

Interview with Nihat Ergün, Minister, The Republic of Turkey Ministry of Science, Industry and Technology

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Within the Ministry's wide scope of activities aimed at promoting Turkish various industries and trade, what special role does the pharmaceutical sector play within these aspirations?

The world we live in today is so globalized that only the societies, which produce knowledge/information and are able to transform this knowledge into a technological product, can become powerful and enjoy welfare. Once we scrutinize this process, we see that the industrial sector has always been the locomotive of advancement.

Industrial sector has a special role especially on the determination of the level of development in a country. Without a solid industrial sector, we cannot speak of growth or advancement. If a country aspires to have a sustainable, balanced and stable economy, then it is a must that the country has a powerful industrial sector.

There is one important issue that we have frequently expressed: The only way to bring sustainable and long-term welfare to a country is to own a powerful industrial production. Looking from a broader perspective, we can confidently say the pioneering sector, which established a bond between Turkish economy and the world economy, is the industrial sector. Today, the share of industrial products within the overall exports is over 95%, which is a great success.

As it has been the case in all the developed countries, Turkey can achieve its goals for 2023 through a remarkable increase in industrial production. As the Ministry of Science, Industry and Technology, we have significant duties to perform in the realization of 2023 Vision. There is a need for shift from labor-intensive and energy-intensive production processes to information and technology-intensive production. Several strategies must be adopted in order to increase the added value.

Turkey has realized many structural reforms in the macroeconomic level. Similar reforms must also be realized in industry in the sectoral level and even on product basis. We need to focus on micro reforms which will carry the success achieved on the macro level to the real sector and increase our competitive power.

We attach great importance to the Goals of 2023. Within this framework, significant roles must be undertaken by all the shareholders in order to strengthen the cooperation between the public sector-university-industry. The Ministry of Science, Industry and Technology and its affiliated bodies continuously and ceaselessly work towards achieving these goals.

As for the role of pharmaceuticals industry; the pharmaceuticals sector requires a great deal of R&D work. This requires the employment of qualified labour force and a well-educated staff on graduate

and post-graduate level. The pharmaceuticals sector is considered as a priority sector in many developing countries, since the sector paves the way for the creation of qualified products with high added-value, introduces competitive advantage in the international level, and contributes to the sciences of medicine and pharmaceuticals technologically and scientifically.

The pharmaceuticals industry has become the center of attention in both the developed and developing countries thanks to the recent investments made in the sector. In order to attract innovative and research-oriented investments, a solid scientific infrastructure must be available. Cooperation between the universities and industrial sectors shall boost to the added value of the products. Significant and note-worthy support mechanisms are available both within the Ministry and in the affiliated bodies for the industrialists and academicians. What we expect from the sector is that it benefits from these advantages to the highest extent and makes use of its own resources, produces innovative, R&D-oriented products with high added value.

Earlier this month, you announced at the Global Technology Forum that by focusing on sectors creating high-added value products, you aim to transform Turkey into an R&D base and a regional operational center in the production and export of pharmaceuticals. What strategic steps are you taking to stimulate the pharmaceutical sector?

The pharmaceuticals industry is very important for countries like Turkey which bear a high potential for consumption and have a young population. For this reason, the Department of Pharmaceuticals and Medical Devices has been established within the Ministry. We are perfectly aware of the fact that the pharmaceuticals industry contributes significantly to the enhancement of R&D culture in a country. In order to support the pharmaceutical industry and ensure that the industry can advance and increase its competitiveness, we have prepared programs to follow in the short, medium and long term. The Industrial Strategy Document and Action Plan for the Pharmaceuticals Industry are currently being drafted.

Events have been organized with the participation of the private sector representatives, NGOs, universities, public administrations and institutions with a view to draft a Strategic Plan. Taking into account the long-term vision mentioned in the Turkish Industrial Strategy -“becoming the production base for medium and high-tech pharmaceuticals in Eurasia”- a long-term vision specifically for the pharmaceuticals industry has been drafted which is “becoming a strategic center for R&D, production and operations in pharmaceuticals industry”. The objective of the Draft Strategy Document for Pharmaceuticals Industry (covering 2011-2015) is “to transform the country into a global player in the world pharmaceuticals industry with a competitive power at international level and receiving a larger share in the exports”.

With the aim of fulfilling these visions, seven strategic objectives have been determined:

- Parallel to the Vision for the Pharmaceuticals Industry in Turkey; making legal and administrative arrangements so as to protect the balance between the needs of the sector, health of the society and public authorities,
 - To invest in qualified human resources so as to meet the needs of the sector,
 - Creating a transparent and trustworthy environment for the public sector, universities and the private sector and hence developing cooperation and coordination,
 - Raising awareness among the consumers, promoting rational consumption of drugs and pharmaceuticals, increasing the visibility of Turkish Pharmaceuticals Industry in the world,
 - Adapting the needs of the sector (such as allocation of land, provision of energy, transportation, qualified workforce and legislation),
 - Planning and coordinating R&D activities to develop products with high added-value,
 - Forming a rational and supportive financing model so as to ensure the sustainability and
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globalization of the sector.

In order to achieve the above mentioned objectives, 70 action plans have been drafted with the representatives of the public and private sector. The Ministry sets every effort to start implementing these action plans.

The Ministry has identified healthcare and pharmaceuticals in particular as key potential sector for investment in Turkey. Baxter recently announced it is planning the production of new drugs in Turkey, with an initial investment of 180 million dollars. Also recently, although the industry has been holding back investment over the last decade, many international companies have decided to develop Turkey as a centre for their regional operations; others have managed to acquire local players. Can you explain why Turkey and pharma are such a good match?

Turkey has become a significant market in the world, thanks to its ever-increasing national income and young population. The growth in the domestic market has attracted the attention of investors throughout the world.

One can reach 52 countries from Turkey within a three-hour flight distance. Turkey has the infrastructure that is necessary for investment or engaging in commercial activities. Turkey's geographical position, natural beauties, cultural and historical heritage, co-existence of different religions and civilizations, democratic and legal state structure as well as its successful real sector have transformed the country into a center of attraction. Actually, there is no need to elaborate more on Turkey, you know Turkey as much as we do.

As to why Turkey is attractive for the pharmaceuticals industry; the macroeconomic balance has been ensured in Turkey. The markets enjoy stability. