper and Paper Products	0.6	0.6	0.8	0.8	1,0	1,1
Tanned Hide, Bags, Shoes	1.1	0.7	0.6	0.5	0,5	0,6
Tree and Mushroom Products (except for furniture); woven Materials (wicker products)	0.3	0.2	0.5	0.4	0,5	0,5
Medical Products, Sensitive Optic Tools and Clocks	0.3	0.3	0.3	0.3	0,4	0,4
Tobacco Products	0.5	0.5	0.2	0.2	0,3	0,3
Publication, Cassette etc.	0.2	0.2	0.1	0.1	0,2	0,1
Office, accounting and data processing machines	0.1	0.2	0.1	0.1	0,1	0,1

Source : TurkStat

44 When the developments in exports is evaluated together with the market shares of the sectors in the world, it is seen that there are certain sectors growing rapidly in global economy however the number of manufacturing sectors which can be considered as stars (which can continuously increase their share in the global markets) in the manufacturing sector is few. (Figure 1.2) While the share of the automotive, machinery, white goods, electronic, petroleum products and rubber-plastic sectors in total manufacturing industry exports have risen considerably, export growths of other industries such as garments, textiles, food, which had significant shares in the world markets in 2007, slowed. The shares of Turkish industries having rapid increases in export (petrol and petroleum products, electrical goods, metal products) are relatively low in world markets. Television production started dropping in 2006-2009, compared to its impressive performance in 2004-2005.

Figure 1.2: Competitiveness of the sectors: Shares in the world and growth ratios, 2006

Annual average export growth rate (2002-2006)



Source: TEPAV, United Nations COMTRADE database

45 An important change recently taking place in Turkish foreign trade structure is the increase in intermediate goods imports of the manufacturing sector (except

oil and natural gas). Commensurate with the increase in investments and exports, rise of international commodity prices, change in the sectoral composition of export and rise in exchange rates were among the factors contributing to this increase.

- 46 The share of technology-intensive sectors in Turkey's overall exports lags behind that of the EU (Table 1.7). Exports of above-medium technology products increased by the acceleration of the structural transformation of the manufacturing industry after 2001. However, there has been no increase in the value added high-technology products due to insufficient local clustering in these areas. This situation has emerged mostly as the result of medium- and high-technological production's dependence on imported intermediate input.

Table 1.7: Manufacturing Industry Production and Export Structure (percentage share)

Technology Density(1)	TURKEY				EU Export (3)
	Production		Export		
	2002	2008(2)	2002	2008	2006
High	5,1	4,1	6,2	21,6	21,6
Above medium	18,2	24,8	24,3	41,1	41,1
Below medium	26,7	32,1	22,8	19,1	19,1
Low	50	39	46,8	18,3	18,3
Total	100	100	100	100	100

Source: SPO 2010 Annual Program

(1)Based on OECD classifications.

(2) SPO estimates with year 2006 prices.

(3) OECD member EU states.

- 47 As a result of the increase in the share of sectors in total industrial exports containing above-medium technologies, R&D expenditures have recently begun to rise. In 2007, R&D expenditures totaled €3.2 billion, which constituted 0.76 percent of GDP. In 2008, R&D expenditures constituted 0.73 percent of GDP. Although this amount is much lower than the EU's Lisbon objective of 3% in this area, nominally, it equals approximately more than half of the new EU member states' total €5.81 billion R&D expenditures. On the other hand, the Turkish private sector aims at contributing to at least 60% of the country's total R&D expenditures by 2013. Supports to be provided by the public sector will be designed in such a manner to increase R&D activities of the private sector. In 2007, Turkey applied for 355 international patents. In 2008, this number rose to

367. It is planned to increase the share of R&D in GDP to 2% and raise the number of full-time researchers to 80,000 by 2013.

- 48 Since 2001, there has been a qualitative change in the strategies of large Turkish companies operating on a global or local scale. The main holding companies incorporating many companies operating in various sectors during the 1990s underwent a critical restructuring and consolidation process after the crisis of 2001. It is obvious that the top ten companies in terms of revenues focus their activities on four or five sectors. The share of service sectors such as finance, energy and communications has increased in the activity field of the large holdings and conglomerates. Companies that are active in manufacturing have consolidated their operations in automotive, white goods, electronics, food and construction materials-cement and derive the essential part of their revenues from foreign markets.⁷
- 49 Along with the strategies of global Turkish companies, the sectoral preferences of foreign investors that have recently come to Turkey are also important for industrial strategy. After the crisis of 2001, with the effect of the privatization and Saving Deposit Insurance Fund (SDIF) sales, 84% of foreign investments were made in the service sector, mainly in the areas of finance and communication. In 2008, the manufacturing industry's share in overall direct international investment entries made in Turkey was 25.8%. The food, beverage and tobacco sectors made up the greatest share of total investment made in the manufacturing industry.

Economic Integration with the EU

- 50 EU member states have a determinative position in connecting Turkish economy to outside world. The significance of the EU in foreign trade shows that Turkish business firms compete within a market in which most sophisticated consumption preferences in the world prevail. the market of the most sophisticated consumption preferences in the world. In 2009, 46% of Turkey's \$102 billion-exports were to the countries of the EU-27. The same year, the EU-27 countries constituted 40% of Turkey's overall imports. Turkey is major importer particularly in the areas of investment and intermediate goods. Despite

⁷ Republic of Turkey, State Planning Organization 2006. "Ninth Development Plan," Ankara

the increase of the import share of Eastern Asian countries, the significance of the EU-27 for investment goods continues.

- 51 In addition to trade-related integration, Turkey has integrated quickly into the EU in terms of direct foreign investments. Seventy-two percent of the \$47.3 billion in direct foreign investment made in Turkey between 2003 and 2007 came from EU countries. These investments bring important opportunities for the integration of Turkish companies to the value chain in the EU. This tendency shows that Turkey is gradually becoming a natural part of the EU's industrial and service fields.
- 52 On the other hand, while EU investments and foreign trade make up the lion's share of Turkey's export connections, however, it is significant that recently these connections have become more geographically diverse – spreading to many countries and regions. This diversity will limit any negative impact on Turkey's economy that might be caused by possible shrinking of demand in some economies. The large share (26%) of Turkish businesses in Middle Eastern and North African markets, when evaluated within the development perspectives of these markets, will continue to create important opportunities for Turkish companies and their EU partners.
- 53 Turkey's share in manufacturing industry products EU-27 countries increased from 3.8% in 2003 to 4.7% in 2007, averaging a growth of 7% per year. In the medium-technology product group, which includes such sectors as the automotive and machinery industry, Turkey's market share grew 2.5 times in 4 years, rising from 1.6% in 1999 to 4% in 2004. In low-technology products the increase was from 6.3% to 7.9%.

The Turkish Economy and the Global Financial Crisis

- 54 The fluctuations in financial markets starting in the summer of 2007 have turned into a global financial crisis since September 2008. Many banks have gone bankrupt, financial consolidation has started and government interventions have occurred in the US and Europe. The problems in the financial system and the atmosphere of uncertainty have adversely affected investor and consumer confidence. There has been substantial decreases in production in many countries due to decline of domestic and foreign demand and the scarcity of credit. But, global economy has entered a recovery process since the last

quarter of the year 2009; the world economy started to grow again by the last quarter of 2009 compared to the previous year. Expansionary fiscal and monetary policies were effective in the emergence of the global recovery. Dramatic reduction of the stocks during the crisis period enabled the production to restart after the crisis was alleviated. In developing countries; growth has been supported by domestic demand which has been relatively strong and by the increases in commodity prices.

- 55 The deepening of the global crisis, which encompassed financial organizations, resulted in implementation of certain measures alongside traditional monetary policy tools in countries. Subsequent adverse effects of these measures on the public debt stock in countries were inevitable. Furthermore, the global financial crisis adversely affected capital flows to the rising economies, which peaked in 2007. Despite these signs of improvement in the global economy, risks are still pertinent. The timing of exit from these wide ranged measures has a critical importance for sustainability of global recovery. Terminating these supportive policies early could lead to weakening of the global growth before reaching to a sustainable path; terminating late would lead to inflation and further worsening of public finance problems.
- 56 Global economic crisis affected the Turkish economy in three different ways. These can be summarized as (1) contraction in the foreign trade potential, (2) rigidity in the financial and liquidity conditions and (3) setbacks in expectations. The most important is the difficulty encountered in accessing to finance.
- 57 The severe experiencing of the crisis in EU countries, where almost half of the exports is done, caused a significant fall in Turkey's export performance. Export has decreased rapidly in real terms and domestic production was affected unfavourably, particularly in export-oriented sub-sectors like vehicles, main metal, iron and steel, machinery and equipment, and radio-tv communication. Exports has fallen 22.6 percent in 2009 when compared to the figure of the same period of the previous year, and were realized at 102.1 billion USD. In the mentioned period, the export of manufacturing industry products, which constitute the 94.3 percent of total exports, decreased by 23.8 percent.
- 58 An important element which differentiates the current crisis from 2001 crisis is the lack of structural disorders in Turkish banks. However, this fact has failed

preventing the decline in the funds which banks have provided from abroad. Therefore, there occurred difficulties in syndicated loans and in borrowing with foreign currency. In Turkey, both banks and firms have used credits from foreign banks whose daily balance sheet became damaged. After the crisis, the loans that big firms have been using declined and this affected the supply chain of them. Trade credits realized approximately 1,6 billion USD, decreasing at a rate of 134 percent in the first 6 months of year 2009 compared to first 6 months of year 2008. SME's, craftsmen and tradesmen and their employees felt the negative effects of this decline in trade credits.

- 59 Adverse effects on investor and consumer behaviour of increased risk perception and decreased confidence form another effect channel of the crisis. In the last quarter of 2008 and the first quarter of 2009 when global uncertainties were intense, predictions of economic units were negatively affected. This caused the investment and consumption decisions to be delayed and the economic activity seriously slowed down.
- 60 The decrease in both foreign and domestic demand has had an unfavorable impact on production, export and unemployment indicators. GDP fell by 7% in the fourth quarter of 2008 and the increase rate of GDP in 2008 is 0.7%. While Turkey has been affected from the crisis negatively as other countries which integrated with the global economy, she relatively has entered a gradual recovery process earlier. Turkish economy contracted at a rate of 14.5 percent in the first quarter of 2009 when the global uncertainties were intensively felt, but the contraction rate of the economy slowed down in the following period thanks to the measures taken against the crisis. GDP growth rate in the fourth quarter of the year was 0,6 percent. As a result of the fact that economy recorded a strong growth in the fourth quarter, while the Medium Term Program predicted a 6 percent contraction for the year 2009, GDP contraction remained at 4.7 percent for the whole year of 2009. The growth trend of economy continued strengthening in the first quarter of 2010. Turkish economy, which grewed at a rate of 11,7 percent in the first quarter of 2010, was one of the fastest recovering economies of the world in the overcoming the crisis. The indicators for the latest period show that economic growth continues. In this growth process, improvement of the financial opportunities due to the expectations for Turkish economy which turned out to be positive, recovery in external demand,

increase in domestic demand thanks to the fiscal measures effectively taken were influential.

61 In industrial production, 16.9 percent is increased in the January-May period of 2010, when compared to the same period of the previous year. Capacity utility rate which is the leading indicator for industrial production has entered into a moderate recovery trend since the second quarter of 2009 and this trend continued in January- June period of 2010. Manufacturing industry capacity utility rate, which was 70,5 percent, has increased at a rate of 8,4 percent in January- June period of 2010 compared to the same period of previous year. Exports decreased at a rate of 22,6 percent in 2009 compared to previous year and it has been realized at 102 billion USD. Manufacturing industry exports, which constituted 93.4 percent of total exports, decreased at a rate of 23,8 percent. 33.1 percent decrease in motor vehicles exports, 48.9 percent decrease in iron and steel exports, 20.7 percent decrease in machinery and their components' exports were determining in this decrease. The imports has fallen 30.2 percent in 2009 when compared to the figure of the same period of the previous year, and were realized at 140.9 billion USD. Economic recession, which began in the second quarter of 2008, having deepened due to the global crisis was the main reason of the decrease in imports demands. In this period, the imports of consumption and investment goods decreased at a smaller rate than that of total exports; whereas the decrease of the intermediary goods' imports was 34.4 percent, because of the fall in exports and production and the reduction in commodity. Exports which declined parallel to the contraction of external demand after October 2008, has entered into growth trend parallel to recovery of world trade and to an increase in the market shares of our exporters at Europe since October 2009. Imports have entered into growth trend since the end of 2009 due to the recovery realized in domestic demand.

62 While countries have taken common coordinated measures vis-à-vis the financial crisis, they have also implemented country-specific measures for their own economic structures. Turkey, too, has taken steps to deal with the severity and consequences of the global crisis. The macroeconomic consistency achieved in the 2002-2007 period and the structural reforms made, particularly in the banking sector in Turkey, have increased the resistance of the country to such external shocks compared to previous terms. Within this framework,

economic priorities have been determined in the program and the budget for 2009 has taken such effects into consideration.

- 63 The crisis developments are regularly monitored through established mechanisms, primarily the Economic Coordination Council (EKK) in Turkey. The course of the crisis, its possible effects on the country and the measures to be taken against these effects are assessed in EKK.
- 64 In order to decrease the adverse effects of the global financial crisis, as of the second half of 2008, some measures focusing on liquidity, tax/premium, production/export and financing have been taken.
- 65 Within the scope of the liquidity supports, regulations to allow banks to borrow and lend in US Dollars and Euro were prepared, foreign exchange purchase tenders by the Central Bank were suspended, regulations determining the conditions of use of the Central Bank Liquidity Support Credits were announced, the foreign exchange compulsory reserve rate was decreased, the practice of paying interest on the foreign exchange compulsory reserves was put on hold the interest rate of Turkish currency compulsory reserves was increased, and the dividends paid by banks were restricted.
- 66 Within the framework of Tax and Premium Supports, the law on tax reductions and exemptions to encourage bringing assets from abroad into the country was put into effect, the stoppage applied to domestic investors in stock revenues was reduced to zero, regulations regarding tax debts were prepared, the tax load on the credits supplied from foreign suppliers was reduced by decreasing the stoppage rate to 5%, SCT and VAT rates in various fields and sectors were reduced, regulations regarding the taxes and fines on scrap motor vehicles were made, within the framework of Agriculture Products Licensed Warehouse Law, Income and Corporate Tax exemption were set to the earnings from the disposal of product bonds, the legal provision allowing for a discounted corporate tax rate was made, for promoting SME mergers, corporate tax exemption and application of discounted corporate tax were set for SMEs meeting the conditions specified in the law, the unemployment allowance was raised and its period increased from 3 months to 6 months, the period of incentives for employing young people and women was lengthened, implementation of Social Security Support of Promotion Law numbered 5084 was extended to year 2012,

and the deduction rate of the Resource Utilization Support Fund (KKDF) in credits given to real persons was decreased.

67 Within the scope of Production and Export Supports, low and zero interest credit support was provided to SMEs, Credit Guarantee Mechanism was initiated in order to provide SME's with easier access to finance, the budget of KOSGEB was increased by 48% in 2009, the interest rates of the credits given for OIZ and small scaled industrial estates constructions and the bank commissions in the credits given to OIZs were decreased, the limit of the export rediscount credit was gradually raised, the scope and limits of Eximbank credits for companies were expanded and various regulations regarding the Eximbank credits were made, the redemption date of low interest agricultural credits of Turkish Agricultural Bank and Turkish Agricultural Credit Cooperatives was extended from 18 months to 24 months, investment credits were extended from 5 years to 7 years, the Foreign Contractorship Letter of Credit Counter-Guarantee practice was brought into effect, the "Law on Ignoring the Records regarding Bad Checks, Protested Bills and Credit and Credit Card Debts," also known by the public as the registry amnesty, was brought into effect.

- In order to increase the employment, development of active labor programs implementation has been put into action. In this context;
 - The resources allocated to working programs for the benefit of society have been increased; programs to increase temporary employment on the following issues are extended: maintenance and repair works of schools, and health facilities such as hospitals, forestation and erosion control, environment planning and land development, park and garden arrangement.
 - Vocational Training activities of ISKUR have been extended. With these activities, meeting the demand for skilled labor and improving the workers vocational skills are aimed at. During the training, 15 TL is paid daily for each participant.
 - Within the scope of the project which is implemented with the cooperation of KOSGEB and ISKUR, each project is provided, at the end of the training, with 4.000 TL grant in line with the KOSGEB criteria.

- Graduates of Vocational High Schools, equivalent or higher educational institutions are supported by internship programs in the framework on the job trainings. It is aimed that the young workers gain working experience and the increase their opportunities of finding jobs. In the scope of the implementation. ISKUR daily pays 15 TL to the interns for a period of 6 months.
- Premium support has been provided for each new laborer on the existing amount of laborer as of April 2009. Within this framework, employer premium on the value of minimum wage was provided by the government until the end of the 2010 year.
- It is anticipated to enhance the effectiveness of Province Employment and Vocational Training Councils, assemble the Employment Council, identify the profiles of the fund users, examine the effectiveness of employment supports and the resources used for the vocational trainings. A new investment support system was prepared, which aims to reduce the regional development gaps, to support the big scope investments which have high technology and R&D potential to boost the competitiveness, to support clustering, to highlight economies of scale in the areas which are within the scope of this new investment support system.
- With the amendment made on the principles for foreign currency based credit usages, firms and consumers' foreign currency denominated and indexed credit utilities are rearranged. Also, with the legal regulation which was made for rearranging the credit card debts, the debts of the credit cards, of which advice of payment had been sent, which had executed or had been classified as "followed credits" as of 31 May 2009, are provided with a new payment schedule.

68 Within the scope of Financing Supports, Revenue Indexed Bonds (GES) were issued to enlarge the base of investors in the domestic market, and the Council of Ministers was authorized to broaden the scope and increase the limit of the deposit guarantee.

69 Furthermore, the "informal strategy action" plan was prepared and put into effect by the Revenue Administration, legal regulation to establish an

“Authorized Customs Warehouse” and for considering these premises out of the customs line was prepared, the Regulation whereby companies establishing R&D centers are not obliged to engage in production activities was prepared so as to enable R&D companies to benefit from R&D incentives.

70 Public sector assumed an effectual role in decreasing the effects of the crisis on the economy by the incomes and spending policies. It implemented the short term policies focused on increasing consumption and overcoming the dead locks in the credit system. Medium term policies focused on increasing investment, production and export on a permanent basis. In this direction, it is aimed to recover from the crisis and the growth under the leadership of the private sector. It is important to decrease gradually the public sector borrowing requirement in order to ensure the predictable environment for the private sector’s decisions and increase the resources that the private sector could utilize.⁸

71 In the medium term, it is aimed to implement the policies which will increase the competitiveness of the economy and which will make the economic growth and the improvement of the financial balances permanent. In this framework, following measures are planned to be realized: current public expenditures will be directed to priority areas; public investments will be made effectively by prioritizing; public private cooperation models in investment financing will be extended; public aids will be made increasingly transparent; the development of the labor force that the private sector needs will be accelerated; flexible labor structures will be developed; the effectiveness of the development agencies will be ensured and they will be improved; evasions from taxation will be reduced; the effectiveness of credit guarantee fund will be increased; in order to improve the business environment and increase the predictability, related basic law will be updated; in this realm, the effectiveness and speed of the judiciary will be provided. The negative effects of recession period of global economy on the Turkish growth performance in the following term will be minimized by the effective implementation of the industrial strategy. In this conjecture, continuing to improve the regulatory framework about the infrastructure sectors and taking measures about competitiveness of sectors will make the expectations positive,

⁸ State Planning Organization 2010 Programme

and this will contribute to foreign investors to increase their interests towards Turkey.

Figure 1.3: Turkish Industry SWOT Analysis

<p style="text-align: center;"><u>STRENGTHS</u></p> <p>1-Geographical location of Turkey</p> <p>2- Young human resource</p> <p>3-Production at international standards and quality by Turkish Industry</p> <p>4- Existence of entrepreneurship capacity</p> <p>5- Developed industrial infrastructure and variety of industrial production</p> <p>6- Number of SMEs and OIZ Potentials</p>	<p style="text-align: center;"><u>WEAKNESSES</u></p> <p>1-Shortage of qualified labor</p> <p>2-Shortage of R&D , technology and innovation</p> <p>3-Shortage of access to funding sources</p> <p>4-Failure in effective management of natural resources and energy problem</p> <p>5-Lack of cooperation and coordination among public institutions and organizations</p> <p>6-Limited capability of production in high added value products</p> <p>7-Shortages of infrastructure</p> <p>8-Shortage of investment and business climate</p> <p>9-High level of informal economy</p> <p>10-Incompetence of the manufacturing industry in technology production and failure in extending the use of modern technology</p> <p>11-Failure in obtaining data on the industry systematically and from a single source</p> <p>12-High cost of inputs</p> <p>14-Development differences between the regions</p> <p>15-Inadequate implementation of clustering strategies</p> <p>16-Underdevelopment of competition culture</p> <p>17- Incompetencies of SMEs in export and marketing</p>
<p style="text-align: center;"><u>OPPORTUNITIES</u></p> <p>1-European Union accession process and harmonization studies</p> <p>2-Geographic location of Turkey</p> <p>3-Entrepreneurial, young population</p> <p>4-Markets in the neighboring and surrounding countries</p>	<p style="text-align: center;"><u>THREATS</u></p> <p>1-Global financial crisis</p> <p>2-External dependency in energy</p> <p>3-High imports in supply of intermediate products</p> <p>4-Globalization and increasing international competition</p> <p>5-Environment and climate change</p>

<p>5-Globalization</p> <p>6-Ongoing liberalization of international financial and commercial system</p> <p>7-Foreign investors' being directed to the fields accelerating technological-social dynamics</p> <p>8-Rapid development and increase in effective use of information technologies and innovation</p> <p>9-Technological developments</p> <p>10-Increase in the size and purchasing capacity of domestic market</p> <p>11-Richness of renewable and alternative energy sources</p> <p>12-Development of competitive new business models</p> <p>13-Development of institutionalization and corporation culture</p> <p>14-Coming into prominence of the partnerships between countries</p> <p>15-Increasing importance of added value product production, quality and efficiency</p> <p>16-Increasing of the information based (producing and utilizing information) competitive advantage</p> <p>17-Increasing demand for new, high-quality and different products in the global markets</p> <p>18- Contribution of the positive developments related to environment and climate changes to the competitiveness</p>	<p>6-Shortages in transport and infrastructure</p>
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2. Vision

- 72 The vision of the Ninth Development Plan prepared within the framework of the Long-term Strategy for 2001-2023, which covers the period between 2007 and 2013, is a “Turkey, a country of information society, growing in stability, sharing more equitably, globally competitive and fully completed her coherence with the European Union.”
- 73 Within the framework of this general vision, the long-term vision of Turkish Industrial Strategy was established as “**becoming the production base of Eurasia in medium- and high-tech products**” in the search conference held under the auspices of the Ministry of Industry and Trade, with participation of the private sector, NGO’s, universities and public sector, in 2008. The overall aim of the Turkish industrial Strategy covering the period between 2011 and 2014 was been determined as “**increasing the competitiveness and efficiency of Turkish Industry and expediting the transformation to an industry structure which has more share in world exports, where mainly high-tech products with high added value are produced, which has qualified labor and which at the same time is sensitive to the environment and the society.**”

3. Strategic Objectives

74 In order to achieve the general aims mentioned above, three basic strategic objectives have been delineated. The focus of the industrial strategy to be implemented is supporting structural transformation, in accordance with these three basic strategic objectives:

- a. **Increasing the weight of companies that can continuously improve their skills (strong):** Within the scope of the industrial strategy, the environment of investment and doing business in Turkey will be reformed so as to allow development of companies which can continuously improve their skills and which are capable of surviving and growing in the current environment of competition. Despite the changes and pressure of globalization in the mid- and long-term, the development performance of the industry of Turkey will be directly proportional to the weight of the companies that can continuously improve their skills and abilities. The industrial strategy will contribute to giving the businesses a structure that has high-tech skills and qualified labor, can adapt to changing conditions and competitiveness in national and international markets. Within the scope of the strategy, giving importance to innovation, improvement of qualified labor and effective use of the information and communication technologies will be supported.
- b. **Increasing the weight of mid- and high-tech sectors⁹ in production and exports:** Its intention is to move to high value added production in mid- and high-tech sectors. However, the fact that the production scale of subject sectors in Turkey is generally low with respect to global competitors, makes achieving this objective difficult in the medium term. Strategies for investments in manufacturing motorized land vehicles, machinery, medical tools, precise and optical tools, air and space vessels, electronics and medicine, which currently exist in this sector group and have an important potential of growth

⁹ The industries where R&D expenses pay with high added value are defined as high technology sectors. According to OECD, these are pharmaceuticals, aerocrafts, equipments, medical equipments, measurements, calibration and control equipments, radio and television and communication devices, Office, Accounting and communication machines.

and for development of these sectors, will be given priority. and Turkey's becoming an important production base in these sectors will be supported.

- c. **Transition to high added value products in low-tech sectors:** Turkey has attained an important scale of production and experience in traditional sectors. This experience constitutes an important advantage from the perspective of transition to high added value products in the sub-sectors of the subject sector group. Supports to increase added value will be provided in these sectors. It will be ensured that the activities to increase added value such as design, branding and logistics are developed, aiming these sectors to increase the effectiveness of Turkish companies in the value chains in global markets.

75 The strengths and weaknesses of Turkish industry, the opportunities it has and the threats it faces have been assessed and some basic industrial policy priorities and fields of policy such as horizontal and sectoral, have been determined, taking the priorities in the 9th Development Plan into consideration.

76 In order to achieve the general aim and, accordingly, the strategic objectives of the Industrial Strategy of Turkey, in cooperation and coordination with the public institutions and organizations the followings are aimed to be realized: improving the environment of investment and business, effective utilization of international trade policy practices by Turkey and making it attractive for foreign investors, improving the skills and human resources, increasing the access of SMEs to finance, ensuring technological improvement of companies, enhancement of the infrastructure sectors, development of an environmentally-friendly industry structure and decreasing the regional differences. Furthermore, increasing competitiveness of sectors by making improvements in knowledge and technology, competition, regulatory framework, environment and energy, external competitiveness and trade, employment and geographical aspect are anticipated.

77 Within the Ninth Development Plan, the objectives to make, in 2013, the share of added value created by the industrial sector in the total national income reach 27.2%, exports climb to \$ 210 billion, increasing annually by 14.2%, and imports rise to \$275 billion with an annual increase of 11% were determined. In order to achieve these objectives, industrial strategy will have a critical function. This function will be directing the transformation of the Turkish manufacturing

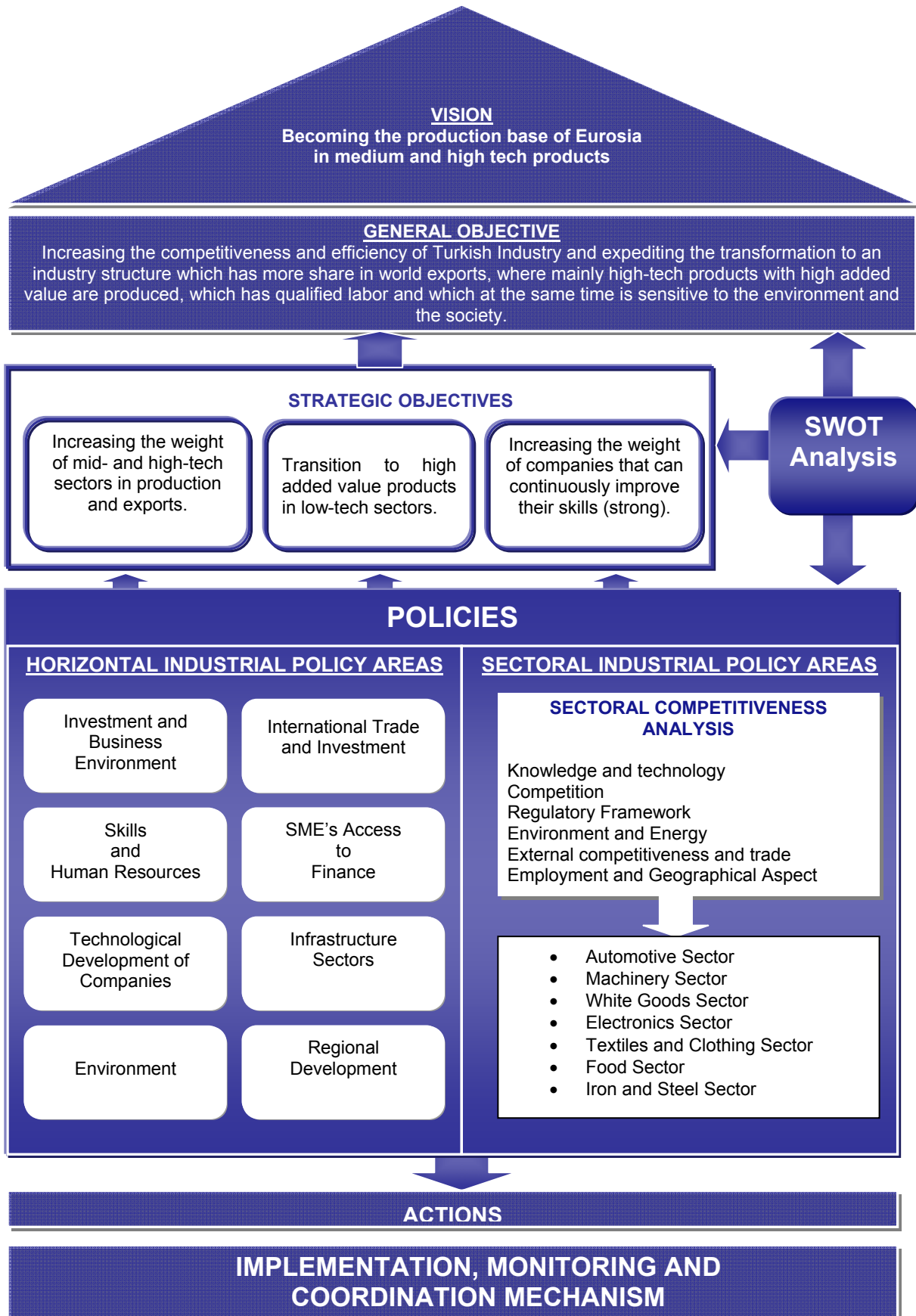
industry in such a manner as to contribute to the long-term economic performance of Turkey. The manufacturing industry is meant to be the main sector leading the economic growth in an outward-looking structure. In addition, as a result of medium and long terms policies to be implemented within the framework of the Industrial Strategy; it is aimed that the indicators such as the growth rates of industrial sectors, qualified employment rates, R&D expenditures, patents, utility models and brands applications, export and production shares of high and medium technology sectors(manufacturing of motor vehicles, machinery, medical tools, sensitive and optical tools , air and space vehicles, electronics industry and pharmacy) will increase; these indicators will be monitored in order to measure, and evaluate the success of the strategy.

- 78 It will be ensured that the industrial strategy will comply with various strategy and policy fields which are already being implemented in order to increase competitiveness. A comprehensive body of measures for increasing competitiveness in Turkey is dealt with in 10 core fields on the basis of the development plan, mid-term and annual programs. These fields are: (1) making the macroeconomic stability permanent, (2) enhancing the business environment, (3) decreasing informal economy, (4) improving the financial system, (5) improving the energy and transportation infrastructure, (6) protecting the environment and developing the urban infrastructure, (7) improving R&D and innovation, (8) extending the information and communication technologies, (9) activating the agricultural structure, and (10) moving to high value added production structure in industry and services. Industrial strategy will serve to achieve these above mentioned objectives which overlaps to a large extent with the development axes in line with the identified vision.
- 79 Briefly, the Industrial Strategy includes a policy framework which will contribute to direct and support the structural transformation to increase the competitiveness of industry and the sectors in accordance with the determined long-term vision, overall aim and strategic objectives, and which complies with the industrial policy approaches in the EU established within the framework of the strengths and weaknesses of Turkish industry together with the opportunities it has and the threats it faces. This policy framework is based on horizontal and sectoral policies. (Fig. 3.1)

- a. **Horizontal industrial policy areas: (Chapter 5)** Industrial policy covers the framework elements for ensuring effective operation of markets and improving and creating an attractive investment and business environment with a purpose to continuously increase efficiency in overall industrial activities. Horizontal policies which affect the competitiveness of all companies and emphasize coordination among various institutions will be implemented to improve the quality of the labor, facilitate access to funds, improve the capacity of innovativeness, decrease the input costs and increase environmental friendliness.

- b. **Sectoral industrial policy areas: (Chapter 6)** The aim is to increase the competitiveness of sectors by making improvements in the fields of knowledge and technology, competition, regulatory framework, environment and energy, external competitiveness and trade, employment and geographical aspects.

Figure 3.1: Industrial Strategy Framework of Turkey



4. Priorities of the Main Industrial Policy

80 The industrial strategy adopted will be implemented within the comprehensive policy framework given in Chapters 5, 6, and 7. Within the scope of this comprehensive policy, policies which will be strategically prioritized in order to achieve the industrial strategy aims and objectives that were explained in the previous chapter are determined as follows:¹⁰

Horizontal Industrial Policy Fields:

Investment and business environment:

- a. Efforts to reducing the bureaucracy and simplify procedures in order to enhance the business environment will be sustained.
- b. State aid supporting information- and technology-based SMEs which export or have the potential of exporting, and which promise growing will be made more effective and the efforts to harmonize with the EU acquis will be sustained.
- c. To prevent unfair competition, efforts at harmonization with the EU technical legislation will be accelerated, and in order to prevent introduction of goods in to the market which do not comply with legislation and their circulation, conformity assessment and market surveillance and control systems will be strengthened.
- d. To increase competitiveness of enterprises, accreditation, conformity assessment, certification system and quality infrastructure will be enhanced and supported.
- e. To enhance the competitiveness of SMEs and entrepreneurs and help them get into markets, training and consultancy services will be provided at business startup and development stages. For this purpose, ISGEM and similar organizations will be extended and the regulations needed for increasing their effectiveness will be made.
- f. In coordination with the SME Strategy, the intensification of institutionalization in enterprises in accordance with the institutional governance principles will be encouraged; productivity improvement, business establishment and development activities of SME's and entrepreneurs will be supported.

¹⁰ Ninth Development Plan has been used as a base for the main policy areas.

International Trade and Investment:

- g. Cooperation at the national and international levels during transition to high value added production structure will be given importance, and foreign capital investments will be encouraged in order to facilitate enterprises' opening to the world.

Skills and Human Resources

- h. The sensitivity of the educational sector to the labor demand will be increased, human capital in areas demanded by businesses will be strengthened and flexibility in the labor market structure will be increased through education. In order to provide new skills to labor force which exit from restructuring sectors, fulfill the qualified labor needs of the sectors on the rise and increase the participation of women in the labor force, the implementation capacity of active labor policies will be strengthened and harmonized with industrial policy.

SMEs Access to Finance

- i. Initiatives to reduce informal economy will be sustained; access of enterprises to finance, primarily of SMEs, will be facilitated. The contributions of a financial system which has diversified instruments and financial depth to channel resources to investments, which reached to a competitive scale and regulated, and supervised in international standards to growth of firms and to improve of their competitiveness will be increased.

Technological Development of Companies

- j. In order to ensure effectiveness of the intellectual property rights system, institutional capacity will be strengthened, effective cooperation and coordination among the institutions will be provided and a widespread culture of intellectual rights within society will be established.
- k. In coordination with the Information Society Strategy, information and communication technologies will be extended, access to and effective use of information by enterprises, R&D and innovation activities will be encouraged. The coordination between the science and technology strategy and the industrial strategy will be strengthened.
- l. In mid- and high-tech sectors, R&D and innovation activities and the R&D infrastructure will be prioritized, and large-scale investment, co-investment and comprehensive R&D projects will be supported.

Infrastructure Sectors

- m. To fulfill the physical infrastructure needs of enterprises and restructure and enhance the competition environment in infrastructure sectors, input costs in the production of goods and services will be minimized as much as possible. Moreover, investments in these sectors will be encouraged in a manner that contributes to the vision of Turkey becoming a regional investment base.
- n. For reducing the input costs of the industry; energy supply safety will be provided, energy market will be made competitive and energy efficiency will be increased. Furthermore, steps will be taken to make sure that the share of renewable energy sources in energy production in Turkey is increased.

Environment

- o. The congruity of industrial and environmental policies will be taken into consideration and the sustainability of growth will be guaranteed. In industry, production will conform to health and environment regulations and importance will be placed on social responsibility standards.
- p. Full harmonization with the EU legislation on environment will be achieved; however, measures will be taken for minimizing the high cost of harmonization particularly on SMEs by effective transition-period strategies.

Regional Development

- q. Importance will be placed on common R&D, and supply and marketing activities of businesses. Initiatives for network building and clustering will be supported. Businesses will be encouraged to open in designated industrial zones and existing ones will be encouraged to move into such zones.

Sectoral policies

- r. Sectoral strategies will be formulated for automotive, machinery, white goods, electronics, iron and steel, wood works, paper and furniture, and food sectors under the auspices of the Ministry of Industry and Trade.
- s. New initiatives for increasing the share of mid- and high-tech sectors in production and exports will be established; steps will be taken to enable Turkey to become a production base in automotive, white goods,

machinery and electronics sectors. Restructuring in traditional sectors will be encouraged which allow adaptation in international competition.

- t. A clustering policy will be developed, and analysis to determine clustering potentials will be carried out. The cooperation among businesses, notably in OIZs, will be supported.
- u. Sectoral and regional development policies will serve the purpose of increasing the efficiency and competitiveness of the regions, taking into consideration harmonization with the EU. Regional development strategies will be designed and implemented in accordance with the results of the clustering and value chain analysis in such a way that is compatible with industrial strategy.
- v. “The Entrepreneur Information System” allowing the investors in the market and other users to make better decisions by collecting, updating and offering data on industrial activities in a holistic, systematic and matching manner will be established in coordination with the Ministry of Industry and Trade.

5. Horizontal Industrial Policy Areas

- 81 The areas of the horizontal industrial policy dealt with in this chapter include policies that are directly of concern to competitiveness and will affect all sectors. In order to reach the objective determined as the overall aim of the industrial strategy, changes necessary for these objectives in many policies directly affecting the industrial activities are planned.
- 82 In this context, a policy package that includes the following make up the horizontal policy areas of the industrial policy: a state aid system, which is a part of an effective investment and business environment that can direct firms towards increasing their productivity (Chapter 5.1); measures to facilitate the adaptation to international trade and investment environment (Chapter 5.2); providing the improvement and continuous development of the skills of labor force to meet current and future needs of firms (Chapter 5.3); facilitating SMEs access to finance which they need to make necessary investments to be more competitive (Chapter 5.4); providing the necessary environment and means needed for them to increase their technological capacities (Chapter 5.5); making the infrastructure sectors to restructure so as to provide cheaper and higher quality inputs to firms (Chapter 5.6); making firms more sensitive to environment, especially in the adaptation process to the EU, and managing the increasing costs within the framework of a determined policy (Chapter 5.7); and implementation of policies that would make local advantages offered by each region to various sectors more significant for eliminating the imbalances between regions (Chapter 5.8)

5.1. Investment and business environment

- 83 Studies carried out in recent years and examples of best practices indicate that a sound operating investment and business climate has a very important function in increasing the efficiency of enterprises.¹¹ Policies and regulations for enhancement of the investment environment have critical importance from the

¹¹ World Bank. 2005. *World Development Report: A Better Investment Climate for Everyone*. Washington, D.C.; World Bank and TEPAV. 2007. *Investment Environment Review Work*, Ankara

perspective of the industrial strategy due to their contribution to the productivity and competitiveness of enterprises. The improvement of regulations, development of competition law and a restructuring of the state aid are priorities within this context.

5.1.1.Improvement of Regulations

Current situation

- 84 One of the most important developments in the last decade has been the change of the role of state in economy. With the acceleration of the privatization process, state has become regulator rather than an actor in the market. As in the EU, improvement of regulations and regulatory impact assessment issues in Turkey intersect many other policies horizontally. Key principle within this framework is that the regulations should be minimized, rational, clear, transparent, of a nature reflecting market dynamics, and be prepared in a participatory manner. Thus, the objective is to improve the investment and production environment by reducing the costs to borne by the industry because of the regulations.
- 85 After the “Regulatory Reform in Turkey” completed in cooperation with the Organization of Economic Cooperation and Development (OECD) in 2002, topics such as the Regulatory Impact Analysis, Participation and Transparency have become a part of the legislative process and certain progress has been achieved in the studies in this field. In February 2006, the Regulatory Impact Analysis became part of legislations with the By-Law on Preparation Principles and Methods , and in April 2007, the Regulatory Impact Analysis Guide was published.
- 86 Within the framework of regulatory reform process, the Coordination Council for the Improvement of Investment Environment (YOIKK) was established in 2001 in order to ensure that cooperation among public institutions is set on a proper ground and opinions of the stakeholders which are directly effected with the implementation of the policies are received. YOIKK aims at rationalizing investment regulations in Turkey, determining the regulations needed to increase the competitiveness of the investment climate and to develop policy recommendations, and aims at producing solutions for administrative barriers

that national and international investors face at each stage of investment including the operation stage. YOIKK carries out its studies using 12 technical committees charged with company establishment, employment, licensing, location of investment, taxes and incentives, foreign trade and customs, intellectual and industrial property rights, foreign direct investment legislation, investment promotion, SME, corporate governance and R&D directly connected with the investment climate. As result of studies carried out under this framework, the number of transactions needed for permission to establish a new company was decreased to 6 by 2008 and the period needed was reduced to 6 days. Turkey ranked 73rd out of 183 countries in the World Bank's "Doing Business 2010."¹² Regulations providing important improvements in the process of obtaining licenses for opening and operating businesses were designed to increase the powers of the local administrations in granting licenses for opening and operating businesses and decrease bureaucracy. As result of these regulations, the 52 documents previously requested for licensing of sanitary enterprises were reduced to 6, and the 43 documents requested previously for licensing of non-sanitary enterprises were decreased to 7.

- 87 YOIKK Portal (www.yoikk.gov.tr) which was developed as an effective communication platform among the members of YOIKK, opened for access on 17 April 2009. Through the portal, it is possible to access information on the studies carried out under YOIKK Technical Committees and Steering Committee, introductory information on the Investment Advisory Council, and explanatory information about the basic investment processes of the investors.
- 88 By means of information and communication technologies, efforts are continuing to create an e- government for effective, fast, high-quality, continuous, reliable, transparent and integrated provision of public services in accordance with needs and expectations of citizens and the business world. In electronic provision of public services, many projects such as the Central Population Management System (MERNİS), Tax Office Automation Project (VEDOP), National Judiciary Informatics System), (UYAP) and e-Declaration Address Registration System, Identity Sharing System, Modernization of Custom Administration Project, e-Government Major Gateway, Online Environment Permissions have been implemented. Many public services which are related with business environment

¹² World Bank. 2010. *Doing Business 2010: How to Reform*. Washington, D.C.

have been moved to electronic medium by these projects. In this framework; tax proclamation, social security declarations, custom proclamations can be send and, payments can be paid in electronic environment. Thus, workload and financial troubles arising from bureaucratic processes on the entrepreneurs decrease. Implementation of pilot scheme of the Central Legal Personality Information System which will form an infrastructure for providing a better quality service to firms started at April 2010. Similarly, pilot scheme which is designed to conduct public procurement on electronic environment in the framework of Electronic Public Procurement Platform will start at the first quarter of 2011. On the other hand, the productivity and competitiveness of entrepreneurs increase and their market expands as they incorporate information and communicating technologies into their work processes.

- 89 According to the result of a comparative research made on the 20 basic public services which were identified by the EU, while the average scores for providing these services in EU 27+ (EU 27 and Turkey, Iceland, Switzerland, and Norway) is 58 per cent; for Turkey this score is 55 percent. The maturity rate for the delivery of these services on electronic environment was 75 percent for EU 27, whereas it was 68 percent for Turkey. The maturity level of services delivered to business world was 86 percent for Turkey and it was over the average of EU 27+ (84 percent).¹³ Additional improvements (registration of new firms and environment-related permits) have been realized during the following period of the publication of the research.
- 90 Also, with the amendment to the Organized Industrial Zones (OIZ's) Law no. 4562 that took place in 2005, OIZs have the authority to issue various permissions and certificates. In this context, the OIZs have become a single point of application for the industrialists for receiving permissions and services of various public organizations. In addition, establishment of Development Agencies is completed in NUTS 2 regions and some of the Investment Support Offices of these agencies are established. In the following period, Investment Support Offices are planned to be established gradually.
- 91 With the amendment to the change in the Organized Industrial Zones (OIZ's) Law no. 4562 that was made in 2008, it has been decided that Agriculture Based Specialized OIZ could be established in order to provide integration in

¹³ http://ec.europa.eu/information_society/eeurope/i2010/docs/benchmarking/egov_benchmark_2007.pdf.

agriculture and industry sector, vegetable and animal production that comprise agriculture based data and processing facilities should take place in accordance with pro forma biosafety precautions compatible with related legislations.

Policies

- 92 In order to extend and develop enterprise and enterprise culture, public awareness and promotional activities will take place, entrepreneurs will be supported and number of İSGEMs will be increased. Moreover, women entrepreneurs and women's participation in business life will be encouraged and supported.
- 93 The reform process that allows for ensuring the participation and transparency, regulatory impact analyses,, preventing red tape and consequently lessening unnecessary bureaucracy and costs in the industry will continue apace. Such platforms as YOİKK and similar platforms that bring together regulators and stakeholders (private sector representatives and NGOs) and facilitate coordination between public organizations will continue to be in effect.
- 94 Within the framework of the E-transformation Turkey project and Information Society Strategy, savings in cost and time will be provided by making the most of the business procedures available online and strengthening the statistical infrastructure facilitating the measurement of the impacts of the regulation.
- 95 With the establishment of Development Agencies, importance will be attached to utilizing foreign capital to exploit regional potentials and hence, promotion activities which will be carried out by Investment and Promotion Agency of Turkey on a national scale will be supplemented regionally. By considering the work within the scope of OIZs "one-stop shops," the plan is to single-handedly monitor and control the acquisition of permits and certificates from state organizations by private sector investors and other administrative work and processes through the establishment of county-based Investment Support Offices.

5.1.2 Competition Law and Industrial Policy

Current Situation

96 The Law no. 4054 concerning the protection of Competition, which came into force in 1994, and the establishment of the Competition Authority in 1997, were the most important achievements in terms of antitrust practice in the last decade. Changes to the law were made five times. Besides prohibiting law-breaching behavior, the deterrent effect of punishments was increased by establishing the association of repentance. Also aimed at is increasing competition by facilitating vertical agreements, transfer of technology, R&D and automotive technology transfer, increasing market competition through R&D and automotive service.

Policies

97 By taking into account the targets listed in the Competition Law and Policies Ad-Hoc Commission Report prepared within the scope of the 9th Development Plan that covers 2007-2013:

- a. Thanks to establishment of effective market competition, the prevention of such constraints as cartels, market failures and etc., in the basic/intermediate materials and services market, the input costs, of the companies producing final products will be reduced and consequently their competitiveness will be increased.
- b. Similarly, driven by the knowledge that companies that encounter strong competition in the domestic market are also likely to succeed in competitive international markets, the goal is for competitive culture to become more widespread.
- c. Initiatives for to establishing international cooperation for the application of competition laws against competition violations at the international level that also affect Turkey will be heightened.

98 Necessary measures will be taken in order to internalize the regulation's effect on the competition dynamics of the market and make the competition protection mechanism more dynamic, particularly with respect to the terms listed in the Regulatory Impact Assessment Guide published on April 3rd 2007.

5.1.3. State Supports, Incentives and Industrial Policy

Current Situation

- 99 It is a fact that internationally projected measures in such areas as environment and climate change and adapting new standards that emerge in international trade impose great financial burdens on various sectors. That is why the importance of state aids increase in such areas as environment, restructuring of sectors to conform to policies, conducting infrastructural investments, which are essential for industry, increasing competitive strength, reaching employment policy objectives, increasing the quality of the labor force and supporting R&D.
- 100 On the other hand, due to their negative impact on competition, state aids are subject to various regulations and inspections within the framework of both WTO Subsidies and Countervailing Measures Agreement and Article 87 of the Treaty of Rome. In this context, state aids are applied in accordance with international obligations.
- 101 With regards to state aid regime in Turkey, it can be seen that nine public administrations (Undersecretariat of Treasury, Undersecretariat for Foreign Trade, Ministry of Industry and Trade, Ministry of Finance, Small and Medium Industry Development Organization, Export Credit Bank of Turkey, TÜBİTAK, Republic of Turkey Ministry of Culture and Tourism, Ministry of Agriculture and Rural Affairs) provide aids in 53 areas under the designations of investment, employment, research and development, using the wide range of means, including direct financial support for free land allocation, tax reduction and low interest loan.
- 102 In order to channel savings to high value-added investments, increase production and employment, provide sustainability of both propensity for investment and development, stimulate technology that would increase competitive power and encourage large-scale investments having a significant R&D component, increase direct foreign investments, make up for regional development differences, support investments and R&D in environmental protection, the “Decree Concerning State Encouragements to Investments” was promulgated and came into force on 16.07.2009.

- 103 In this context, aids assuming the form of exemptions of customs duties and VAT, tax reduction, social security employer support and investment area assignment are being made available for regional, sectoral and large-scale investments covered by the law.
- 104 With regards to the implementation of the investment support, Level 2 regions – as stated in the Statistical Region Units Classification listed in the Council of Ministers Decision no. 2002/4720 made on 28.08.2002 – are divided into four groups according to their degree of socioeconomic development. Sectors to be supported regionally are determined by a province group's potential for investment and its competitive power. Together with that, large scale investment in the sectors mentioned below are provided with support regardless of the region.
- 105 According to Article 29 of the Environment Law numbered 2872, the activities related with the prevention and the elimination of environment pollution get benefit from the advantages of incentive measures. Firms which establish and operate treatment plants, and which fulfill the obligations specified in the concerned regulations are provided with discounted electrical prices. The price of the electrical energy used in the plants is discounted to the 50 per cent of the prices used in industry facilities. Also, in Article 17 and Article 18 of this law, a fund was established within the body of Ministry of Environment and Forestry in order to use for activities related with environmental protection. Industrial firms utilize this fund in the following areas: waste water treatment, solid waste disposal, recycling facilities, prevention of environmental pollution, activities for the improvement of environment, projection and construction of facilities. For 5 or 10 years, the credits are given up to 45 per cent of the project cost.

Large scale Investments*

Item No	Sector	TL50 Million and more Minimum Fixed Investment Amounts (Million TL)
1	Chemical Substance and Products Manufacturing	
1-a	Main Chemical Substances Manufacturing	1000
1-b	Other Chemical Substances Manufacturing	300
2	Refined Petroleum Products Manufacturing	1000
3	Transit Pipeline Transportation Service Investments	
4	Motorized land Vehicle Production Investments	250
5	Railway and Tramway Locomotives and/or Wagon Production Investments	
6	Harbor and harbor Services Investments	250
7	Electronics Industry Investments	
7-a	LCD/Plasma Production Investments	1000
7-b	Module Panel Production Investments	150
7-c	Laser TV, 3D TV, OLED TV and so forth TV production Investments	
7-d	Other Electronics Sector investments	
8	Medical Instruments, Precision and Optical Tools Production Investments	
9	Drug Production Investments	100
10	Air and Space Craft Production Investments	
11	Machine Production Investments	
12	Mining Investments Investments (extraction+manufacturing) for the smelting facilities and integrated mining production in these facilities concerning the production of final goods from IV/c metals group listed in the Mining law. (except products covered by ESCS)	

(*) TL50 Million and higher investments determined by the 13/06/2006 Corporate Tax law no.5520 and 18/02/2009 Law no. 5838 Article 9 and changed Article 32/A

Policies

106 One of the most important mechanisms for achieving the goals projected in the industrial strategy and directing the private sector according to that strategy's requirements is a state aid system that is effective in establishing a sound incentive structure for the companies. Appropriate state aid and incentive mechanisms play critical roles in the sustainability of industrial strategy. For this reason aids and incentives designed to increase competitiveness and support large-scale investments having a R&D component will be provided in accordance with goals and targets stated in this document and especially international obligations originating in the EU and WTO.

107 What is to be taken into consideration in monitoring and inspecting state aids is whether (i) the beneficiary uses the aid in accordance with its objective, (ii) the

aid is efficient in reaching the objectives, particularly its effect on market competition, and the means through which they are offered should be revised or whether the measures projected need to be continued, (iii) it has impact on other markets than those anticipated and (iv) the aid is compatible with national legislation and international obligations and the records and data of the aids will be arranged in accordance with the need stated here.

5.1.4. Standardization and Quality

108 The most important technical barriers confronting global trade are quotas, tariffs and standards. In the context of WTO practices (The Agreement on Technical Barriers to Trade-TTBT), regional integration movements and Free Trade Agreements (FTA) it has been targeted to remove quotas and tariffs that are used often by national states in international trade and to harmonize national standards with internationally accepted standards. That is why adoption and spread of standardization comprises one of the important elements of successful industrial strategy.

Current Situation

109 According to the Association Council Decrees (ACD) no. 1/95 and no. 2/97 and the accession partnership document dated November 9, 2005, Turkey is expected to fulfill its obligation “to complete the removal of technical and administrative barriers to trade and to achieve effective market surveillance and provision of free movement for goods. Within the framework of these decisions, Turkey has mostly completed the required legislative adaptation and is continuing to remove deficiencies based on the implementation. In this context, Turkish Quality Infrastructure Support Project, which started with EU Commission support in 2002 to establish infrastructure that would form the basis for legislation implementation, was successfully completed in 2007.

110 In this framework, the cornerstones of quality infrastructure are defined as; i) Standardization, ii) Accreditation, iii) Metrology and iv) Conformity Assessment (Analysis, Testing and Documentation).

111 Quality infrastructure covers institutions that carry out standardization, testing, documentation, examination, accreditation and metrology (industrial, scientific and legal) in certain country or region and the practices of those institutions.

National quality infrastructures in EU based on similar principles and following similar regulations are *sine qua non* for the free movement of goods in the EU Common Market. Turkey, too, has all the components for a quality infrastructure and is working to bring market surveillance and efficiency up to the level desired.

112 On the other hand, as a result of the efforts mentioned above, no obstacles remain in Turkey with respect to assessing compatibility with EU legislation and the use of the CE marking for product safety.

113 Furthermore, at this point, it is crucial to form and disseminate standardization policy similar to that at the EU on a national level in Turkey and, to carry out standardization studies in the fields of security, the use of alternative/renewable energy resources and information technologies, and to ensure the participation of TSE and related sectors in the activities European Standardization Institutions,, European Committee for Standardization (CEN) and European Committee for Electrotechnical Standardization (CENELEC) activities as well as their active participation in development of international standards.

Policies

114 The standardization policy for Turkey will be set forth and national labels in the field of conformity assessment will be supported.

115 Necessary measures will be taken to increase standardization awareness among Turkish industrialists and to explore the importance of standards in production and consumption.

116 In order to ensure participation of producers, consumers and all other related parties in standardization activities, necessary measures will be taken. To that end, the TSE initiatives will be encouraged and supported.

117 Legislation applications will be followed for supply and demand of safe high-quality goods, continuing to update information in the related environment.

5.2. International Trade and Investments

118 Along with the increase in the level of openness of the Turkish economy, developments in the global economy continue to play a determinative role in Turkish industry. While pro-active approaches towards exploiting the opportunities of globalization have become the tools of industrial strategy, efficient management of the risks of the same process has also gained importance. Within this framework, an inseparable element of efficient industrial policy, priority should be given to policies that ensure the continuation of Turkish manufacturing industry's diversification process in terms of both production and markets, ensure the formation of our foreign economic relations in accordance with industrial strategy, enable monitoring and managing the developments within the Customs Union and WTO and ensure taking measures which help Turkish companies adjust to terms of foreign trade conditions.

5.2.1. Customs Union between Turkey and European Union

119 As a result of the establishment of the Customs Union in 1996 within the framework of EU membership process of Turkey, custom duties and quotas have been eliminated and the EU's Common Customs Tariff (CCT) rates were adopted for the industrial products imported from third countries. Therefore the Customs Union in relation to the industrial strategy needs to be addressed separately due to the fact that Turkey's share of EU exports was 48% as of 2008 and CCT is a determinant factor in Turkey's industrial products imports from the EU.

Current Situation

120 The Customs Union, which accelerated the deregulation process that has continued in Turkish foreign trade since the beginning of the 1980s, hastened the process of Turkey opening up to a significant part of the world and gave way to the new regional structure that shaped subsequent foreign trade relations. In this sense since the 1980s, the Turkish economy adopted liberal policies in foreign trade as part of its export-oriented growth strategy. Therefore, with the Customs Union, it achieved commercial integration with an important block in world economy and trade and through this adjusted its domestic markets to

conform to international norms. With the Customs Union coming into force, customs duties for industrial goods imported from EU were zeroed, quantity limitations were lifted and as for the products imported from third countries, the EU's CCT rates were adopted. While Turkey gained more advantageous access to the EU market in comparison to third-party countries, it open its domestic market to the EU and the competition from those countries.

121 Even so, the competitiveness of industrial products of Turkish origin has grown considerably in foreign markets thanks to the wide-scale conformity to EU standards and the technical regulations.

122 As part of the Customs Union, in order to align with the EU's preferential customs regimes, Turkey signed FTAs with 23 countries. 11 of these annulled when the relevant countries acquired full membership in the EU. Countries who currently are signatories to the European Free Trade Association (EFTA) are Israel, Macedonia, Croatia, Bosnia-Herzegovina, Palestine, Morocco, Tunis, Syria, Egypt, Albania and Georgia. The process of approval of the agreement with Montenegro is in progress. Negotiations of FTAs with Chili and Serbia have been completed and it is expected that the agreements will be signed soon. Similar agreements with Lebanon, Jordan, Algeria, Mexico, Chili, Gulf Cooperation Council (GCC), Southern African Customs Union (SACU), Southern Common Market (MERCOSUR), ACP (Africa-Caribbean-Pacific) countries, Ukraine, ANDEAN, South Korea, India and Libya are to be concluded. The EU's actions in these areas are being monitored closely.

123 Evaluating the economic and commercial impacts of the FTAs, it is obvious that not only have Turkish economic and commercial relations with countries which it has signed agreements increased, but also mutual investments and cooperation opportunities. The FTAs in question are crucial in terms of the increase in Turkey's competitive power.

124 In addition, as part of the EU's preferential regimes undertaken according to the related article of the Customs Union decree, problems have been experienced in terms of countries with which FTAs could not be signed. Turkey's attempts to initiate negotiations with other countries that have signed/put into force free trade agreements or that are continuing negotiations with the EU proved to be ineffective because it is possible for the related countries' to export products

under EU preferential regimes benefiting from free movement due to the Turkey-EU Customs Union and enter the Turkish market duty free.

125 On the other hand, such points as not meeting some of the obligations imposed by Customs Union Decree no. 1/95, failing to comply with obligations and mechanisms of the decree, maintaining commercial protection measures in spite of the Customs Union, problems occurring in undertaking EU's preferred regimes, especially the possible impacts of the EU's adoption of FTAs with third countries vis-à-vis Turkey and Turkey's restricted position in EU's advisory and decision making mechanisms, will be taken into account thoroughly in the future in order to increase the importance of eliminating the deficiencies in the function of the Customs Union.

Policies

126 The failure of the EU to include Turkey as a party to both completed and future preferred arrangements with third countries, and its not using of such mechanisms to inform Turkey for preparation of new legislation, and its failure to collaborate complicates Turkey's ability to make such arrangements. This has an unfavorable impact on the competitiveness in EU and third countries' markets of products originating in Turkey; this situation is directly reflected in the industrial sector. This is why efforts will continue to inform the EU of the impacts of these arrangements on the Turkish market, to bring about effective collaboration.

127 Although alignment with trade safeguard measures system of Common Trade Agreement which has undertaken by customs union is ensured, the parties do not commonly apply these measure to the third parties; the measures are executed by Turkey and EU separately. This situation constitutes a major obstacle to Turkey's competitiveness in the markets of both the EU and third countries. Efforts by the EU to resolve the problems in question will continue.

5.2.2. WTO and Bilateral and Multilateral Trade Policies

128 Scant demand for domestic and foreign market products or their late and expensive arrival to markets have a negative impact on production and employment. Considering this, international trade policy is a vital component of industrial policy, which cuts all sectors horizontally. This field contains bilateral and multilateral relations together with WTO activities.

Current Situation

129 Following WTO's foundation, issues such as gradual reduction of customs duties, removal of obstacles to trade of goods and services, accelerating the internal circulation of capital in the international field, increasing attempts to attract foreign direct investments directly, climate change and emission trade acquired prominence. While these trends could be considered as an opportunity by countries able to make the necessary structural transformations, this process appear to be a threat to countries unable to make these transformations or do so on time.

130 Turkey has no room for deviation in negotiations of industrial products in multilateral platforms such as WTO and preferential trade agreements from common customs tariff due to Customs Union. This means complying with developed country criteria at "introducing nonagricultural products to the market" negotiations despite Turkey's status of even though Turkey has the status of developing country at the WTO. Within the framework of the CCT, the margin of tariff protection provided by Turkey to the industrial goods of third countries fell from 15% to 4.2%. This margin has been "0" for EFTA and the EU since 1996.

131 Within the framework of a bilateral relationship with the EU, with a purpose to improve the competitiveness of industrialists by reducing their expenditures, Turkey requests the suspension of custom duties on products which have insufficient or no domestic production, and are used as inputs for production. Therefore, concerning these issues, participation in the EU Commission Economic Tariff Problems Group is secured and demands from Turkish industrialists for the suspension of custom duties predominantly concern chemical and micro-electrical products.

- 132 Within the framework of the WTO Anti-Dumping and Subvention Agreement, “Regulations to Prevent Unfair Competitive Practice” are being implemented effectively to protect domestic industry from the detrimental effects of unfair competition. According to findings of the World Trade Organization, for the period of January 1995-June 2008, Turkey stood in 6th place among WTO members in terms of the number of measures it has taken. Between January-June 2008, Turkey led in new investigations. Between July-December 2008, Turkey ranked 4th in the number of measures taken. On the other hand, “Regulations for Protection of Export,” prepared within the framework of WTO Protection Measures Agreement, is being used effectively in situations involving product imports that are detrimental, or the same kind of products as are produced by domestic manufacturers.
- 133 Since 1 January 2005, quotas on textile and clothing have been removed by termination of the WTO Agreement on Textile and Clothing. To minimize threats or possible threats to the sector, a quantity restriction had been imposed on certain textiles and garment products originating in China until the end of 2008. However, registration of imports has started for all textile and clothing products in sections 50-63 of the agreement. By 2009, exporter and importer records are included in this system of registration of textile and clothing products.
- 134 Progress under the World Trade Organization is being made along the axis of the Doha Development Agenda. Since 2001, in addition to all industrial sectors, the Doha Development Agenda has included the agricultural and service trade sectors. Therefore, probable results of negotiations are important to industrial strategies.
- 135 Doha Development Round Talks within WTO are being followed closely by Turkey. The Customs Union requires the adoption of parallel policies with EU, except agriculture. In this context, taking into consideration the country’s sensitivities, policies consistent with those of the EU are being implemented. Therefore, Turkey’s Customs Union relationship with the EU on the Doha Development Rounds has a decisive role to play with regards to industrial sectors.
- 136 On the other hand, while the Doha Development Agenda mainly focuses on the customs tariff as a trade instrument, it is insufficient to achieve settlements with

same effectiveness for non-commercial measures. Thus, technical barriers and non-tariff measures constitute complicated and unsolvable or inconsistent “large grey areas” of the world trade system. The EU which has intensive and detailed, non-tariff regulations expands and disseminates this culture. This should be considered as another risk for Turkey’s industrial sectors.

- 137 Regional and bilateral approaches, together with multilateral relations, contribute greatly to improvement of exports and development of global trade volume and provide liberalization of trade to promote Turkey’s industrial potential. These contributions benefit from the unique geography of our country, which serves as a bridge between different regions of the world having varying socio-economic conditions.
- 138 Relying on the increasing importance of international trade, the Undersecretariat for Foreign Trade enacted the Export Strategic Plan, in 2004, designating study fields as “Introduction and Marketing,” “Information Technologies,” “Financial Allotment and Support Mechanisms,” “Bilateral and Multilateral Relationships,” and “Cooperation and Coordination between Public, Private Sectors and Non-governmental Organization,” which aimed to achieving an export structure that provides sustainable increase. Moreover, along with the increasing importance of logistics in external trade, Department of Logistics in Foreign Trade was established under the General Directorate of Agreements by Undersecretariat for Foreign Trade in early 2007.
- 139 The successful trend of diversifying export markets in order to prevent regional dependency and form a sustainable export structure is being continued. While Turkey had export relations with 14 countries at a volume of more than \$1 billion in 2004, this number of countries climbed to 15, 19 and 24 in 2005, 2006, and 2007, respectively. Enacted strategies such as the “Development of Economic and Trade Relationship with Neighboring and Peripheral countries” in 2000, “Improvement of Commercial and Economic Relationships with African Countries” in 2003, “Improvement of Commercial and Economic Relationships with Asia-Pacific Countries” in 2005 and “Improvement of Commercial and Economic Relationships with North and Latin America Countries” in 2006 have been successfully carried out.

Policies

- 140 The Export Strategic Plan prepared by Undersecretariat for Foreign Trade and updated for 2007-2009 will continue to be implemented by taking into consideration of our international obligations and the goals set in this strategy .In this respect, besides increasing the product diversify ,countries “primarily neighboring and peripheral countries as well as those of Africa,” with which foreign trade is made will be diversified; activates aimed at investigating market access capabilities will be performed , Foreign Trade Portal will be formed.
- 141 Commensurate with the aforementioned diversification policy, and given the important share of SMEs in the Turkish economy, studies will be carried out to improve marketing and export capacity.
- 142 The period of time in which to take measures vis-à-vis trade policy practices will be reduced and the measures will be made more effective. In this context; production branches of the country will be protected against the damages of the imports which are subject to unfair competition such as dumping and subsidies with most efficient measures.

5.2.3. Investments and External Economic Relations

- 143 An external economic relationship framework that covers direct overseas investments of Turkish private sector, foreign direct investments in Turkey and Turkey’s export policies constitutes a vital part of an efficient industrial policy. Integration of national economies within the process of globalization, the expansion of FDI’s, especially among developing countries, increases the importance of external economic relations strategies for industrial strategy. Moreover, considering the high level of integration of the Turkish economy into the European Union, Turkey’s relationships with other markets in her geography will create new opportunities for European economies during the membership process.

Current Situation

- 144 Developments in transportation and communication technologies over the last 20 years have enabled the links in the value chain in manufacturing of a product to be separated from one another and realized in different geographical locations. Fundamentally, production processes in the global economy are shaped within this new economic structure; processes are being located in geographies which can yield highest productivity and lowest cost during production. In this framework, locations containing the highest value links possess the value added of industrial production, while locations with low value added have vice versa.
- 145 Integration of Turkish industry into the global economy via the Customs Union process is fundamentally a process of inclusion of the country's industrial production in this value chain. Development of industries such as consumer durables and automotive goods in the last decade is a definite result of the arrival of high value links of the value chain to Turkey, thanks to stimulation provided by the FDI and domestic investments. Our traditional sectors, like textiles and clothing, on the other hand, have been positioned in global value chain such that domestic manufacturers sell to global buyers. This positioning, comes with the establishment of a low value added production in the country.
- 146 In this structure, two problems should be mentioned: since labor costs is the factor affecting global competition the most, such traditional Turkish industries as textiles and ready-to-wear clothing suffer from the low labor cost competition at Asia. In such rising industries as durable consumer goods and automotives, the absence of a mechanism which would identify our comparative advantages and weaknesses (e.g., R&D, design, branding, logistics); which would aim at exploiting advantages and eliminating deficiencies; and which would monitor and assess developments in the global economy is sorely felt.
- 147 145. The geography of Turkey offers many opportunities within the context of globalization. Turkey is already highly integrated into the EU with respect to certain industries, through a single market for industrial products. Additionally, geographical proximity to Europe provides an important advantage to Turkey for industries with a need for rapid transportation, textiles and clothing, whose transportation costs are high. On the other hand, the Eastern Mediterranean

countries close to Turkey both geographically and culturally are also commercially integrated to EU by FTA's. For the last 20 years, Turkey has had trade and investment relationships with many Central Asian, Caucasian and Balkan countries and the Russian Federation. These relationships were founded during the opening process of these economies in the last two decade.

148 Within this framework, improvement of the investment environment figures prominently in benefitting from this new structure. Thus, in 2001, Coordination Council for the Improvement of Investment Climate in Turkey (YOIKK), and in 2006, the Investment Support and Promotion Agency of Turkey (ISPAT), were founded to attract large foreign investments. The investment promotion strategy of this agency is defined as “stimulation of high competitive and productive investments which are also providers of employment and added value for national industry, acceleration of economic-technological-social dynamics, by developing new technologies and improving the information economy.”

Policies

149 Turkey's external investment strategy will be prepared to solve the problems explained above and to take advantage of geographical opportunities. Moreover, mechanisms to monitor the dynamics of foreign markets for both traditional and developing industries in Turkey, and to provide information for penetration to local distribution chains will be strengthened. In the context of foreign economic relations strategy, the economic relations of our foreign representatives will be improved; their capacity to supply information especially to investors, to facilitate investments, to develop regional partnerships, and to establish long-term economic relations in the countries of our region will be enhanced. Foreign investment strategy will give emphasis on activities that resolve institutional infrastructure deficiencies which Turkish investors may face, and it will be re-shaped so as to introduce Turkish successful institutional structures in these countries.

150 Strategies for foreign direct investments are being formed by the Investment Support and Promotion Agency of Turkey (ISPAT), and will be applied to providers of employment and accelerators of economic-technological-social dynamics by developing new technologies and improving information economy, competitive and productive investments which provide included high value to

domestic manufacturers. Within this framework, considering the opinions and suggestions of public institutions and organisations, non-governmental organizations. Those have been determined as priority sectors: ICT (Information Communication Technologies), and the high-technology sectors, food processing (agro food, food processing) and health (life sciences, pharmaceuticals), environmentally friendly (energy, eco-technologies etc.), machine manufacturing, transportation/logistics (automotive, shipbuilding, etc.), petrochemistry, services (education, etc.) and infrastructure sectors.

151 While increasing visits from regional countries to Turkey for all levels of education, instruction in regional languages will be improved and promoted.

5.3. Skills and Human Resources

152 It is extremely important to take steps which aim to increase the qualified labor force supply and demand so as to resolve the problems caused by the global competition and the unemployment which did not decline despite the rapid growth after the 2001 crisis. For the entire three axes present in the focus of industrial strategy (i.e., weight of high-tech sectors; transformation in traditional sectors; increasing share of powerful companies), the issue of skills and human resources is a crucial policy component. Effectiveness of policies in this area will directly affect the success of industrial strategy and help to creation of a sufficient level and qualified employment which maintains to be one of the top priority problems of Turkey.

Current Situation

153 Growth in industry and service sectors is not enough to employ the unemployed people displaced by a decline in the importance of the agricultural sector in the economy, and the number of the young which joins joining the labor force resulting from the rapid growth of the working age population. Declines in economic statistics produced by the global economic crisis in the recent period have been the most important factor in increased unemployment.

154 Labor market rigidity has an important role in preventing unemployment rates from falling to reasonable levels. According to the ranking index of labor market

activity, Turkey is 125th out of 134 countries.¹⁴ Public burdens on wages limits the efficiency of the labor market and competitiveness of the private sector. To change this situation, on 15 May 2008, Law No. 5763, “Business Law and Law on Making Changes in Some Laws,” was enacted. With recent regulations derived from this law, the rate of public burden on wages was reduced from 42% to below 36%. With this law, some precautions were taken both to achieve increases in employment improvement and to reduce unregistered employment

155 Low level of skills in the labor force poses serious barriers to increasing competitiveness of the private sector as the rigidities in the labor force markets. The average level of education of the Turkish labor force is less than in developed countries, and this has a negative effect on the competitiveness of the private sector. 13.3% of employees between the ages of 15 and 64 in Turkey have a university degree. This figure, on the other hand, is 26.6% in Europe. The insufficient level of enrollment in Turkey at all levels of education, compared to developed countries, restricts competitiveness¹⁵.

156 From the perspective of industrial strategy quality of the education of the labor force is a determinative element on competitiveness as the duration of the education is. Cognitive skills gained by individuals during education affect the future productivity level of the labor force. Recent studies conducted in this field, have demonstrated the negative effect of problems in the Turkish education system on labor force ability levels and, therefore, the competitiveness of the private sector.

157 Problems in obtaining employees with sufficient qualifications for certain positions in private sector restrict sustained growth of the Turkish economy. There is a widespread perception in the private sector that skills of both young and existing labor force do not meet the needs of the firms.¹⁶ In particular, the low ability of workforce in computer and foreign language skills is perceived as an obstacle to competitiveness of the private sector.

158 Inadequacies in technical education are the main reason for the lack of qualified intermediary level employees. Assessments made by the private sector show that young people fresh out of technical schools have skills that fall far short of

¹⁴ World Competitiveness Report 2008-2009, World Economic Forum.

¹⁵ EUROPA Eurostat Database. 2008.

¹⁶ TEPAV and World Bank, 2006. “Higher Education and the Labor Market in Turkey,” Ankara

what is needed. That new graduates from technical schools and ordinary high schools have the same real wage and level of unemployment supports this notion. Nevertheless, in 2006, expenditures student in technical schools reached 1.8 times those of ordinary school students.¹⁷ Therefore, problems encountered in maintaining a balance between expenditures and skills have an unfavorable impact on industrial competitiveness.

159 Technical education reform studies have been initiated by the lead of the Ministry of National Education to improve the aforementioned conditions. Within this context:

- a. Technical education programs have been classified according to the needs of the private sector. New classifications have been formed consistent with EU educational norms, while 42 professions and 197 trade branches have been defined. Taking into consideration the international classification of these professions and trade branches [the International Standard Classification of Education (ISCED-97)], new technical training programs have been prepared and used since the 2005 - 2006 academic term.
- b. Administrators and teachers in technical training schools have been instructed as a part of the reform.
- c. The Vocational Qualifications Authority was founded on 26 September 2006 by Law no. 5544 to institute a national system for defining national competence principles, inspecting, evaluating, certifying and licensing activities in the fields of technical training. The Vocational Qualification Agency aims at forming and operating an EU-compatible Vocational Qualification system.
- d. Certificates, diplomas and licenses to operate business are being provided to technical training school graduates.
- e. Transitions between various schools and programs within the limits of technical training are being provided.

¹⁷ TURKONFED and ERG, 2007. "Skills, Competences and Vocational Training: Financing Structure and Policy Suggestions", Ankara.

- f. The integrity and permanence of Faculties for Technical Education and Vocational Education that educate teachers for technical training schools have been improved.

160 Directive no. 2008/29 on 30 April 2008 the Executive Board of Vocational Qualifications Authority taking into consideration the 2008 Work Program and EU project priorities present capacity and work load of the institution, as well as the experience, capacity and competence of applicant institutions to form standards, called for the establishment and functioning of committees in 10 sectors: Construction, Energy, Tourism-Accommodation-Food-Beverage Services, Textile-Clothing-Leather, Automotive, Metal, Social-Personal Services, Transport-Logistics-Communication, Glass-Cement-Soil and Health-Social Services,

161 The Ministry of Labor and Social Security has been given the authority to prepare Operational Programs for Human Resources Development as the fourth component of the Instrument for Pre-Accession Assistance (IPA). Operational Programs for Human Resources Development (IKG OP) preparing programs to benefit from IPA funds, targets "More and better jobs, greater social cohesion and sustainable economic growth that can provide the transition to knowledge-based economy." In this framework, Operational Program for Human Resources Development was formed along four main axes: "employment, training, life-time education, and social inclusion. "Measures based on them are being performed by means of the 2007-2009 programming term operations. The amount of financial resources reserved for the fourth component of the IPA's for 2007-2009 term is €186 million.

162 In order to facilitate the transformation of the skills needed to adapt quickly to changing dynamics at the economy, the opportunity for studying at vocational and technical schools and institutions for these who want to acquire, develop or change profession has been further expanded. Additionally Lifelong Learning Strategy studies are approved by the decision of High Planning Council and started to implement.

163 Within the coordination of Ministry of Labor and Social Security, National Employment Strategy studies started in 2009 and the first draft report has been

announced to public. It is envisaged that strategy will be completed by the end of 2011.

164 Under the coordination of Ministry of National Education, Studies of Vocational Education Strategy Document are being continued in order to harmonize the conditions of labor market for vocational education graduates. In addition, studies of Development of Vocational Education Collaboration Strategy continue so as to provide coordination and cooperation in ministries, organizations and institutions in the field of vocational and technical training.

Policies

165 The abilities and adequacy of the labor force are defined as the most critical horizontal industrial policy of Turkey having potential effect on the private sector's productivity and competitiveness. Improvement of labor force abilities and capacity for innovation will be considered as priorities at the core of industrial policies which will ensure moving to a high value added production structure.

166 Consistency between industrial policy goals and policies to be designed for improvement of human resources will be given importance.

167 Supply and demand in the labor force will have importance in shaping industrial policies. For high value added industries and service activities, demand for skills possessed by the workforce and available for employment will be improved. As for supply, raising the quality of education provided to school-aged children to meet that of developed countries, and the support of education programs in companies for individuals will be achieved. Implementation of business policies will effectively improve the supply of qualified labor. Considering the brief shelf life of information, a suitable environment for sustained improvement of workforce abilities and contemporary updates will be created.

5.4. SMEs' Access to Finance

168 Turkish companies responded to competition caused by integration in the global economy with major reductions in labor costs and improvements in productivity. For the forthcoming term, innovations in technological and organizational

structures and increases in scale are needed to improve productivity of companies. However, necessary access to financing for them is limited. Use of equity capital as a format investment financing is higher in Turkey than in other countries. However, in a period with reductions of profits, it is critical to provide finance for investments to investments to companies from financial systems rather than from equity capital.

169 With respect SMEs access to finance, the Ninth Development Plan states that access to sources of financing compatible with businesses will be facilitated and diversified. By expanding the availability of venture capital, startup capital and credit guarantee, particularly to SMEs, business will have readier access to credit.

170 Revisions have been made to the KOSGEB Law in April 2009 to change the name of the organization from “Small and Medium Industry Development Organization (KOSGEB)” to “Small and Medium Enterprises Development Organization”, to accomplish the tasks that are defined in the national plan and policy documents by considering the all SME’s of KOSGEB as target group and in order to provide optimum services to expanded target group. The most important revision in the law is that companies which are in the Service and Trade Industry will also benefit from KOSGEB supports.

Current Situation

171 As is the case in the rest of the world, SMEs are the most important basis for development of the Turkish economy. According to findings of the Turkish Statistical Institute for 2008, there are 3,449,795 Small and Medium-sized Enterprises, and 2,968. Large-scale Enterprises. 99.90% of all businesses are SMEs. They make up 80.57% of employment, 58.48% of value added and 59.53% of total production value. Still, the share of SMEs in total credit is about 26% and there has been a decline in this percentage due to the global crisis. Considering employment, production and export shares of SMEs, insufficiency of this credit share becomes clearer.

172 There have been important developments in SME’s access to finance recently. 57 percent of investors (50% among SME’s) in Turkey have used bank credits in accordance with ICA 2009 Report. These rates are 40% in Bulgaria, 43% in

Hungary, 47% in Czech Republic, 50% Poland, 65% in Brazil and 69% in Chile. In Turkey, there has been an important increase in the number of companies that have bank credits compared to 2005. 46 percent of companies in Turkey used bank credits in 2005, however, this rate increased nearly by 10 percent in 2008. On the other hand, the quantities of guarantees which the banks demand are very high. The banks demand guarantees equaling to 100% of credit for small size enterprises and 91% of credit for medium size enterprises. Ensuring SMEs easy access to finance would allow them to make investments necessary to improve their productivity and competitiveness. Steps in this direction would make SMEs a driving force in economic growth while improving innovation and entrepreneurship.¹⁸

173 According to the data issued by Banking Regulation and Supervision Agency (BDDK), 21,4% (83,886 billion Turkish Lira) of the total credit portfolio consists of the SME credits as of 2009. With regard to the data of guarantee supports provided by the Credit Guarantee Fund inc., as of end of 2009, totally 2605 SMEs have received guarantee support amounting to 565,355 billion Turkish Lira.

Table 5.1: Use of Bank Credit for Investment, according to size

Year	Average	Small	Medium	Large
2002	13,30	10,11	16,67	14,81
2004	13,85	11,67	19,05	7,41
2005	32,57	30,25	32,64	42,70
2008	51,90	46,11	55,99	60,09

Source: World Bank Enterprise Surveys

174 SMEs have difficulty in acquiring access to finance due to four main reasons: problems arising from the balance sheet structure and size of the banking sector. Insufficient development of the capital market, SME structure, and administrative and legal issues.

¹⁸ TEPAV and World Bank. 2007. "Investment Environment Review Study", Ankara.

Balance Sheet Structure and Size of the Banking Sector

175 The financial services sector was successfully revamped after the crisis of 2001. Despite the recent considerable growth in the sector, it is insufficient in size compared to that of similar countries. As of 2009, the active size of financial sector was 1.047,6 Billion TL increasing 12 percent according to previous year. This value equaled to 109,9 percent of GDP. The banking sector maintained its 80 percent share within the financial sector and grew 13,8 percent compared to the end of last year.¹⁹

176 There is limited availability of bank credit for the private sector. Government Debt Securities (GDS) shares in bank assets declined to 32% by 2007, down from 42% in 2003. Thus, private sector loans have increased. Despite the growth in the credit portfolio, there has been an asymmetrical growth in portfolio users. While a more rapid growth in consumer loans and credit cards continues, loans to companies, and especially to SMEs, are limited.²⁰ The rate of credit increase has declined due to the trouble of obtaining sources from abroad brought on by crises in global markets.

Under Development of Capital Market

177 While such indicators of total market value as market capitalization and total value of public shares have improved considerably in recent years, they are still very low when compared to other countries.²¹ Moreover, the SME market has yet to become functional; the export of private sector bonds, which would ensure the growth of a repository of funds transferable to companies, has not increased. The development of risk capital and seed financing, which are vital instruments for venture capital has not been achieved.

Problems Stemming from SME Structure

178 Problems stemming from SME structure are important because they affect access to financing. The weakness of SMEs compared to large-sized companies is due in large part to lack of operating capital, risks caused by dependence on one person (founder/entrepreneur), insufficient guarantees, inadequate management skills, absence of corporate governance, cultural

¹⁹ BRSA. *Financial Markets Report*, December 2009, Ankara.

²⁰ TEPAV. 2007. "Priorities of 2nd Generation Reforms Process," Ankara.

²¹ World Development Indicators. World Bank. 2006. CD-ROM.

problems caused by family-owned enterprise structures and non-strategic management processes.²² Moreover, SMEs do not have the capacity to prepare project designs and implementations. Taken together, these weaknesses result in the failure of SMEs to adequately take advantage of funds available from KOSGEB and TUBITAK. This structural problem has an unfavorable impact on economic growth and results in SMEs scales to be smaller than those of comparable countries.²³

179 Another problem resulting from SME structure is the high cost of SME loans. While there are more standardized assessments used in determining consumer credit, loans that for companies are issued only after an analysis of company balance sheets and work plans. Providing loans to businesses demands more technical capacity on the part of banks and , therefore , is a more expensive and riskier process, which is directly reflected in the cost of credit.

180 The search of SMEs for more convenient financing has led KOSGEB to concentrate on this area even more. Problem of financial resources constitutes the largest problem for SMEs maintenance of market shares and in opening up to external markets. KOSGEB's efforts at simplifying access to financing market by SMEs at the developed standards began especially in 2003 with the signing of a protocol between KOSGEB and Vakıfbank. Through this protocol, low-interest credit programs for SMEs were initiated. To reduce the impact of the global financial crisis on SMEs and within the scope of measures able to be taken by KOSGEB, protocols were signed with banks whereby low interest loans could be provided to companies in the manufacturing industry and producers for Export, Employment, Machinery-Equipment and general operations.

²² EU Commission. 2005. "Guarantees and Mutual Guarantees: BEST Report, Report to the Commission by an Independent Expert Group".

²³ TEPAV and World Bank 2007. "Evaluation of the Investment Environment Study" Ankara.

Table 5.2: SME Financing Support Credits (2005-2009)

Years	Number of Enterprises	Credit Value (TL)	Interests paid by KOSGEB (TL)
2005	3.102	413.314.799	49.079.431
2006	2.747	322.390.819	12.316.951
2007	11.642	1.360.070.000	175.000.000
2008	21.900	1.440.920.000	183.350.820
2009	69.047	2.594.526.681	146.578.385

Source: KOSGEB

181 At the same time, KOSGEB Providing guarantee through credit Guarantee Fund, which is one of KOSGEB affiliates, contributes to solving insufficient credit guarantee problem of SMEs' in getting bank loans. In 2009, Capital of Credit Guarantee Fund (CGF) increased to 240 million from 60 million and the number of branches was raised to 18. Moreover, in June 2009 a new regulation that enables Undersecretariat of Treasury to provide up to 1 billion TL support to CGF and other guarantee funds has been put into force. These positive developments have contributed to a substantial increase in the number of enterprises that receive guarantee supports and also in the quantity of guarantees provided.

182 New programs have been implemented through an increase in Turkish EXIMBANK resources and the real sector has been provided with liquidity ; taking SMEs as a priority. The nominal capital of the Turkish EXIMBANK which was TL1.5 billion in 31 December 2008 raised to TL2 billion in 2009. Moreover, financing valued at around 300 million Euros was provided by domestic and external markets. Turkish EXIMBANK's Limit of Rediscount Credit before Dispatch by the Turkish Central Bank has been increased to \$2 billion. A fund of \$600 million from the World Bank and the European Investment Bank has also been provided.

Administrative and Legal Problems

183 Another problematic area which hampers the development of trust in relations between banks and SMEs is the inadequacy of administrative and legal operations. These can be summarized as insufficient protection of creditor rights, delays in cases of debt collection-bankruptcy with outstanding loans and collapse of conflict resolutions.

Benefits obtained by SMEs from the European Union Programs

184 Turkey began taking part in EU policies and programs after it was accepted as a candidate country. It became a participant of the Multiannual Programme for Enterprises, Entrepreneurship and in particular Small and Medium Sized Enterprises, which ran between 2001-2006 and was designed to develop SMEs. The program aimed at developing business and competitiveness through an information-based economy, dissemination of the European Information Centers network, encouragement of entrepreneurship, simplification of the business environment, improvement of regulator and administrative framework, thus providing new business opportunities while improving the financial environment of enterprises, particularly for SMEs.

185 The Multiannual Program covers Improvement of Business Environment Study Groups, European Information Centers informing SMEs about EU-related subjects including regulations, projects and cooperation, and Financial Tools such as credit guarantees and risk capital. With the Multiannual Program, Turkey took part in the Improvement of Business Environment Study Groups, founded 9 European Information Centers and secured a quota of €24 million counter-guarantees for the term of November 2004-December 2006.

186 Turkey participated in the Entrepreneurship and Innovation Program, and Competitiveness and Innovation Framework Program, which comprises the subcomponents Information and Communication Technology Policy Support Program and the Intelligent Energy Programme. With the Entrepreneurship and Innovation Program, valid between 2007-2013, SMEs will be able to benefit from Financial Instruments within the framework of the program. The financial tools aim to support SMEs, which experience difficulty in obtaining financing, at various levels, including start up, development and turnover.

Policies

187 Strategic targets and measures to improve access to finance were closely examined in many documents, including the Ninth Development Plan, the 60th Governmental Action Plan, Medium Term Program (2010-2012), 2010 Annual Program, and the SME Strategy and Action Plan. These policies focus on four main themes; more detailed measures are handled in the Action Plan section.

- a. Policies to improve the financial system and to secure credits are to be set as a priority, thus increasing the volume of resources available to SMEs.
- b. Instruments used in capital and credit markets are to be adapted for use by SMEs.
- c. Industry and SME strategies are to be coordinated, and disadvantages in SME risk-income valuations eliminated through efforts made in institutional management and off-the-book problems.
- d. Importance is to be placed on the removal of administrative and legal obstacles to the access to financing.

5.5. Technological Development of Companies

188 Policies designed for technological development of companies constitute one of the fundamental areas of industrial policy with regards to the fact that they aim at increasing share of high technology sectors in the economy, transforming the structure of low technology sectors so that they have higher value added, and helping firms reach a structure which allows all of them to benefit from technological developments for continuously increasing their competitiveness. In this horizontal policy, multiple steps are taken or are planned by the public and private sectors and their contribution to strategies are evaluated.

189 As important as the level of capital and labor factors in a country in the creation of total added value is how effectively they are used. In addition to capital and labor, information and communication technologies have become one of the most important means through which information can be harnessed to increase the efficiency of productivity. Information and communication technologies play a

critical role in the generation, processing and storing, sharing and retrieval, effective use of knowledge in decision making processes and in forming new organizational structures, the creation of new business ventures, access to new markets, and productivity improvement.

Current Situation

- 190 The development of an information society in Turkey gained momentum in the early 2000s. In 2001, Turkey became party to the e-European Initiative, which was designed for candidate countries to the European Union.
- 191 Efforts for becoming an information society must be more holistic and participatory. They have to have concrete goals, and make the creation of economic added value and the increase in prosperity for the country priorities. This points to the need for the creation of new institutional structure. Within this context, the e-Transformation Turkey Project was initiated in 2003. This project aims at transforming the entire society, together with citizens, businesses and the public sector, into an information society within a harmonious and integrated structure.
- 192 Thus, the “Transformation of Turkey into an Information Society Policy” was prepared and Turkey’s vision for the transformation into an information society was defined “Becoming a prosperous internationally competitive country in which science and technology are central to production, an effective exploiter of science and technology and a generator of more value through information-based decision-making.”
- 193 Information and communication technologies consist of two minor sectors: information technologies and telecommunication. While the telecommunications sector’s share of GDP is 3.3%, close to the OECD average (3.2%), it is far below the OECD average (2.9%) in information technologies (0.8%).
- 194 It can be seen that the sectors dominated by innovating firms are more globally competitive compared to those sectors moderately having innovating firms. This is because they are able to raise productivity levels and exports continuously. In recent years, it is observed an important increase in the expenditures that allocated to R&D activities which are critical for innovations and developing new products in our country. The expenditures that allocated to R&D activities

increased from \$3 billion in 2002 to \$5.3 billion in 2008, representing a growth of 77%. Besides, the share of Research and Development of national income was increased to 0.73% in 2008, while it was 0.53% in 2002. This rate is still below 1.85% which is average of EU-27.

195 The share of R&D Expenditure committed by private sector within the total R&D expenditure was 28,7 percent in 2002, but this share raised to 44,2 percent in 2008. However this ratio is still less than the average of EU-27 that was 55,4 in 2006. There is still a need in Turkey to increase the R&D capacity and R&D demand of private sector, especially SME's. According to Innovation Survey conducted by TURKSTAT, the share of enterprises that is supported by public funds for innovation was 5,9 percent between the term of 2002-2004, then this share was 7,04 percent between 2006-2008. Between 2002-2004, the share of SME's that conduct innovation activities by itself and those that conduct innovation activities in cooperation with other stakeholders were 24,2 and 4,4 percent, however between 2006 - 2008 it was declared that the rates were 25,37 and 4,48 percent.

196 According to the TurkStat Statics, In 2008, 43.8% of R&D expenditures came from the higher education sector, while 44.2% originated in the private sector and 12% in the public sector. The distribution of shares in total R&D expenditures by sector was as follows: Private sector 47.3%, public sector 31.6%, higher education sector 16.2%, other domestic sources 3.6% and foreign sources 3.6%.

197 According to data of TURKSTAT, the number of Full Time Equivalent researchers increased from 24.000 in 2002 to 43.000 in 2006, to 53.000 in 2008. In the same manner, the number of Full Time Equivalent R&D personnel raised from 29.000 in 2002 to 54.000 in 2006 and to 67.000 in 2008. When the sectoral distribution has been analyzed, the share of higher education within R&D Full Time Equivalent personnel was 44,5 per cent in 2008, the share of private sector was 40,8 and public sector's share was 14,7. Within R&D Full Time Equivalent personnel per 10.000 population of employment was 31,7 in 2008.

198 Turkey has a poor ranking among countries in terms of patent numbers. This situation is the direct result of the limited contribution of the private sector to total R&D expenditures. Recent research shows that there is a positive and

meaningful relationship between contributions of the private sector to R&D and number of patents required from patent offices belong to Triadic Patent Family. In this field, Turkey is behind many other countries, both for R&D expenditures and number of patents.²⁴

199 In 2008 domestic patent applications were 2268 according to data of Turkish Patent Institute which implies an increase of 23,39 percent compared to previous year. Foreign patent applications were 4869, which is a growth of 11,91% in comparison with last year. In addition, the number of domestic patent registered has increased by 6,29 per cent compared to previous year in 2008 and realized as 338. On the other hand, the number of foreign patents registered were 4531 which indicates an increase of 1,32 per cent in comparison with last year.

200 Strong performance Turkey showed in the field of R&D between the years 2002-2007 is also reflected on comparative indicators. During this period, the size of R&D expenditures and the number of employees, researchers and academic papers in the EU-27 increased by 24%, 8%, 15% and 32%, respectively, while Turkey had increases of 121%, 119%, 107% and 111%, respectively.

201 Information and communication technologies which have critical importance in development of technological infrastructure and hence the productivity of firms are continuously to diffusing in every section of the society. The change in use of various information and communication devices between 2002-2008 is reflected in the following figures: mobile phone use increased from 27.1% to 92.1 %, use of fixed phones declined from 33.4% to 24.5%, internet use grew from 6% to 35.8%, computer use from 10% (in 2004) to 37.4%²⁵ (in 2009) and broadband internet use from 0.05% to 8.4%.²⁶ However, in view of international practices, lags behind in the competition between countries for the use of information and communication technologies.

202 Many initiatives have been taken recently to emphasize the role of innovation in competitiveness. The “Code on the Support of Research and Development Activities” (Law no. 5746) was enacted on 12 March 2008, “ By law for Practice and Inspection of the Code” were published on 31 July 2008 in the Official

²⁴ OECD. 2008. “Technology Scoreboard”.

²⁵ Turkstat.2008.Household Information Technology Using Survey.

²⁶ State Planning Organization 2010. Ninth Development Plan (2007-2013), 2010 Programme

Gazette, thereby coming into effect. Within the framework of R&D reductions for real and legal entities engaging in R&D, regulations were prepared to implement the “Income Tax Withholding Incentive,” “Insurance Premiums Support,” “Stamp Tax Exemption,” and “Techno-Venture Capital Support.” R&D Centers, Precompetition Cooperation Projects, Techno-Venture Capital Support, R&D and Innovation projects, Technology Center Operations (TEKMER) and Technology Development Regions (TGB) will be able to take advantage of support, s and exemptions available under the law.

203 Estimates indicate that the resources set aside through the Research and Development Support legislation for R&D in Turkey will reach 2% of GDP by 2013.

204 Various initiatives taken under TUBITAK’s lead to ensure the results of R&D activities create economic value and meet the needs of the private sector. They have mostly been conducted within the Turkish Research Area Program (TARAL) that was established in 2004. The aim of TARAL is to improve cooperation opportunities among all institutions which carry out R&D activities (such practitioners as universities research institutions and industrial establishment etc.), demand the results of these activities (such as private and public institutions ,NGOs etc.) and those which allocate resources and support these activities (public&private) In this context, the “Academic and Practical R&D Support,” “Public R&D Support,” “Industry R&D Support,” “Defense and Space R&D Support,” “Improvement of Science and Technology Awareness” and the “Training and Development of Scientists” projects have been conducted successfully since 2005.

205 To meet the R&D needs of industrialists, the Ministry of Industry and Trade conducts the following programs through cooperation between industry and university : the Industry Theses Program (SAN-TEZ), the Technological R&D Patent Support Program, the Technological R&D Investment Support Program, the Technological R&D Promotion and the Marketing Support Program. High-tech R&D carried out via industry-university collaboration is being supported by the SAN-TEZ programme.

206 Cooperation with the EU is thought to be important in the improvement of R&D activities. Through a “memorandum of understanding” published in Official

Gazette no. 26567 on 27 June 2007, Turkey joined the Seventh EU Framework Program in the fields of science and technology. In addition to Seventh Framework Program, under the coordination of the Ministry of Industry and Trade, Turkey became part of the EU CIP-Competitiveness and Innovation Framework Programme. CIP aims at improving the competitiveness of SMEs, supporting innovations, specially eco-innovations, enabling easy access to finance for the support of innovation and establishments, accelerating the development of a sustained, competitive and innovating information society, ensuring the efficiency of energy, and supporting new and sustained energy sources by all sectors. To achieve this, CIP includes three sub-programs Entrepreneurship and Innovation Program, Information and Communication Technologies Policy Support Program, and the Intelligent Energy Europe Programme. Turkey became a participant in the Program of Entrepreneurship and Innovation. Financial Tools within the coverage of Program of Entrepreneurship and Innovation, contains three fiscal tools, to stimulate technological development of SME innovation (including eco-innovation), technology transfer and trans-border expansion of business establishments. These tools are Financial Support for SMEs with Innovations and Growth Potential, SME Collateral Support, and Capacity Development Support.

207 Under the Program for Entrepreneurship and Innovation, Business and Innovation Support Networks were created to support entrepreneurs in international trade and investments issues, to inform entrepreneurs in about EU legislation, policies and funds, to take advantage of the Seventh Framework Program, and to transfer technology by determination of R&D needs. Within the scope of Business and Innovation Support Networks, benefit is derived from present business support networks in EU. Euro-info Centers (EIC), which have been active since 1987, make up one of these networks. After 2003, during the multinational programme period, Nine Euro-Info Centers(Ankara, Istanbul (2), Bursa, Samsun, Konya, Gaziantep, Denizli and Adana) provided their services in Foundation of Development for SMEs and the Chambers of Industry and Trade European Information Centers The aims of IRC's are to support innovation services and encourage International Technology Transfer. Within the scope of the Sixth Framework Program, two Innovation Relay Centers were founded: the Middle East Technical University in Ankara and Ege University in Izmir. Under the EIP, the European Enterprises Network was created in 2008 for

assembling European Information Centers and Innovation Relay Centers, and to promote competitiveness and the innovation capacity of enterprises of 43 countries in which they are established . Seven consortiums from Turkey applied to the network call which was named as “Services in Support of Business and Innovation” and they were accepted by the European Commission . Seven consortiums founded to serve 81 cities of in Turkey, provide free consulting and information services to SMEs.

208 Another initiative for improving innovation infrastructure and R&D is Technology Development Zones. Since May 2010, under Law no. 4691, 38 Technological Development Zones were founded (Ankara 6, Istanbul 5, Kocaeli 3, Izmir, Konya, Antalya, Kayseri, Trabzon, Adana, Erzurum, Mersin, Isparta, Gaziantep, Eskişehir, Bursa, Denizli, Edirne, Elazığ, Sivas, Diyarbakır, Tokat, Sakarya, Bolu, Kütahya, Samsun, Malatya, Şanlıurfa).²⁷

209 At the 15th meeting of the Supreme Council for Science and Technology on 7 March 2007, the National Innovation Strategy (2008-2010) which was prepared in collaboration with TUBITAK was approved and published as in line with the decision 2006/201; it was decided to give TUBITAK the responsibility of implementing the Strategy Plan.

210 Technology Innovation Platforms, intended to provide leadership in sectoral coordination and the formation of sectoral strategies, one of the most important elements of the National Innovation System, were introduced. The practice of Application of Technology Platforms is continuing in the EU and nationwide in many countries. It is an effective way of bringing actors of sectors together to determine R&D agenda and planned project topics. To support Technological Platforms financially, the Business Cooperation Networks and Platform Establishment Initiative(ISBAP) was created. Apart from Technology Platforms, TUBITAK’s Office of Technology and Innovation Support Regulations were updated and the “SME Startup R&D Support” and “Techno-venture” programs were created.

211 In order to form short, medium and long–term strategies to follow the application of intellectual property rights, to increase the efficiency in appliance and to improve coordination and cooperation between related enterprises, A Prime

²⁷ Ministry of Industry and Trade, 2010

Ministry Circular with the number of 2008/7 was published about Intellectual Property Rights and Industrial Property Rights Coordination, which includes a board of coordinators authorized to make high-level decisions, on May 21- 2008 in Official Gazette no. 26882.

212 For the purpose of industrial property rights to bring high value-added, high-technology, and competitiveness to Turkey's national industry, it was determined to prepare a Strategy Paper for National Intellectual and Industrial Property Rights at 14 November 2008 meeting of the Intellectual and Industrial Properties Rights Coordination Board, which was founded by 2008/7 Prime Ministry Circular.

213 Regulations for Intellectual and Industrial Property Rights now substantially are in line with EU regulations. In 2001, the Technical Committee for Intellectual and Industrial Property Rights and in 2008, the Technical Committee for R&D were founded under the Coordination Board to Improve Investment Media.

Policies

214 In the focus of the industrial strategy, the policies which directed to advance the technological development level of all companies will be concentrated on. Policies which enable firms to make use of present technologies efficiently, to carry out products, process, organizational innovations successfully and to increase the numbers and effectiveness of the firms which separate themselves from the global competitors will be implemented. Also, development of knowledge intensive technologies, investments in fields like biotechnology and nanotechnology are the priorities of the industrial strategy policies.

215 It will be promoted that firms and especially SMEs adopt the productivity enhancing methods in production processes. In order to make the private sector to design unique products and processes, and to develop existing products continuously, R&D activities and innovations will be promoted.

216 Moreover, steps will be taken vis-à-vis companies to improve awareness, create incentive systems, and protect new products in the area of industrial property rights, particular with regard to patent protection, brand creation and geographical indications. Moreover, a more effective institutional framework for industrial property rights will be achieved.

217 To improve technological development level, obstacles to application of standardizing, and efficient, extensive use of information and communication technologies (ICT) will be removed.

218 Care will be taken to increasing R&D and innovation and their efficacy. Many elements, such as the protection of industrial property rights, increasing financing opportunities and the establishment of educational institutions, which fall within the radius of public policies, will be assessed strategically so as to raise the level of technological development in Turkey.

219 To achieve the R&D targets of Turkey for 2013, a new R&D law was enacted. In this scope, A Support Programme For Technoentrepreneurship was launched in 2009. Moreover, 63 Enterprises was awarded to have R&D Center Certificate as of January 2010. Assistance such as Technology Development Zones and Industrial Thesis Projects will continue.

5.6. Infrastructure Sectors

220 Besides other reasons, the infrastructure sectors in Turkey are undergoing a phase of reconstruction due to their critical effect on competitiveness. Within a competitive environment for these sectors, inputs to manufacturing and the capacity to provide qualified and low-cost service will be decisive in the competitiveness of manufacturing industry. Accordingly, industrial strategy focuses on policies which affect competitiveness directly in infrastructure sectors.

5.6.1. Regulation of the Network Industries

Current Situation

221 Network industries that are partially monopolistic in nature and require great infrastructural investments make available two essential inputs, energy and communication, to companies providing goods and services:. Natural gas is critical with respect to energy, and telecommunication is critical with respect to informatics and e-government practices.. On the other hand, because of the inelasticity of demand and the low level of informality, these fields are subject to high taxes put by the state.

222 Privatizations very important but ,alone, insufficient for the liberalization of energy markets and ensuring competition in Turkey. In this context, Electricity Energy Sector Reform and Privatization Strategy Document of March 2004, was reviewed taking into account the recent developments in 2009; was accepted as a decision of Higher Planning Council and renamed as “Electrical Energy Market and Supply Security Strategy Document”. In this document, not only the privatization issues but also free market, competition, pricing and supply security issues have been regulated. Considering Turkey’s obligations in the EU harmonization process, since 2001 electric and natural gas markets have been restructured by Electricity Market law (law no. 4628) and the Natural Gas Market Law (law no. 4646), Energy Market Regulatory Authority with administrative and financial autonomy was established to regulate and control energy market (electricity, natural gas, petroleum, LPG) and necessary studies have been continuing regarding the dynamic structure of the markets, necessary regulations consistent with the dynamic markets’ structure still continue. To create a competitive structured market for energies, regulations and incentives regarding market entrance and exit improvement of participants’ efficiency, and arrangements of market after privatization were provided and will continue to be provided. In this context, through 5784 numbered Law amending the Electricity Markets law (law no.4628) and the pursuant secondary legislation’s harmonization practices, regulations towards electricity market have been put forward.

223 In the energy market, efforts are being made to develop policies that a) make low-priced electricity available at a cost that will not create disadvantages for industry, b) provide sufficient, consistent, qualified, low-cost energy products and services to consumers, without making a distinction between the demands of equivalent parties, c) develop financially strong, stable and transparent energy markets and free market conditions. Hence, a cost-based pricing mechanism has been put in place in the electricity and natural gas markets. Pricing of liquid fuel and LPG is realised within the framework of competitive market conditions.

224 With regard to Supply Security, necessary legal and institutional infrastructure has been established in order to encourage electrical energy generated from renewable energy resources so as to diversify resources. This situation has a strong impact on development of renewable energy. Studies have kept going to

improve the supportive environment. On the other hand, the progress for nuclear energy to contribute to the electrical resources has been achieved. Firstly, it was foreseen to build energy plants with bidding procedure, however there have been developments to benefit from bilateral cooperation opportunities.

Policies

225 Effective regulation of these industries, which constitute the fundamental input for all other sectors, is important for reducing industrial costs. For this reason, privatization and liberalization in the fields of electricity, natural gas and telecommunication will be accelerated. Moreover, considering that privatization, alone, is not enough to secure competition directly, regulations encouraging new entries to the market and ensuring more effective functioning of the current actors will be prepared.

5.6.2. Electrical Energy Sector

226 Energy is one of the most important items for both the manufacturing industry and service sectors; however, the importance of energy policies for industry is not limited with this. Meeting electricity demand securely and ensuring the necessary production, transfer and distribution investments in a planned way has a significant impact on industrial performance.

227 Another subject that should be taken into account for industrial strategy is the intensifying relationship between energy and the environment. The considerable part of toxic waste and more than three fourths of greenhouse gas emissions are because of the energy sector.

Current Situation

228 To develop domestic industry under international competition conditions, It is necessary to have no important price disadvantages on input expenses. when the prices of electricity in OECD countries are taken into account, Turkey's disadvantages become apparent. However, considering the average of OECD European countries, Turkey also is in an advantaged position.²⁸ In the same

²⁸ Same expense was 13,9 Cent/kWh in Turkey in 2008, while OECD average was 13,3 Cent/kWh, and OECD Europe average was 14,7 Cent/kWh (OECD – IEA Database)

manner, it is seen that Turkey has maintained its own favorable situation considering the average of EU-27.

Table 5.3: Industry Electricity Prices of European Countries (2009 Second Half Statistics)

		Prices Without Taxes	Exclude Value Added Tax(VAT), Include Taxes and Funds	Prices Include All Taxes	Tax Burden on Electricity
1	Estonia	5,01	5,72	6,86	36,93%
2	Bulgaria	5,78	5,83	7,00	21,11%
3	France	5,60	6,21	7,42	32,50%
4	Sweden	5,96	6,01	7,50	25,84%
5	Lithuania	6,66	6,66	8,04	20,72%
6	Lithuania	6,38	6,64	8,10	26,96%
7	Norway	5,46	6,72	8,40	53,85%
8	Turkey	6,96	7,21	8,51	22,27%
9	Romania	7,14	7,14	8,54	19,61%
10	Portugal	8,22	8,27	8,62	4,87%
11	Greece	7,31	8,11	8,84	20,93%
12	Malta	8,60	8,60	9,03	5,00%
13	Slovenia	7,60	7,98	9,57	25,92%
14	Croatia	7,67	7,81	9,59	25,03%
15	Luxembourg	9,18	9,36	9,92	8,06%
16	Latvia	8,35	8,35	10,17	21,80%
17	Poland	7,94	8,42	10,27	29,35%
18	The United Kingdom	8,66	9,00	10,35	19,52%
19	Spain	8,89	9,34	10,84	21,93%
20	Ireland	9,66	9,71	10,90	12,84%
21	EU-27	8,12	9,14	11,15	37,32%
22	Eurozone	8,20	9,48	11,53	40,61%
23	The Czech Republic	9,67	9,78	11,65	20,48%
24	the Netherlands	8,80	10,10	12,00	36,36%
25	Germany	8,33	10,07	13,56	62,79%
26	Hungary	11,25	11,46	13,72	21,96%
27	Italy	12,01	12,28	13,80	14,90%
28	Slovakia	12,56	12,63	15,03	19,67%
29	South Cyprus	13,40	13,62	15,63	16,64%
30	Denmark	7,93	9,00	21,36	169,36%

Source: Eurostat

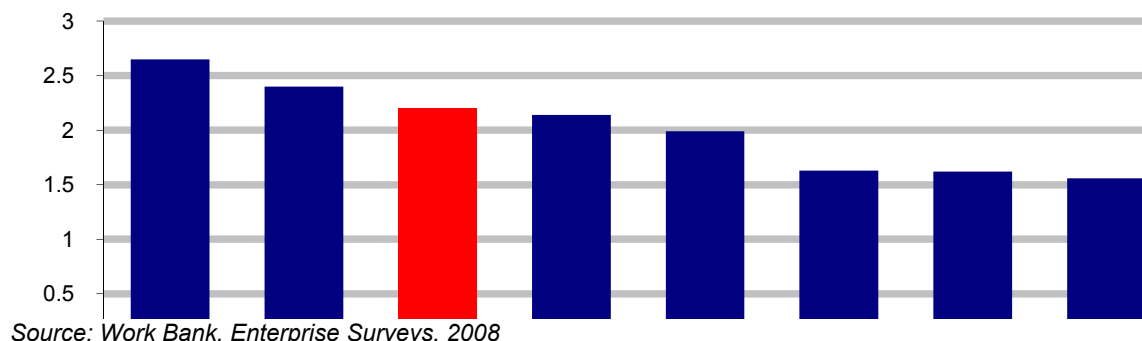
229 Attaining a more competitive structure in the electricity sector can help reducing electricity expenses. In order to competitive environment, measures for market regulations are of great importance. In this context, measures for transforming

into free market structure , which were foreseen 2001 reform programme and aim to create a competitive environment in the electricity sector, are continued.

230 Illegal use of electricity in Turkey is also an important problem (fig. 5.1). The rate of loss has decreased as a consequence of recent regulations and improvements . According to the TEİAŞ Statics, the rate of loss which was % 19,4 in 2000, decreased %14,4 in 2009.

231 Increasing energy efficiency is of great importance since it enables more production with less energy, reduces industrial costs and decreases gas emissions. In this respect,, with the purpose of increasing the efficiency of energy resources and energy use, in order to effectively use energy, prevent excess consumption, reduce the costs of energy throughout the economy and protect the environment, the “Energy Efficiency law” was enacted on 2 May 2007 and published in the Official Gazette. In this scope, various regulations related with energy efficiency have been realized by concerned public institutions.

Figure 4.1: Production loss caused by power cut (Sale percents)



232 Turkey has a significant amount of renewable energy sources, especially hydraulic, wind, solar, geothermal and biomass. The potential for renewable energy resources is in second place after the coal. In 2006, over 10.8 million Tons Oil Equivalent (TOE) of energy were generated from renewable sources. This value comprises 11% of the primary energy supply. In Turkey, hydroelectric and biomass have the most important share of renewable energy production. That of wind and solar energies is very small, yet increases in these are expected in the future.

233 To increase the use of renewable sources; the “Law for Use of Renewable Energy Sources to Produce Electricity,” no. 5346, was enacted, and published in the 10 May 2005 issue of Official Gazette. In addition, the “Geothermal Sources and Natural Mineral Waters Law,” no. 5686, was enacted, and published in Official Gazette on 3 June 2007. In Renewable Energy Law, a purchase obligation equaling to previous year’s average electricity wholesale selling price in Turkey has been introduced for Legal Entities having retail selling license. However, the price should not be less than 5 Euro Cent/ kWh equivalent Turkish Lira for facilities operating less than 10 years with Renewable Energy Law Certificates generating electrical energy from the renewable energy resources within the scope of this law; and the price should not be more than 5,5 Euro Cent/ kWh equivalent Turkish Lira. Nevertheless, legal entities having a license based on renewable energy resources which are able to find selling opportunities in the free market above 5,5 Euro Cent/kWh limit can benefit from this opportunity.

234 With regards to energy resources and policies, Turkey assumes an active role for resources diversification. Not only Turkey diversifies her own resources but also takes steps to strengthen her energy hub position by constituting a bridge between north-south and east-west energy lines.

Policies

235 In order for energy policies not to pose a barrier to development of industry, efforts are underway by the Ministry of Energy and Natural Resources, the Energy Market Regulatory Authority (EPDK) and other relevant organizations. Basic policies directly of concern to the industrial strategy are as follows:

- a. In order to reduce energy costs, policies for provision of electricity at a non-disadvantageous price and in a sustainable way to industry through an energy sector which is organized in accordance with free market principles, a strong technical infrastructure and diversified will be implemented.
- b. As a result of the measures taken on energy efficiency, it is foreseen that less energy is used in industry, buildings and the transportation sector by 2020. In this regard, in the short term, continuing energy efficiency studies on lighting, heat-proofing , transportation and electric devices; enhancing the efficiency by using new technologies and completing the rehabilitation studies for increasing

production capacity in existing plants; dissemination of co-generation practices with high efficiency are planned.

- c. Studies on the secondary legislation on energy efficiency has been completed and effective mechanisms for increasing the energy efficiency and saving will be established. Within this framework, training, study and consultancy services of SMEs will be supported.

5.6.3. Telecommunication Sector

236 While, in the past, the function of the telecommunications infrastructure was limited only to the contracts, delivery and exchange of payment information regarding the sales of the products of companies, today, with the development of information and communication technologies (ICT), it has undertaken much more important functions. Hence, it has become an important component of industrial strategy. As the importance of rapid and low cost access to the information increases in the new business models of today, the effectiveness of the telecommunication sector becomes critical.

Current Situation

237 In order for companies to benefit from the developments in the telecommunications sector, it is necessary that the regulations in the sector be improved and the competition in the market increase. The expiration of the monopoly of Turkish Telekom in telephone services and its privatization were important reforms in the sector. However, for more improvement in the variety, quality and price of the services offered to the consumers, more competition is needed. The Electronic Communication Law, which entered into force on 10 November 2008, offers an important opportunity for reviewing the regulations in the sector. Third generation telecommunications services, the authorization of which has been completed, and fixed telephone service authorization will contribute to increasing competition, particularly in telephone and Internet services. In addition, the transition to a more flexible authorization regime with the new law will support improvement of competition and growth of the sector. Necessary conditions on encouraging R&D activities and manufacturing for

producing electronic communication devices and system, and software in Turkey will be created.

Policies

238 In the Ninth Development Plan, Action Plan of the 60th Government, Medium Term Program (2010-2012), Program for the Year 2009 and the Information Society Strategy and Action Plan, policies to increase the effectiveness of the telecommunications sector were determined. In order to increase the competitiveness of the industry, the improvement of the service quality in communications sector and provision of a competition environment with the purpose to reduce informatics technology costs are aimed. . With competition, both a significant decline in prices and improvement in the service quality will be ensured; this will contribute to the development of an innovative industrial structure that can keep up with the world and effectively use information technologies. The pace of R&D activities and practices will be increased through the secondary regulations to be made under the R&D Law enacted to encourage manufacturing and software.

5.6.4. Transportation Sector

239 As a result of the increase in the global competition, increasing the capability of companies to obtain goods at the right time, in the right amount and at the right cost becomes more critical. The effectiveness provided in logistics increases the productivity of the companies to a great extent. Moreover, the effectiveness of the transportation sector directly contributes to the efficiency in logistics. Especially the speed and quality in transport directly affect the cost structure of the industrial activities and are within the determining factors of competitiveness. Therefore, increasing the effectiveness of the transport sector is central for industrial strategy due to its contributions on competitiveness.

Current Situation

240 The transportation services centered on landroads poses a serious problem in terms of cost, safety and time. The cost of maritime transport is nearly 85 % cheaper than the cost of landroad transport for the same distance and

occupancy rates.²⁹ Meanwhile, as a result of the financial problems of marine transportation and advantages provided by flags of convenience, in recent years there have been a decrease in the Turkish Trade Fleet and in the share of the fleet with Turkish flag in foreign trade. In addition, the harbor capacities and scales are not sufficient to meet the short term demand.

241 The logistics sector in Turkey has achieved an impressive growth rate of 15 % per year in recent years and has been going through a major transformation process in which services such as transport, customs, storage are integrated. While 4% of the Gross National Product (GNP) is obtained from the logistics services in Turkey, this rate is 11% in Europe. 75% of the logistics services are still performed by the units within the manufacturing and sales companies and only 25% is performed by outsourcing (logistics companies). Scattered and small-scale companies dominate the sector.

242 In accordance with the EU harmonization efforts, the transport sector has entered a process of transformation in infrastructure and organization in an attempt to overcome deficiencies and provide effective service. In this regard, improvements in investment and management issues have been introduced. The Transport Master Plan was prepared in 2005 by the Ministry of Transportation in tandem with the “2010 Transportation Strategy Document”. In this scope, considerable harmonization with the EU legislation has been achieved in regulations regarding landroads. In addition, Project of TINA-Turkey, (Transportation Infrastructure Requirement Analysis) which connects Turkey to EU TEN-T Networks, has been completed. The fundamental line providing transportation between Turkey and EU has been introduced.

243 Furthermore, the block train operation has led to a decrease in input costs in domestic and international freights. Branch lines were established in organized industrial zones in collaboration between the Ministry of Transportation and the private sector. Efforts are being made to establish logistics villages to Ispartakule, Halkalı (Istanbul), Köseköy (Izmir), Gelemen (Samsun), Eskişehir (Hasanbey), Boğazköprü (Kayseri), Balıkesir (Gökköy), Palandöken (Erzurum), Uşak, Konya, Kaklık (Denizli), Bozüyük (Bilecik) and Yenice (Mersin), which are close to organized industrial zones and have load potential. The 1st stage

²⁹ Ministry of Transport and Communication. 2005. *Transportation Master Plan Strategy*, Ankara

construction works of Kaklık (Denizli), Hasanbey (Eskişehir) and Köseköy(İzmit) logistics centers were completed. Among these logistics centers, Gelemen (Samsun) has started functioning. The Ro-La project, which is becoming widespread in Europe and aims at utilizing the potential of railways more effectively by relieving the load of landroad has also been started in Turkey. Measures are being carried out regarding the Railways Law in order to make railway transportation faster, safer and more efficient.

244 Ship Traffic Control System (VTS) was activated by the Undersecretariat of Marine Affairs in 2003; informational standards in services for information delivery, navigational assistance and traffic organization have been reached. Additionally, the studies for establishing VTS are being continued in other important marine areas. Abolishment of Private Consumption Taxes for the fuel used in cabotage decreased the costs. Port rates have been decreased so as to make our ports compete with other Mediterranean counterparts. On the other hand, six TCDD ports which were in the Privatization Programme have been transferred to the private sector after their privatization processes have been completed.

Policies

245 To maximize the contribution of the transport and logistics sectors to the competitiveness of companies, policies encouraging the use of various types of transport in an organized and planned manner in the areas where they are the most effective will be implemented.

246 Furthermore, the steps to be taken in the logistics sector are vital for Turkey to be able to benefit from the opportunities provided by her geographical location. In particular, implementation of policies to integrate Turkey with the logistics systems of the EU and other regions, which will enable the country to serve as a link between Europe and Asia will make a significant contribution to achieving the industrial strategy vision of Turkey and effectively implementing it.

5.7. Environment

247 Within the principles of sustainable development for Turkish Industry, implementation of environmental policies is an essential part of industrial strategy and it is of great importance that this process is directed with the right transition strategies. It is inevitable that in the near future the competitiveness of the products manufactured in Turkey will be dependent on the utilization of environmentally friendly production processes. Furthermore, Turkish Industry has to ensure the efficient use of energy with the rapid growth process. Turkey has prepared plans and strategies regarding the environment so far and has started applications in many areas. However, the regulations yet to be made in the areas of chemicals, climate change and industrial pollution, which are basically of concern to the industrial strategy, will have significant effects on the competitiveness of the industry.

Current situation

248 Because the Turkish Industry is becoming a part of the EU industrial zone, harmonization with the EU environmental legislation is of vital importance. The access of the companies not producing in accordance with the subject legislation to the common market may be restricted. For instance, radioactive materials, materials subject to customs inspection and medicine, cosmetics and food for end-use or all chemical materials other than the chemicals subject to special regulations such as military-purpose chemicals will be dealt with under the REACH Regulation in the following term. For this purpose, the chemicals in all products sold to the EU will be registered and subject to permission, and the companies will face significant costs even if sold only once. REACH Regulation No 1907/2006/EC, which entered into effect on 1 June 2007, constitutes the new chemicals policy of the EU. It provides that the chemicals to be imported to the EU market be subject to registration, assessment, and permissions/procedures. Within this framework, to resolve the problems likely to be encountered in applications of the subject procedures tracked closely by the Undersecretariat for Foreign Trade since 2007 and to communicate the required information on the system to all relevant companies, an "Industry Help Desk" has been established under the General Secretariat of Istanbul Mineral and Metals

Exporters' Association (İMMİB) which is affiliated with the Undersecretariat for Foreign Trade, on September 2007. The REACH Help Desk of İMMİB has been incorporated within the REACH Helpdesk Correspondent's Network (RECHORN). Membership in the Helsinki Reach Center, which is the only organization offering support on REACH to "non-EU countries" in Europe, has been completed. Awareness-raising activities with regard to the regulation have been organized. In addition, problems Turkey has encountered in application of the regulation have been placed on the agenda in bodies established under the framework of the Customs Union and other bilateral platforms set up with regard to Turkey's accession process. Furthermore, the relevant Community legislation complementary to the REACH Regulation which is likely to affect Turkish foreign trade will be monitored closely and the sector kept informed. EU-financed projects and programmers have been designed to study the concerned legislation in more detail.

249 Within the framework of the studies carried out under harmonization with the responsibilities of Turkey under REACH Regulation, a web portal was developed at <http://reach.immb.org.tr> and made functional. A company called "REACH GLOBAL SERVICES S.A." (RGS) has been established by İMMİB in Brussels to offer Only Representative services to fulfill the responsibilities under REACH of the companies exporting to the EU. More than 80% of Turkish chemical exports to the EU countries have been covered by RGS and the "preliminary registration" of the remaining companies has been performed either through their direct importers or other Only Representative companies.

250 Sustainable growth of the industry in the following period is closely related to environmental policies and their impact on energy policies. Since energy production in Turkey is mainly based on imported fossil fuel, industrial production is likely to be affected by fluctuations occurring in imported energy supply. Therefore, both limiting greenhouse gas emissions in energy production for struggling climate change and ensuring energy supply security for sustainable development have become serious priorities.

251 Moreover, the performance of these priorities is closely related to increasing clean energy production and efficiency in the use of energy. Increasing clean energy supplies will be possible mainly by expanding energy production through

the use of renewable energy sources such as water, wind, sun and geothermal. Thus, the energy demand expected to rise in the industrial sector in the near future period will be partly fulfilled by energy resources which do not cause greenhouse gas emission. On the other hand, considering that the energy to be obtained from these resources will not be sufficient, it is essential that energy efficiency in the industrial sector and other sectors be increased. At this point, directing enterprises towards efficient use of energy by implementing the right environment policies and making appropriate regulations is of great regulations.

252 With the transition to clean production processes, increase of efficiency in many sectors will become compulsory. In this process, it is necessary to implement projects that increase combustion efficiency in the energy, manufacturing industry and transportation sectors.. This change of technology puts the environment and energy technologies among the sectors where major investments can be made. The development of these sectors in Turkey will be possible with effective implementation of the environmental regulations.

253 In 2004, Turkey became a party to the United Nations Framework Convention on Climate Change (UNFCCC), which entered into force on 21 March 1994. The Kyoto Protocol, under the convention is the only international framework dealing with the struggle against global warming and climate change,. This protocol will be in effect between 2008 and 2012. The negotiations on the new international climate change convention to replace Kyoto Protocol were held at the 15th UNFCCC Conference of Parties on 7-18 December 2009. As a result of the conference, Copenhagen agreement which is not legally binding has been signed. With this agreement, it is aimed that studies which will prevent the global temperature increase from reaching to 2 C will be conducted; and developing countries will be supported. As result of the efforts of Turkey to become party to the Kyoto Protocol, “The law on the approval of our participation in Kyoto Protocol for UN Climate Change Framework Agreement” was passed in the TBMM General Assembly on 5 February 2009 and entered into after being published effect by being published in the Official Gazette No. 27144 on 17 February 2009. Turkey does not have any specific numerical emission reduction commitments by 2012. The studies on the regime after 2012 are continuing. In this process, Climate Change Strategy Document (2010-2020)

which will determine our road map in the issue of climate change was published and came into force in April 2010.

- 254 The concepts of Low Carbon Economy (LCE) or Low Fossil Fuel Economy (LFFE) are used to define economies where a minimum of emission of greenhouse gas (particularly carbon dioxide) into the biosphere can be achieved. According to the LCE concept, which is regarded as an important tool in reducing the greenhouse gas causing climate change, countries with heavy industries and dense populations are referred to as high-carbon countries, and in those countries, transition to a “zero carbon society” to the extent possible, implementation of economic models based on renewable energy and energy efficiency are foreseen. Accordingly, the goals of LCE’s are producing energy and raw materials by using low emission technologies in many sectors such as production, agriculture, transportation and electricity production. This will ensure efficiency in the fields where energy or raw materials are consumed, while also enabling minimum amount of emission of greenhouse gases. in recycling or disposing waste in these fields. While Nuclear Energy and Carbon Capture and Storage (NECCS) are regarded as the key tools for the transition process to LCE’s, the fact that both methods continue to use nonrenewable resources and the uncertainties and cost problems encountered particularly in safe implementation of NECCS technologies should be taken into consideration. In the context of using renewable energy resources, the concerns for high costs and inefficiency should be taken into account.
- 255 On the other hand, while LCEs are expected to create new employment and market opportunities, it is believed that they will be the most rapidly growing economies in the near future. Accordingly, it is anticipated that the businesses operating in the fields of LCE (renewable energy, energy efficiency, low carbon technologies, industrial forestry, vegetation, efficient soil processing methods, etc.) and developing new services and products will be supported, new business models will be established, new markets will be created and new employment and "green job" opportunities will be provided.
- 256 Within the scope of the negotiations carried out on the axis of UNFCCC on the new climate change convention to replace Kyoto Protocol for the period after 2012, it is observed that especially the European Union calls the developing countries for preparation of "low carbon development strategies" to cover the

main sectors ,and the U.S. builds its climate change strategy on the basis of LCE.

257 Having become a party to Kyoto Protocol officially on 26 August 2009, Turkey has made a commitment to prepare national greenhouse restriction plans in the new climate change regime. Besides, according to the protocol, our country does not have responsibility for absolute reduction for the period 2008-2012. Related process after 2012 remains uncertain. The low carbon development strategies constitute the next stage of these plans. The preparation of concerned plans and strategies, which will form the touchstones in the process of transition to LCE and which will require structural transformations in many sectors concerning the economy, primarily the energy and industry, requires large-scale impact analyses. Increasing the knowledge and awareness level of the private sector and consumers with regard to LCEs form other important stages of this process.

258 As of 2004, Turkey is responsible for 0.4% of the production of global greenhouse gas emissions historically and ranked the 31st. According to the data from 2006, the annual total greenhouse gas emission was equivalent to 332 million tons of CO₂. Taking into account greenhouse gas emission per capita in Turkey, this value corresponds to annual per capita equivalent of 4.6 tons of CO₂ in 2006.

259 As of 2006, 8.18 percent of total sera gas emissions stemmed from industrial processes. Compared to 1990, the gas emissions stemming from industrial processes have increased 107,5 percent and reached at 27,1 million tones CO₂ equivalent in 2006. Mineral and metal production, chemicals industry, carbon gases with halogens and consumption of sulphur hegazaflorure emerged as important pollutant subsectors.

Table 5.4: Selected Indicators: Economic activities, population and previous years' emission statistics of countries included, as well as those not included, on Supplement-1 of the Kyoto Protocol, United Nations Framework Convention on Climate Change

Countries	Convention Group	Population 2004 (million)	GDP 2004 (billion \$)	Per capital GDP (\$)	Emission		2003 Values		
					1990	2004	Per capita emission (tons/person)	Per capital electricity (kwh/person)	Emission/GDP (kg/2000\$ GDP)
US	Appendix 1	294	11712	39837	610283	7067570	20.2	13078	0.6
Canada	Appendix 1	32	878	27438	598911	758067	16.5	17290	0.6
Japan	Appendix 1	128	4623	36117	1272095	1355175	9.4	7818	0.4
EU	Appendix 1	309	9501	30748	4252461	4228006	8.3	6506	0.3
Poland	Appendix 1	38	242	6368	564408	388063	7.7	3329	0.7
Bulgaria	Appendix 1	8	24	3000	132303	67511	5.3	3965	0.8
Turkey	Appendix 1	72	303	4208	170187	296605	4.08	1656	0.5
Israel	Non- Appendix 1	7	117	16714			10.6	6599	0.5
South Korea	Non- Appendix 1	48	680	14167			9.4	7018	0.5
Mexico	Non- Appendix 1	104	676	6500			3.8	1801	0.4
China	Non- Appendix 1	1296	1932	1491			2.7	1379	0.6
India	Non- Appendix 1	1080	691	640			1.2	435	0.5
World		6438	36461	5663			4.3	2606	0.5

Source: Prepared by using FCCI/SBI/2006/26 World Bank Data Book 2006.

260 Although Turkey's emission values are very low today, increasing energy efficiency in industry in long-term is of great importance. Turkey has the lowest emission and consumption values, both in terms of CO₂ emission and electric consumption per capita, of the countries party to the Convention. However, considering the CO₂ emission values per unit GDP mentioned in Table 4.3, even though the value of 0.5 kg/2000\$ GDP for Turkey is better than 0.7 kg/2000\$ for Poland and 0.8 kg/2000\$ GDP for Bulgaria, which are new members of the EU, it is far above the EU average of 0.3 kg/2000\$ GDP also due to the effects of the high-energy industrial structure.

261 To support Turkey in taking a position according to the verified information in the international negotiations carried out under the efforts to combat climate change, a project for definition of the sectoral costs has been started. Within the scope of this project, the effects of the general economy and costs of the policies and practices regarding reduction and/or controlled emission of greenhouse gas in the fields of activity determined by the Intergovernmental Panel on Climate Change (IPCC), primarily energy, industry, transportation and agriculture will be determined. Furthermore, there are many projects being carried out both to increase the capacities of the institutions working to prevent climate change and to develop negotiation capacity. It is expected that they will

produce outcome in the determination of the measures and policies to be implemented in the industrial sector.

262 In the EU acquis, there are regulations in the fields of waste management and water quality that need to be taken into consideration by the industrial sector. Regarding waste, the legislation on dangerous wastes, package wastes and medical wastes, as well as Directive No. 2006/113/EC on the Quality Required of Shellfish Waters and Directive No. 76/160/EEC on the Quality of Bathing Water in the field of water quality are also of concern to small enterprises operating in these fields. On the other hand, many improvements have been made in the performance of the industry in the field of solid wastes and waste water. According to data from TurkStat, the total amount of waste water arising from the manufacturing industry decreased by 15% and the amount of solid wastes increased only by 3% between 2000 and 2004. The total amount of solid wastes sold or granted and thus brought back into the economy in the same period increased from 35% to 45% and the share of treated waste water in the total increased from 32% to 36%. Treatment of the waste waters arising from the industry considering the regional specifications under the environmental legislation is crucial for the sustainable use of Turkey's natural resources, including sea and internal waters. Therefore, within the perspective of sustainable development, it is necessary to ensure harmonization with EU technical legislation on increasing levels of treated waste water and disposed waste.

263 The Environmental Impact Assessment (EIA) practice, which is the basic implementation, monitoring and control mechanism of the above-mentioned requirements, has been carried out for 16 years and the harmonization with the EU EIA legislation has been mostly achieved. In 2003 and 2008, the EIA Regulation was revised by taking into consideration the EU EIA Directive and the conditions of Turkey. Furthermore, efforts to strengthen and make the EIA process in Turkey more effective continue. The legislation on both the Environmental Impact Assessment and the Strategic Environmental Assessment cover critical issues with which industrialists are expected to comply.

264 Turkey adopted the principle that compliance with the EU environmental legislation constitute the basis for the transition of the Turkish industry to clean

production processes, and thus initiated plans and operation in this field. Within this framework, the Republic of Turkey-EU Integrated Environmental Approximation Strategy was prepared for the period between 2007 and 2023. In addition, the Environment Operational Program, covering the years between 2007 and 2009, has been completed.

265 Environment Law (No. 2872), amended by Law No 5491, which prioritizes the sustainable development perspective, was enacted by the TBMM in 2006. With this Law, the mandatory harmonization of all economic activities with the sustainable development principle has been assured. In this framework, it has been stipulated that approvals, permissions, incentives, licenses of construction and of use cannot be given, and investments for projects cannot be started and tendered unless “EIA Positive Decision” or “EIA Not Required Decision” is taken. It has also been stated that waste producers are obliged to take the measures to minimize their wastes with suitable methods and technologies.

266 The preparations for harmonization of the legislation in the field of “Control of Industrial Pollution and Risk Management” covering “Control of Major Industrial Accidents (SEVESO II), “Large Combustion Plants (LCP)” , “Integrated Pollution Prevention and Control Directive (IPPC)” and similar EU directives are expected to speed up in the following term. In this scope, the harmonization and effective implementation of the “Integrated Pollution Prevention and Control Directive (IPPC),” which is based on the principles of implementing the best practices available for reducing pollution at the source, minimizing the consumption of raw materials and energy, increasing industrial production by improving the efficiency, is of great importance with regards to competitiveness of the industrialists in foreign markets. Therefore, projects regarding harmonization of this Directive are being carried out.

Policies

267 It has been agreed to implement the following policies in order to steer Turkish Industry in accordance with the principles of sustainable development:

- a. The possible effects of the climate change and the international agreements and protocols regarding this subject on Turkish Industry will be determined and the harmonization process of Turkish Industry with international

regulations will be designed accordingly. Hence, the international negotiation processes regarding post-2012 climate regime will be monitored and a position suitable for Turkey's conditions will be determined.

- b. Transition to a low carbon economy and clean production processes in industry will be promoted and informative activities regarding this subject will be focused on. For this purpose, moving the industry to production zones enabling them to produce with organized infrastructure facilities will be encouraged and the greenhouse gas emissions will be controlled, monitored and reported.
- c. Implementation of eco-efficiency programs which comply with clean production, focus on business excellence and environmental excellence together by dealing with sustainable development, economic growth and environmental performance together, and also increase competitiveness of enterprises by producing high quality products and services in accordance with adoption of efficient use of resources and environment-friendly production principles, will be implemented throughout the country.
- d. Regulatory Impact Assessment will be done in order to determine the implementation processes of regulations which will come into force in the next term related with all environmental action plans. In this context, impact analyses of the topics which will be determined by stakeholders, starting from those directives identified by the EU as high costly are envisaged to be conducted. At the end of these studies, implementation plans including detailed cost analysis for harmonization of the directives will be prepared. The implementation schedules of some directives may be changed according to the costs and the effects on the industry.
- e. Industrial Policies will be carried out in accordance with National Climate Change Strategy Document (2010-2020), EU Integrated Environmental Approximation Strategy (2007-2023), National Action Program on Combating Desertification and National Biodiversity Strategy documents.

5.8. Regional Development

268 Globalization, particularly since 1980s, has required cities and regions to become actors in global competition. Hence thinking and doing business on the issue of development at a local scale are required to be increased. Particularly in EU countries, regional policies have been gaining importance both in quantity and quality over the past 20 years. Continuously increasing the competitiveness of the developed cities and regions as well as eliminating intra-regional development gaps form the intersection area between regional development policy and industrial strategy.

269 From the perspective of the industrial policy, regional development has two dimensions: special measures taken at the regional level and the implementation of national policies which do not require special measures to be taken regionally. Former includes measures such as the determination of regional priorities in accordance with the national ones, the organization of industry within the framework of regional priorities, and the establishment of a state aid system with a focus on location. The latter, on the other hand, consists of local implementation of national policies, which interest all regions equally. They include the elimination of the barriers to investment, doing business and efficiency. Although the policies provide a standard framework, the success of the implementation depends on effective use of governance mechanisms among the regional actors. Similarly, the governance mechanisms to ensure alignment of the national and regional priorities gain importance.

Current situation

270 Significant developmental gaps exist between regions in Turkey. These development gaps result in attraction to developed regions and adversely affect the competitiveness of under developed regions.

271 The main objective in the regional development is identified as spreading economic development and social welfare evenly all over the country, by means of increasing the regional productivity. This can be achieved by contributing to national development, preventing immigration, boosting competitiveness and employment. The commitments on regional development, which mentioned in

the national development plan and the mid-term programmers, can be evaluated under the framework of the industrial policy may be summarized as follows:

- a. Within the scope of “making regional development policy effective at the central level”, achieving consistency between the national and regional strategies to be developed, review of the state aid systems with a locational perspective, increasing the coordination of the Investment Support and Promotion Agency of Turkey with the regions, prioritization of the investments for the growth centers according to their potential for growth and service capacity for their adjacencies in underdeveloped regions;
- b. Within the scope of ensuring development based on the local dynamics and internal potential, carrying out labor training and entrepreneurship programmers, supporting the establishment of a regional innovation infrastructure to ensure co-operation of enterprises and universities, implementing sectoral organized industrial zones based on local specialization, increasing the capacity of OIZs and making them serve as “one-stop shops” for investors, increasing the coordination between OIZ’s and Investment Support Offices, promoting business and investment opportunities of regions, supporting local clusters and establishment of the capacity to determine local priorities such as value chain/cluster analysis;
- c. Within the scope of increasing the institutional capacity at the local level, establishing development agencies, improving the capacities of local administrations, rationalizing the division of labor between the central and local bodies.

272 Strategic Coherence Framework (SCF) defines the ground for IPA’s Regional Development and Human Resources Development components which will be utilized in 2007-2013 period for regional development in accordance with the priorities determined in the 9th Development Plan. In line with the aims and measures stated at the document, within the scope of Regional Development Component, Environment, Transportation and Regional Competitiveness Operational Programmes, and within the scope of Human Resources Development Component, Operational Program for Human Resources Development have been prepared. Hence, “Regional Competitiveness

Operational Programme (RCOP)” was prepared for 2007-2009 under the coordination of the Ministry of Industry and Trade. Two main priorities of the RCOP which are complementary to the regional aspects of the industrial strategy were identified as 1) improvement of the Business environment and 2) strengthening of enterprise capacity and foster entrepreneurship. Four measures and associated activities were identified under the first priority as a) development of industrial infrastructure, b) creation and development of financing instruments, c) improvement of R&D, innovation, technology and ICT environment, and infrastructure d) improvement of tourism infrastructure and promotion and marketing activities; and two measures and associated activities were identified under the second priority as a) Providing basic information and consultancy support b) strengthening of cooperation in industry corporate sector.

273 In order to ensure planned industrialization and organized urbanization and provide a better production and investment environment for SMEs at the local level, establishment of organized industrial zones and small industrial estates will be continued. Currently, 120 organized industrial zones and 429 small industrial estates have been set up. The rate of transition to production in organized industrial zones in cities other than developed ones is low.

274 Diyarbakır, Şanlıurfa, Elazığ, Malatya, Kayseri, Sivas, Erzurum, Gaziantep, Samsun, Trabzon, Kastamonu, Kars, Kahramanmaraş, Batman and Van have been identified as growth centers and prioritized in the operational programmers prepared for the utilization of EU financial assistance (Regional Competitiveness and Human Resources).

275 Under the financial cooperation between Turkey and the EU, within the integrated regional development programmers carried out in 33 cities under coordination of SPO with the co-financing of EU and Turkey, a total of 1428 grant projects were implemented in priority areas determined according to the characteristics of the regions. While the other components vary between regions, the improvement of the capacities of SMEs has been one of the priorities of these programmers.

276 Development agencies, which will be among the most important bodies in realization of structural transformation in regional economic development, social progress and sustainable development have begun to be established and started operating under the coordination of State planning Organisation (SPO). These development agencies are non-profit bodies which have their own technical and financial (budget) mechanisms that enable them to make and implement decisions rapidly. They are legal entities which function apart from central and local government, and bring together the public and private sectors and NGOs together. They are subject to the provisions of private law in their transactions which are not determined by Law No 5449. They are the development units that possess high technical capacity supporting, coordinating, serving as catalyst to them rather than executing activities themselves. Establishment of Development Agencies in 26 NUTS 2 Regions has been completed. 25 of these agencies have been in operation since 2010. Investment Support Offices will be gradually established in all provinces in the coming period.

277 For Turkey to achieve the acceleration that many countries have attained in international competition by clustering, it needs to implement the clustering model effectively and timely. The Undersecretariat for Foreign Trade began implementing "Development of a Clustering Policy for Turkey Project", which it had designed to make up for the deficiency in this field, as of March 2007; the project was completed in March 2009. The Project for Development of the National Clustering Policy aims at preparing a comprehensive cluster policy to improve the competitiveness of Turkey in the international markets and contribute to economic, environmental and social development of Turkey. The project consists of three main elements: 1) Capacity Building in Key Stakeholders for Development Process of the National Clustering Strategy, 2) Preparation of the National Clustering Strategy Paper, 3) Macro-Cluster Mapping and Formation of Strategic Roadmaps. The Clustering Strategy Paper being prepared under the project is a framework document and the first official document of Turkey in the field of clustering. It will serve as a guide identifying the needs of Turkey in the field of clustering. As such, it will enlighten the private and non-governmental organizations, as well as relevant public bodies

about clustering. The macro-cluster map, which is another output of the project, has been prepared taking cluster categories as its basis. A Cluster Mapping Work Group has been established to ensure coordination and cooperation with all stakeholders and, under the coordination of the Undersecretariat for Foreign Trade, the Cluster Mapping Work Group, consisting of the Ministry of Industry and Trade, the Ministry of Agriculture and Rural Affairs, the Ministry of Culture and Tourism, State Planning Organisation, the Union of Chambers and Commodity Exchanges of Turkey (TOBB), TUBITAK, KOSGEB and Turkish Exporters Assembly, has played an active role in cluster selection process. road maps prepared for 10 clusters and relevant themes are as follows :

Innovation and Entrepreneurship	Establishment of Network Between Actors	Cluster Formation	Development of Cluster Base	Factor Conditions
Mersin Processed Food Cluster	Ankara Machinery Cluster	Konya Automotive Parts and Accessories Cluster	Eskişehir, Bilecik, Kütahya Ceramics Cluster	Manisa Electric Electronic Products Cluster
Ankara Software Cluster	Denizli-Uşak Home Textile Cluster	Muğla Yacht Building and Yacht Tourism	İzmir Organic Food Cluster	Marmara Automotive Cluster

278 The analyzed clustering studies were carried out in the cities which were covered under the Regional Competitiveness Operational Programme (RCOP) The cities included Kayseri, Gaziantep, Kahramanmaraş, Trabzon, Erzurum-Kars, Sivas, Yozgat-Çorum, Mardin, Malatya and Samsun. The project constitutes a framework for clustering in Turkey. It functions as a model for new clusters in different or similar sectors since it embodies many pilot studies. Furthermore, Turkey has become a member of the European Cluster Alliance.

Policies

279 Implementation of the following policies in the near future is intended to strengthen the regional aspect of the industrial strategy and increase the competitiveness of local actors:

- a. Regional and local economy will be taken as a basis for increasing the economic structuring and competitiveness; particularly in less developed regions, human resources will be improved so as to ensure specialization at local level, entrepreneurship will be extended; and measures to accelerate capital accumulation will be taken.
- b. A suitable investment environment for the reduction of the developmental difference between regions and for differentiated SME policies in terms of regional competitiveness will be created. In this context, particular importance will be placed on extension of the financial resources and diversification of finance tools, facilitating access to the market and supporting the clusters under the guidance of the leading sectors. Within this framework, formation of mechanisms to increase cooperation of the actors within the cluster and to strengthen local clusters and mechanisms to ensure their integration with the world markets will be encouraged. The cooperation and coordination of the Investment Support and Promotion Agency with local clusters and regional development initiatives will be increased..
- c. Primarily in cities with a high developmental potential, support will be provided to establish platforms ensuring the joint working of the business and universities; develop technological transformation and transfer systems; and the creation of a commercially effective regional infrastructure of innovation. For this purpose, such means and initiatives as technoparks, innovation relay centers and incubators will also be supported.
- d. Regional innovation systems will be identified and supported. To contribute regional development and increase regional competitiveness, the cooperation networks which include private sector, universities and public bodies and local dynamics and act towards will be supported.
- e. To improve the investment environment at the local level, OIZs will be turned into growth centers and ensured to function as one-stop shops.
- f. Higher education institutions will be assisted to specialize according to local characteristics.
- g. A governance model which will define the policy framework at the local and central level about clustering will be developed. Clustering Strategy will be

prepared and the results of the implementation will be monitored and evaluated. Furthermore, the capacity which will define the local priorities relating to competitiveness such as clustering and value chain analysis will be strengthened.

280 The notion of regional development requires identification of local/regional priorities of the industrial policy and sectoral policies which are designed and managed at national level. For this purpose, a bottom-up communication and governance mechanism ensuring the integration of the local development priorities into sectoral policies identified at national level will be established.

6. Sectoral Industrial Policy Areas

281 The effectiveness of industrial strategy depends on the horizontal policies in chapter five as well as the success of the strategies to be implemented in various sectors. The sectoral aspect of the industrial policy will be given particular importance for identifying the barriers restricting the competitiveness of sectors and implementing policies designed to eliminate them; taking the steps needed to turn Turkey into a production base in high-tech sectors; achieving a restructuring to provide higher added value in traditional sectors.

282 Taking sectoral strategy approaches in EU as its basis, in this chapter, competitiveness in the sectors are analyzed under six main headings and critical policies are identified. This sectoral competitiveness analyses were prepared under the coordination of the Ministry of Industry and Trade on the basis of sectoral competitiveness reports drafted in cooperation with the Sectoral Technical Committees of the Ministry and TOBB Sectoral Committees.

- a. Under **knowledge and technology**, the capacity of the companies to perform innovations is assessed. The current situation of R&D activities, access to finance, skills of labor and industrial property rights in the sector are analyzed and steps to be taken in the medium term are emphasized.
- b. Under **competition**, the competition conditions and company structures of the domestic market in which the sector operates are examined, and, mergers, acquisitions and breaches of competition likely to affect the competition environment in the sector, if exist, are pointed at.
- c. Under **regulatory framework**, the regulations implemented, problematic areas and the steps to be taken in the following term with regard to the administrative burdens, technical standards, health and safety and free movement of goods under the Customs Union with the EU are covered.
- d. Under **environment and energy**, level of compliance and compliance capacity of the sector vis-à-vis current and medium-term regulations regarding climate change, wastes, intensive use of energy and energy efficiency are assessed, and steps to be taken are emphasized.

- e. Under **external competitiveness and trade**, the export performance of the sector is put forward. The factors adversely affecting competitiveness and the issues of anti-dumping and trade barriers likely to cause unfair competition in the international market are examined.
- f. Under **employment and geographical aspect**, the importance of the sector in national economy is assessed through employment figures and barriers to the increase of employment are emphasized. Additionally, the existing clusters in the sector were stressed by considering the geographical areas in which employment and companies are centered.

283 It is envisaged that the analysis framework of this chapter will also be applied, within the coordination of the Ministry of Industry and Trade, to all other manufacturing industry sectors having weight in the economy.

284 In the near future, one of the cornerstones of development of sectoral policies in Turkey will be collecting up-to-date and reliable data on industrial activities and conducting of competitiveness analyses based on these data. Within the coordination of Ministry of Industry and Trade, in order to eliminate the deficiency of data in Turkey, the "Entrepreneur Information System" which enables the investors and other users, in the public sector and the market, to make more precise decisions through collecting, up-dating and publicizing data on manufacturing and services sectors in a holistic, systematic and integrated manner, was established and the outputs of the system have begun to be used. Efforts in the area of legal and technical infrastructure for the institutionalization of this system still continue. It is anticipated that the system will be fully functional by the end of 2012. Furthermore, "The Project for Development of National Clustering Policy of Turkey" being carried out by the Undersecretariat for Foreign Trade will ensure the formation of an important data source with regard to geographical distribution and competitiveness of the clusters in Turkey. This will support the adoption process of the sectoral approaches for strengthening clusters.

285 The establishment of effective dialogue mechanisms between the public and private sectors at the sectoral level will make critical contributions to sectoral policy design. The close cooperation of the Sectoral Technical Committees operating under the coordination of Ministry of Industry and Trade and TOBB

Sectoral Committees, and other sectoral dialogue mechanisms will both improve coordination and ensure exchange of information between public and private sector. With the four recently established committees (Metal Industry, Chemistry, Agricultural Industry, Forest Products, Paper and Furniture Industry) in addition to the ten Technical Committees already existing under the Ministry of Industry and Trade, the institutional dialogue mechanism will be further improved. Establishing and activating of these dialogue mechanisms at the regional level will also be an important element of the policies designed to strengthen the clusters.

286 A number of sectoral industrial policy priorities in the 2008 programme were also included in the 2009 programme. Moreover, new ones are to be added to future sectoral competitiveness and strategy studies, carried out in light of these priorities, in the programmes set for 2011 and later.

Automotive Sector

287 Adopting the understanding of production with high added value for the world markets the 2000's, the Automotive Industry of Turkey has made significant strides in quality management, global competition, R&D and technology management, and highly skilled human resources. After the 2001 crisis, there were some significant achievements made in employment, production and export.

288 In the last quarter of 2008, the global crisis contributed to shrinking demand in the sector. However, tax reductions enabled the domestic market to become more brisk in the sector, which felt the impacts of the crisis due to the diminishing external demand.

289 Under the coordination of the Ministry of Industry and Trade, the "Automotive Industry Strategy Paper" is being prepared with contributions from the private sector and relevant public institutions and organizations. The main objective for the sector has been determined to be "increasing competitiveness and managing the transformation." Bearing this in mind, the specific objectives of ensuring technological deepening of the sector, increasing the added value in production and becoming the most competitive production and R&D center in the region have been determined, based on an analysis of the current situation and a SWOT analysis of the automotive industry.

290 The main policies that have been adopted for the near future are harmonizing the tax regulations and rates of the sector with those of the EU; review of incentives in place for project and R&D according to the needs of the sector; and the development of solutions that will open up possibilities of the sector in foreign trade issues such as the import of second-hand automobiles and a Common Customs Tariff.

Machinery Sector

291 The Turkish machinery industry has been rapidly growing and expanding internationally since 2001. The sector has performed well over the average of the manufacturing industry and oriented towards external markets due to the pressure of import products in the domestic market. As a result, the industry has been very successful in exports, particularly in low-technology. The stagnation of investments throughout the industry because of the global crisis in 2008 has deeply affected machinery sector.

292 In the short term, the sector, which has been severely affected by the global crisis, should be supported to reduce the impact the crisis has on it. This depends on focusing in the long term on continuing its expansion in the post-crisis period, and moving in the direction of mid and high-tech machinery manufacturing in the intermediate term. Within this framework, the sector aims at achieving a sound position in the world machinery manufacturing sector, and become one of the top 15 countries there. It hopes to do this through institutionalized companies that manufacture quality and high value-added investment goods and through companies that develop unique designs and improve their innovative skills.

293 To achieve this objective, policies formulated will be implemented in order to increase the design potential of the sector in the near future, develop models to decrease financing costs, establish joint supply systems, extend management consultancy services and professional understanding of management, improve market survey and joint after sales services, support marketing consultancy services, increase the market shares of the neighbor countries, Turkic States and North African countries in machinery exports, develop financing systems to allow installment sales abroad without damaging the financial structure of the company, support training and vocational education, extend branding, quality

and certification services, increase and extend R&D sources and establish technology basins for these targets. .

White Goods³⁰

294 The long-term objective of the sector, which aims at becoming a key player by obtaining an increasingly large market share in the EU market and, improving and sustaining this performance in the long-term, is offering high quality, competitive products and services that meet expectations, and becoming a leader in the EU.

295 To this end, the sector has decided to raise product quality so as to, first and foremost, strengthen competitiveness. Moreover, it aims at designing new products through R&D techniques and implementing quality programs and all kinds of maintenance programs to be able to produce quality goods. Furthermore, models to reduce financing costs are to be developed to reduce production costs. To expand exports even more, improvement of market surveys, increasing investments on brands and promotion of Turkish brands and products by participating to the exhibitions abroad are planned. Finally, keeping pace with methods to implement the technologies required by R&D by making new investments and designing low energy consuming and low-cost products is another objective of the sector.

296 The global crisis created a dramatic fall in the demand for consumer durables because of a decline in consumer spending. In order to be able to reach the goals set in this section, the sector will take measure that enable to keep the domestic market on its feet and thus grow after the crisis. The tax reductions targeting the sector, which has been severely affected by the global crisis, have stimulated the domestic market.

Electronics Sector

297 Electronics is an important sector since it is an economic activity with high added value constituting the basis for information technologies. The proximity of the electronics sector in Turkey to the EU markets, its dynamic domestic market, its concept of quality at world standards and easily adaptability to new technologies are important advantages for the main objective of the sector,

³⁰ White Goods sector is considered a subsector of the Machine sector in the NACE classification.

which is increasing its competitiveness in world markets in terms of quality and price. However, matters such as access to finance, R&D expenditure, access to qualified human resources, branding, deficiencies in the legal infrastructure and institutionalization constitute barriers to this objective.

298 Keeping pace with rapidly changing technologies is essential for the electronics sector in Turkey to maintain and enhance competitiveness. The policies projected to be implemented are those policies increasing the efforts at improving adaptation to new technologies and expanding areas of implementation with regard to the new technologies, developing new materials and new products for the increasing demand for quality by consumers in the domestic and foreign markets, and reviewing the organizational and financial infrastructure affecting the sector. They are the most important policies planned for creating an electronics sector with higher added value in Turkey.

299 Nevertheless, the affects of the global financial crisis in 2008 on the sector were felt and tax measures to reduce the effects of the crisis were taken.

Textile and Clothing Sector

300 The textile and clothing sector has a very important share in the total production, employment and exports in Turkey. Turkey is seventh among the countries exporting the most textile products and fourth among the countries exporting clothing in the world.³¹ The sector constituted 3.63% of the world exports in 2008. The most important export partners of the sector are EU member countries.³²

301 The companies operating in this sector are generally small-scale ones and the widespread informality in the sector is an important restriction to growth. While the textile companies are concentrated in Istanbul, Bursa and Denizli, the clothing companies mainly operate in Istanbul. The integration of China into the global economy has directly affected the performance of the textile and clothing sector, as it has affected many other sectors. Abolishing the quotas which were imposed in the trade of textiles and ready wear sector gave rise to a period in which international competition in the international market rigorously intensified.

³¹ World Trade Organization, 2009 Annual.

³² World Trade Organization, 2009 Annual.

This period resulted in serious impacts in the textiles sector. Transition to this new period in which quotas do not exist was not a rapid process. The agreements which were being implemented by developed countries such as USA to protect their textiles industries and to provide the developing countries with the equivalent terms of trade have been replaced with the Agreement on Textile and Clothing which is a part of the World Trade Organization agreement that came into force in 1 January 1995. The agreement stipulated that quantity restrictions would be gradually decreased for a 10 years period; those countries which implemented quantity restrictions liberalized their products in three phases with a rate of 51 percent as of the beginning of 2005. At the last phase, the remaining products which were subject to 49 percent quota restriction were liberalized. Since the developed countries postponed liberalization of their products that constitute the majority of world textile and clothing trade to the last phase of the integration process, the actual free trade period started in 1 January 2005. Turkey gained the possibility to export to European Union market without any quotas in 1996 because of the Customs Union with EU in 1996. Within the framework of Turkey's responsibility to harmonize EU's Common Trade Policy, Turkey has adopted the Textile Quota Agreements of EU with the third countries; quota implementations of Turkey to the imported products from these third countries continued until 2005. Although there exists no quota restrictions between EU and USA in textile and clothing trade mutually, USA kept its quota to Turkey's textile and clothing products exports till 2005 despite Turkey's Customs Union with the EU. Turkey used to be a country that applied quota for textile and clothing trade and also a country for which other countries applied quota in textile and clothing trade until 2005. However, in the new world trade order after 2005, Turkey's position is closely related with the EU market, where Turkey exports since 1996 without quota and customs duties and which constitutes 65% of Turkey's textile and clothing exports, and also with the USA market, which constitutes 8% of Turkey's textile and clothing exports despite high custom duties. It is expected that the elimination of the quotas imposed on the products of China by the US and EU at the end of 2008 will make the situation worse for the sector already having difficulty in adjusting to the new economic climate. Furthermore, the EU's decision to undertake a Free Trade Agreement with supplier countries for the sector, such as India and South

Korea, as well as the commence of practices designed to simplify the preferential origin rules so as to provide advantage against third country origin goods and the initiation to make trade protection tools flexible has affected the competitiveness of the sector negatively. Factors such as rising raw material prices, appreciation trend of the Turkish Lira, high tax rates, and high labor costs adversely affect the competitiveness of the sector. Promotion of investments that support environment friendly production, improve their R&D , Production Development (P&D) and innovation skills, provide modernization and renovation is demanded by the sector.

302 There are many universities and vocational schools in Turkey that train workers to be employed in this sector. The number of graduates from these schools is over the annual additional personnel need of the sector. In addition, in the overall sector, low labor skills is a problem that has to be addressed before competitiveness can be increased. From the perspective of R&D and P&D, it can be said that such activities are not widespread in the sector.

303 “The Textile, Clothing, Leather And Leather Products Oriented Sector Strategy Paper” prepared under the coordination of the Ministry of Industry and Trade is of critical importance for the restructuring process in the sector. Under the strategy, relocation of the labor-intensive activities from the western parts of Turkey to less developed eastern cities is to be encouraged. On the other hand, Istanbul and Izmir will become the design, fashion and finance centers for textile-clothing clustering throughout Turkey.

Food Sector

304 The Manufacture of food products and beverage sectors, which is of strategic importance to Turkey, are among the biggest subsectors in the industry sectors. The fact that the sector has the capacity to integrate with region where there is agricultural production makes it possible for production to be carried out in many regions and employment to be created. This in turn increases the importance of the sector due to its role in reducing regional inequalities and unemployment.

305 It is important that a number of policies are implemented to increase the competitiveness of the food sector. This sector managed to considerably expand exports prior to the global crisis even though it mainly produces for the domestic

market. Policies having priority in the sector have been determined as improving the innovative capacities of the companies in the sector by increasing the cooperation between research institutions and the industry, ensuring effective control to increase the food safety in the sector and preparing plans for modernization of the agriculture-food enterprises and recovering the hygiene conditions of companies, reducing the informal economy and improving the integration of the sector with the agricultural production process which provides the basic raw material sources, and making changes in agricultural support policies to reduce costs to allow the sector to compete in the foreign market effectively.

- 306 Enhancement of the transportation infrastructure will also support homogenous distribution of the sector across regions. Furthermore, the insufficiency of the storage, cold storage and packaging services for the sector and their disintegrated structure are important barriers to delivering the products of the sector to the consumer safely and at high quality and reasonable costs. So there is a need for strengthening the cold chain infrastructure in Agriculture and Food industry products.
- 307 Sufficient, high-quality and regular flow of raw materials to the industry cannot be provided since there is no widespread, planned production of vegetables and animals, fruits or vegetables based on negotiation. . Considering the rapidly growing population of Turkey and the adverse effects of the rise in food prices on inflation, raw materials will become the most important problem in the future. So the efforts and practices such as rapidly in the world widespread contracting production which will help farmers, associations and unions to contact industrialists and bring industry and agriculture together for mutual benefit are needed.
- 308 Efforts are needed to support the sales of traditional products with export potential to the world markets by means of geographical indication and branding. Particularly the production of the processed new products such as grapes, nuts, apricots, figs and olives which have great potential and high chance of traditional and foreign sales with high added value should be promoted and branding should be encouraged for these products.

- 309 The world food market is based on consumer satisfaction. The wishes and desires of the end consumers vary according to their cultural, regional and developmental levels. Identification of these wishes and desires and producing products to satisfy them necessitates continuous research and development. So R&D should be encouraged and supported for food companies competing in the world markets.
- 310 Throughout Turkey, agricultural enterprises are very small and have a multipartite structure due to the law of inheritance. The enterprises are essentially family-run businesses. The fields of these enterprises rapidly decrease as a result of being used for other purposes or improper use. Preventing the fragmentation and reduction in size of agricultural enterprises that makes them unproductive, and taking measures to protect their operations and get them to operative productively will trigger an increase in production and development. Within this vein, bottlenecks which could occur in the flow of adequate amount of and quality products to the food industry will be reduced.

Iron and Steel Sector

- 311 The iron and steel sector in Turkey is of great importance for the general performance of the manufacturing industry due to its increasing production capacity, export potential and the inputs it provides to other sectors. Turkey, which produced 26.8 million tons of raw steel in 2008, is eleventh in the world and the third in Europe in total iron and steel production. The sector is also important since it is the third ranking sector in terms of export volume.
- 312 Turkey is a net exporter of long steel and a net importer of flat and special quality steel products. When compared to its competitors, the sector has an advantage in terms of the low labor costs but it has an unfavorable position with respect to energy and input costs. The dynamic structure of companies and experienced managers and personnel in the sector seem to be the factors increasing the competitiveness of the sector. The studies on National Restructuring Program (NRP) prepared in accordance with Turkey-ECSC Free Trade Agreement are almost completed.

7. Implementation, Monitoring and Coordination

Mechanism

- 313 The possibility of achieving the objectives identified for the industrial strategy for Turkey depends on the effectiveness of the implementation and monitoring processes as well as the right policies being designed and decided upon. In this respect, in addition to providing and maintaining internal consistency of the design of the industrial strategy, it is also obligatory to develop a mechanism which continuously monitors the effectiveness of the implemented regulations and measures, can identify the needs for change on time and recommend corrections
- 314 The lack of coordination between public institutions and the insufficient data on the industrial sector decrease the effectiveness of decision-making and implementation processes in the public sector. In this context, for the institutions and organizations which are responsible for implementation of the industrial strategy to perform their duties, it seems necessary to synchronize their duties and authorities with their resources and organizational structures.
- 315 Considering the fact that the technologies and markets develop rapidly, the economy is much more dynamic than it has been in previous years. Since a market failure in a country on the far side of the world poses the risk of affecting the markets in Turkey, it is crucial that industrial strategy is assessed periodically in a manner to respond to such unforeseen events. In this context, a "Monitoring and Steering Committee," which will be established with participation of all stakeholders including the representatives of employers and employees when necessary and will meet under the presidency of the Undersecretary of the Ministry of Industry and Trade
- 316 To ensure effectiveness of the industrial strategy, it is important to establish a high-level cooperation between the public and private sector. Additionally, for the Industrial Strategy to be implemented effectively in Turkey and create value-added, the cooperation and coordination among the public institutions is as important as the cooperation between the public and private sectors. Hence, the "Initiatives" to operate in horizontal areas of the industrial strategy will be established for the objectives and "aims identified under the industrial strategy"

to be achieved. These “Initiatives” will operate under the “Monitoring and Steering Committee” and ensure the coordination among the public sector with regards to the industrial strategy.

317 Within the framework of industrial strategy, the “Initiatives” will provide relevant public institutions with the opportunity to work together and consult with one another. The expert-level participation of the relevant public institutions in these initiatives will be ensured. Therefore, the initiatives to be taken will contribute also to the solution of the current problem of coordination between the institutions in Turkey. The participation of private sector representatives in studies and meetings of the Initiatives will also be ensured when needed.

318 The Initiatives will primarily function as an agent in providing complementariness among the activities carried out by the relevant public institutions under the industrial strategy. At the same time, it will also be of critical importance with regard to defining and monitoring the situation of the actions and assessing the strategy paper. Thus, through achieving a solid coordination between various actors required by the nature of contemporary industrial policies, the problems faced in policy ownership will be resolved. In this respect, operationality and the continuity of the current strategy will be achieved by a proactive monitoring mechanism. Basically, the Initiatives will be established among public institutions as permanent bodies working in accordance with the above-mentioned objectives within the framework of the industrial strategy.

319 All secretarial activities of the “Monitoring and Steering Committee” and the “Initiatives” will be performed by the Ministry of Industry and Trade. The Ministry of Industry and Trade will conduct all sorts of secretarial activities in monitoring and evaluation of the strategy.

320 For every six months, an evaluation/monitoring report will be prepared in order to assess the situation of the actions in the strategy document; these reports will be presented to Monitoring and Steering Committee. In the evaluation and monitoring process of the strategy’s actions and targets, the outputs of the Entrepreneur Information System will be used as well.

321 The Monitoring and Steering Committee to assess the works of the initiatives to operate under the industrial strategy will function as an implementation and

monitoring authority. However, the initiatives will be critical to the Monitoring and Steering Committee being able to systematically perform its duty. The decisions and studies made by the Initiatives will be advisory and the outputs from the Initiatives will be evaluated by the Monitoring and Steering Committee. When required, in accordance with these assessments feedback will be given to the initiatives by the Committee.

322 In these studies, Monitoring and Steering Committee will be in close cooperation with diverse dialog mechanisms that already exist between the private and the public sector. When necessary, topics which are on the agenda of other platforms which exist between the public and private sector will be taken into the agenda of the Monitoring and Steering Committee and the initiatives. Therefore, all topics which are related with the industrial strategy could be discussed in the Monitoring and Steering Committee.

323 Every six months, the issues evaluated by public and private sector in the Monitoring and Steering Committee will be brought before EKK by the Ministry of Industry and Trade when needed. Therefore, the decision maker political authority will have been informed and stimulated. In this respect, the implementation, monitoring and evaluation of the industrial strategy will be performed under the coordination of the Ministry of Industry and Trade and in close cooperation with the private sector.

324 For the implementation, monitoring and evaluation of the industrial strategy a secretariat will be established and headed by the Deputy Undersecretariat of the Ministry of Industry and Trade. It will be consisting of the personnel of the Ministry of Industry and Trade who *de facto* carry out the relevant activities.

325 The meetings of the Monitoring and Steering Committee will be held at least once every six months, and the initiative meetings will be held at least once every three months.

326 In this context, the institutional capacity will be improved in the Ministry of Industry and Trade so as to eliminate the barriers -primarily in the human resources - to the ordinary operating mechanisms such as policy evaluation making impact assessments, transferring the results of the analyses to practice, monitoring, reporting and error correcting in the implementation stages.

ANNEX 1. Action Plan

Action No	Policy Area	Action	Institution in Charge	Institution to Cooperate With	Performance Indicator	Period	Activities and Explanations
1	1.1.Improvement of Investment and Business Environment	Trainings will be given for generalizing entrepreneurship and supports will be provided in industry sectors.	KOSGEB	Ministry of Industry and Trade, Undersecretariat of Treasury, The Undersecretariat of Foreign Trade, The Union Chambers and Commodity Exchanges of Turkey, TESK	The number of information and promotion activities performed/participated for improving the culture of entrepreneurship (at least 20 each year), The number of support and amount of supports provided to the entrepreneurs (it will be increased every year compared to the previous year).The number of newly established İŞGEM (Business Development Center) will be at least 3 each year.	2011-2013	It is aimed that the culture of the entrepreneurship will be generalized by supporting SMEs entrepreneurs especially operating in manufacturing sectors.
2	1.1.Improvement of Investment and Business Environment	Turkish Commercial Code Draft will be enacted and the secondary legislation will be made afterwards.	Ministry of Industry and Trade	Ministry of Justice, Ministry of Finance, Capital Markets Board, Universities, The Union of Certified Public Accountants and Sworn-in Certified Public Accountants of Turkey, TOBB, Union of Municipalities of Turkey	The secondary legislation (3 regulations, 9 by-laws and 9 communiqués) in accordance with the Turkish Commercial Code will be completed.	2012	By enacting Turkish Commercial Code, the firms of the Improvement of Investment and Business Environment will be provided.
3	1.1.Improvement of Investment and Business Environment	Reduction of the bureaucratic burden will be provided by simplifying the transactions and performing services and tasks in the electronic	Ministry of Finance	Ministry of Industry and Trade, The Undersecretariat of Foreign Trade and Other Relevant Ministries.	The number of services that will be conveyed to the electronic medium for the firms operating in industry sectors. The number of legislation that will be enacted for the decreasing of the bureaucratic	2011-2014	Within the framework of the amendments of legislations and implementations, all of the statements,

		medium that public organizations/institutions carry out in industry related areas.			process. The number of the statements and forms that will be renewed.		declarations and funds that the taxpayers use for tax procedure will be reviewed.
4	1.1.Improvement of Investment and Business Environment	Transactions of the establishment of company and the opening business office will be simplified.	Ministry of Industry and Trade	Ministry of Justice, Ministry of Finance, Capital Markets Board, Social Security Institution Universities, Development Agencies, Investment Support Offices	The increase in the number of insured people and the rate of prim revenue.	2011-2014	The legislation will be improved and other measures will be taken to facilitate the processes of establishing companies and opening business offices, to simplify the relevant procedures, to reduce the bureaucratic operations, to reduce costs, to speed up the transactions on the Internet and to facilitate the liquidation of the dissolved companies.
5	1.1.Improvement of Investment and Business Environment	The harmonization of technical legislations with the EU for supply and demand of qualified and safe product and the establishment of the required surveillance system including import will be provided.	The Undersecretariat of Foreign Trade	Ministry of Industry and Trade, Ministry of Health, Ministry of Labor and Social Security, Ministry of Public Works and Settlement, The Undersecretariat of Customs, The Undersecretariat of Maritime Affairs, Information and Communication Technologies Authority,	The number of seminars-meetings per year (5 per year between 2011-2014) The number of stakeholders participating in seminars/meetings (target is 90 in 2014); The rate of implementation of the legislation/council regulation; The rate of accomplishment of update and transposition of the law;	2011-2014	Monitoring the application of technical legislation for supply and demand of high-quality and safe products and informing the relevant parties regularly; harmonization of the system of product safety

				Turkish Standards Institution, Turkish Accreditation Agency, Universities, NGO's, Conformity Assessment Bodies	The rate of accomplishment of the project on improvement of the quality infrastructure in Turkey.		controls in imports of the EU from third countries; alignment of Turkish framework legislation regarding product safety with the developments in the EU and development of projects to ensure the supply of safe products will be provided.
6	1.1.Improvement of Investment and Business Environment	A manual on the analysis of the possible effects of the regulations made by public institutions and organizations on the competition conditions will be prepared.	Competition Agency	Prime Ministry	A manual will be prepared	2011-2014	With the prepared manual, it is aimed that the arrangements carried out by public institutions and organizations will be considered in terms of competition conditions.
7	1.1.Improvement of Investment and Business Environment	The project on the Online Company Transactions will be carried out.	Ministry of Industry and Trade	Ministry of Finance (Revenue Office.),Undersecretary of Foreign Trade, Undersecretary of Customs, Social Security Institution ,KOSGEB, TÜRKSAT ,Union of Chambers and Commodity Exchanges of Turkey,	Online company transactions will begin to be implemented in 2011. The studies for enlargement of the service scope within the framework of online company operations application will be completed by 2014.	2011-2014	Transactions such as new company establishment, various license applications, financial support applications, employee insurance applications, customs applications, tax declarations and payments, bankruptcy

							applications, statute amendments, notification of General Assembly, through a single online portal will be implemented.
8	1.1.Improvement of Investment and Business Environment	Income Tax system will be re-organized.	Ministry of Finance	Undersecretariat of State Planning Organization, Undersecretariat of Treasury, Revenue Administration, Tax Council,	The enactment of the legislation.	2012	Within the scope of studies for establishing an effective and efficient tax system, new Income Tax Law, which is compatible with free market economy, supports investments and employment, and reduces informality by increasing tax compatibility.
9	1.2. International Trade and Investments	The strategy for sector and country diversification in exports will be developed.	Undersecretariat of Foreign Trade	Exporter Unions	The preparation of strategy documents.	2011-2014	To reduce dependencies on sectors and countries in exports, sector and country strategies to create new export markets will be prepared.
10	1.2. International Trade and Investments	Supports to increase the marketing and exporting capacities of SMEs will be provided and activities will be maintained.	KOSGEB		The number of SMEs supported in market research and increasing exports and the amount of supports (it will be increased every year compared to the previous year). The number of information	2011-2014	It is targeted that the marketing and exporting capacities of SMEs will be increased by export supports and awareness

					meetings hold/participated with regard to the support provided for market research and increasing exports (it will be at least 20 each year.)		activities provided for SMEs.
11	1.2. International Trade and Investments	Strengthening the policy formulation, coordination and implementation capacities regarding the international direct investments will be provided.	Undersecretariat of Treasury	Investment Support and Promotion Agency	The level of compliance with the action plan to be prepared with regard to development of the information system for international direct investments	2011-2014	For the Information System for International Direct Investments to achieve international best practice levels, it is intended that an action plan will be prepared and researches, examinations and projections regarding the international direct investments will be performed.
12	1.2. International Trade and Investments	To achieve a sustainable increase in exports; production and marketing processes of branded products and services based on innovative ideas and R&D with high added value will be supported	Undersecretariat of Foreign Trade		The annual increase rate of the projects benefiting from R&D supports (20% between 2011-2014) The annual increase rate of the projects benefiting from support for promotion abroad (15% between 2011-2014) The annual increase rate of the projects benefiting from the support of Turquality (10% between 2011-2014)	2011-2014	It is intended that a sustainable increase in exports will be performed by supporting production and marketing processes of branded products and services based on innovative ideas and R&D with high added value
13	1.2. International Trade and Investments	Activities in order to increase opportunities to enter the market within the scope of bilateral and multilateral relations with the regional formations, primarily the EU, will be carried out.	Undersecretariat of Foreign Trade		The annual number of agreements for mutual recognition of the results of the compliance assessment and improvement of the technical cooperation (9 in 2014), The number of Joint Economic Commission meetings per year	2011-2014	It is aimed that opportunities of firms to enter the foreign markets will be increased.

					(target is 20 in 2014), The number of meetings of commercial and economic consultancy/technical committees/working groups (14 in 2014), The number of information/promotion/marketing activities in the identified target countries/products per year (12 each year between 2011 and 2014), The number of target sectors/countries for which an action plan will be prepared per year (6 in 2014)		
14	1.2. International Trade and Investments	Improvement of Undersecretariat of Foreign Trade website, promotion of access and transformation of the website to Foreign Trade Portal will be provided.	Undersecretariat of Foreign Trade		The rate of transformation of the website to Foreign Trade Portal (40% in 2011, 60% in 2012), The annual number of visits (hit) to the website/portal of the Undersecretariat (1.250.000 in 2011, 1.650.000 in 2014)	2011-2014	It is intended that the capabilities of access to the foreign markets will be increased by means of portal.
15	1.2. International Trade and Investments	The period of taking measures in the practises of trade policy will be shortened and the measures will be made effective. In this context, the effective protection of the production branches of the country against damages caused by the imports subject to unfair competition cases such as dumping and	Undersecretariat of Foreign Trade		The increase in the number of information and technical support services offered to ensure complete applications; The increase in the number of complete applications; The increase of the volume of the import of the products subject to trade policy measures in the imports mentioned in the application;	2011-2014	Developments in the sector subject to measures are monitored periodically. To keep pace with the development of the international legislation, participation to seminars, conferences and meetings are ensured. The

		subvention will be sustained.			The rate of decisions in favor of the administration in lawsuits against the trade policy measures		results of the measures are being analyzed to determine the effectiveness of the measures taken. Information activities will be organized in the cities and sectors to be selected to file complete applications for the trade policy and to complete the preliminary surveys on time. The studies to eliminate activities to make the measures ineffective are being carried on. To speed up the process and increase effectiveness, it is necessary to increase the implementation capacity in the fields of damping and protection measures.
16	1.3. Skills and Human Resources	Amendments will be made to allow the private sector to open vocational and technical education schools and institutions and these institutions will be supported.	Ministry of National Education	Ministry of Finance, Ministry of Industry and Trade, Ministry of Culture and Tourism, Undersecretariat of Treasury, Undersecretariat of Foreign Trade, NGOs.	Increasing tax exemption of five-years granted to private schools in accordance with Income Tax Law No 193 and Corporate Tax Law No 5220 to ten years. Including all private schools into the scope of the discounted Corporate Tax application to be	2011-2013	Amendments will be made in Law No 5580 in such a way as to allow the private sector to open vocational and technical education schools and institutions and they will be

					<p>implemented under Law No 5538,</p> <p>Reducing the VAT to 1% for private education institutions.</p> <p>A draft law that envisages amendments in the related laws.</p>	<p>provided with incentives such as tax reductions, long-term credits with low interest and provision of land. The private sector will be able to benefit from tax reduction under the 100% support for education in case of opening employment-guaranteed schools.</p> <p>Legal regulations obliging the administrations of Organized Industrial Zones, Tourism Zones, Free Trade Zones and Small Industrial Sites to allocate land in the to-be-established Organized Industrial Zones, Tourism Zones, Free Trade Zones and Small Industrial Sites for vocational and technical education institutes to train the qualified labor to be employed as from the first planning stage, to improve the skills of their employees and to provide</p>
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							orientation trainings and also to oblige them to construct schools/institutions will be made and related local administrations will be encouraged accordingly.
17	1.3. Skills and Human Resources	The vocational qualification system will be strengthened and vocational standards in priority sectors will be developed.	Vocational Qualifications Authority	Ministry of National Education, Ministry of Labor and Social Security, Relevant ministries, The Council of Higher Education, Universities, Employee and Employer Unions, Vocational Organizations	The number of national vocational standards published every year and of the Vocational Qualifications Authority certificates to be granted (it will be increased compared to the previous year.)	2011-2014	The institutional capacities of the Vocational Qualifications Authority and the relevant parties (Vocational Standards, Examination and Certification Centers) will be strengthened, vocational standards will be developed for the priority sectors and the Vocational Qualifications System will be activated. An effective coordination mechanism will be established with Ministry of National Education, Ministry of Labor and Social Security, The Council of Higher Education and other relevant stakeholders, and it

							will be ensured that the education is designed in accordance with the needs of the labor market and based on the National Vocational Standards and National Qualifications.
18	1.3. Skills and Human Resources	Management Skills and qualified employment capacity of SMEs will be improved.	KOSGEB		<p>The number of training and consultancy supports provided on increasing the management skills and the amount of support (it will be increased every year compared to the previous year),</p> <p>The number of SMEs supported in employment of qualified personnel (it will be increased every year compared to the previous year).</p>	2010-2012	It is intended that the number of qualified employment will be increased with the supports that will be provided.
19	1.3. Skills and Human Resources	The planning of labor force needs will be performed in vocational education and it will be found in which branches of vocations there are labor force shortage or surplus.	Ministry of National Education	İŞKUR (Turkish Employment Organization), Vocational Qualifications Authority, TurkStat, NGOs	<p>Establishment of Labor force Information System,</p> <p>The number of fields/branches recommended according to the results of the Labor force Information System,</p> <p>The realization of the estimations done by the Labor force Information System for the future.</p>	2011-2013	In vocational education for the studies of labor force needs analysis in provincial, regional and national levels to be conducted Labor Information System will be established in cooperation with İŞKUR and TurkStat; job market and labor force needs analysis will be taken into consideration when

							suggestions made by Provincial Employment and Vocational Training Councils in relation to the fields/branches to be opened in the vocational and technical education schools and institutions.
20	1.3. Skills and Human Resources	The necessary infrastructure will be established to ensure the extension of the "Job and Labor force Finding Platform" project in such a way to include various additional functions.	Turkish Employment Organization	Ministry of Internal Affairs (General Directorate of Population and Citizenship Affairs), Ministry of Finance, Undersecretariat of State Planning Organization, State Personnel Presidency, Prime Ministry Directorate of Administration Development, Student Selection and Placement Center, Turk Stat	Establishment of a portal which puts employers and jobseekers together in public and private sector.	2011-2014	The Organizational Transformation Project (e-İŞKUR), which has been implemented to offer public services more effectively and with high quality and also which is a step towards transformation to e-Government, was opened for external users on 04.06.2008. The studies for making some amendments in the legislation and strengthening and improving the technical infrastructure to transform the e-İŞKUR project into a single portal to bring together the jobseekers and employers in the public and private sector continue.

21	1.3. Skills and Human Resources	Sufficient use of the premises, facilities, application units, workshops and laboratories in vocational and technical education schools and institutions by the private sector will be ensured.	Ministry of National Education	Ministries, Turkish Radio and Television Organization, İŞKUR, Vocational Qualifications Authority, NGOs	Making the necessary legislations in Parent-Teacher Association legislation.	2011-2013	It will be ensured that the premises, facilities, application units, workshops and laboratories of vocational and technical education schools and institutions are operated in cooperation with the private sector in training-manufacturing activities. In schools without working capital, the cooperation will be provided by execution of a contract in accordance with Parent-Teacher Association legislation.
22	1.3. Skills and Human Resources	Supports will be provided to the enterprises for contributing to vocational education, and employment of the students out of their vocational fields will be obstructed.	Ministry of National Education	Ministry of Labor and Social Security, Ministry of Industry and Trade, Ministry of Finance, KOSGEB, The Union Chambers and Commodity Exchanges of Turkey, The Confederation of Turkish Tradesmen and Craftsmen, Turkish Confederation of Employer Associations, The Association of Turkish Travel Agencies, NGOs.	Enactment of the relevant by-laws.	2011-2013	The legislations required for increasing the quality of vocational training in businesses, sending the students to enterprises which are suitable for applying at least 80% of the applications provided in the educational programs, employment of the

							students by the business in accordance with the purpose foreseen in the educational programs, increasing the effectiveness of controls in these studies and encouraging and ensuring that the businesses which are responsible for providing vocational training to at least 10 students to establish training units
23	1.3. Skills and Human Resources	Unemployed benefiting from Unemployment Insurance will be given trainings and courses for vocational development and coaching.	Turkish Employment Organization (İŞKUR)	Ministry of Finance, Ministry of National Education, Ministry of Labor and Social Security, Undersecretariat of Treasury, Professional Competency Organization, Turkish Confederation of Employee and Employer Unions. Professional Organizations.	The number of persons who have received the service of labor force training courses among those benefiting from the unemployment insurance	2011-2014	The training activities and other activities of İŞKUR for the unemployed continue and important legislations have been made to increase the effectiveness of İŞKUR in active labor market programs. With the Law No 5763, the opportunity to transfer a significant amount of funds from the Unemployment Insurance Funds to active labor market programs has been

							provided and in order to fulfill the needs of the labor market in a timely and effective manner, the service procurement procedure of the training activities has been facilitated by providing the opportunity to perform all training service procurements by the İŞKUR in Direct Procurement Method.
24	1.3. Skills and Human Resources	Private sector, vocational organizations and employer and employee organizations will be encouraged to provide labor force training.	Turkish Employment Organization	Ministry of Finance, Ministry of National Education, Ministry of Labor and Social Security, Undersecretariat of Treasury, Professional Competency Organization, Turkish Confederation of Employee and Employer Unions. Professional Organizations.	The number of person participating to labor force training courses	2011-2014	The private sector will be encouraged to train labor force in the fields needed by the labor market. The bureaucratic operations needed for the training to be given will be simplified and it will be ensured that the certificates given at the end of the trainings are valid in the labor market.

25	1.3. Skills and Human Resources	A national employment strategy and action plan, which includes changing market conditions with a macro perspective, will be prepared.	Ministry of Labor and Social Security,	Ministry of Finance, Ministry of Industry and Trade, Ministry of National Education, Undersecretariat of State Planning Organization, Undersecretariat of Treasury, Social Security Institution, Professional Competence Organization, KOSGEB, Employee and Employer Union Confederations, Universities, Professional Institutions, NGOs	The preparation of the strategy document.	2011-2012	A comprehensive employment strategy that takes the changing market conditions, also due to the global crisis, into account will be prepared. Moreover, in accordance with the prepared employment strategy, an action plan for revitalizing the labor market and increasing the employment will be prepared.
26	1.3. Skills and Human Resources	Vocational Training and Education Strategy will be prepared.	Ministry of National Education	Ministry of Labor and Social Security, Undersecretariat of State Planning Organization, İŞKUR, Employee and Employer Union Confederations, Professional Institutions	The preparation of the strategy document.	2011	A strategy and action plan in vocational training and education focusing on strengthening the compatibility to labor force demand, increasing the quality, improving the status, diversifying the financial resources and on business world's playing a role in administration will be prepared. An effective life-long vocational instruction mechanism will be developed within

							the scope of establishing Vocational Information, Guidance and Consultancy System.
27	1.4. SME's Access to Finance	SMEs access to financing sources will be facilitated.	KOSGEB	Credit Guarantee Fund A.S.	The installment payment for the year 2009 to be transferred to Istanbul Venture Capital Initiative (IVCI) of the European Investment Fund as KOSGEB contribution, The number of activities performed in cooperation with Credit Guarantee Fund A.Ş. to extend the credit guarantee practices (at least 5 per year), The number of activities organized/participated in to inform SMEs on alternative financing methods, incentives and supports (at least 20 per year)	2011-2014	The possibilities of SME's access to finance will be increased with the activities that will be carried out.
28	1.4. SME's Access to Finance	Credit guarantee and venture capital systems will be improved and disseminated.	The Undersecretariat of Treasury	Ministry of Industry and Trade, Undersecretariat of State Planning Organization, KOSGEB, Credit Guarantee Fund A.S., The Union Chambers and Commodity Exchanges of Turkey, TKB, Ministry of Industry and Trade, Banks	The number of enterprises that benefit from Istanbul Venture Capital Initiative The rate of increase in the number of SME's that benefit from the Credit Guarantee Fund	2011-2014	To meet the financing requirements of SMEs and to extend the credit channel; Credit Guarantee Fund, which is given collateral support by the Undersecretariat of Treasury, will be made more functional. Studies for improving the work processes,

							institutional structure and support performance of Credit Guarantee Fund will be conducted. To develop the venture capital system, the number of enterprises that benefit from İstanbul Venture Capital Initiative will be increased.
29	1.5. Technological Development of Companies	Increasing the R&D activities carried out by the private sector and the public sector will be supported (The support by TARAL, Research Support Programmes Directorate of TÜBİTAK, TEYDEB, Defence and Security Technologies Group of TÜBİTAK, Public Researches Group of TÜBİTAK and the support for Information Society Projects will be increased.)	The Scientific and Technological Research Council of Turkey	Ministry of Finance, Ministry of Industry and Trade, Undersecretariat of State Planning Organization, Undersecretariat of Treasury, Universities Private Sector	The number of projects supported by Research Support Programmes Directorate of TÜBİTAK (it will be increased to 4615 by 2014), The number of projects supported by TEYDEB (it will be increased to 3770 by 2014), The number of projects supported by Defence and Security Technologies Group of TÜBİTAK (it will be increased to 31 by 2014), The number of projects supported by Public Researches Group of TÜBİTAK (it will be increased to 96 by 2014).	2011-2014	The supports to the R&D projects carried out by the private sector will be increased and thus the innovation culture will be developed and the demand for R&D studies will be invigorated. The pre-competition common and comprehensive R&D activities will be supported to upgrade and extend the technology skills in the prioritized areas to the overall sector.

30	1.5. Technological Development of Companies	To develop knowledge-intensive industries, it will be given weight to the capacity-building studies carried out by the private and the public sector, particularly in the fields such as nanotechnology, biotechnology, etc. which require advanced technology.	Ministry of Industry and Trade	The Scientific and Technological Research Council of Turkey, Turkish International Cooperation and Development Agency (TIKA), National Institute of Materials Science and Nanotechnology (UNAM) Universities Private Sector	Training of 40 persons per year from the institutions, organizations and universities resident in Turkey and from the developing countries.	2011-2014	With the "Training Program on The Use of Clean Rooms in Nanotechnology" project to be carried out by the Ministry of Industry and Trade, UNAM and TIKA, it is intended that the participants from the developing countries and Turkey will be trained on clean room technologies, nano-device process design and optimization and the latest developments in nanotechnology, and training courses to the experts will be provided. It is also targeted that the socio-economic and industrial development level of several countries will rise, these countries will develop projects for common implementation with UNAM and Turkey, technical cooperation opportunities between Turkey and the countries
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							of the participants will be created and improved, and the training needs of the R&D personnel of the techno-parks and major industrial organizations in Turkey will be fulfilled.
31	1.5. Technological Development of Companies	SMEs will be supported in R&D, innovation and quality improvement, and the use of information and communication technologies in SMEs will be extended.	KOSGEB		<p>The occupancy rate of Technology Development Centers (it will be 80% in 2011 and 2012, 90% in 2013). The number and amount of the technology development and innovation support provided to SMEs (it will be increased each year compared to the previous year) The number of activities organized/participated on Technology Development Centers, R&D and innovation (at least 20 per year). The number of fairs/exhibitions where the sample supported projects in Technology Development Centers will be exhibited (at least 1 per year). The number and amount of training and consultancy support provided on R&D, innovation, quality improvement and ICT (it will be increased each year compared to the previous year). The number and amount of system certification support (it will be increased each year compared to the previous year). The number of SMEs supported</p>	2011-2014	With the supports to SMEs in R&D, innovation and quality improvement and in the use of Information and Communication Technologies (ICT), it will be contributed to technological development of companies.

					on ICT and the amount of support (it will be increased each year compared to the previous year).		
32	1.5. Technological Development of Companies	The efforts for generalizing the technology forecasting culture will be supported to display the role of technology and actualize the forecasted vision.	Ministry of Industry and Trade	The Scientific and Technological Research Council of Turkey, Turkish Institute For Industrial Management, Turkish International Cooperation and Development Agency, Universities Relevant public institutions and organizations, Private Sector	Training of approximately 35 persons per year from the institutions, organizations and universities resident in Turkey and from the developing countries.	2011-2012	With the Project of Technology Forecasting Training Program for Organizers, it is intended to train policy makers and practitioners in order to determine the critical and strategic decisions in the context of science and technology so as to set forth the role of technology in building a desirable and achievable long-term future for a country and to enable the realization of the vision forecasted regarding the future of the country.
33	1.5. Technological Development of Companies	In the field of industrial property rights various activities for awareness-raising, support system and protection of new products will be performed.	Turkish Patent Institute		The number of cities where seminars are given in the scope of Patent Days activities and the number of participants per seminar. (4 city, 50 participants) The number of people that are given Patent Consultancy Service (8 people per activity)	2011-2012	Increasing the R&D activities and transforming the inventions to patents will make an important contribution to the technological and economic development of Turkey. Budgeting

							means the amount allocated for Promotion, Accommodation, Ceremony, Fair and Organization expenses. For the Turkish economy to have its position in the international competition, strong and effectively protected brands are needed. The incentive system established for supporting the expenses of the applicants to increase the number of patent applications, which is low in Turkey, will be improved and the public will be informed of the national and international incentives with regard to the industrial property rights.
34	1.5. Technological Development of Companies	To protect the products with local characteristics, the products that might be subject to geographical indication protection in Turkey will be identified and activities for protection by registration will be performed.	Turkish Patent Institute	Ministry of Industry and Trade, KOSGEB, Universities, OIZ Administrations, Chambers of Industry and Trade	Determining the "National Geographical Indication Policy" Establishing inter-institutional commission/commissions to identify the distinctive characteristics of the products that might be subject to geographical indication protection.	2011-2012	Applications of geographical indications will be encouraged by identifying the products that might be subject to geographical indication protection in

					Informing the relevant parties on the preparation of the application for the geographical indications that are found to be registerable as a result of the studies of the to-be- established commission.		Turkey, by mapping the regional products of the country and registering and protecting these products, by offering consultancy service to the applicants by Turkish Patent Institute in geographical indication applications and by reducing the registration costs.
35	1.5. Technological Development of Companies	The Hezarfen Project will be extended.	Turkish Patent Institute	Ministry of Finance, Undersecretariat of State Planning Organization, Undersecretariat of Treasury, Central Bank of the Republic Of Turkey, Banking Regulation and Supervision Agency, Bars Association of Turkey, The Participation Banks Association of Turkey	The number of cities and companies where the Hezarfen Project has been implemented (50 companies in 2011).	2011-2012	Seminars, workshops and individual consultancy services will be carried out in order to establish intellectual property strategy in SMEs for contributing to increasing the innovative culture and protecting these innovations.
36	1.5. Technological Development of Companies	Indicators regarding productivity will be established, calculated and published.	National Productivity Center	Ministry of Finance, Undersecretariat of State Planning Organization, Undersecretariat of Treasury, Central Bank of the Republic of Turkey, Bars Association of Turkey, The Participation Banks Association of Turkey	Establishment and calculation of productivity indicators. Publication of efficiency indicators.	2012	It is intended that awareness level of firms regarding productivity will be increased.

37	1.5. Technological Development of Companies	Within the scope of the R&D Law, Pre-Competition Cooperation Projects will be supported, R&D Centers will be established, monitored and supported, Techno-entrepreneurship Capital Support will be provided.	Ministry of Industry and Trade	Ministry of Finance, Undersecretariat of State Planning Organization, Undersecretariat of Treasury, Undersecretariat for Foreign Trade, The Scientific and Technological Research Council of Turkey, KOSGEB, TTGV, Techno-parks	The number of Pre-Competition Cooperation Projects started each year during the plan term will be at least 3. The total number of Pre-Competition Cooperation Projects completed by 2014 will be at least 10.	2011-2014	It will be contributed to the technological development of firms by the supports that will be provided.
38	1.5. Technological Development of Companies	Innovation and R&D Projects within the scope of SAN-TEZ (Industrial Thesis) Program will be supported	Ministry of Industry and Trade	Ministry of Finance, Undersecretariat of State Planning Organization, Universities, Techno-parks	The number of projects supported under SAN-TEZ (150 in 2011; 200 in 2012; 250 in 2013; 350 in 2014).	2011-2014	It will be contributed to the technological development of firms by the supports that will be provided.
39	1.5. Technological Development of Companies	Technology Development Zones (TGB) will be strengthened, their number will be increased and their infrastructures will be completed.	Ministry of Industry and Trade	Ministry of Finance, Undersecretariat of State Planning Organization, Undersecretariat of Treasury	3 Technology Development Zones will be established in 2011 and 3 Technology Development Zones will be established in 2012.	2011-2014	The Draft Law on Amendment of the Technology Development Zones Law No. 4691 will be given its final form according to the opinions of the institutions and it will be submitted to Turkish Grand National Assembly (TBMM).

40	1.5. Technological Development of Companies	Technological R&D Patent Support, Technological R&D Investment Support, Technological R&D Promotion and Marketing Support Programs will be announced and implemented.	Ministry of Industry and Trade	Ministry of Finance, Undersecretaries of State Planning Organization, Undersecretariat of Treasury, Undersecretariat for Foreign Trade, Turkish Patent Institute	<p>The number of domestic and international application fee and Patent File preparation support (500 in 2010; 550 in 2011; 600 in 2012; 600 in 2013).</p> <p>The number of patent certificate support provided (240 in 2010; 260 in 2011; 300 in 2012; 300 in 2013).</p> <p>The number of support provided for patent protection (240 in 2010; 260 in 2011; 300 in 2012; 300 in 2013).</p> <p>The number of advanced technology product investments supported (at least 3 per year).</p> <p>The number of advanced technology innovation investments supported (at least 2 per year).</p> <p>The number of advanced technology products provided with promotion support (at least 5 per year).</p> <p>The number of companies provided with promotion support (at least 30 per year).</p>	2011-2014	These are programs prepared with regard to the support to be provided for technological products with high added value developed by natural or legal persons as a result of their R&D studies to strengthen the competitiveness of the industry of Turkey in export-focused and international markets.
41	1.5. Technological Development of Companies	Science, Technology and Innovation Policies Implementation Plan will be prepared.	The Scientific and Technological Research Council of Turkey	Ministry of Industry and Trade, Undersecretariat of State Planning organization, Relevant Public Institutions, Development Agencies, Private Sector, NGO's, Local Administrations	The preparation of Implementation Plan.	2012	A new implementation plan that takes into account success achieved in the Science and Technology Policies Implementation Plan 2005-2010, the areas to be improved, potential opportunities and threats after 2010, as well as the events in the world

							will be prepared.
42	1.5. Technological Development of Companies	National Intellectual and Industrial Property Rights Strategy Document will be prepared.	Turkish Patent Institute	Ministry of Industry and Trade, Ministry of Culture and Tourism, Ministry of Justice, Ministry of Internal Affairs, Ministry of Agriculture and Rural Affairs, Ministry of Health, The Scientific and Technological Research Council of Turkey, Undersecretariat of Undersecretariat of State Planning Organization, Undersecretariat of Customs, Undersecretariat for Foreign Trade, Coordination Board for Intellectual and Industrial Property Rights	The preparation of the Strategy Document.	2011-2013	At the first meeting dated 14 November 2008 of the Coordination Council for Intellectual and Industrial Property Rights, established by the Prime Ministry Circular No. 2008/7, it was decided that the National Intellectual and Industrial Property Rights Strategy Document will be prepared. At the second meeting dated 15 February 2009, it was decided that the Working Group for preparation of the mentioned Strategy Document will be established and the work schedule will be prepared. The studies will be carried out within the framework of the work schedule to be determined by the Work Group that will be established by the participation of the representatives of the organizations to be cooperated.

43	1.5. Technological Development of Companies	Productivity Policy and Strategies will be prepared.	National Productivity Center	Ministry of Industry and Trade, KOSGEB, The Union Chambers and Commodity Exchanges of Turkey	The preparation of the Strategy Document.	2013	The High Council of Strategic Plan and The Executive Council of Strategic Plan have been established in the scope of preparation work.
44	1.5. Technological Development of Companies	National eco-efficiency programs will be implemented and the results will be monitored and assessed.	Ministry of Industry and Trade	National Productivity Center (MPM), The Scientific and Technological Research Council of Turkey, KOSGEB, TTGV, Universities, Chambers of Industry and Trade	The preparation of National eco-efficiency program. The establishment of an Eco-Efficiency Center.	2011-2014	Under "MDG - F 1680 Development of the Harmonization Capacity of Turkey to Climate Change" project, an Eco-Efficiency (Clean Production) Program, which includes adaptation of the climate change risks to the industry within the cooperation of Ministry of Industry and Trade and UNIDO (The United Nations Industrial Development Organization) and projects on "Parallel Development of the Industrial Efficiency and Environmental Performance at SMEs Level" are being carried out within the scope of TÜBİTAK 1001 Program for Supporting the Scientific and

							Technological Research Projects by MPM. It is planned to implement a national eco-efficiency program project throughout Turkey in light of the outputs to be obtained from the above-mentioned local practices continuing on the basis of cities, businesses or sectors and serving for the same purpose, and also it is foreseen to establish an "Eco-efficiency Center" in a region where the industry of Turkey and the organized industrial zones are dense.
45	1.5. Technological Development of Companies	Technology Transfer Offices will be extended.	Ministry of Industry and Trade	Turkish Patent Institute, The Council of Higher Education, Universities	The number of academicians and students reached by the awareness-raising studies performed in universities (50 academicians or students per year). The number of invention announcements or patent applications by the universities (10 applications per year).	2011-2014	Within the scope of the extension of Technology Transfer Offices, training of Technology Transfer Experts is also intended.

46	1.5. Technological Development of Companies	Legislations foreseeing amendments in the patent and utility model, integrated circuit topographies and geographical indications legislation will be made	Turkish Patent Institute	Ministry of Industry and Trade, Ministry of Justice	Amendments in the Industrial Property Legislation.	2012	It is targeted that the Industrial property legislation is updated and amended taking into account the international developments and alignment with EU legislation in a manner to remove the problems emerging in the internal practices. In this scope, the relevant draft laws will be sent to the Turkish Grand National Assembly (TBMM).
47	1.5. Technological Development of Companies	The commercialization of research studies and technology transfer practices will be activated.	The Council of Higher Education	Ministry of Industry and Trade, Undersecretariat of State Planning Organization, Universities, The Scientific and Technological Research Council of Turkey, Turkish Patent Institute, The Union Chambers and Commodity Exchanges of Turkey	The legislation will be carried out. The pilot project will be started.	2011	The legislation regarding the intellectual property rights of research results will be made. Technology Transfer Office Model suitable for Turkey will be completed and pilot implementation will be started.
48	1.5. Technological Development of Companies	Research programs for developing domestic products and technologies in sectors where foreign dependence is high will primarily be supported and activated.	The Undersecretariat of State Planning Organization	Ministry of Industry and Trade, Ministry of Health, Ministry of National Defence, Ministry of Energy and Natural Resources, TÜBİTAK, Universities	The number of program to be supported.	2012	R&D support programs will be developed in public institutions that are responsible for sectors where foreign dependency is high, such as defense, health

							and energy. These fields will be given priority in projects and research infrastructure supports within the scope of the TARAL Program conducted by TÜBİTAK.
49	1.6. Infrastructure Sectors	The usage of information and communication technology will be extended.	Ministry of Transportation	The Scientific and Technological Research Council of Turkey, Universities, NGOs.	Increasing the number of broadband internet subscribers to over 11 million within the plan period, Offering broadband internet service to all schools as part of the awareness of social responsibility under the Universal Service Law, Eliminating the access difference between the city centers with dense population and the countryside	2011-2014	Information and communication sector will be improved by supporting innovation and excellence; information and communication services will be disseminated with an awareness of social responsibility. In this context, the installation and movement cost payments of wired and wireless phone network established or to be established under universal service and the broadband internet needs of schools will be met.

50	1.6. Infrastructure Sectors	Railway connection lines to organized industrial zones, large factories and harbors will be constructed with contribution by private sector.	Ministry of Transportation	Undersecretariat of State Planning Organization	<p>Share of railways in total merchandise transport,</p> <p>Share of railways in total passenger transport,</p> <p>Total kms with engineering studies completed / total kms,</p> <p>Kms of railway at high standard / target line kms,</p> <p>Kms of "Surveillance and Consulting Services" provided by private sector / total kms of railways constructed,</p> <p>Number of provinces provided with railway connection</p>	2011-2014	<p>Construction of railway connection of Izmir Kemalpaşa Organized Industrial Zone (KOSBI) and Tekirdağ-Muratlı Railway, Ankara-Izmir high speed railway, Istanbul-Halkalı-Edirne-Kapıkule, Ankara-Istanbul high speed railway, Sivas-Kars, Bandırma-Izmir, Kayseri-Şefaati, Eskişehir-Antalya, Konya-Mersin, Baku-Tbilisi-Kars, Samsun-Iskenderun railways; railway connection to Tokat, Şanlıurfa and Kırşehir as well as the survey and design, Environmental Impact Assessments (EIA), feasibility study of the projects and incompletd works will be completed.</p>
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51	1.6. Infrastructure Sectors	Railway transfer terminals will be constructed at back areas of the ports or container terminals constructed on the land to shift from the railway transport concept to logistic transport concept.	Ministry of Transportation	Undersecretariat of State Planning Organization	Number of ports provided with railway connection, Number of fully arranged ports, Number of completed master plans.	2011-2014	Kocaeli-Köseköy and Hasanbey logistic centers will be completed; Construction of Palandöken, Uşak, Boğazköprü, Yenice and Gökköy logistic centers will be commenced; Railway connection of Adapazarı-Karasu, Karadeniz Ereğli, Kilyos, Güllük, Bartın, Çandırlı and Ambarlı Ports will be constructed.
52	1.6. Infrastructure Sectors	Master Plan for Coastal Structures will be prepared.	Ministry of Transport	Ministry of Public Works and Settlement, Undersecretariat for Maritime Affairs, ÖİB, Turkish State Railways, Municipalities concerned, Chamber of Maritime Commerce, TÜRKLİM, OSD	Number of ports - shipyards constructed, Number of fully arranged ports, Number of master plans completed	2011-2014	The Master Plan for Coastal Structures will be completed to determine available port areas and attract entrepreneurs to such areas for the purpose of developing large-scale main ports to ensure smooth and effective operation of increasing maritime trade and facilitate making Turkey a transit country; master plans for Filyos, Çandarlı-Hubport, Mersin-Container-Hubport, Derince-Container Ports, Black Sea Ereğli

							Shipyards Zone, Samsun Tekkeköy Mendirek and Shipyards Ports; transport coastal structures and master plan of tourist coastal structures will be completed.
53	1.6. Infrastructure Sectors	The available energy potentials of Turkey will be identified, giving priority to hydraulic, wind, geothermal, solar, biomass and other renewable energy resources, also considering the environmental impacts of energy resources, and the methods for utilization of such potentials will be established.	General Directorate of Electrical Power Resources Survey and Development Administration		Completion of projects in this scope, Implementation of new projects and facilities, Performing the relevant studies.	2011-2014	By increasing renewable energy resources it is aimed that firms operating in industry will also benefit from these energy resources.
54	1.6. Infrastructure Sectors	Studies for products based on alternative energy sources to be used in the industry, and improvement of their technical infrastructure and their transformation into commercial products will be carried out.	Ministry of Industry and Trade	The Scientific and Technological Research Council of Turkey, Universities, Public Sector	Support to projects for commercialization of production of hydrogen fuel cells for automotive industry and/or to power portable electronic equipment such as mobile phones, computers, etc. and for fuel cell based system optimization.	2011-2014	Actions will be taken to develop technical capacity regarding hydrogen energy technologies, fuel cell applications and industrial applications for the purpose of improving products based on alternative energy

							resources and supporting technological infrastructure and related R&D activities in Turkey and in the region. The "Hydrogen Fuel Cells and Industrial Applications" project aims to support R&D activities for development of hydrogen fuel cells for automotive industry and/or to power portable electronic equipment such as mobile phones, computers, etc. as well as to ensure production of fuel cells and hydrogen based industrial applications in Turkey by contributing to their commercialization from R&D medium.
55	1.6. Infrastructure Sectors	Secondary legislation activities regarding energy efficiency will be completed and effective mechanisms aimed at increasing energy efficiency and energy saving will be developed.	Ministry of Energy and Natural Resources	Ministry of Finance, General Directorate of Electrical Power Resources Survey and Development Administration , Universities, Professional Chambers, Producers' Associations and Unions	The number of energy efficiency implementation projects. The number of voluntary agreements for industrial enterprises for the purpose of reducing the energy intensity. The number of trainings carried out regarding Energy Management System.	2011-2014	In the scope of Energy Efficiency Law, energy efficiency implementation projects will be supported, voluntary agreement schemes will be initiated to reduce

							energy intensity in industrial enterprises. Moreover, infrastructure necessary to develop and promote Energy Management System in the industry, buildings and services will be enhanced and training programs will be organized.
56	1.5. Technological Development of Companies	Methods and means to ensure efficient and effective use of energy and energy resources will be developed considering their environmental impacts, it will be ensured that these will be implemented and social awareness will be developed.	General Directorate of Electrical Power Resources Survey and Development Administration		Number of Energy Manager Trained (200 per year in the industry, 160 per year in buildings, 20 per year international)	2011-2014	The required implementations will be made under the Energy Efficiency Law. (For instance, energy managers will be trained, energy efficiency consultancy companies will be authorized, and voluntary agreement supports will be provided.)
57	1.6. Infrastructure Sectors	The infrastructure-treatment constructions in Organized Industrial Zones (OIZs) and the superstructure-infrastructure constructions in Small Industrial Sites (SIS) will be completed.	Ministry of Industry and Trade	Ministry of Finance, The Undersecretariat of State Planning Organization	The number of new composite OIZs whose infrastructure has been completed (11 in 2011; 10 in 2012; 8 in 2013; and 9 in 2014) The number of new specialty OIZs whose infrastructure has been completed (1 in 2012; 1 in 2013; 3 in 2014), The number of new composite and specialty OIZs whose treatment has been completed,	2011-2014	The number of industrial facilities in OIZ's and SISs will be increased by the implementation of activities.

					(2 in 2011; 2 in 2012; 1 in 2013; 2 in 2014), The number of functional Agriculture-Based Specialty OIZ's (1 for each year between 2011 and 2014), The number of new composite SISs whose infrastructure and superstructure has been completed, (5 in 2011; 4 in 2012; 4 in 2013; 4 in 2014), The number of new specialty SISs whose infrastructure and superstructure has been completed (1 in 2011; 3 in 2012; 2 in 2013; 1 in 2014)		
58	1.6. Infrastructure Sectors	Within the scope of the purpose of establishing policies to facilitate foreign trade, policies to establish logistics structures and improve the existing ones will be established.	The Undersecretariat of Foreign Trade	Ministry of Transportation, Ministry of Industry and Trade, The Undersecretariat of State Planning Organisation, The Undersecretariat of Customs.	The number of participation of international organizations in meetings/conferences/seminars per year (Target 18 in 2014), The number of the supported R&D projects per year (Target 10 in 2014), The number of reports on current situation with regard to country/region-product/sector per year (Target 17 in 2014), The number of projects for establishment of logistics zones/centers in and out of the country per year (target 5 in 2014).	2011-2014	It is intended that logistic infrastructure systems will be improved by the policies to be formulated and implementations to be done in the field of logistics.
59	1.7. Environment	Intensive awareness-raising activities will be carried out and guidelines, books/manuals will be published for industrialists to combat with the climate change.	Ministry of Industry and Trade	Ministry of Environment and Forest, The Union Chambers and Commodity Exchanges of Turkey, TESK, Universities, NGOs	The number of meetings, seminars, publications, brochures etc. for the awareness-raising of industrialists.	2011-2014	Major policies and activity areas will be determined to move institutions and organizations together for fighting against and adaptation to climate change.

60	1.7. Environment	The process regarding the appointment of energy managers in the industrial plants which consume energy above 1000 TEP (Tones Equivalent Petrol) per year will be completed and it will be ensured that, this system will work effectively.	Ministry of Energy and Natural Resources	Ministry of Industry and Trade	The number of enterprises in which the energy managers are appointed.	2011-2014	This action takes part in the short term actions of 2010-2020 National Climate Change Strategy Document and under industry chapter.
61	1.7. Environment	The quality of the receiving environments (air, water, soil) will be preserved and improved.	Ministry of Environment and Forest	Ministry of Industry and Trade, The Union Chambers and Commodity Exchanges of Turkey, TESK, Universities, NGOs	The number of licenses granted in accordance with the integrated system, The number of legislations made to define the pollution level of the receiving environments and to establish assessment, monitoring and classification systematics, The increase in the number of facilities utilizing the production techniques that reduce emission in the production processes, The increase in the quality of the receiving environments (air, water, soil), The number of action plans prepared for areas requiring emergency response after the status of all waters have been determined, The increase in the percentage of the population benefiting from treatment in the total population.	2011-2014	It is intended that the quality of the receiving environment will be increased and improved with the activities to be done.

62	1.7. Environment	The greenhouse gas emissions arising from industry causing the climate changes will be controlled, monitored and reported.	Ministry of Environment and Forest	Ministry of Industry and Trade, TurkStat, Members of Coordination Board on Climate Change	The preparation of the climate change national notification and greenhouse gas emissions inventory, The responsibilities to be fulfilled in the scope of Kyoto Protocol. The amount of emission subject to voluntary greenhouse gas emission trade.	2011-2014	This action takes part in the targets of 2010-2020 National Climate Change Strategy Document.
63	1.8. Industry Policy and Regional Development	The operational programs of IPA (Instrument for Pre-Accession Assistance) under the Regional Development and Human Resources Development components will be revised for 2012-2013 period.	Ministry of Transportation, Ministry of Labor and Social Security, Ministry of Industry and Trade, Ministry of Environment and Forest, The Undersecretariat of State Planning Organization	Secretariat General for EU Affairs	The revised operational programs of IPA under the Regional Development and Human Resources Development components.	2013	Environment, Transportation, Regional Competitiveness and Human Resources Development Operational Programs implemented under Regional Development and Human Resources Development components will be revised.
64	1.8. Industry Policy and Regional Development	The projects focused on regional development for SMEs will be supported.	KOSGEB	Ministry of Industry and Trade, Ministry of Finance, the Undersecretariat of State Planning Organisation, the Undersecretariat of Treasury, Development Agencies, The Union Chambers and Commodity Exchanges of Turkey, TESK, NGOs	The number of projects focused on regional development implemented (at least one per year). The number of supports provided for joint investments of SMES (it will be increased every year compared to the previous year). The number of clustering projects implemented in cooperation with other institutions/organizations (at least one per year).	2011-2014	It is intended that regional competitiveness will be increased by means of the support projects to be implemented.

65	1.8.Industry Policy and Regional Development	Regional innovation systems will be identified and supported.	The Scientific and Technological Research Council of Turkey	The Undersecretariat of State Planning Organization, The Council of Higher Education, Development Agencies, The Union Chambers and Commodity Exchanges of Turkey, Universities, NGOs	The number of cooperation networks established. Completion of methodology studies.	2011-2014	To support the development of cities/regions and to increase their competitiveness, the establishment of cooperation networks including private sector, universities, public institutions and local actors will be supported. Methodology studies for the establishment of local innovation systems will be completed, the cities/regions where pilot studies to be conducted will be determined.
66	1.8.Industry Policy and Regional Development	A governance model determining the local and central level policy framework in the field of clustering will be established.	The Undersecretariat of State Planning Organization	The Ministry of Industry and Trade, The Undersecretariat of Foreign Trade, The Scientific and Technological Research Council of Turkey, Development Agencies	A governance model will be established.	2011	To determine the elements of cooperation and collaboration among institutions and organizations, as regards the innovation and internationalization components, by forming the clustering strategy, the needed steering and coordination mechanism will be established. In this scope, projects conducted by the Ministry of Industry

							and Trade and the Undersecretariat of Foreign Trade will be benefited.
67	1.8.Industry Policy and Regional Development	Growth Centers Support Program will be disseminated.	The Undersecretariat of State Planning Organization	Ministry of Finance, Ministry of Internal Affairs, relevant central and local administrations	Dissemination of implementation will be maintained.	2012	The application conducted in Diyarbakır in the scope of the Program will be disseminated to other centers. In implementation, projects that support the development potential of centers and contiguous areas and local initiatives will be prioritized; the compliance of program implementation and infrastructure investments will be considered.
68	2. SECTORAL INDUSTRIAL POLICY AREAS	To increase the competitiveness of sectors in the industry, the preparation, monitoring, assessment and improvement of sectoral strategies will be ensured.	The Ministry of Industry and Trade	Ministry of Finance, Ministry of National Education, Ministry of Transportation, Ministry of Agriculture and Rural Affairs, Ministry of Energy and National Resources, Ministry of Culture and Tourism, Ministry of Environment and Forest, The Undersecretariat of State Planning Organization,	The number of sectoral strategy documents (Target is 7). The number of monitoring and evaluation meetings to be held and reports to be prepared.	2011-2014	The necessary institutional capacity will be enhanced in order to prepare sectoral strategies for strengthening the competitiveness of the sectors in the industry as well as to monitor, evaluate and improve these

			<p>The Undersecretariat of Treasury, The Undersecretariat of Foreign Trade, The Undersecretariat of Customs, Secretariat General for EU Affairs, The Scientific and Technological Research Council of Turkey, TurkStat, TSE, Turkish Patent Institute, Investment Support and Promotion Agency, Turkish Accreditation Agency, KOSGEB, TOBB, Turkish Exporters Assembly, The Confederation of Turkish Tradesmen and Craftsmen, Turkish Industrialists' and Businessmen's Association, Independent Industrialists and Businessmen's Association, Economic Development Foundation, Turkish Confederation of Employer Associations, Confederation of Turkish Trade Unions, Confederation of Progressive Trade Unions of Turkey, HAK-İŞ Trade Union Confederation, TÜDEF</p>		strategies.
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69	3. IMPLEMENTATION, MONITORING AND COORDINATION MECHANISM	Entrepreneur Information System will be improved.	Ministry of Industry and Trade	Ministry of Finance (Revenue Administration), Ministry of Energy and Natural Resources, Ministry of Labor and Social Security, Undersecretariat of State Planning Organization, Undersecretariat of Treasury, Undersecretariat of Foreign Trade, Energy Market Regulatory Authority, TurkStat, TEDAŞ, The Union Chambers and Commodity Exchanges of Turkey, The Confederation of Turkish Tradesmen and Craftsmen, Other relevant institutions and organizations	The completion of the second stage of the Entrepreneur Information by the end of 2012.	2012	In order to determine the industry and trade policies and strategies, an information system including the industrial and commercial inventory will be established. Turkish industry and trade numeric map will be prepared; decision support systems based on this information system will be established. This information will be offered to the usage of relevant public institutions. It is planned that the information will be shared with private sector by taking into account the confidentiality of the information.
70	3. IMPLEMENTATION, MONITORING AND COORDINATION MECHANISM	The institutional capacity of the Ministry of Industry and Trade in the development, implementation and monitoring of the industrial strategy will be improved.	Ministry of Industry and Trade	Ministry of Finance, Ministry of Energy and Natural Resources, Ministry of Environment and Forestry, Ministry of Labor and Social Security, Ministry of Agriculture and Rural Affairs, Ministry of National Education, Ministry of Culture and Tourism, Ministry of	The number of experts to be educated in the scope of project	2011-2012	To improve the institutional capacity of the Ministry of Industry and Trade in development, implementation and monitoring of the industrial strategy, it is planned to implement the EU

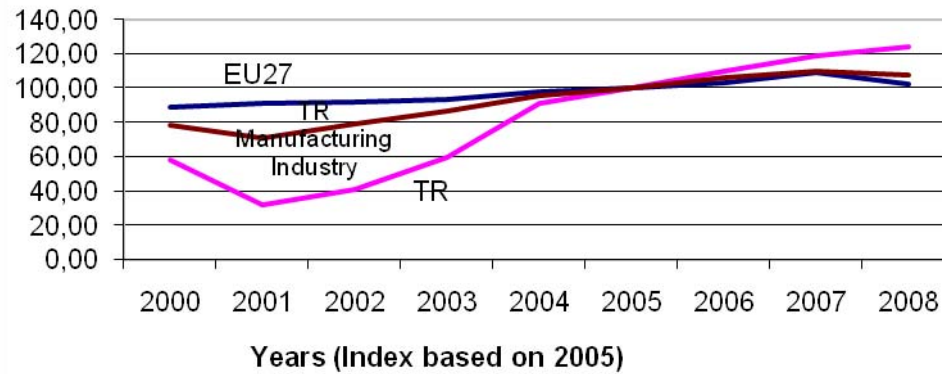
			<p>Transportation, Undersecretariat of State Planning Organization, Undersecretariat of Treasury, Undersecretariat of Foreign Trade, Undersecretariat of Customs, Secretariat General for EU Affairs, TÜBİTAK, Revenue Administration, TurkStat, TSE, Turkish Patent Institute, Investment Support and Promotion Agency, Turkish Accreditation Agency, KOSGEB, TOBB, Turkish Exporters Assembly, The Confederation of Turkish Tradesmen and Craftsmen, Turkish Industrialists' and Businessmen's Association, Independent Industrialists and Businessmen's Association, Economic Development Foundation, Turkish Confederation of Employer Associations, Confederation of Turkish Trade Unions, Confederation of Progressive Trade Unions of Turkey, HAK-İŞ Trade Union Confederation, TÜDEF</p>		<p>project designed under "Institutional Building," which is the 1st component of IPA (Instrument for Pre-Accession Assistance). Within the scope of the project, it is intended to improve the administrative capacities of the Ministry of Industry and Trade and the project partners, to improve the technical capacity needed for the studies on the Industrial Strategy and Sectoral Strategies, and to establish an effective dialogue mechanism.</p>
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71	3. IMPLEMENTATION, MONITORING AND COORDINATION MECHANISM	Initiatives will be established to monitor, assess and report the actions in the fields of the horizontal industry policy areas.	Ministry of Industry and Trade	Relevant institutions	The rate of realization of the actions in the fields of the horizontal industry policy areas.	2011-2014	To ensure complementariness and coordination between the activities and responsibilities of the relevant public institutions in the scope of industrial strategy, platforms which bring together the competent representatives of the related institutions will be established. These initiatives will play a critical role in monitoring the strategy.
72	3. IMPLEMENTATION, MONITORING AND COORDINATION MECHANISM	The Industrial Strategy Action Plan will be implemented in coordination with YOİKK (Coordination Council for the Improvement of Investment Environment) and other related strategy documents.	Ministry of Industry and Trade	Relevant institutions	Information exchange and cooperation among the Industrial Strategy related structures and fields.	2011-2014	The policy and action documents related directly and/or indirectly to the Industrial Strategy will be followed; Regular communication and coordination will be established between the Industrial Strategy Secretariat and the Secretariats of YOİKK, SME Strategy and Action Plan (KSEP), etc.

ANNEX 2: Evaluations of Sectoral Competitiveness and Policy Areas ³³

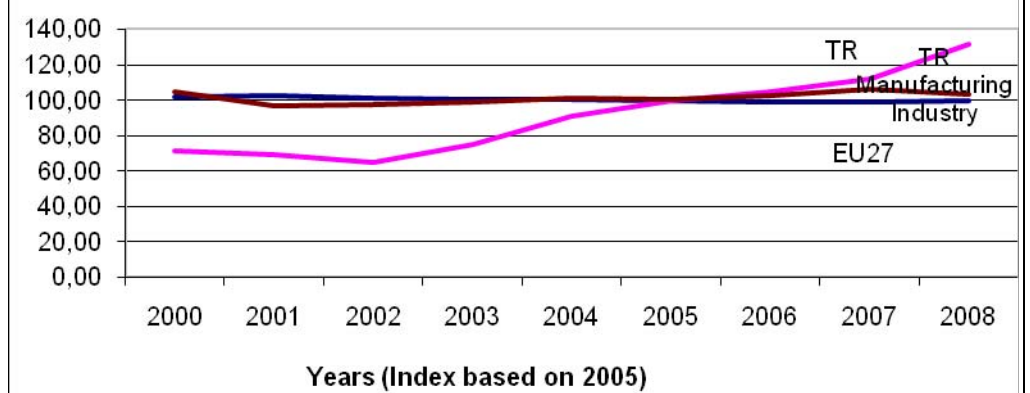
ANNEX 2.1: Automotive Industry

Figure Annex 2.1.1: Automotive Industry Production Index



Source: Eurostat

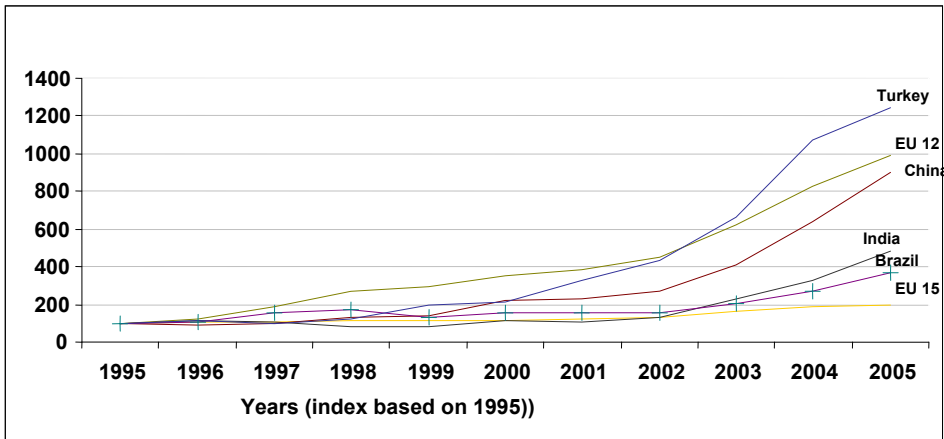
Figure Annex 2.1.2: Automotive Industry Employment Index



Source: Eurostat

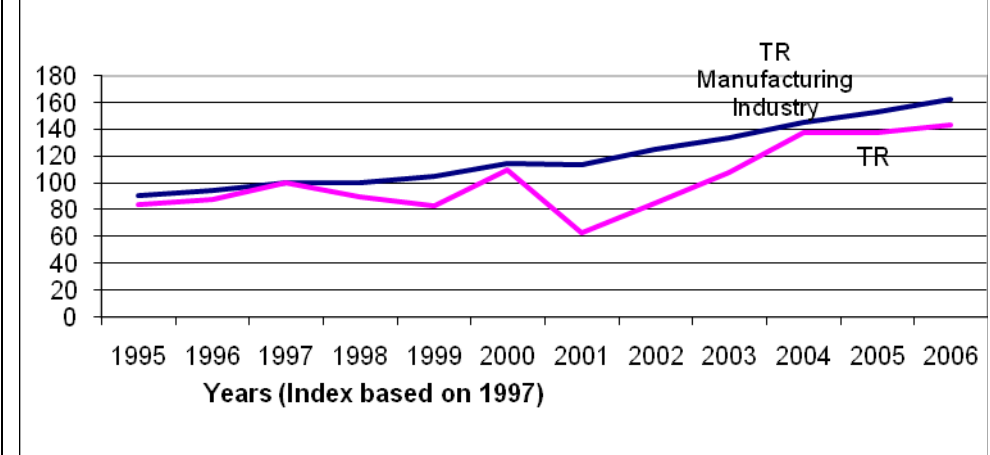
³³In graphics: TR represents the subsector in Turkey for that indicator; EU represents the average in EU for that indicator; EU 12 represents the average of Southern Cyprus, Greek Side, Czech Republic, Estonia, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia, Bulgaria, Romania; Turkish Manufacturing Industry represents the general situation of the manufacturing industry in Turkey.

Figure Annex 2.1.3: Automotive Industry Export Index



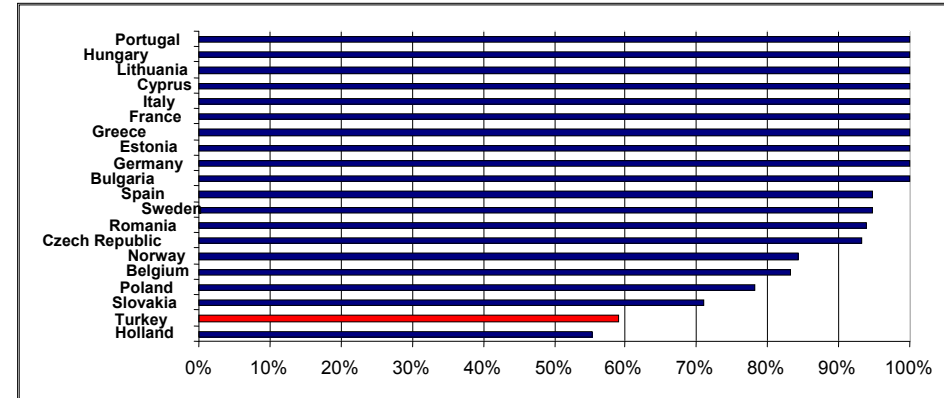
Source: COMTRADE, TEPAV Calculations

Figure Annex 2.1.4: Automotive Industry Partial Productivity Index



Source: TurkStat

Figure Annex 2.1.5: Innovative Firms in Automotive Industry, % (2002-2004)



Source: COMTRADE, TurkStat

Table Annex 2.1.1: General Overview of Automotive Industry*

Share of sector's total assets in general manufacturing industry (%) (2008)*	8.27
Share of production in manufacturing industry (%) (2007)	12.05
Share of employment in manufacturing industry employment (%) (2008)*	8.47
Share in total manufacturing industry import (%) (2009)	9.71
Share in total manufacturing industry export (%) (2009)	13.48
Rate of R&D expenditure of the sector to the general manufacturing industry (%) (2008)*	31.17

Source: TurkStat, TÜSIAD, 2008 Turkish Industry: A Sectoral Overview, * Entrepreneur Information System

**GENERAL
OVERVIEW**

Since the 2000s, the Turkish Automotive Industry has adopted a production principle based on producing for the world markets with high added value. In the process, the Automotive Industry has progressed substantially in the areas of quality management, global competition, R&D and technological management, and high quality human resources. Since the financial crisis of 2001, important developments have been achieved in employment, production, and export. It is observed that a passive politics has been followed in the area of R&D and design, where the Turkish automotive sector is a significant part of global automotive value chain

In addition to the activities carried out under the supervision of the foreign parent companies, the problems encountered in test infrastructure show fact that this area is in need of more development. Studies are being done for achieving full integration of the main automotive industry and its side industries, and creating a sustainable competitive environment within the emerging globalizing economy.

As demand and production increase within the sector, the need for about qualified labor increases as well. The progress made by the main industrial companies in the last years in-company training and total quality management is extremely important. However, it is expected that problems of finding quality workforce encountered in side industry companies will increase. Not only the lack of quality workforce, but also limited access to financing for side industry companies, is an important obstacle in development of sector.

While the high taxes imposed on transportation vehicles and fuel prevent the growth of the domestic market, the importing of second-hand vehicles, problems encountered during OGT application, and the increased environmental and safety standards pose risk for the competitiveness of the sector. In this process, compliance with EU regulations and policies will have a beneficial effect on the sector and increase its competitive power.

The Automotive Manufacturers Association (OSD), the organization that represents automotive manufacturers in Turkey, is a board member of the International Organization of Motor Vehicle Manufacturers (OICA) as well as an associate member of the European Automobile Manufacturers' Association (ACEA) Liaison Committee. Moreover, the Association of Automotive Parts and Components Manufacturers (TAYSAD) is a member of the European Association of Automotive Suppliers (CLEPA). Therefore both organizations are able to closely follow the European sector and the international developments.

Since the last quarter of 2008, the automotive sector, which still holds an important place within the economy and shows an export-based growth trend, has become smaller as a result of the global financial crisis, the shrinking of the domestic market, and the decrease in exports.

	<p>In the light of this decline, especially because of the high rise in stocks, the government has taken some short-term precautionary measures with regard to taxes. With this in mind and based on its already fragile current condition, it would be inaccurate to say that the sector is going to be in a better position in the future. Keeping in mind the recommendations presented in this document and the positive effects of the rival countries on the sector under the conditions of global market competition, a document entitled “Strategic Document for the Automotive Sector,” which aims at increasing the competitiveness of the sector and facilitating the transformation process is being prepared</p>
<p>KNOWLEDGE AND TECHNOLOGY</p>	<p>Except for 4 companies, every company in the Turkish main automotive industry either works with foreign partners or manufactures under a foreign company’s license. This means that the R&D field’s development depends on foreign companies, which are the parent companies. The consolidation process of the global markets in this sector within the last couple of years and the shifting of the production processes to the developing countries result in the fact that activities such as R&D, technology, marketing, and activities after sale remain within the scope of the parent company. At this stage, it is imperative that the companies of main Turkish automotive industry advance their standing within the global value chain and become more effective in the design processes.</p> <p>Although the design checks and strength tests for the vehicles designed in Turkey as well as for their parts, are performed within the country, our companies have to get some tests done abroad due to lack of facilities such as proper tracks, wind tunnels, and crash test labs, which results in loss of time and money.</p> <p>TUBITAK-TIDEB and other similar organizations have been working on building support for the creation of the infrastructure necessary for the test/analysis to further enhance the development of the sector. Also, the arrangements initiated in February 2008 with regard to R&D support are expected to increase the R&D spending done by the sector.</p> <p>The goal is to form strategic partnerships initiated by the main companies for the support of R&D activities of the side industries, and to launch design-check projects within the framework of the university-industry partnership.</p>
<p>COMPETITION</p>	<p>Parallel the ongoing consolidation of the world markets, the Turkish automotive industry has also been undergoing merging-takeover processes for the last few years. In the period between 1999 and 2006, seven mergings-takeovers took place in the land, air, sea and rail transport sector. In the same period, 6 competition violations were detected and totally TL7.6 million in penalties were applied. On the other hand, in 2005 the Competition Board amended the regulations in this sector in accordance with the EU regulations by issuing an ordinance for group exemption in the case of vertical arrangements. The communiqué is expected to benefit the spare parts industry as well.</p>

<p>REGULATORY FRAMEWORK</p>	<p>Turkey has revised its regulations with regard to the automotive sector in accordance with EU and UN/AEK regulations as part of the process of full EU membership negotiations and customs union. Furthermore, to find solutions for the problems encountered during the application of the new regulations, Turkey has established the “Motor Vehicles Technical Committee” (MARTEK), which is made up of public representatives from both the main and the side automotive industries under the supervision of the MIT. MARTEK is responsible for bringing together the public and the private sectors periodically to offer solutions to various problems.</p> <p>The issue of the importation of second-hand motor vehicles, which is a result of the customs union agreement, and which Turkey has declared as an issue it cannot deal with for a “certain period of time,” poses a significant threat to the automotive sector. An analysis report prepared by the sector, which discusses the effects of second-hand motor vehicle import on the sector as well as the overall economy, was submitted to the EU in 2006. For the upcoming periods, the sector plans to continue its work to analyze the effects of second-hand motor vehicle import on the sector as well as the overall economy.</p> <p>With respect to the ability of employees to change jobs and find new ones, the need to increase labor force mobility, making the labor force market transparent and increasing its productivity are becoming more significant. Professional standards are critical in helping the external competitiveness of the Turkish economy. To this end, the priorities of the labor market and the educational institutions were taken into account to prepare 10 professional standards and published in the Official Gazette in 2009 and 2010.³⁴</p>
<p>ENVIRONMENT AND ENERGY</p>	<p>The relationship of automotive industry and environment should be evaluated within the framework of EU acquis and the environment effects of motor vehicles during the production stage and the lifelong. The authorization complication in legal arrangements, the inefficiency of infrastructure and the applications increasing costs of sector are the main problems where the automotive industry came up in the environment area. Especially, the removal of infrastructure problems of solid waste storage-destruction and water discharge systems will be achieved.</p> <p>Emission from motor vehicles is regarded as a significant threat in terms of environment. For this reason, concert with the compiled EU directives related to exhaust emissions has been attained. However, the practical conformity of automotive industry to exhaust emissions will be realized progressively due to delays in the enhancement of fuel quality.</p> <p>In concern with the raise of energy productivity in transportation; the promotive regulations regarding usage of the transportation vehicles or hybrid systems using low unit fuel consumption and environment friendly alternative fuel such as compressed natural gas, liquefied petroleum gas, electricity and hybrid should be made.</p>

³⁴ <http://www.myk.gov.tr/index.php/en/yaymlanm-ulusal-meslek-standartlar>

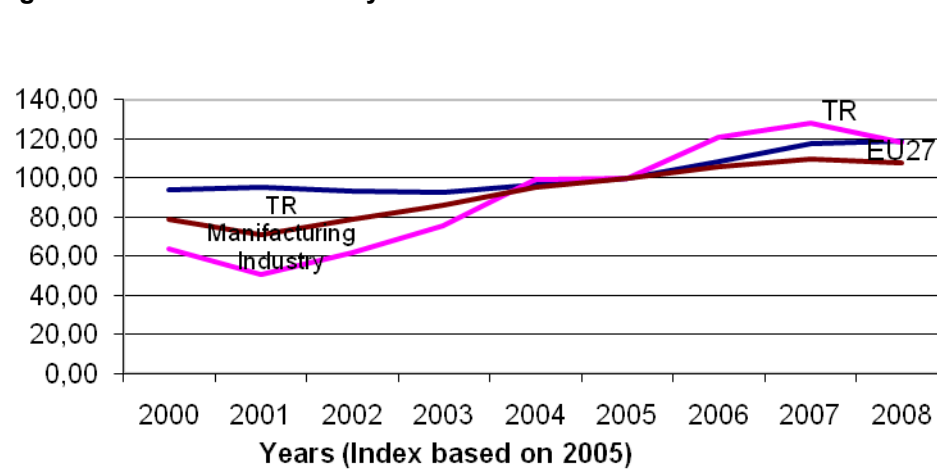
	<p>The automotive parent industry is an energy-intense sector because of working with automatic control system. In addition to this problem, resulting from sector's structure; providing highways for logistics services, an important side activity for the sector, increases the sector's energy need. With integrated logistics facilities, will be operational in the coming years, and energy productivity projects, restricting of the sector's energy need is aimed.</p>
<p>EXTERNAL COMPETITIVENES S AND TRADE</p>	<p>Since 2002, there has been constant growth in the sector in relation to the growth within the overall economy. However, due to the global financial crisis, there has been a decline in production, employment and export within the last quarter of 2008.</p> <p>According to TurkStat data, the export value, which was \$9.6 million in 2005, increased annually and reached \$18.3 in 2008. However, with the advent of the damaging effects of the global financial crisis, there was a sharp decline in export potential in November 2008, which was followed by a 47.7% decrease in November and December of 2008.</p> <p>The decline in export value continued until February 2009, but halted as the impact of the precautionary measures in Europe against the financial crisis began to be felt in the automotive sector at home starting in February of 2009. The automotive export for the first three months of 2010 was approximately increased 52% with respect to the first three months of 2009.</p> <p>According to TurkStat data, the decline in the manufacturing index that started in August of 2008 became more pronounced in November. As of August 2008, production had decline to 9.9% less than it had been in same month of the previous year, and continued in November 2008 and December, declining by 42% and 52%, respectively. As of October, production index raised and the quantity of production arrived at normal values compared with the same term of the year. As parallel to the expectations, automotive industry production index increased 26 percent in June/2010 in comparison with the same month of the previous year.</p> <p>According to Central Bank of the Republic of Turkey (TCMB) Data, rate of capacity utilization in motor vehicles industry was 89,4%, 55,8% and 62,2% in December 2007, December 2008 and December 2009 respectively.</p> <p>The sector being 15th rank of world production with 1.147.110 vehicles which was in front of Italy, Belgium, Portugal, Czech Republic, Romania, Poland and Iran influenced negatively from the global crisis of 2008 and decreased to 17th rank with 869.065 vehicles in the world, As of 2009, Turkey ranked 7th in EU-27 with regard to total motor vehicles production, 9th in automobile production and first in commercial vehicles and autobus productions.³⁵</p>

³⁵ <http://www.oica.net/category/production-statistics/>

	<p>Due to the globalization of the automotive industry, the import of raw material and sub-products is very high. Also vehicle imports in domestic market are also very high. It is very important that the domestic industry is in a position to compete with its global rivals in domestic and global markets.</p> <p>Although, Turkey imposes the Common Customs Tariff on products imported from third countries, Turkish products being subject to high duties on exports to such countries is an important impediment to foreign trade. Since the European Union doesn't accept the type approval certificates which are granted under the regulations that were completely harmonized with EU directives with regards to motor vehicles and their equipment, some companies have to get type approval certificates from other countries.</p> <p>Moreover, high energy and labor costs limit the competitiveness of the country compared to developing countries in the region.</p>
<p>EMPLOYMENT AND GEOGRAPHICAL DIMENSION</p>	<p>As a result of the growth within the sector and the methods followed, the direct employment number for the automotive main and side industries reached a total of 300,000. According to the Turkish Statistical Institute (TurkStat) this number makes up 5.3% of the entire industry's employment. If we take into account the marketing network and the sector for support services, which both relate to the automotive sector, the actual number for employment turns out to be 400,000.</p> <p>The majority of the manufacturing companies that produce the motor vehicles in Turkey are found in the Marmara region (Istanbul, Bursa, Kocaeli, Sakarya). In terms of actual numbers, cars are the motor vehicles produced the most within the automotive sector in Turkey. However if we look at the manufacturing companies individually, the majority of the companies actually focus on the production of motor vehicles that are not classified as cars.</p> <p>There has been an increase in automotive sector starting from 2005 in accordance with data of Turkish Statistical Institute Employment Index. However, it started to go down with 2008 Financial Crisis and there was a decrease equaling to 19,6 percent in 2009 compared to previous year because of the continuing effects of the crisis. This indicates that the sector is at high risk of losing its skilled workforce.</p>

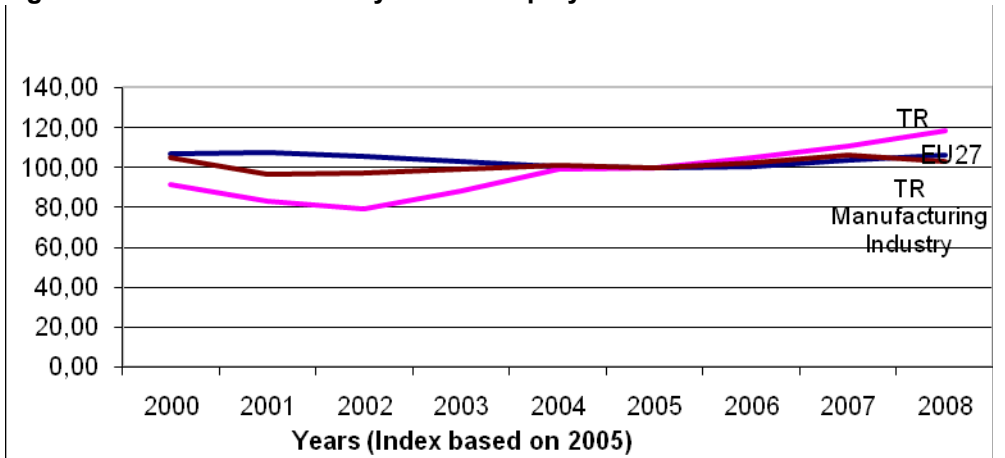
ANNEX 2.2: Machinery Industry

Figure Annex 2.2.1: Machinery Sector Production Index



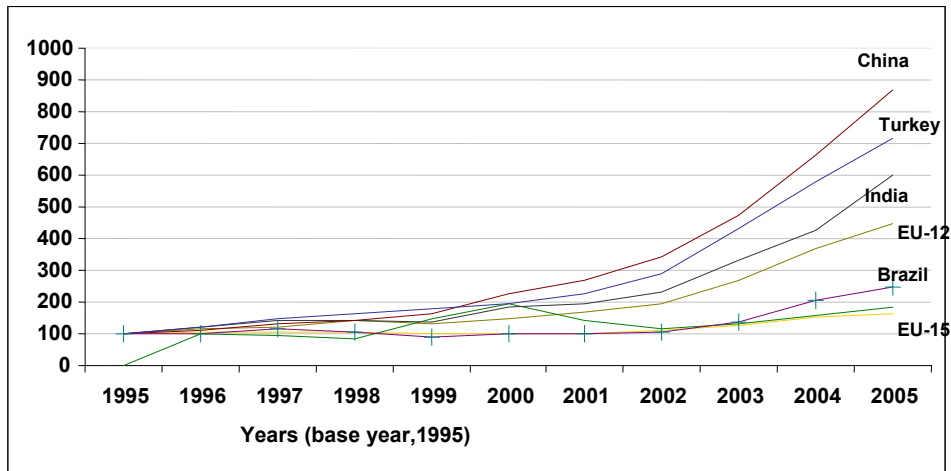
Source: Eurostat

Figure Annex 2.2.2: Machinery Sector Employment Index



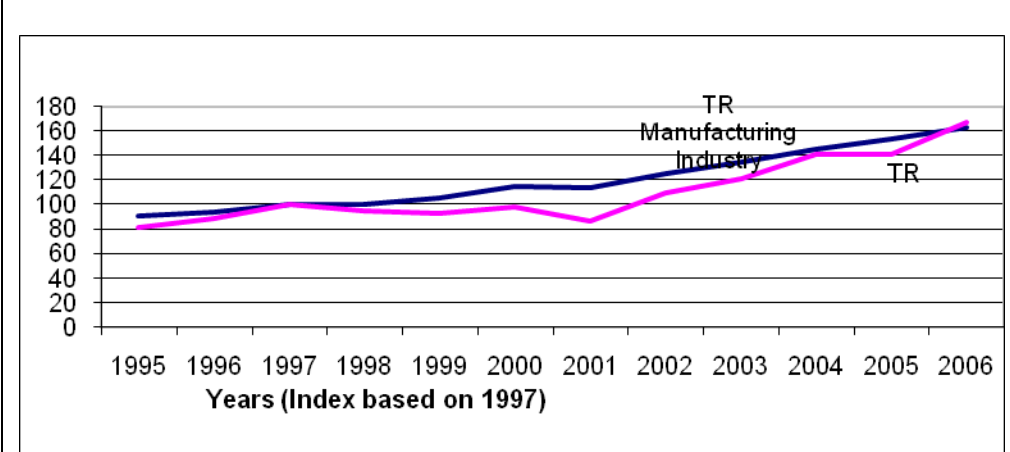
Source: Eurostat

Figure Annex 2.2.3: Machinery Sector Export Index



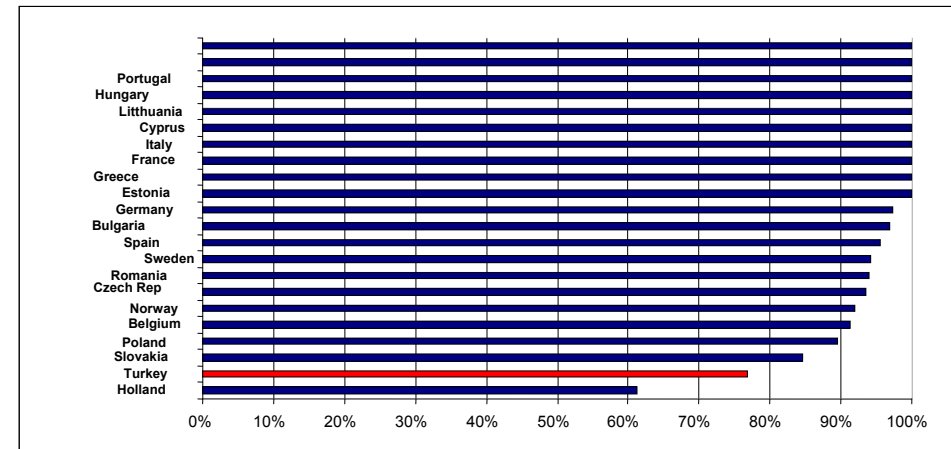
Source: COMTRADE, TEPAV Calculations

Figure Annex 2.2.4: Machinery Sector Partial Productivity Index



Source: TurskStat

Figure Annex 2.2.5: Innovative Firms In Machinery Sector, % (2002-2004)



Source: COMTRADE, TurkStat

Table Annex 2.2.2: General Overview of Machinery Sector

Share of sector's total assets in general manufacturing industry (%) (2008) *	8.69
Share of production in manufacturing industry (%) (2006)	5.65
Share of employment in manufacturing industry employment (%) (2008) *	9.33
Share in total manufacturing industry import (%) (2009)	11.29
Share in total manufacturing industry export (%) (2009)	8.46
Rate of R&D expenditure of the sector to the general manufacturing industry (%) (2008) *	9.3

Source: TurkStat, TÜSİAD, 2008 Turkish Industry: A Sectoral Overview, * Entrepreneur Information System

**GENERAL
OVERVIEW**

After the 2001 financial crisis, the Turkish machinery industry has entered into a rapid growth process. Sector's production, employment, and productivity level has experienced an increase over the general manufacturing industry. Nominally, the export value of the sector increased about five times during the period between 2001 and 2009, reached \$8,133,079,729 by the 84th chapter. Moreover the sector's share of exports increased from 5.6% to 7.9% within the total export (the numbers have been calculated by taking into account the #29 machine equipment manufacturing not elsewhere classified according to ISIC Rev).

For the sector to increase its competitive power in the intermediate term, it has to focus on the production of medium and high-technology machineries. It is predicted that the manufacturers in the EU will be shifting their productions to high-technology machinery manufacturing following the examples of the US and Japan. On the other hand, the manufacturers in Turkey generally produce low or medium level machines competing with countries such as China and India. In the intermediate term, small and mid-sized companies from the EU are expected to invest in competitive and established firms in neighboring countries to compete with their rivals from developing countries. Therefore, such a process is likely to support Turkey's transition to medium-technology machine manufacturing. In light of these developments, it is highly possible that the machine sector in Turkey will be undergoing a restructuring process in the upcoming period to advance its overall competitive power.

For the sector to complete its transformation process, it needs to finalize its compliance with the EU legislations, and the companies need to increase their capacity for R&D and innovation. In Turkey, the machinery sector is generally composed of micro-scale companies. For these companies to make the transition to medium and high-technology products, they need a transition strategy that supports R&D and innovation. Within the sector which is specifically made up of micro and small scale companies, it is imperative for the companies to scale up their capacity, to have access to finance easier and to use funds at larger amounts. Also, for the sector to increase its competitive power new strategies are needed which will support research and development projects as well as enhance access to skilled labor. In addition to these, due to the sector's highly SMEs structure, it becomes a viable option to create an environment that will enable the sectoral firms to cluster. Throughout the process, compliance with EU legislations and policies will support the sector and increase its competitive power.

In machinery and equipment manufacturing sector, production index arrived at value of 100,7 in December/2009, while it was 73,9 in January/2009 based on 2005 according to Turkish Statistical Institute data (NACE Rev 2, machinery and equipment manufacturing not elsewhere classified). Latest data of TURKSTAT have shown that the index increased to 120 in June/2010.

According to data of Central Bank of the Republic of Turkey (TCMB), rate of capacity utilization "29. Machinery and

	<p>equipment manufacturing not elsewhere classified” (NACE Rev.1.1) sector was 58,6% in January/2009 but this figure increased to 61,8% in December of the same year. As of January/2010, it has increased to 63,2 percent and arrived at level of 72,5 in May/2010 by rising 17,3% compared to May/2009.</p> <p>According to the TurkStat data, capacity utilization rate for the machinery and equipment manufacturing sector was 73% for the first three months of 2008. Capacity utilization rate for the sector increased to 77% by mid 2008, yet dropped to 72% by August and September of the same year. In the month of December, the capacity utilization fell to 66% and continued its decrease in January 2009, hitting 61%. Fortunately, some recovery was observed within the next 3 months when the capacity utilization for the sector increased to 67%. The capacity utilization increased to 72% in May 2010.</p>
<p>KNOWLEDGE AND TECHNOLOGY</p>	<p>Expenditures for R&D and innovation needs to be increased within the sector. China and India create a serious competitive pressure by continuing their fast-paced growth in low-technology machinery production. In this period, for the sector to increase its competitive power it must start manufacturing medium and high-technology machineries according to demand-based machinery manufacturing. In order to achieve this, there is an increased need for comprehensive, high level R&D activities. Within the sector for the manufacture of machinery and equipments not elsewhere classified, in 2005 spending for R&D makes up 11.1% of the total spending for R&D within the private sector, while it makes up 15.2% of the total spending by the manufacturing sector.³⁶</p> <p>One of the biggest problems of the sector is the lack of intellectual property rights, which allows companies to copy machineries designed and manufactured by other companies. In the last couple of years the fact that there has been a rise in patent applications indicates progress. Furthermore, it is expected that adherence to EU regulations with regard to intellectual property rights, which allows for better surveillance of violations of such rights as well as their effective punishment, and the implementation of a cheaper and faster patent/sampling procedure will together prevent companies from copying and marketing other companies’ products for their own profit.</p> <p>Insufficient supply of skilled intermediate workers poses another problem for the sector. Due to the fact that in a lot of industrial occupational high schools materials and tools used for education are old and outdated, the students are graduating without the necessary knowledge required in contemporary workplaces, thus failing to meet the requirements of the industrial companies. Some of the developments that aim to remedy this problem are the following: the Ministry of Education has reformed the occupational high school curricula; some OIZ firms have come together and received permission to open their own occupational high schools; educational centers have been established within the OIZs to train skilled intermediate workers. It is recommended that from now on technical occupational schools be</p>

³⁶ TURKSTAT.2007 . “ 2005 the Research of R&D Activities,” No:129, TURSTAT News Bulletin, Ankara.

	<p>opened either within or very close to organized industrial regions, so that students will have the opportunity to access the industrial companies to apply the knowledge and skills they gain at school. Moreover, it is not enough just to increase the supply of quality workers. It is also crucial to train these workers continuously within the companies, so that they can keep up with the changing technologies in the sector.</p> <p>Due to the fact that the majority of companies in the sector are small-scale family firms, they have very limited access to financing to make the necessary investments to increase the technological level of their products. To solve this problem, small-scale firms within the sector make use of the TUBITAK-TEYDEB, TTGV and KOSGEB R&D which are credit and loan support systems for all SMEs. Moreover, Turkish firms can use the R&D support offered by the EU as part of its 7th Framework Program. In addition, in March 2008, with the implementation of the R&D encouragement laws, any institution that employs more than 50 people for R&D purposes gets tax-related state aid. However the impacts of that abovementioned support to the employment of the sector remained very low because of the dominance of micro-small scale enterprises. It is necessary that more training programs are organized within the sector to make use of these enhanced resources for R&D. Initiatives must be taken to increase the number of R&D staff in the sector. Having said that, it is also important to note that the majority of the companies working in the sector lack proper engineering services, consulting, and financial supervision.</p>
<p>COMPETITION</p>	<p>The machinery manufacturing sector in Turkey is mainly made up of small-scale family firms. As a comparison, there are 21,315 firms, which have 20 or more employees, functioning within the machinery industry in the 15 EU countries, whereas the number for Turkey, according to the 2002 TurkStat general industrial workplace census is 19,335, including the companies that perform maintenance and repair besides manufacturing. Approximately 90% of Turkish firms employ 1-9 people. This structure has an adverse effect on company efficiency as well as the company's capacity for technological upgrading. It is also an important indication that there is a serious problem of scale among the companies in the sector. Due to the increase in competitive pressure, it is expected that there will be a partial consolidation and merging in the sector in the near future, and the state precautions taken in this field will be very important.</p> <p>As a result of increasing competition, to reduce the cost of production, in the machinery sector most of those inputs that were previously obtained from supplier industry firms within the SME framework, are now supplied by other countries in the world which provide them for the cheapest price. A look at the import numbers will confirm this observation. this development has led some firms within the SME framework to stop their production and even to start importing those intermediate goods that they manufactured before. As a result, this is a huge obstacle stalling the development of machinery supplier industries.</p>

	<p>There are no serious problems in terms of competition within the sector. Merging of companies has been quite limited. Between 1996 and 2006 there were 2 cases of violation of competition, 4 merging/takeover cases, and one exemption and personal investigation case. The total fine was TL 8 million.</p>
REGULATORY FRAMEWORK	<p>Almost all of the EU technical legislations have already been accepted as Turkish legislations, and their implementation is currently underway. The main reason why there aren't any legal problems with product safety is because the "New and Old Approaches Directives," which is a document that contains the main criteria for the free circulation of goods within the framework of Turkey's customs union with the EU, is being implemented. As for the issue of product standards, according to the EU Technical Legislation it is impossible to impose compulsory standards. Thus, in Turkey it has become impossible to impose compulsory standards within the machinery industry that contradict the legislations put forth by the EU. However, there are some compulsory standard implementations in those fields that haven't been arranged just like in the other European countries. Certain technical principles from the 99/36/EC "Transportable Pressure Equipment Directive" make a direct reference to the ADR which is under the responsibility of the Ministry of Transport and Communication. Therefore, the full implementation of this regulation depends on the application of the ADR agreement, which hasn't been done yet. Therefore, due to the said 'National Condition' article in the said regulation no 99/36/EC, certain standards are applied in a mandatory manner. On the other hand, the Turkish Standards Institute is in charge of building standards in Turkey. Within the scope of the standardization work of the TSE, almost all of the harmonized standards, which are significant for the technical legislation of EU, have been made Turkish standards.</p> <p>Effectiveness of these legislations depends on efficient market surveillance and inspection. the Ministry of Industry and Trade, which is responsible for these basic regulations related to machinery industry continues implementing these legislations effectively. However, it is important to support the infrastructure of the Ministry to increase its capacity.</p>
ENVIRONMENT AND ENERGY	<p>Policies in the machinery industry for energy efficiency are based on EU legislations in line with environmental concerns and the legal harmonization process of many directives has been completed. With respect to climate change and emissions, the directive 2000/14/EC on the noise emission in the environment by equipment for use outdoors has been implemented since 2006. In the same way, Regulation 97/68/EC on the Type-approval of Measures Against The Emission Of Gaseous And Particulate Pollutants From Internal Combustion Engines To Be Installed In Non-Road Mobile Machinery was also harmonized in such a way that it incorporate the regulations no 2002/88/EC, 2004/26/EC.</p> <p>The Regulation on the Control of the Waste Fuels and the Regulation on Package and Package Wastes under the</p>

	<p>responsibility of Ministry of Environment and Forestry can also affect the machinery industry. However, it is also expected that The Regulation 2006/1907/EC concerning the registration, evaluation, authorization and restriction of chemicals (REACH), effective as of December 1, 2008 in EU and which concerns many industries horizontally, will significantly affect the industry as well. Directive 92/42/EC New hot-water boilers fired with liquid or gaseous fuels and Regulation 78/170/EC on the Performance of heat generators for space heating and the production of hot water in new or existing non-industrial buildings and on the insulation of heat and domestic hot-water distribution in new nonindustrial buildings , were also transposed and the compliance of the product was made mandatory. The industry is expected to be significantly affected by the Directive 2009/125/EC establishing a framework for the setting of ecodesign requirements for energy-related products.</p>
<p>EXTERNAL COMPETITIVENESS AND TRADE</p>	<p>Due to the recent increase in imported products within the domestic market, the machinery industry has directed to export. The sector's export went up to \$8.7 billion in 2007 from its modest value of \$1.7 billion in 2001. In 2005, the ratio of exports to imports within the sector reached 40%, and 27% of the total production ended up being exported. In this period, the most important trading partners for the sector were Germany, France, Italy and the US followed by Russia, Romania, Spain, Iraq and Iran.</p> <p>In 2009, with regard to 84th chapter of Customs Tariff Statistics Position (GTIP) code 17,1 Billion American Dollars worth of machinery import was realized according to Turkish Statistical Institute data. In addition, machinery export between January and June in 2010 arrived at 5,2 billion American Dollars with a rise of 15,5 percent compared to previous year's same period according to Turkish Statistical Institute's provisional data. In 2010 machinery import for the abovementioned period was increased by 18,5% and reached to 11,2 billion American Dollars.</p> <p>The export target of the machinery sector is the EU followed by the neighboring developing countries. However it is crucial that other fast growing markets also become export targets for the sector and that tariffs be reduced for easier access to such markets. Unfortunately it has been observed that companies within the Turkish machinery industry are not paying the necessary attention to the fast growing markets of the Far Eastern countries.</p> <p>Although the sector has a competitive edge when it comes to prices, we see that it loses its competitiveness in terms of loan and credit access. The industry can apply 10-15% lower sales price due to lower labor costs and productivity increases after 2001. Also the salaries of the engineers and technical staff are lower compared to developed countries. This brings about a cost advantage and increases competitiveness. However, manufacturers in countries with better access to finance can offer better options like no payment for 1-2 years and credit opportunities up to 7 years; therefore, the cost advantage is overshadowed. Therefore, it is important to develop financing systems that will help Turkish companies adopt similar strategies without harming their financial structures.</p>

	<p>EU technical legislation, which has become Turkish legislation, can impact competitiveness in two ways. Given the fact that a major part of the trade is done with EU states, the companies that are fully compliant with the technical legislation become more competent in the EU. However, compliance with the legislation comes with a cost. Therefore, this problem can be fixed only through market surveillance and increased efficiency of inspections.</p> <p>There are several obstacles preventing companies from increasing their technology level and becoming more competitive. Large-scale companies can finance R&D activities while smaller ones cannot. Also small-scale companies have difficulties in employing qualified labor. For these reasons, burdens on employment must be reduced and the access of SMEs to financing must be ensured. Also, joint R&D centers can be built for small-scale companies, through their clustering.</p> <p>References of previous sales in the machinery industry affect the future sales positively. Creation of brand image is critical because it is difficult for new brands to gain a foothold amidst centuries-old brands.</p>
<p>EMPLOYMENT AND GEOGRAPHICAL DIMENSION</p>	<p>The sector has distinguished itself as an important player among the general manufacturing industry in terms of its potential to create jobs. According to the GIWC results in 2002, if we take NACE categorization into consideration, there are 145,949 people working in the sector. This makes up 6.6% of the manufacturing industry's total employment. In comparison to the general manufacturing industry in Turkey as well, as the machine industry in the EU-27, there has been a significant rise in the number of employees working in the sector since 2002. 30% of the employees within the sector work at companies that employ 1-9 people, while 24% of them work at companies of 10-49 people. About 29% of the people who are employed in the sector work at large companies that employ more than 250 people. These numbers point to the fact that it is necessary to generate policies that will help micro and small-scale firms to scale up and become medium-size companies thereby creating more jobs. In the last couple of years, the fact that foreign currency has been in decline encourages importation of intermediate goods.. This recent development prevents the desired increase in employment both within the machinery manufacturing and the supplier industries. According to the TurkStat data, employment increased by 4.87% in 2008 compared to the 2007 numbers.</p> <p>Machinery manufacturing industry is mainly concentrated in the Marmara region, especially in Bursa, Istanbul, Kocaeli, and Thrace, in addition to the cities of Izmir, Eskisehir, Ankara, Konya, Gaziantep and the Cukurova region. Manufacturing of machine tools is a subsector that is concentrated especially in Bursa, Kocaeli, Istanbul, Izmir, and Konya. 45% of these industrial institutions are located inside the cities where populations live, whereas 28.3% are located in organized industrial areas outside the cities.</p>

ANNEX 2.3: White Goods Industry Sub-Sector

<p>GENERAL OVERVIEW</p>	<p>The White Goods sector has a considerably competitive structure. To improve sector's competitive power, several policies are required. For the sector to reach its goal, it is important to lower the costs of energy and employment. Also, the increase in subsidiary R&D activities will increase the sector's competitive power. It would be useful to await the new EU applications in new directives while carefully considering the effects on the sector during adjustment to the EU environmental legislation.</p>
<p>KNOWLEDGE AND TECHNOLOGY</p>	<p>With respect to the country in general, the sector is more successful in terms of R&D activities. The R&D Law that came into force in March 2008 now also covers companies with more than 50 employees while previously the R&D incentives applied only to technology development areas. The sector's research development is expected to grow further. However, the subsidiary industry, 90% of which consists of SMEs, does not have systematic R&D activities. At this point, for the subsidiary industry to receive R&D support, preparation of necessary support and infrastructure for cooperation with universities is targeted.</p> <p>In general, necessary arrangements should be made to train staff so that the critical training can be provided for the industry, which needs professionally trained staff and intermediate staff. It is also important to simplify work and residence permits for foreign specialists that would work in the R&D area. It would be a major contribution to the sector's competitive power to increase the number and quality of the staff, to start inclusive effort for the programs developing intermediate staff and staff's quality.</p>
<p>COMPETITION</p>	<p>Commercial treaties, retailers, and services are made compatible with EU-congruent competition law and no serious competition problem has been encountered.</p>

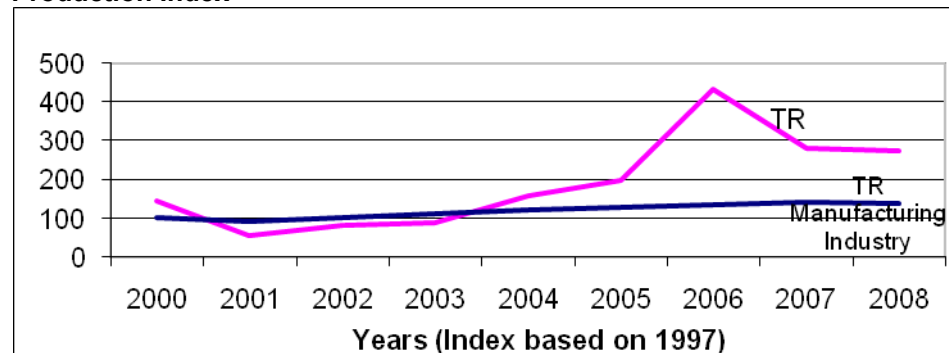
<p>REGULATORY FRAMEWORK</p>	<p>Legal infrastructure has been established for consumer safety; however constraints have been encountered during inspection. Our new consumer law, by-laws and product safety regulations are mostly EU-congruent and improvement in consumer rights protection have been achieved.</p> <p>Since white goods export to Europe has been increasing constantly since the 1990s, due to this extensive export, the sector is completely compatible with EU regulations. “Product safety,” the “CE mark” showing product’s being suitable for all technical regulations effective in the EU, many EU legal regulations that are closely related to our sector, were incorporated in Turkish legislation during the pre-accession period. Negotiations concerning the by-law liberating the import of second-hand white goods from EU countries will continue under the Customs Union Article.</p>
<p>ENVIRONMENT AND ENERGY</p>	<p>The mostly export-oriented sector is advanced in the area of compatibility with the EU directives. However the process is on-going for the domestic market.</p> <p>The process of EU harmonization in terms of energy productivity continues. Many EU legal regulations that are related to the sector, such as “energy labeling,” which indicates the purchased item’s values of energy and performance of some electrical household appliances was adopted in Turkish legislation during the pre-accession period. In addition, efforts have been initiated to implement harmonization of the EUP – Energy Using Products directive.</p> <p>High costs are expected due to the harmonization and application of the WEEE directive, through which obligations are imposed with respect to waste collecting and recycling of the electric and electronic devices placed on the market by the manufacturers and the RoHS directive that imposes a limitation on usage of some materials during their manufacture. The preliminary work on harmonization and regulation continues.</p> <p>ISPM 15 (phytosanitary protection, various ways of extermination of the microorganisms in wood packaging, and preparing the necessary documentation)-related studies that were begun in 2004 by Turkish exporting companies made possible the transition to ISPM15 standards, which determine EU and Turkey’s requirements. In Turkey, The Ministry of Agriculture and Rural Affairs has issued necessary legal regulations that are in accordance with the EU.</p> <p>During the harmonization of environmental legislation and developing a strategy, sectoral influences will be taken into account. In intensive competition with foreign companies, the sector legally presents ecological products that have higher than necessary standards. Europe’s least- energy-consuming refrigerator and dish washer are manufactured in Turkey, and numerous awards have been received.</p>

<p>EXTERNAL COMPETITIVENESS AND TRADE</p>	<p>White goods sector has become the second production base in EU with its established production capacity of 25 million in the field of big white goods. In 2009, 70% of 15.780.000 white goods production was exported. The sector's share in European market is 20% and by the end of September 2005 more than %64 of the production was being exported to 90 countries.80% of this export was to European Union countries. By 2013, the sector's exports are expected to increase by approximately 12%.³⁷</p> <p>There are a number of constraints confronting the sector's export performance. First of all, it is obvious that input and employment costs must be reduced to contribute to competitive strength power, despite the betterment of the exchange. In relation to that, with the new law that lessens the burden on employment, the sector's problems with employment costs are expected to lessen.. Also, the great amount of documentation required for the export and import processes have a negative impact on the sector and results in pecuniary losses and a waste of time. In particular, further development of the A type Customs Approved Person Status and possibility of custom procedures near manufacturing and inside factories will improve companies' procurement speed and enable them to successfully target exports to the EU market.</p> <p>Together with that, free of charge and very low land costs, market approximation, railroad transportation, low freight prices and low labor cost in such newly member states as Poland, will lead to the sector investing in those countries.</p> <p>According to Turkish Statistical Institute's industrial production index, based on 2005, the production of electrical household appliances that is covered by the white goods and small household devices production sector increased 24.2% until 2007. In 2008 with serious impact of the crisis the sector production has shown tendency to diminish, decreased 15% in 2009. Monthly industrial production index (TurkStat) demonstrated that in the first two months of 2009 the tendency to diminish grew gradually, but the precautions against the crisis proved to be effective in decreasing the diminishment tendency and that improvement took place in March.</p>
<p>EMPLOYMENT AND GEOGRAPHICAL DIMENSION</p>	<p>Most of the manufacturing facilities are located in the west of Ankara and are concentrated mainly in the Marmara area. This situation came about due to the developments in logistics and subsidiary industry.</p>

³⁷ SPO. 2006. "Specialized Commission's Report on Machinery and Metal Goods Industry ," Ankara

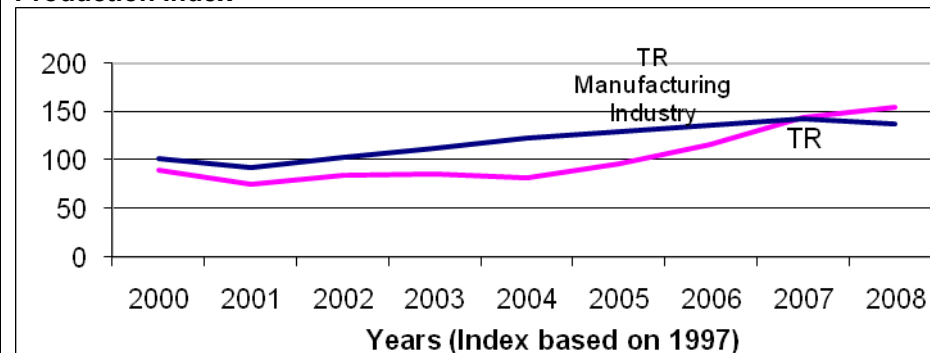
ANNEX 2.4: Electric and Electronics Industry

Figure Annex 2.4.1: Manufacture of Office Machinery and Computers Production Index



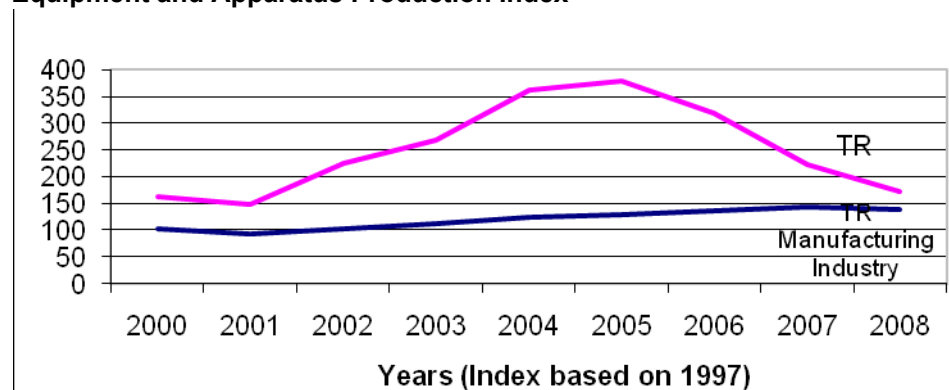
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Figure Annex 2.4.2: Manufacture of Electrical Machinery and Apparatus N.E.C. Production Index



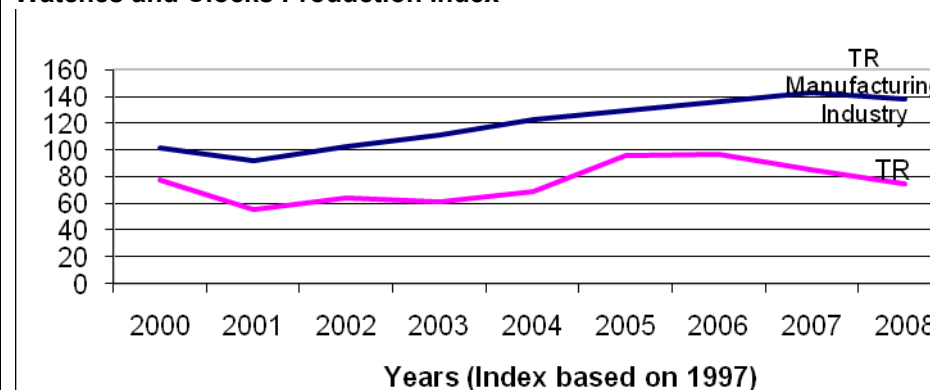
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Figure Annex 2.4.3: Manufacture of Radio, Television and Communication Equipment and Apparatus Production Index



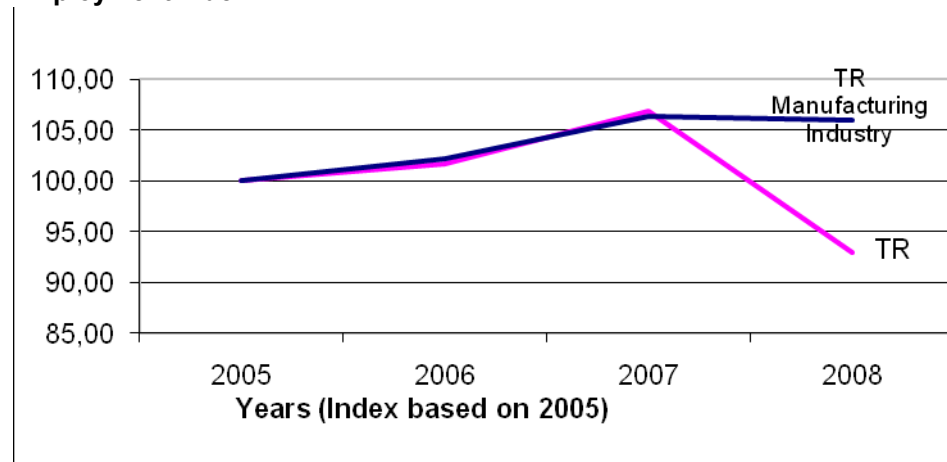
Source: TurkStat

Figure Annex 2.4.4: Manufacture of Medical, Precision and Optical Instruments, Watches and Clocks Production Index



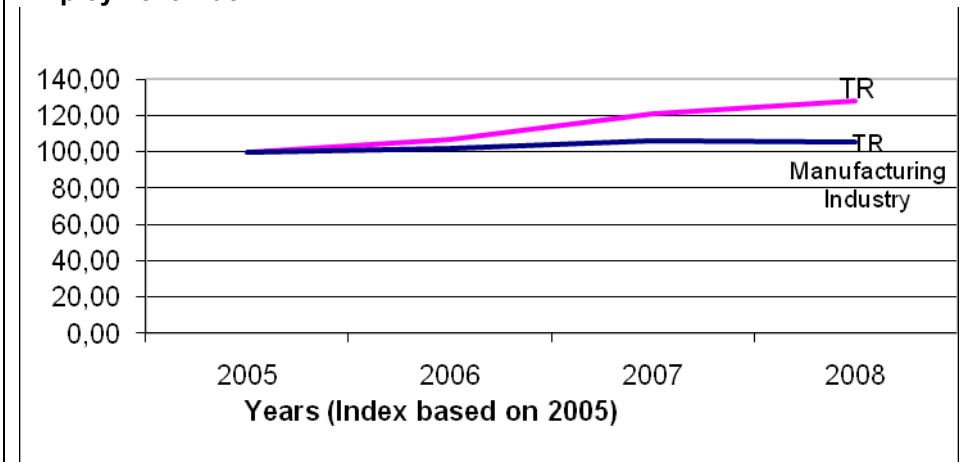
Source: TurkStat

Figure Annex 2.4.5: Manufacture of Office Machinery and Computers Employment Index



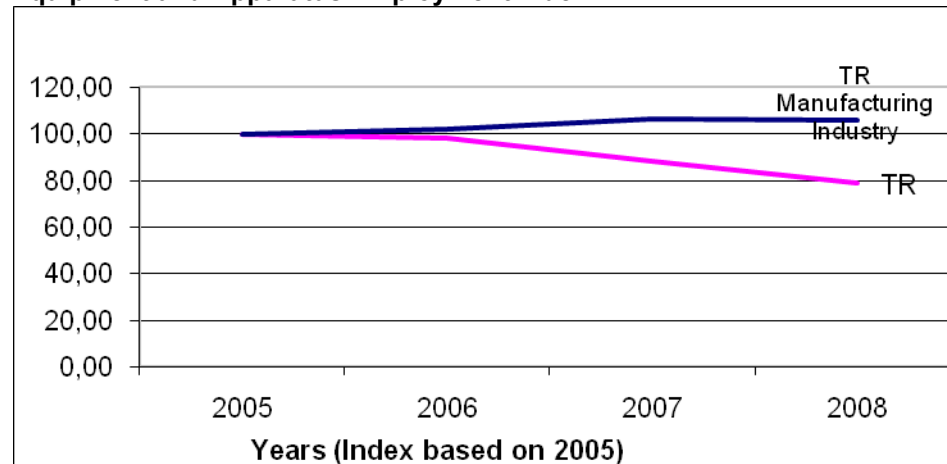
Source: TurkStat

Figure Annex 2.4.6: Manufacture of Electrical Machinery and Apparatus N.E.C. Employment Index



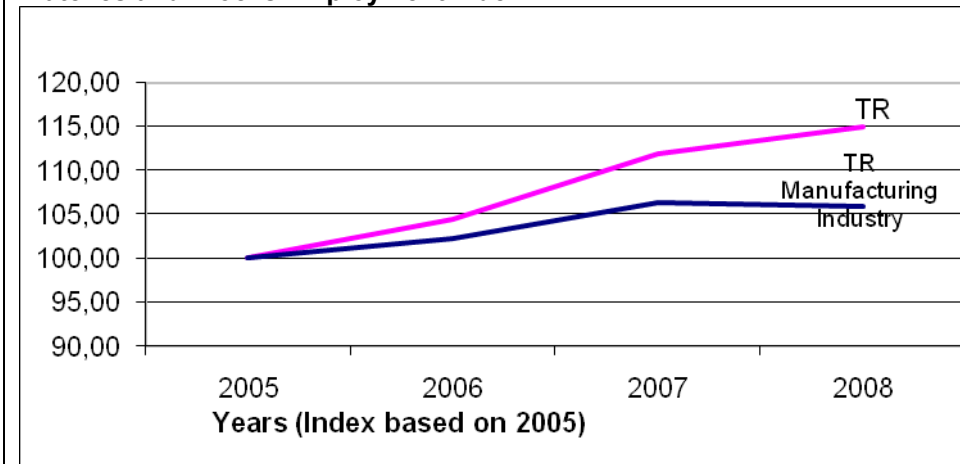
Source: TurkStat

Figure Annex 2.4.7: Manufacture of Radio, Television and Communication Equipment and Apparatus Employment Index



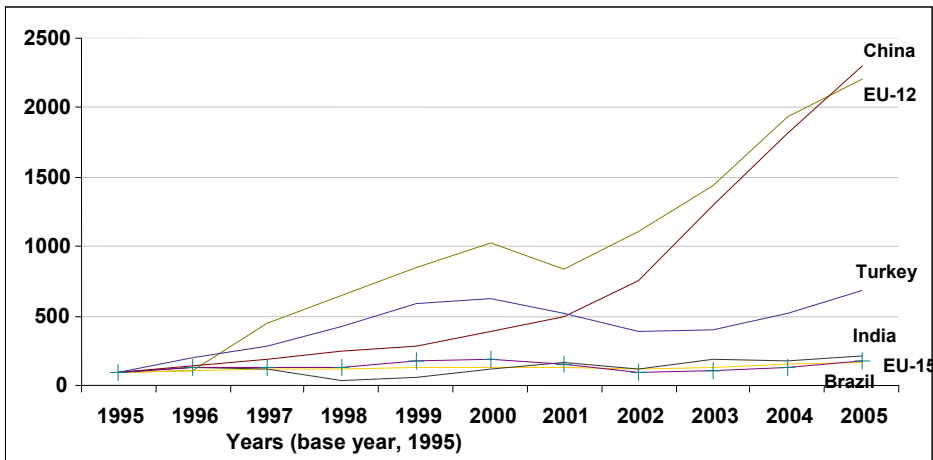
Source: TurkStat

Figure Annex 2.4.8: Manufacture of Medical, Precision and Optical Instruments, Watches and Clocks Employment Index



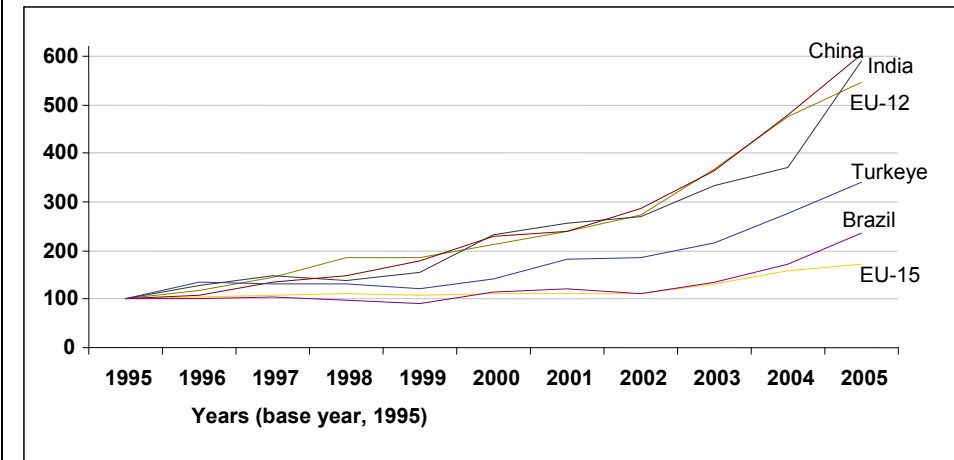
Source: TurkStat

Figure Annex 2.4.9: Manufacture of Office Machinery and Computers Export Index



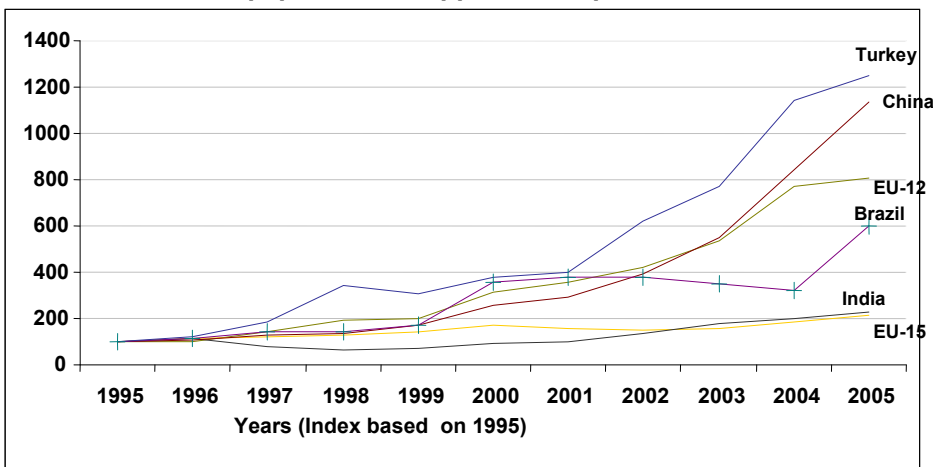
Source: COMTRADE, TEPAV Calculations

Figure Annex 2.4.10: Manufacture of Electrical Machinery and Apparatus N.E.C. Export Index



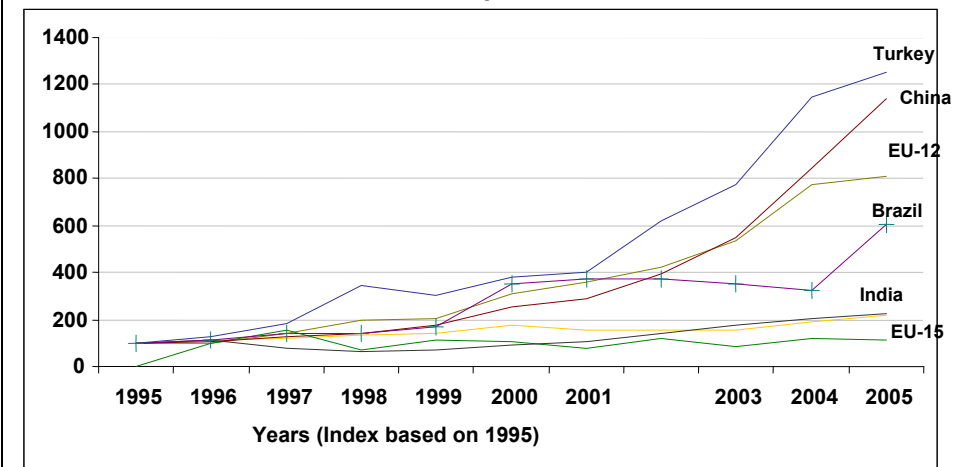
Source: COMTRADE, TEPAV Calculations

Figure Annex 2.4.11: Manufacture of Radio, Television and Communication Equipment and Apparatus Export Index



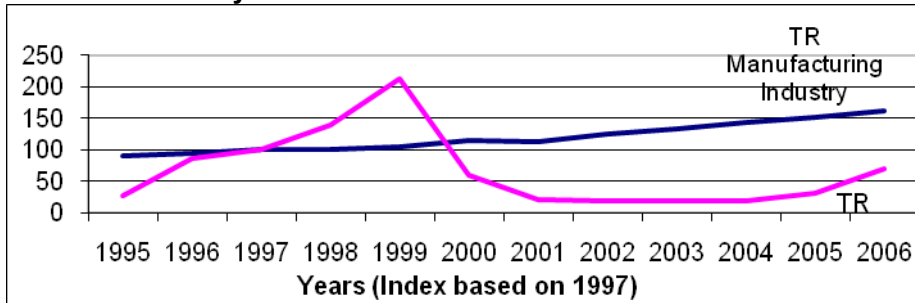
Source: COMTRADE, TEPAV Calculations

Figure Annex 2.4.12: Manufacture of Medical, Precision and Optical Instruments, Watches and Clocks Export Index



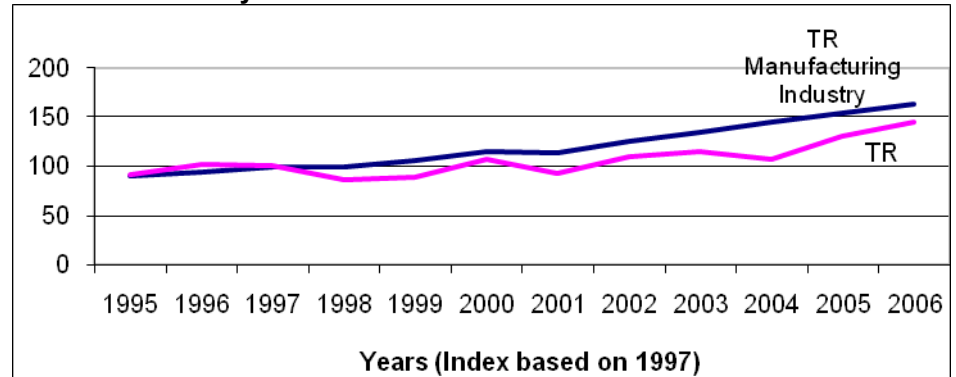
Source: COMTRADE, TEPAV Calculations

Figure Annex 2.4.13: Manufacture of Office Machinery and Computers Partial Productivity index



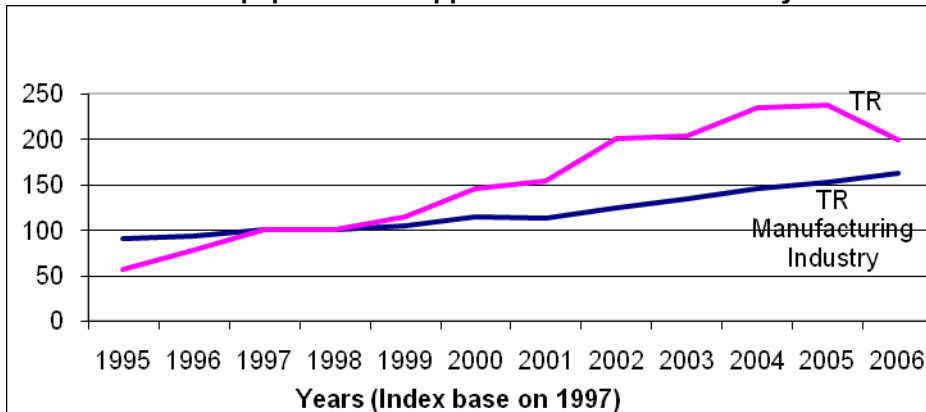
Source: TurkStat

Figure Annex 2.4.14: Manufacture of Electrical Machinery and Apparatus N.E.C. Partial Productivity index



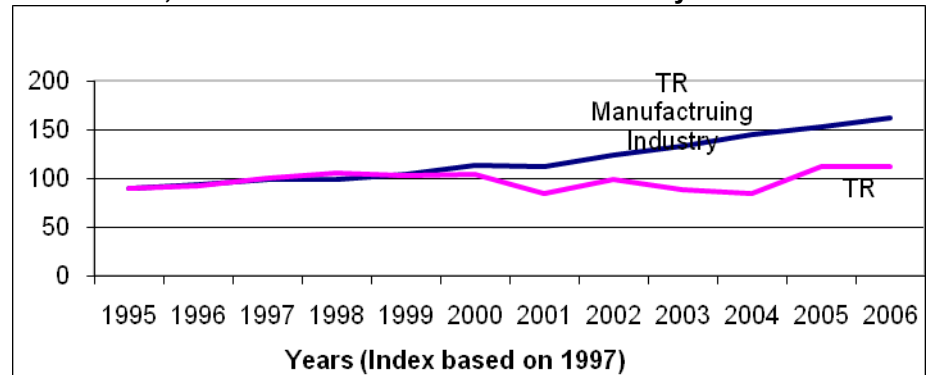
Source: TurkStat

Figure Annex 2.4.15: Manufacture of Radio, Television and Communication Equipment and Apparatus Partial Productivity index



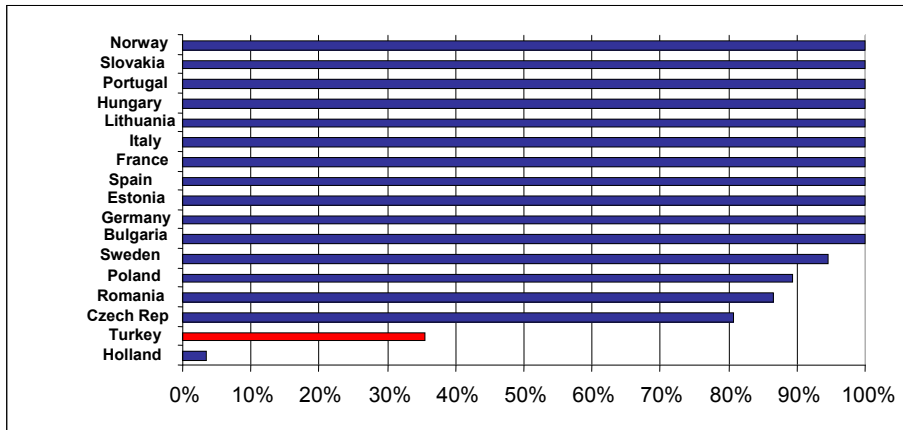
Source: TurkStat

Figure Annex 2.4.16: Manufacture of Medical, Precision and Optical Instruments, Watches and Clocks Partial Productivity index



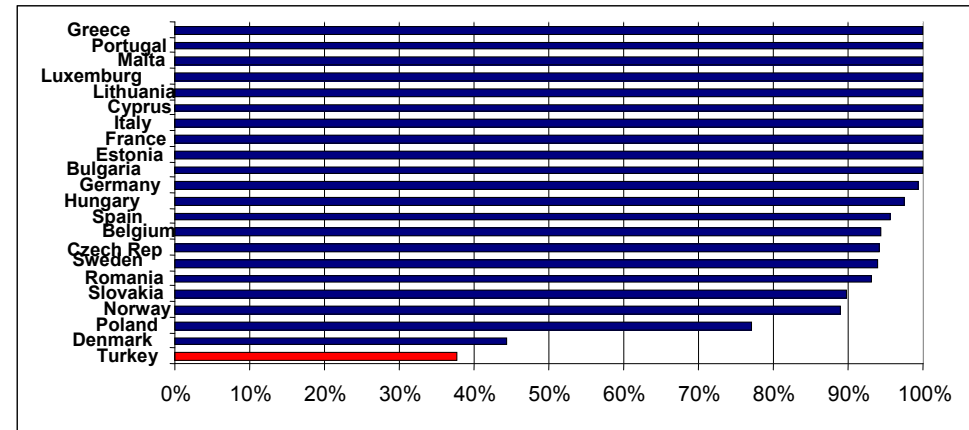
Source: TurkStat

Figure Annex 2.4.17: Innovative Firms in Office Machinery and Computers Manufacturing Industry, % (2002-2004)



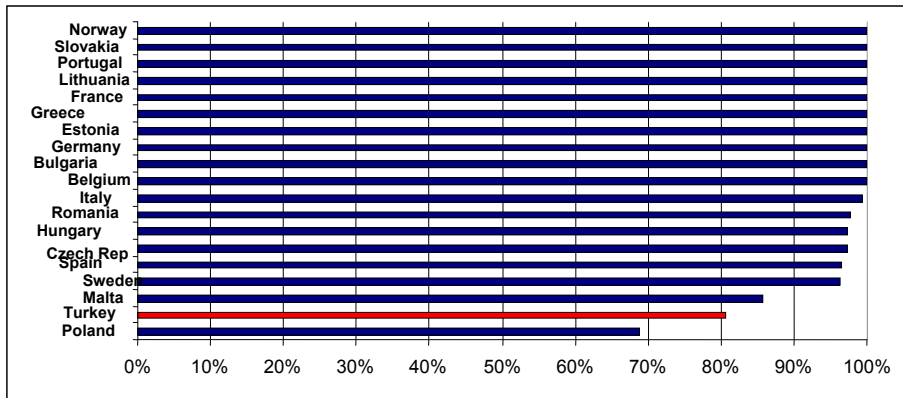
Source: COMTRADE, TurkStat

Figure Annex 2.4.18: Innovative Firms in Electrical Machinery and Apparatus N.E.C. Manufacturing Industry, % (2002-2004)



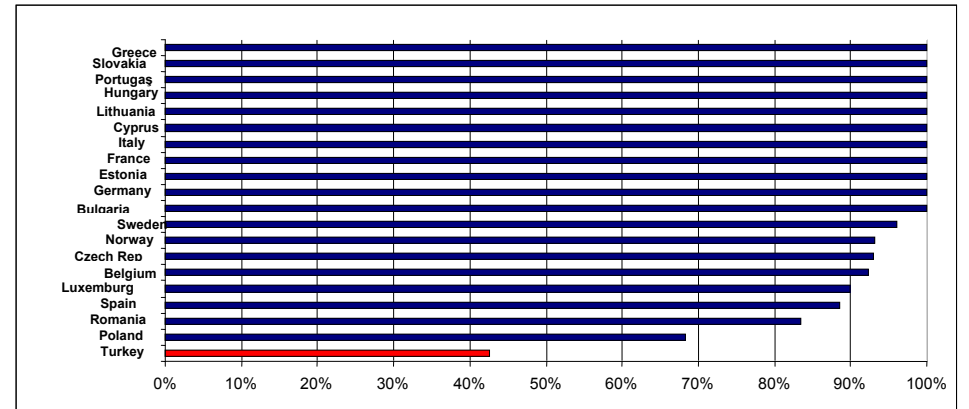
Source: COMTRADE, TurkStat

Figure Annex 2.4.19: Innovative Firms in Radio, Television and Communication Equipment and Apparatus Manufacturing Industry, % (2002-2004)



Source: COMTRADE, TurkStat

Figure Annex 2.4.20: Innovative Firms in Medical, Precision and Optical Instruments, Watches and Clocks Manufacturing Industry, % (2002-2004)



Source: COMTRADE, TurkStat

Table Annex 2.4.1: General Overview of Office Machinery and Computers Manufacturing Industry

Share of sector's total assets in general manufacturing industry (%) (2008) *	0.10
Share of production in manufacturing industry (%) (2006)	0.28
Share of employment in manufacturing industry employment (%) (2008) *	0.09
Share in total manufacturing industry import (%) (2009)	2.37
Share in total manufacturing industry export (%) (2009)	0.11
Rate of R&D expenditure of the sector to the general manufacturing industry (%) (2008)*	0,07

Source: TurkStat, TÜSİAD, 2008 Turkish Industry: A Sectoral Overview, * Entrepreneur Information System

Table Annex 2.4.2: General Overview of Electrical Machinery and Apparatus N.E.C. Manufacturing Industry

Share of sector's total assets in general manufacturing industry (%) (2008) *	3.61
Share of production in manufacturing industry (%) (2006)	3.61
Share of employment in manufacturing industry employment (%) (2008) *	3.74
Share in total manufacturing industry import (%) (2009)	5.96
Share in total manufacturing industry export (%) (2009)	4.29
Rate of R&D expenditure of the sector to the general manufacturing industry (%) (2008)*	13.13

Source: TurkStat, TÜSİAD, 2008 Turkish Industry: A Sectoral Overview, * Entrepreneur Information System

Table Annex 2.4.3: General Overview of Radio, Television and Communication Equipment and Apparatus Manufacturing Industry

Share of sector's total assets in general manufacturing industry (%) (2008) *	0.5
Share of production in manufacturing industry (%) (2006)	5.97
Share of employment in manufacturing industry employment (%) (2008) *	0.42
Share in total manufacturing industry import (%) (2009)	4.19
Share in total manufacturing industry export (%) (2009)	2.01
Rate of R&D expenditure of the sector to the general manufacturing industry (%) (2008)*	2.36

Source: TurkStat, TÜSİAD, 2008 Turkish Industry: A Sectoral Overview, * Entrepreneur Information System

Table Annex 2.4.4: General Overview of Medical, Precision and Optical Instruments, Watches and Clocks Manufacturing Industry

Share of sector's total assets in general manufacturing industry (%) (2008) *	0.81
Share of production in manufacturing industry (%) (2006)	0.51
Share of employment in manufacturing industry employment (%) (2008) *	0.90
Share in total manufacturing industry import (%) (2009)	2.82
Share in total manufacturing industry export (%) (2009)	0.39
Rate of R&D expenditure of the sector to the general manufacturing industry (%) (2008)*	0.63

Source: TurkStat, TÜSİAD, 2008 Turkish Industry: A Sectoral Overview, * Entrepreneur Information System

<p>GENERAL OVERVIEW</p>	<p>Electronics industry is a very important sector in the sense that it acts as a source for information technologies, and it is a high value added.</p> <p>The Turkish electronics sector is faced with serious constraints, generally in terms of information sharing, design, branding, access to finance, research and development (R&D), training of human resources, guiding human resources, sufficiency of the legal infrastructure and institutionalization. On the other hand, it has advantages such as being close to EU markets, having a dynamic domestic market, a young population, a developed quality concept, lower labor costs compared to those in rival countries, and flexibility in terms of adopting new technologies.</p> <p>In the Ninth Development Plan Electronics Sector Ad-Hoc Committee Report, which was prepared under the coordination of SPO, the vision of the sector was stated as “Manufacturing of the products that are sought in global markets in accordance with international quality standards but at competitive prices in our country and selling of them to all markets of the world”.</p>
<p>KNOWLEDGE AND TECHNOLOGY</p>	<p>Due to its structure and competitive conditions, it is one of the leading sectors in which R&D and Innovation are given utmost importance. Product and manufacturing process technologies in electronics industry are being rapidly improved and product lives are shortening. In 2006, the Turkish electronics industry spent approximately \$170 million for R&D. In this sector, the share of R&D as a percentage of sales is 1.8%, much higher than the general average of 0.7% in Turkey.</p> <p>However, when the R&D expenditures of the big manufacturers in consumer electronics in the world are analyzed, the level of current expenditure is seen to be insufficient. While the average of R&D expenditure/Net Sales ratio of the five biggest companies dominant in world markets is 5.6%, that of Turkish companies that export remain at a level of 1-2%. In addition, with respect to the number of innovative firms, Turkey lags behind the EU countries in nearly all subsectors. This situation indicates that to acquire the ambitious targets in the electronics sector, it is necessary to invest more in information and technology and to pay more attention to the relevant policies.</p> <p>The leading international companies in the sector which devote sufficient amounts of resources to R&D activities form patent pools among themselves, therefore increasing their dominance in the sector. The shortening of product lives increased the patent holder’s opportunity to control the manufacture of new products and their sales, namely, the tendencies in the market. Especially Turkish companies having difficulty in accessing the patent portfolio of the competitor companies in the TV sector should use patented technologies and pay license fees. To overcome the difficulties in this field, it is necessary for the sector to perform long-term R&D at sufficient levels. The firms also need support in obtaining patents.</p>

	<p>Nevertheless, there is a need for vertical coordination in investments. For example, it is necessary to produce not only digital televisions but also recorded digital video players (DVDs) and to compete in the foreign market with these products. Establishing advanced technology integrated production lines in Turkey, rather than final product design and assembly, is deemed to be more favorable by the sector.</p> <p>The sector employs a great number of trained white-collar and blue-collar employees. However, there is a lack of technical employees who are trained according to the appropriate curriculum. Compared to the other developed countries, there is shortage of R&D personnel in particular in Turkey. Qualified employees are needed at each stage of production processes to improve high production quality. Improving the business-related qualifications of the employed workers is a must for increasing productivity in addition to quality improvement. Lack of training and capabilities of employees is being made up for by in-company trainings.</p> <p>Besides, in accordance with the importance of R&D, innovation, and manufacturing technologies in the electronics sector, university-industry cooperation is required to be established through solid projects like the Advanced Technology Industry Parks (ITEP) Project, in addition to current practices like (SAN-TEZ, Technology Development Regions).</p>
<p>COMPETITION</p>	<p>Nearly 20 big companies compete in the electronics sector in Turkey. The other companies in the sector are mostly SMEs.</p>
<p>REGULATORY FRAMEWORK</p>	<p>Within the framework of the decision to make the Customs Union between Turkey and the EU effective at the beginning of 1996, eliminating customs taxes, quota limitations, and measures of equivalent impact and Turkey's compliance with the EU legislation on eliminating technical barriers to trade were envisaged in order to provide free circulation of goods between two parties.</p> <p>Conditions of putting of a product on the market, which are within the scope of Law no 4703 can be summarized as "compliance with related technical regulations" and "being safe". The European Union felt the necessity to develop a different approach in the 1980s regarding standardization with the aim of eliminating all the technical barriers restricting the free movement of goods, and developed the "New Approach" on technical concordance and standardization and the "Global Approach" as complementary on controls and documentation. CEN and CENELEC were given the responsibility of arrangement of the technical properties required for production and supplying of the products to the markets in compliance with safety requirements determined by the directives.</p> <p>These technical specifications are not compulsory but rather are optional. Only the directives are compulsory. National</p>

	<p>authorities should accept the assumption that the products manufactured in line with European standards comply with the fundamental requirements that are indicated in the directives. Legal regulations, including the CE marking, related to the sector in Turkey are completely in compliance with EU legislation.</p>
<p>ENVIRONMENT AND ENERGY</p>	<p>In the EU, which has rather strict practices regarding energy efficiency, it is forbidden to market products having an energy performance below a specified energy efficiency value. With the RoHS Directive of EU no 2002/95/EC, which restricts the use of harmful substances, the use of some hazardous substances such as lead, mercury and cadmium in electrical and electronic products is prohibited or restricted. In case of having the mentioned substances in an amount exceeding the threshold value, this product cannot enter the confines of the EU. Legal sanctions with high costs are implemented for destruction of the products containing hazardous substances. Turkish manufacturers produce in compliance with these limitations as well. Compliance with RoHS directives has increased the product unit cost in the sector and has required them to put up with additional investment costs. The WEE Directive of EU numbered 2002/96/EC was enacted so as to collect and recycle all the electrical and electronic products at the end of their product life. The cost of this process is basically charged to the manufacturers. At present in Europe, for televisions for instance, WEE Directive costs reaching up to 10 Euros per item. Moreover, the environment adaptation directive numbered 2009/125/EC (Eco-Design) will be harmonized by Industry and Trade Ministry.</p> <p>As for the energy efficiency, it is important for the electronics sector to guarantee uninterrupted low-cost electricity production. On the other hand, the energy straits that might arise due to the decline in electricity supply and insufficiency of the current investments in Turkey concerns the sector.</p>
<p>EXTERNAL COMPETITIVENESS AND TRADE</p>	<p>The companies in Turkish electronics sector significantly export to EU countries. (England, Germany and Spain compose the most important markets for the companies in Turkish electronics sector.)</p> <p>The fact that product life spans shortened and product diversification gained importance emphasized the significance of R&D and design activities. One of the most important factors influencing the competitiveness of Turkish electronics sector negatively is the insufficiency in R&D and design. Both financial insufficiencies and also the fact that sector-university collaboration in real terms cannot be adequately achieved are among the problems with which the sector is faced. Insufficient institutionalization, and such developments as increased firm mergers and strategic partnerships in the international arena emerge as significant barriers and threats to increasing the competitive strength of Turkish electronics industry. Moreover, the fact that the competitive strength of the components sub-sector providing input to all the other sub-sectors of the sector is weak influences the competitive strength of all the other sub-sectors negatively.</p>

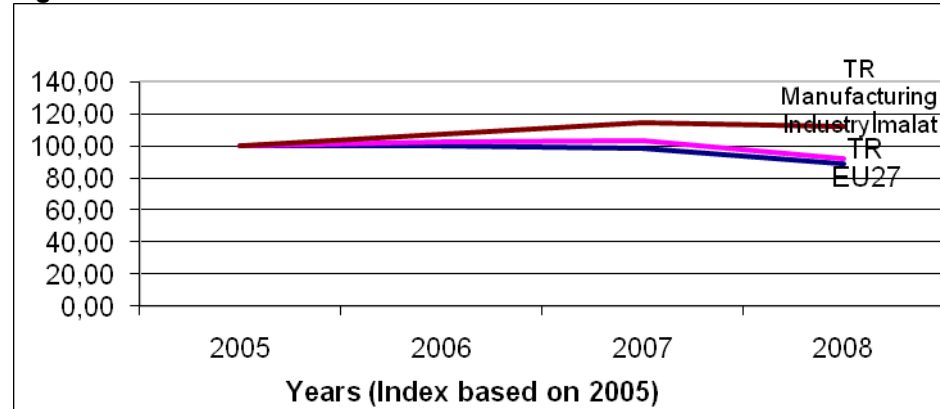
	<p>On the other hand, the presence of a lively domestic market which is the basic dynamic in the development of particularly the consumer electronics, computer, telecommunications sub-sectors, long-term support to Turkish electronics sector to be provided by the Turkish Armed Forces (TAF) within the framework of TAF modernization are opportunities that should be exploited to increase competitiveness of sector in general. The fact that manufacturing regions are generally close to ports provides a logistic advantage for the sector. To bring the railway connection with Europe, which is one of our most important export markets, to a level that would enable fast transportation with a sufficient number of services would bring additional logistic advantages. Besides, the obligation of establishing service and spare parts network in the new markets leaves the sector confronted by an important competition pressure. The developments in logistics will provide a considerable convenience in the service and spare parts network in the new markets. In Turkey, in which young population is predominant in number, it is important that the electronics sector facing a shortage of qualified personnel turns this disadvantage into advantage by providing training and infrastructure support. The competitive Far East is an important threat to Turkish companies in export markets. Far East goods have reached remarkable positions in the market, particularly with electronic devices, small house appliances and air conditioners. This situation affects many companies negatively and leads to loss of employment.</p> <p>According to TURKSTAT data (ISIC Rev3 Classification) the export in the fields of office, accounting and computing machinery; electrical machinery and apparatus not elsewhere classified; radio, television and communication equipment and apparatus; medical, precision and optical instruments, watches and clocks has increased to 7,8 billion dollars in 2008 from 5,3 billion dollars in 2005. However, the exports value diminished to 6,4 billion dollars in 2009 because of the impact of economic crisis.</p> <p>Similarly import has increased to 19,3 billion dollars in 2008, which was 13,8 billion dollars in 2005 whereas, import decreased to 17 billion dollars in 2009.</p>
<p>EMPLOYMENT AND GEOGRAPHICAL DIMENSION</p>	<p>In the electronics sector, where qualified workers are crucial, the companies are having difficulty in finding qualified employees. The tax burden on employment also encourages informal employment.</p> <p>The number of firms operating in the sector was about 500 as of the end of 2007. 153 of operating companies are registered to Istanbul Chamber of Industry, 108 of them registered to Ankara Chamber of Industry, 75 of them registered to the Aegean Chamber of Industry and the rest is registered to the chambers of industry in other regions. The number of the personnel working in these companies is 31,300.</p> <p>In all subsectors except for electrical machinery and apparatus n.e.c, the employment has increased more rapidly compared to the sector in the EU.</p> <p>Most of the manufacturers in the Small House Appliances sector are located in Istanbul and Kayseri and partially located in Eskişehir, Izmir and Çankırı. 80% of production in electromechanic sector is located in Marmara, Aegean and Central Anatolia. In</p>

general, a large share of this distribution is held by high voltage (HV), mid-voltage (MV) and low voltage(LV) equipment, power transformer, HV, MV and LV cable manufacturing. The remaining 20% of production is carried out in the other regions of Turkey.

According to the TurkStat data, employment in the Office Machinery and Computer, and the Radio, Television and Communication Equipment and Apparatus manufacturing sectors decreased in 2008 compared to 2007, and the employment in the Electrical Machinery and Apparatus n.e.c, and Medical, Precision and Optical Instrument, Watches and Clocks manufacturing sectors increased 5.5% and 2.7%, respectively.

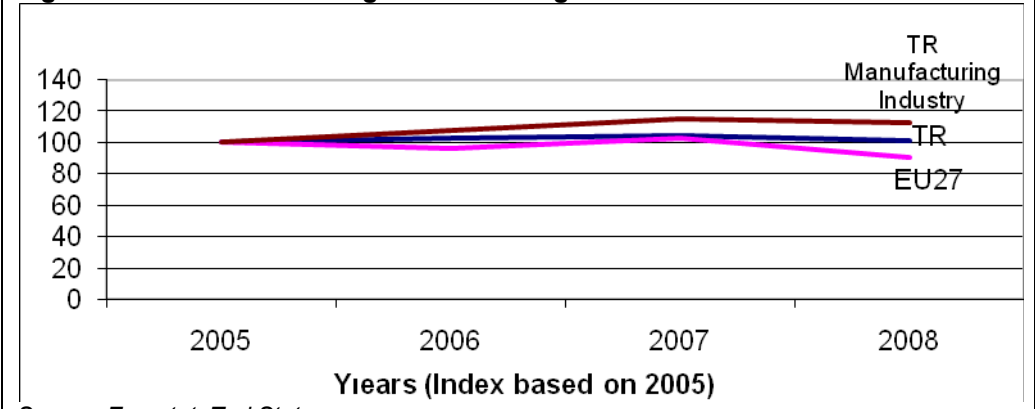
ANNEX 2.5: Textiles Industry

Figure Annex 2.5.1: Manufacture of Textiles Production Index



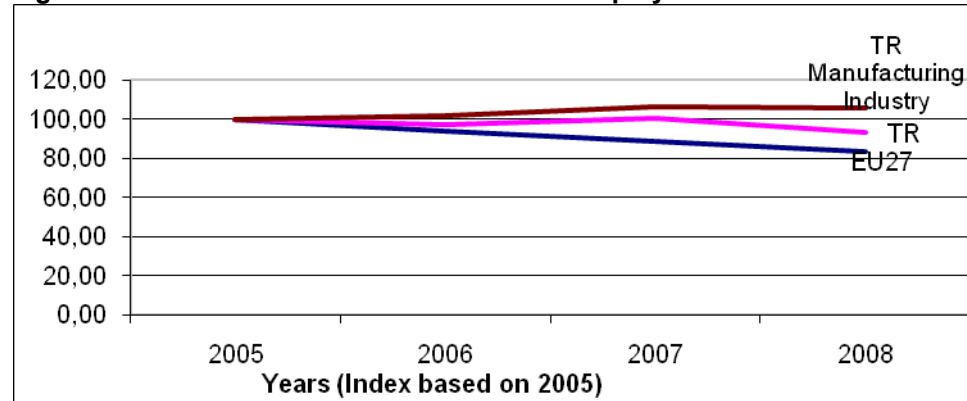
Source: Eurostat, TurkStat

Figure Annex 2.5.2: Clothing Manufacturing Production Index



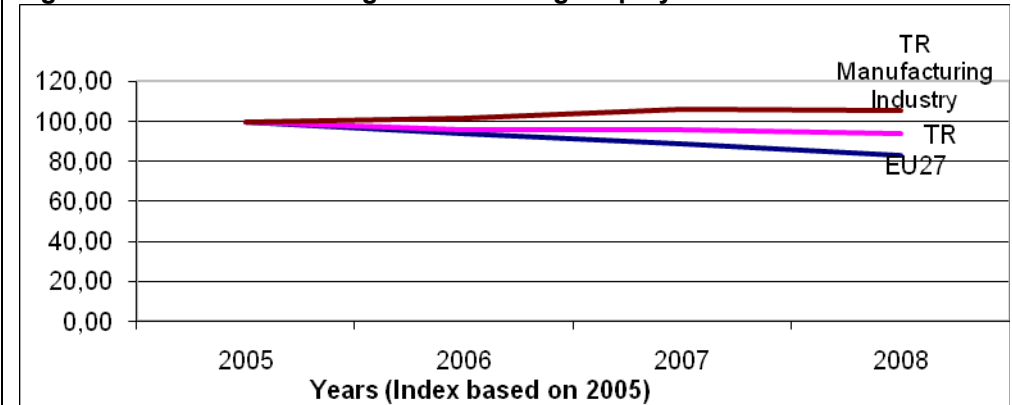
Source: Eurostat, TurkStat

Figure Annex 2.5.3: Manufacture of Textiles Employment Index



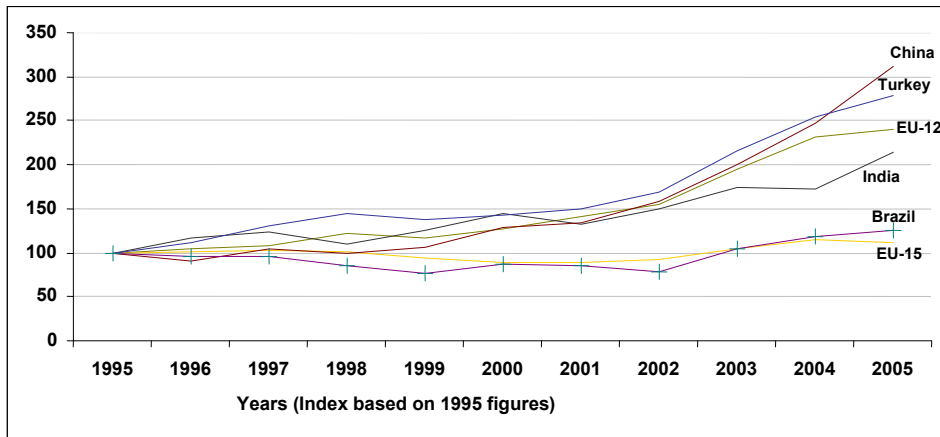
Source: Eurostat, TurkStat

Figure Annex 2.5.4: Clothing Manufacturing Employment Index



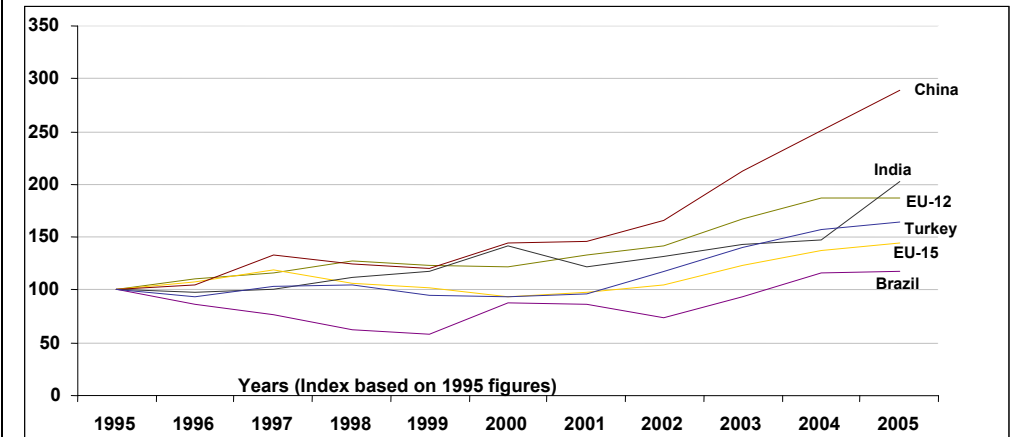
Source: Eurostat, TurkStat

Figure Annex 2.5.5: Manufacture of Textiles Export Index



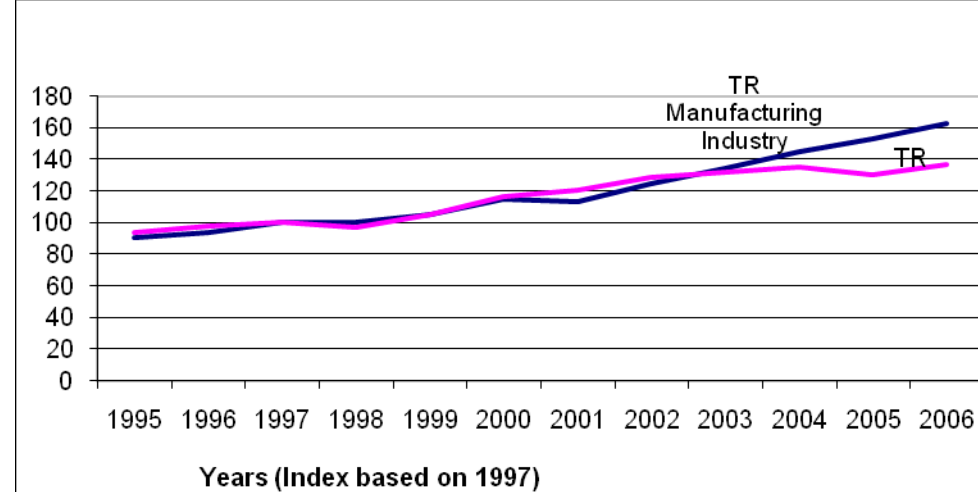
Source: COMTRADE, TEPAV Calculations

Figure Annex 2.5.6: Clothing Manufacturing Export Index



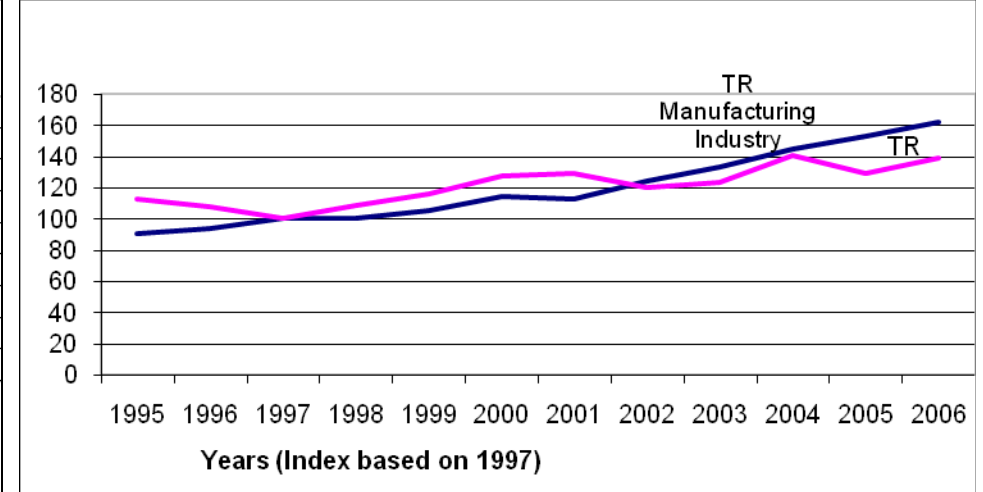
Source: COMTRADE, TEPAV Calculations

Figure Annex 2.5.7: Manufacture of Textiles Partial Productivity Index



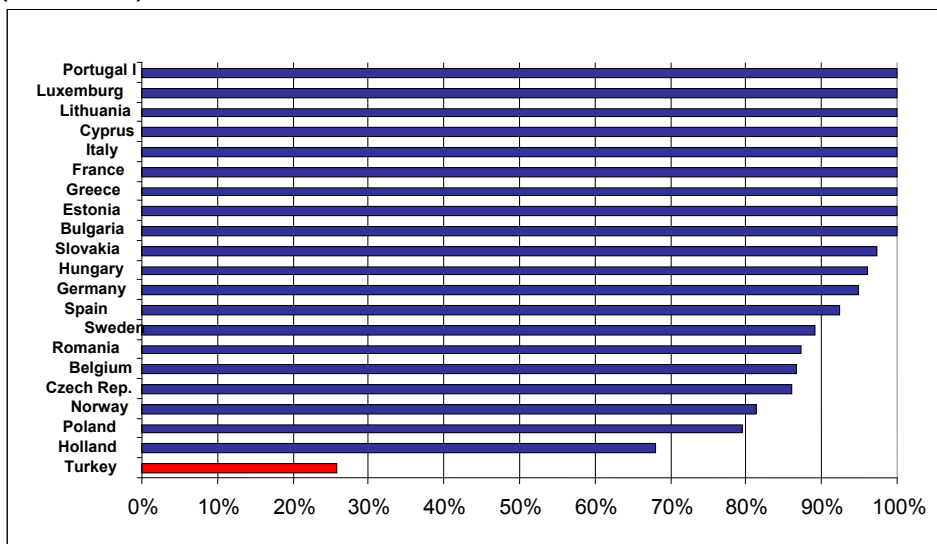
Source: TurkStat

Figure Annex 2.5.8: Clothing Manufacturing Partial Productivity Index



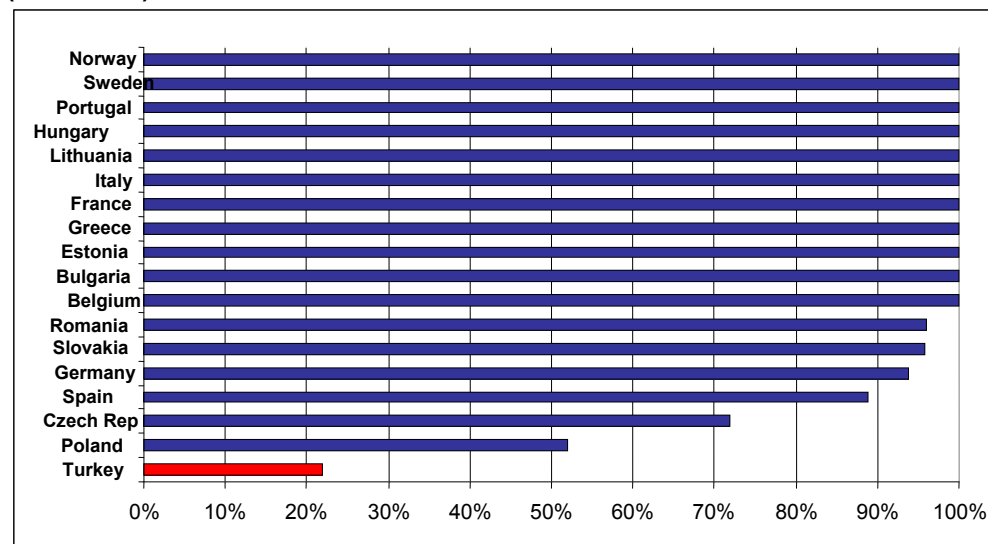
Source: TurkStat

Figure Annex 2.5.9: Innovative Firms in Textile Manufacturing Industry, % (2002-2004)



Source: COMTRADE, TurkStat

Figure Annex 2.5.10: Innovative Firms in Clothing Manufacturing Industry, % (2002-2004)



Source: COMTRADE, TurkStat

Table Annex 2.5.1: General Overview of Textile Manufacturing Industry

Share of sector's total assets in general manufacturing industry (%) (2008) *	9.26
Share of production in manufacturing industry (%) (2006)	12.33
Share of employment in manufacturing industry employment (%) (2008) *	13.535
Share in total manufacturing industry import (%) (2009)	3.918
Share in total manufacturing industry export (%) (2009)	10.02
Rate of R&D expenditure of the sector to the manufacturing industry (%) (2008)*	2.081

Source: TurkStat, TÜSIAD, 2008 Turkish Industry: A Sectoral Overview, * Entrepreneur Information System

Table Annex 2.5.2: General Overview of Clothing Manufacturing Industry

Share of sector's total assets in general manufacturing industry (%) (2008) *	3.87
Share of production in manufacturing industry (%) (2006)	4.05
Share of employment in manufacturing industry employment (%) (2008)*	9.58
Share in total manufacturing industry import (%) (2009)	1.59
Share in total manufacturing industry export (%) (2009)	10.06
Rate of R&D expenditure of the sector to the manufacturing industry (%) (2009)*	0.93

Source: TurkStat, TÜSIAD, 2008 Turkish Industry: A Sectoral Overview, * Entrepreneur Information System

GENERAL OVERVIEW

The first two industry branches that started to develop in Turkey were textiles and clothing. These two sectors are critical for Turkey when criteria such as current installed capacity, export and employment are taken into account. Moreover, they are the largest manufacturing sectors in terms of production and employment. Since 2002, the number of companies operating in textile and clothing sectors has been 56,041. Respectively, 81 and 86% of the companies in textile and clothing sectors, employ less than 10 people. The number of people employed in the companies operating in these two sectors was 700,000 in 2002. However, when the high rate of unregistered employment in the sector is considered, this number is most likely around 2 million. The share of these two sectors in Turkey's total export decreased to 20% in 2006 from 33% in 2002. Although the increase in export continues, the share of textile and clothing goods in the total export has a tendency to fall behind. The fact that EU and the US removed quotas on China at the beginning of 2005 and then started to apply quotas again in the middle of 2005, but at higher rates on a more limited number of goods, is the basic reason for this situation. EU and the US completely removed quotas they impose on goods made in China at the end of 2008 within the frame of WTO (World Trade Organization) agreements, which will make the situation more challenging for the two sectors. The EU's decision to undertake a Free Trade Agreement with supplier countries for the sector, such as India and South Korea, as well as the commence of practices designed to simplify the preferential origin rules so as to provide advantage against third country origin goods and the initiation to make trade protection tools flexible has affected the competitiveness of the sector negatively.

In the Ninth Development Plan Textile, Clothing and Confection Industry Ad-hoc Committee Report prepared under the coordination of the SPO (State Planning Organization), the strengths and weaknesses of the sector, the opportunities and the threats facing the sector were listed. Among the strengths, the facts such as proximity to EU market, availability of the up-to-date technology, compliance with environment standards, non-governmental organizations and effective communication and efficiency in each of the production chain were stated. The weaknesses of the sector were determined to be the excessiveness of taxes and other similar burdens, the insufficient coordination between subsectors, the high cost of production stages, unfair competition of imported goods and deficiencies in meeting the requirements of the sector with the current technology and R&D and training policies. Among the opportunities, raising awareness about differentiation and brand-creation and development of skills with regard to supply chain management, sectoral consolidation, strategic cooperation, acting together and proliferation of clustering were listed. Finally, issues such as the effects which would be seen after removing the quotas applied on China, the negative consequences the EU's textile-oriented policies vis-à-vis Turkey and the widespread use of imported string were listed in the threat section.

It is demanded by the sector that investments supporting environmental friendly production, developing Research and Development (R&D), Production Development (P&D) and innovation skills, providing modernization and renewal are promoted. In addition, the sector demanded that petrochemistry and cotton investments which supply the raw materials required by the sector from domestic sources and in sufficient amounts are also supported.

KNOWLEDGE AND TECHNOLOGY

Particularly after the textile and clothing products manufactured in China entered the world markets, the sector lost the advantage of cheap labor and it would be reasonable for the sector to give importance to R&D and Production development to be able to cope with global competition pressure. It is necessary for the textile and clothing sector in Turkey to perform the structural changes made in the end of the twentieth century in EU and move to the "market maker" position from the position of "supplier country." In addition to this, it is an obligation to start high performance technical textiles production with multi-functional, interactive clothes and home textile by performing intensive R&D practices in the specified areas in Technology Platform together with EU textile industries. The fact that there isn't another similar institution except for the Textile Research Centre established by TÜBİTAK (The Scientific and Technological Research Council of Turkey) with a budget of \$400 million is an indicator of the low innovation capacity in the sector. There are two types of restrictions ahead of the foundation of such institutions. The first restriction is that the financial source is restricted. The second is the lack of qualified employees appropriate to work in such institutions.

While the traditional textile enterprises allocate 2-3% and textile enterprises manufacturing high performance technical textiles and special innovative textile products allocate 8-10% of their turnover to R&D and to Production-Development in EU, this ratio is below 1% in Turkey.

The demand tendencies in the world in relation to fiber, weaving, knitting, nonwoven, textile finishing and confection must be followed carefully. To change the production pattern in the sector in compliance with the products whose demand is continuously increasing in the world, it is necessary to focus on improving the technological content of production instead of increasing the current capacity with new investments. In that scope, with "Decision Regarding State Support For Investments" which was published in 16.07.2009 Investment Incentive Certificates will not be given for the processing investments of cotton unseed; new, expansion and integration investments for the production of synthetic fiber and synthetic lace; investments, except modernization investments, in the fields of fiber and woven (excluding wool yarn, intelligent and multifunctional technical textile, carpet, tufting, nonwoven and unknitted fabric and sacks). Moreover, intelligent and multifunctional technical textile investments are supported at various regions.

In Turkey, there are textile engineering departments in 12 universities, departments of textile and clothing teaching in 3 universities, and textile technician departments in more than 100 vocational higher schools. 7500 people graduate as textile technicians every year. The number of textile technicians required by the sector, on the other hand, is 2500 per year. There is no problem with recruiting employees in the sector. However, it is possible to say that the companies operating in textile and clothing sector are not satisfied with the skill level of the current labor force. It is thought that sufficient success cannot be acquired in post-graduate education due to deficiencies in infrastructure and lack of instructors.

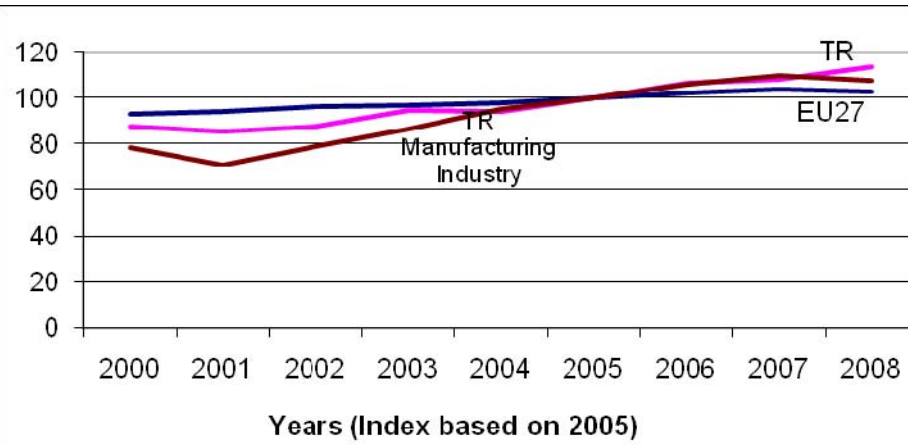
<p>COMPETITION</p>	<p>There are a great number of small-scale companies operating in textile and clothing sectors. Therefore, there is no company dominant in the market. Also, regulations regarding the foreign trade issues such as safeguard and market surveillance measures in imports textile goods import, the inward and outward processing regime and unfair commercial practices have been made within the frame of the Customs Union between Turkey and EU. Textile and clothing sectors also benefit from supports of Undersecretariat of the Prime Ministry of Foreign Trade for R&D support, state aid for reducing the environment costs, market research support, training aid, employment aid, overseas office support, patent, utility model, supports for industrial design and trademark registration expenditure, support for the fairs and support for Turkish products to become brands in international markets. Additionally, it is possible for the sector to benefit from support programmers of institutions such as Undersecretariat of Treasury, KOSGEB, TUBİTAK, EXİMBANK. Also, “Council of Minister’s Decision Regarding State Support For Investments” numbered 2009/15199 was issued in 16.07.2007 and “Communiqué On The Implementation Of Decision Regarding State Support For Investments” numbered 2009/1 was published in the Official Gazette by Undersecretariat of Treasury in 28.07.2009.</p> <p>Within the framework of Council of Minister’s Decision, supports to be given to the sector according to different regions is determined. In addition, supports which will be given to the enterprises in 1st and 2nd regions in case of their relocation to the provinces of 4th region are determined.</p>
<p>REGULATORY FRAMEWORK</p>	<p>The export and import of textile and clothing goods in Turkey are performed within the frame of Customs Union signed with EU. EU’s Regulations numbered 3030/93 and 517/94 have been transposed to the national legislation with the Decision of Council of Ministers numbered 95/6815 and 95/6816 and the related legislations.</p> <p>In the textile and clothing sector in Turkey, the operations are conducted in accordance with the provisions stated in the Directive on certain methods for the quantitative analysis of binary textile fiber mixtures (96/73/EC), the Directive on the Quantitative Analysis of Ternary Fiber Mixtures (73/44/EEC) and the Directive on Textiles names (96/74/EC) .</p>
<p>ENVIRONMENT AND ENERGY</p>	<p>IPPC (Integrated Pollution Prevention and Control) Directive is the most important framework regulation regarding the environment. It has been issued “to control the polluting emissions” caused by large industrial plants. IPPC requires the use of BAT (Best Available Technology). The other regulations related with the sector are the EKOTEKS (Ecological Label) regulations which are commonly applied due to the fact that export is done to EU within the framework of REACH regulation.</p> <p>Textile finishing is the textile and clothing branch which has the highest potential to harm the environment. The importers of textile and clothing products in EU demand certification proving that the products are produced harmless to environment. Therefore, it is important to obey the issues stated in the "Reference Document of The Best Available Techniques for Textile</p>

	<p>Industry" published by "European Integrated Pollution Prevention and Control Bureau " to sustain export to EU Markets. Most of the enterprises operating in textile and clothing sector in Turkey have begun to pay attention increasingly to the issues listed in the abovementioned reference document.</p> <p>In the scope of State aid applications, the investments which would enable the sector to move onto an environment-friendly production structure will be encouraged. In the Textile Technology Platform established in 17th December, 2004, some of the targets projected to be attained in 2020 are related with determining bio-materials and bio-technologies and environmentally-friendly activities.</p>
<p>EXTERNAL COMPETITIVENESS AND TRADE</p>	<p>Turkish textile and clothing sector have maintained its competitiveness in international markets in a particular level. However competitiveness based on cost advantage has become difficult in these sectors. To be able to compete with countries having low cost labor force advantages will be possible with high-added value, quality, fashionable, trademarked and just in-time production. Furthermore it is important to develop technical textile and multifunctional products including high technologies. But in these sectors, Turkey, performing 3-5% of the textile export in the world in 2006, is the eighth biggest exporter with this performance. In addition to this, it became the seventh biggest importer in the world in textile in 2006 to meet the increasing raw material requirement. Although the textile and clothing companies in Turkey are among the leading textile and clothing producers in the world, they are influenced by the raw material and labor costs and Exchange rates considerably.</p> <p>The EU's decision to undertake a Free Trade Agreement with supplier countries for the sector, such as India and South Korea, as well as the commence of practices designed to simplify the preferential origin rules so as to provide advantage against third country origin goods and the initiation to make trade protection tools flexible has affected the competitiveness of the sector negatively.</p> <p>Rate of capacity utilization in textile sector was 75,5% in 2008 and 71,8% in 2009, whereas, in the first six months of 2010 the rate was 76,6%. On the other hand, rate of capacity utilization in clothing sector was 80,1% in 2008, 75,8% in 2009 and was 74,8 percent in the first six months of 2010.</p> <p>In 2009 there was an average 19,1% decrease in export and 13,7% decrease in import of textile sector. Moreover, there was a 15,6% decline in export and 4,7% decrease in import of clothing sector in 2009.</p>

EMPLOYMENT AND GEOGRAPHICAL DIMENSION	<p>When unregistered employment is also considered, it is estimated that nearly 2 million people work in textile and clothing sectors. However, according to 2006 Work Statistics, registered 588,903 employees are working in the 36,811 worksites active in the sector.</p> <p>Within the scope of GAP-GIDEM (Southeast Anatolia Project- Entrepreneurship Support Centers) Project in the Southeast Anatolia Region, there are ongoing efforts to generate textile and clothing clusters in GAP provinces, particularly in Adiyaman.</p> <p>According to the employment index of the textile and textile products and Leather and leather goods production sectors; it is understood that employment rates decreased in 2008 compared to 2007 as 5% and 1%, respectively, and that there is loss of employment due to the global crisis in these labor-intensive sectors.</p>
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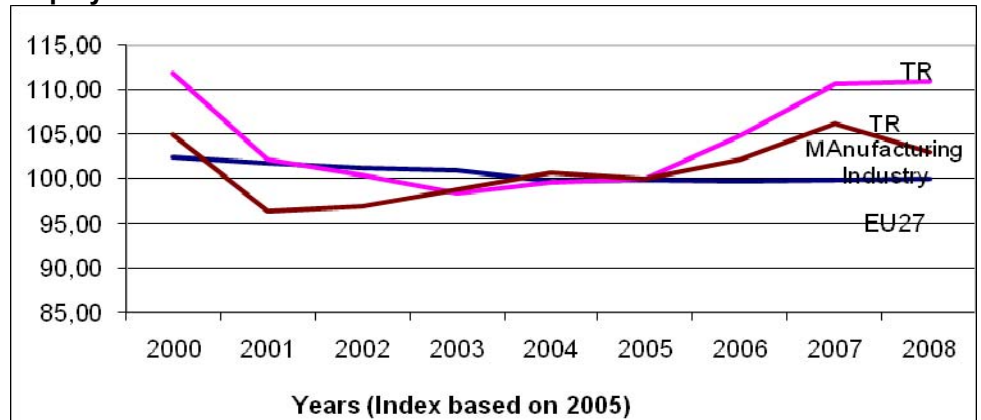
ANNEX 2.6: Food Industry

Figure Annex 2.6.1: Manufacture of Food Products and Beverages Production Index



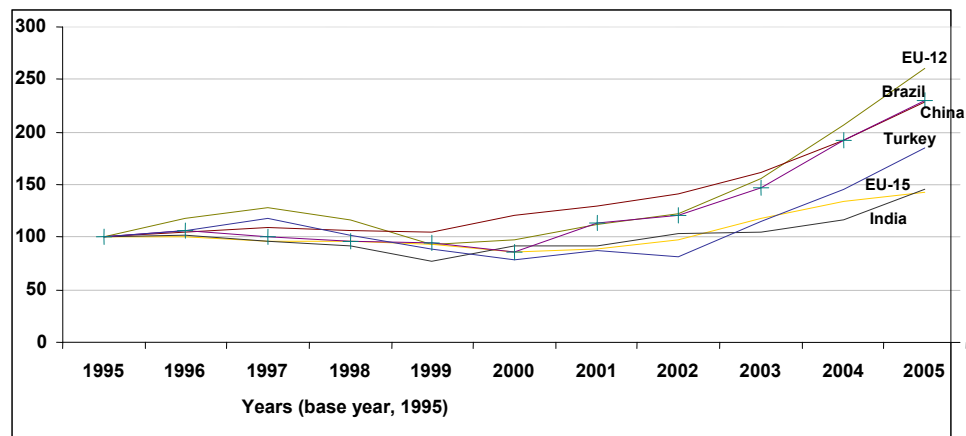
Source: Eurostat

Figure Annex 2.6.2: Manufacture of Food Products and Beverages Employment Index



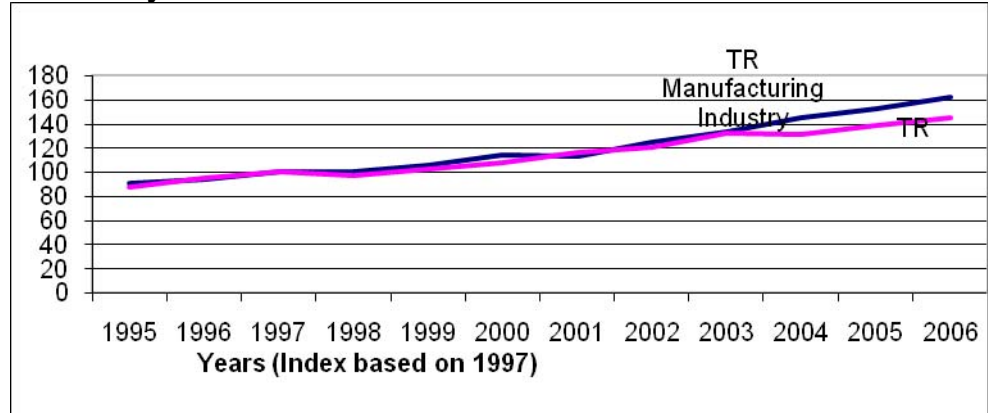
Source: Eurostat

Figure Annex 2.6.3: Manufacture of Food Products and Beverages Export Index



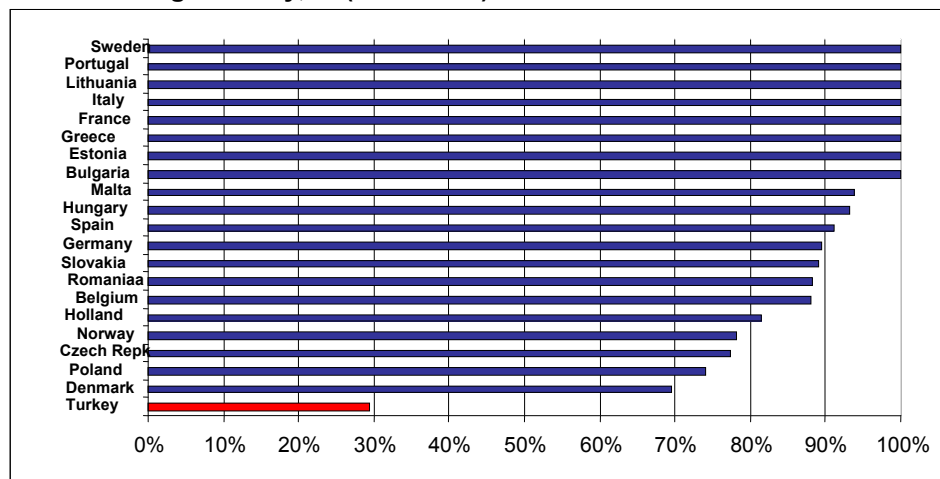
Source: COMTRADE, TEPAV Calculations

Figure Annex 2.6.4: Manufacture of Food Products and Beverages Partial Productivity Index



Source: TurkStat

Figure Annex 2.6.5: Innovative Firms in Food Products and Beverages Manufacturing Industry, % (2002-2004)



Resource: COMTRADE, TurkStat

Table Annex 2.6.1: General Overview of Food Products and Beverages Manufacturing Industry

Share of sector's total assets in general manufacture industry (%) (2008) *	11.08
Share of production in manufacturing industry (%) (2006)	9.67
Share of employment in manufacturing industry employment % (2008) *	9.07
Share in total manufacturing industry import (%) (2009)	2.62
Share in total manufacturing industry export (%) (2009)	6.22
Rate of R&D expenditure of the sector to the general manufacturing industry (%) (2008)*	4.03

Source: TurkStat, TÜSİAD, 2008 Turkish Industry: A Sectoral Overview, * Entrepreneur Information System

GENERAL OVERVIEW

Some steps must be taken to increase the sector's competitiveness. The R&D potentials of the companies in the sector do not seem to be sufficient enough to enable global competition in the long term and it is of vital importance to establish cooperation between research institutions having the necessary infrastructure and the private sector. On the other hand, transition of the sector to new standards and practices in a way to protect the customer safety must be accelerated and concordance of the sector to EU practices in the long term regarding the environment must be provided. Informal economy and the fact that the link particularly between agriculture and industry is not very strong affect the competitiveness negatively. By strengthening this link and with the support of the improvements in transportation infrastructure, it will be possible to make the geographical dispersion of the sector more homogeneous and the sector will support the employment increase more, particularly in the underdeveloped regions.

KNOWLEDGE AND TECHNOLOGY

Although the companies in the sector have the necessary knowledge accumulation, they usually do not have innovative and competitive capacity. The R&D infrastructure in Turkey is considered as "sufficient" in terms of seed, seedling, sapling, and breeding; "weak" in terms of gene technology; and "sufficient" in terms of processed product diversity and food processing methods and processes.

They have sufficient researcher potential, R&D infrastructure and competence in the related basic sciences concerning the areas of protection, control and treatment methods and in fighting diseases-pesticides and in activating integrated campaigns.

	<p>However, companies' innovative capability for biotechnology, gene technology, methods for protection, control, and treatment, fighting diseases-pesticides and effectively implementing integrated efforts to that end and the existence of competitive firms with respect to these issues have been evaluated as weak or non-existent. This reveals the weakness of the research background of the companies in the sector.</p> <p>A number of steps must be taken to increase the competitive strength of the companies in the sector. Great importance must be given especially to agricultural engineering, food engineering and veterinary educations to develop the human resources towards the R&D in the sector, course curriculum should be handled in accordance with Turkey's position in agriculture and food in the middle term and these must be cleaned of outdated information. To use the current R&D infrastructure with the aim of increasing the competitiveness of the companies, it is necessary to increase university-industry cooperation in the sector.</p> <p>Most of the companies stating that they perform technological innovations do not apply for registry. For example, it has been determined that among the companies claiming to perform product or process innovation, less than 25% of these companies have applied for patent. It was found out that 1/3 of the companies which did not apply for patent had no information about patents, and 1/3 of them did not care about patent protection. Also, as technological innovation resources; universities or the other educational institutions, special institutions that are not public or private institutions in nature, and patents were considered as the least important information resources. To solve this problem, it is necessary to increase awareness of the sector regarding the patents.</p>
COMPETITION	<p>The intensive informality in the food sector influences the competitive environment negatively. In addition to this, a total of 14 violations of competition were detected between 1999-2006 and nearly TL7.5 million-fine was given.</p>
REGULATORY FRAMEWORK	<p>A comprehensive study was done in 2006 on compliance with EU food legislation, and the institutional and legal structure concerning food sector was laid out. However, the weakness of Turkey's infrastructure regarding food safety has the potential to impede the implementation of regulations.</p> <p>The most important problems originating from the sector in providing food safety are : the inability to perform the audits regularly and in the required frequency and with the desired care; the existence of too many disorganized food enterprises and unregistered production in some subsectors; the weak capital structure of most of the enterprises; the inability to employ the people trained in food; the present of difficulties in establishing food self-control (such as HACCP and GMP) due to the weakness in agriculture-food industry integration.</p> <p>The food safety in Turkey is regulated by mandatory food codexes. For the first time until today, with the aim of collecting the</p>

making of regulations related to food and their control in one hand for efficiency in application, Turkish Food Legislation studies have started under the supervision and observation of the Ministry of Agriculture and Rural Affairs.

With this aim, the market was came to be regulated by the "Decree Law on Production, Consumption and Auditing of Food Products" released in 1995; this was later replaced by the Decree Law on Production, Consumption and Auditing of Food Products in 2004, and Food Law no. 5179 became effective. During the process of preparing Turkish Food Codex with this law, the establishment of a National Food Codex Commission was foreseen. The Turkish Food Codex prepared has been revised in accordance with European Union's criteria recently. It was aimed to be in line with the related EU Legislation by means of the Law numbered 5996 on Veterinary Services, Plant Health, Food and Feed enacted in 2010 and also several obsolete laws in the scope of this new Law have been repealed.

The responsibilities of food companies will increase with new systems in the next period. In addition, the HACCP, Good Manufacturing Practices, Good Hygiene Practices and Good Laboratory Practice systems will be widespread and the ISO quality and security systems supporting these issues will improve. Carrying out the necessary auditing functions for all these issues will enable the formation of accredited private companies in addition to public ones. Today, many exporters in Europe ask for Good Manufacturing Practices. However, HACCP and good agriculture, production and hygiene practices" have not yet been proliferated as desired in Turkey.

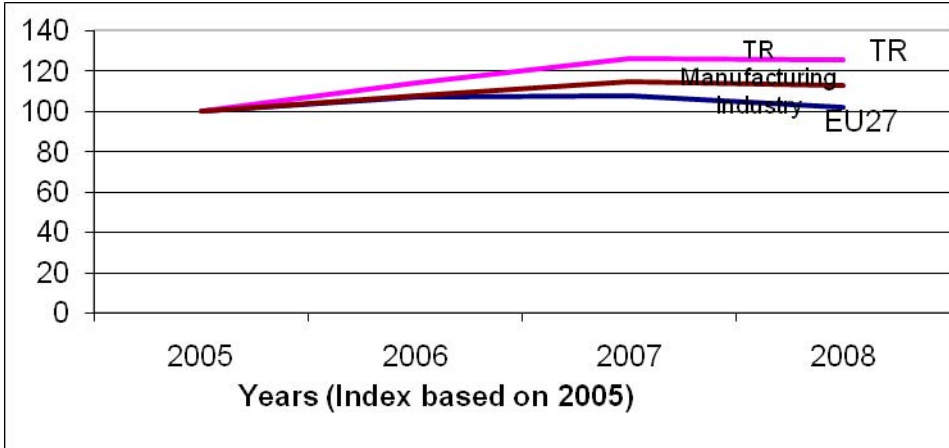
In the context of opening criteria of 12th chapter "Food Security, Veterinary and Plant Health "in the framework of EU-Turkey membership negotiations studies have been conducted to classify food enterprises in Turkey in accordance with the conformity level to the EU technical legislation identified by the EU food and feet hygiene package of 2004. It is understood that majority of the enterprises, especially small scale enterprises, cannot comply with the EU hygiene requirements. In this respect, it is determined what the deficiencies of each facility with regard to EU legislation are, notably of facilities where the foodstuffs of animal origin, having special rules in EU Legislation, are processed and prepared. Moreover, studies to prepare a modernization plan in order to remove those deficiencies have continued. It would be necessary to close this kind of facilities by the date of EU accession unless they are not modernized according to EU hygiene rules or transition period will not be attained during the EU negotiations.

<p>ENVIRONMENT AND ENERGY</p>	<p>In addition to structuring the food industry in a fashion that is in harmony with the environment, it is inevitable to arrange the investments to pull the solid and liquid wastes and chimney gases emission pollutions which might occur during the production stage to accepted levels. Especially the waste water investments for the liquid waste management and transition to natural gas investments for gas waste management will gain priority.</p> <p>In EU legislation, the environmental issues in food industry are arranged by Integrated Pollution Prevention and Control Directive (96/61/EC), Packaging and Packaging Waste Directive (94/62/EC) and Waste Framework Directive (2006/12/EC). The directive related to packaging waste is in operation in Turkey and concordance studies of the other two directives are still in progress.</p> <p>The wastes of the sector are basically used in feeding animals or they are discharged to the places determined with local authorities. However, the chicken flour obtained from poultry sector wastes is used in feed stuff and it is necessary to make plans for the wastes which will occur after ending this application within the scope of concordance with EU.</p>
<p>EXTERNAL COMPETITIVENESS AND TRADE</p>	<p>According to TurkStat data, the production in the sector increased 4.56% in average annually from 2005 to 2008 based on the production index which has been increasing since 2005.</p> <p>The export performance of the sector has increased recently. Nearly 50-60% of the produced tomato paste, 90% of the frozen fruit and vegetables, 70-80% of the canned food, 15-20% of fruit juice are exported. The export value continuously increased in real terms between 1999-2005 and expanded as 65% (annually 8.7% in average). The total export reached up to \$4.65 billion with nominal figures in 2007. In recent years, this increase in cereals and starch products industry has been higher compared to the other industries. In addition, there are important export opportunities in the production of flour and flour products (pasta, biscuits etc.)</p> <p>Particularly the new markets have played an important role in the increase of export. Very important markets emerged especially after the division of Soviet Union. The liberalization practices seen in these markets and transferring to free market economies led to an increase in the exports of the food companies operating in the sector. On the other hand, the developments in the Middle East have provided new market opportunities for food industry. Particularly Iraq has become an important market for the Turkish food sector.</p> <p>The great number of non-tariff barriers encountered during exportation negatively acts to slow down any increase in exports. The most important of these non-tariff barriers are technical barriers and customs transactions. Especially the fees charged under various rubrics during the customs process create difficulty for the exporter. For instance, the fresh fruit and vegetables to be exported to Europe from Turkey are inspected twice or three times. This results in problems with storage, transportation</p>

	<p>and measurement costs in addition to the time spent on inspection, tests and controls, especially in terms of the products whose expiry dates are short-time.</p> <p>Informality and the poor development of cooperation between agriculture and industry negatively affect the competitiveness. The lack of coordination between the agricultural production and food industry in food sector gives rise to many problems. The sound processing of vertical integration between agricultural production and food industry is important for the strengthening of food industry activities. Also, the blockages in the marketing channels leave the door open to the informal sector. Another factor that perpetuates the informal sector is the ease at which locally produced goods can reach the consumer without undergoing any registration transactions.</p>
<p>EMPLOYMENT AND GEOGRAPHICAL DIMENSION</p>	<p>According to 2002 the workplace count of TurkStat, a total of 247,769 employees work in a total of 30,649 workplaces in food products and beverage manufacturing sector. 31,5% of the employees in the sector are employed in bread, fresh oven products and cake production sub-sector.</p> <p>The food sector, unlike the other sectors, is distributed in a more homogeneous way between regions. In this sector, as expected, the production moves to the places where the vertical integration (agriculture-industry cooperation) is well-established. The fact that Istanbul and Izmir's shares in food production decrease indicates that this kind of vertical chain is established from place to place.</p> <p>Particularly, in many of the provinces in the east, the only industrial production is food products and beverage manufacturing. In the regions relatively less developed with this property, this sector's capacity to provide employment is higher compared to the other sectors. The continuity of this process will be commensurate to reducing transportation costs; in other words, improving the transportation infrastructure. The employment in food products and beverages production sector showed an increase of an annual average increase of 5% between 2005 and 2008.</p>

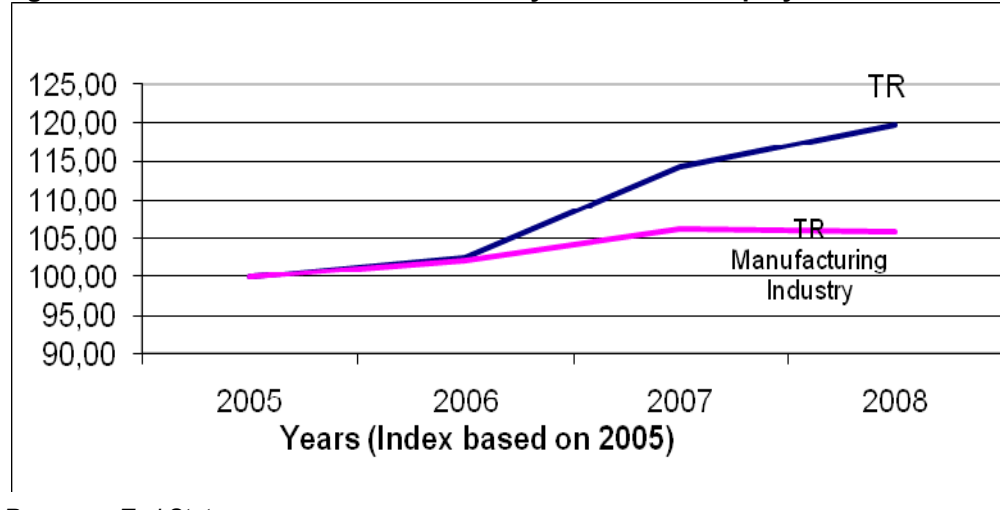
ANNEX 2.7: Iron and Steel Industry

Figure Annex 2.7.1: Iron and Steel Industry Production Index



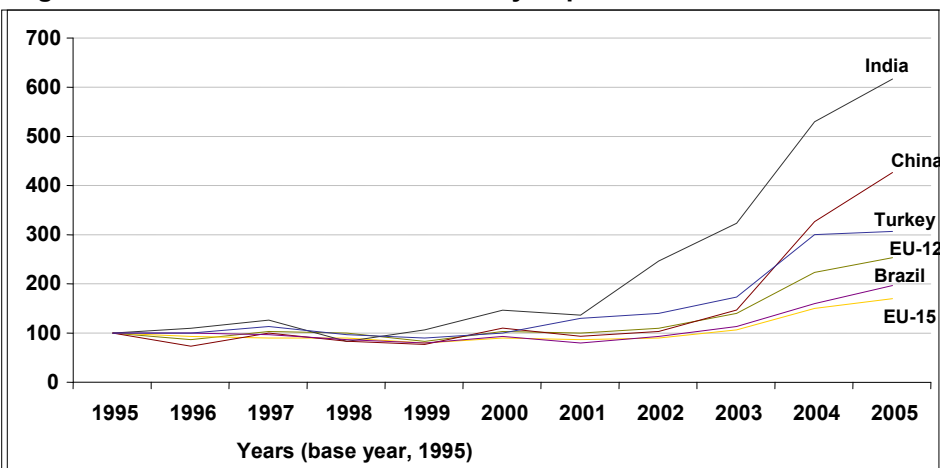
Resource: Eurostat TurkStat

Figure Annex 2.7.2: Iron and Steel Industry Production Employment Index



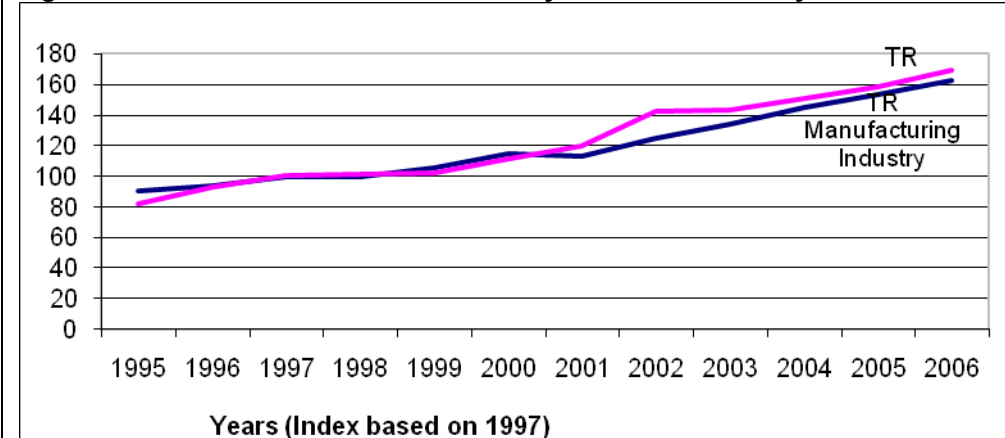
Resource: TurkStat

Figure Annex 2.7.3: Basic Metal Industry Export Index



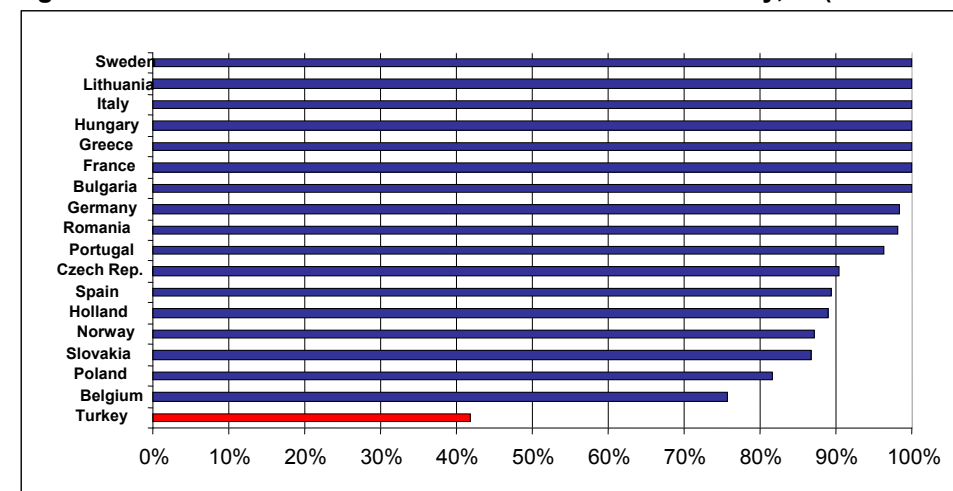
Source: COMTRADE, TEPAV Calculations

Figure Annex 2.7.4: Iron and Steel Industry Partial Productivity Index



Source: TurkStat

Figure Annex 2.7.5: Innovative Firms in Basic Metal Industry, % (2002-2004)



Source: COMTRADE, TurkStat

Table Annex 2.7.1: General Overview of Iron and Steel Industry

Share of sector's total assets in general manufacturing industry (%) (2008)*	16.04
Share of production in manufacturing industry (%) (2006) Basic Metal	7.85
Share of employment in manufacturing industry employment (%) (2008) *	11.71
Share in total manufacturing industry import (%) (2009) Basic Metal	6.92
Share in total manufacturing industry export (%) (2009) Basic Metal	9.52
Rate of R&D expenditure of the sector to the general manufacturing industry (%) (2009)*	4.42

Source: TurkStat, TÜSIAD, 2008 Turkish Industry: A Sectoral Overview, * Entrepreneur Information System

<p>GENERAL OVERVIEW</p>	<p>The iron and steel sector in Turkey is the engine of the manufacturing industry because of its increasing production capacity, export potential and the input it provides to the other sectors. The raw steel production, which was 2.4 million tons in 1980, reached 25 million tons in 2009. Turkey ranks 11th in total world iron and steel production, and 3rd in Europe after Germany and Italy. The sector is also important since it ranks 3rd among the sectors exporting the most in Turkey, after the automotive and textile industries.</p> <p>The supply-demand imbalance between long, flat and special quality goods, the obligations to be brought by the National Restructuring Plan (NRP) prepared in accordance with Turkey-ECSC (European Coal and Steel Community) Free Trade Agreement and the costs to be borne by compliance to environmental regulations related to the Kyoto Protocol are regarded as the threats facing the sector. In addition to this, specializing in low value added products and insufficiency of R&D affect the competitiveness of the sector in a negative way</p> <p>The most important problems of the sector in terms of its competitiveness are the high energy prices, high rate of foreign source dependency in raw material supply and the environmental compliance efforts.</p>
<p>KNOWLEDGE AND TECHNOLOGY</p>	<p>One of the main reasons for low-value added production in the sector is the insufficiency of R&D. To increase the share of high value added goods in production, it is important that sector companies conduct common R&D activities.</p> <p>Workforce cost and quality of the workforce constitute an advantage for the iron and steel sector in Turkey. The number of technical employees and engineers is at a level that can meet the needs of the sector. However, workers are having adaption problems during the structural transformation and technological development processes that the sector is undergoing. The companies in the sector are not making investments collectively in the area of developing human resources. Nevertheless, efforts to improve the vocational training of the employees are being made at company level.</p>
<p>COMPETITION</p>	<p>The tendency for global consolidation in the sector, resulted in 6 cases of mergers/takeovers in the Turkish iron and steel industry between 1999-2006. The privatization occurring in the recent years also had a positive effect on the consolidation in the sector. 3 integrated and 20 arc furnace facilities are active in Turkey. Between 1999-2006, the Competition Authority detected 2 infringements of competition related to the sector, and imposed fines over TL5 million. At present, an investigation on flat product market and a preliminary investigation about long product market is being conducted by the Competition Authority.</p> <p>The impact of the global financial crisis in the second half of 2008 resulted in a decrease in both exports and imports of the iron-steel and non-iron metals sectors in Turkey. According to TurkStat data, in the first quarter of 2008, there was a drop of 27% in basic metal sector exports and a decrease of 52% in imports. In the iron and steel sector, which has the lion's share of the foreign trade of the basic-metal sector, there was a 24% fall in exports and a 57% fall in imports.</p>

<p>REGULATORY FRAMEWORK</p>	<p>The 5 years grace period allowing state aid to the sector with Turkey- ECSC Free Trade Agreement is expired in August 2001. Considering the structural problems the sector is experiencing, the European Commission was asked to prolong this period. Response from the European Commission to the petition was positive but conditional; an applicable National Restructuring Plan (NRP) was to be prepared, and necessary technical support was provided in accordance with this aim. In this context, the NRP Draft prepared with the participation of the representatives of related public institutions and organizations and the private sector was submitted officially to the European Commission on 31th August 2006. Following this, technical meetings about NRP were held with the Commission Representatives and the new information and documents which the Commission required were provided. Finally, at the meeting which was held in Istanbul on 16th. February 2009 with the Turkey—EU Steel Contact Group, negotiations regarding the NRP were conducted with the Commission Representatives. With respect to the negotiations, the new NRP text prepared in a simplified format was officially submitted to the Commission. At this stage, the Commission's view and evaluations about the new NRP were expected.</p>
<p>ENVIRONMENT AND ENERGY</p>	<p>The iron and steel sector has the highest energy density among all sectors in the manufacturing industry. All the integrated producers and some of the other facilities produce electricity with auto producer licenses. Joint efforts aimed at increasing energy efficiency of the sector and joint R&D efforts are needed.</p> <p>Energy pricing practices that are based on consumption levels exist for industrial tariff groups in EU countries. Similar practices such as imposing tariffs based on the size of the industrial consumer, e.g., small, medium, large and very large and night tariffs on industries at weekends and religious holidays when production is less than consumption are considered to be necessary in increasing competitiveness of the sector.</p> <p>In 2009, Turkey became a party to the Kyoto Protocol, which aims at reducing greenhouse gas emissions by the end of 2012. Although the protocol in question doesn't impose obligations on Turkey to reduce greenhouse gas emission, it does require taking certain measures to combat climate change by 2012 and for subsequent years, including the 2013-2020 period, within the global responsibility framework. This will create additional costs for the iron and steel sector having intense energy consumption.</p>

<p>EXTERNAL COMPETITIVENESS AND TRADE</p>	<p>The sector has gained a very important place in both EU market and the international market by expanding rapidly in recent years. The share of iron and steel products in Turkey's export was 15% in 2008 according to the Turkish Exporter's Assembly (TİM) data. Turkey is a net exporter of long products, and a net importer of flat products and special quality steel products. Compared to its close competitors, the sector has an advantage in terms of workforce cost but a disadvantage in terms of energy and input costs. The dynamic company structure in the sector and the experienced executives and personnel factors are increasing the competitiveness of the sector.</p>
<p>EMPLOYMENT AND GEOGRAPHICAL DIMENSION</p>	<p>According to TurkStat data, 61,000 people were employed in the sector in 2002. This 1% of total employment in Turkey. Geographically, the sector has a more dispersed structure compared to the other manufacturing industry sectors because of its proximity to raw materials and the market. Of the 21 largest producers in the sector, 7 are operating in the Marmara, 6 in Aegean, 4 in Mediterranean, 3 in Black Sea, and 1 in Central Anatolia regions.</p> <p>Employment in the Basic Metal Industry increased by 2.9% in 2008 compared to 2007.</p>

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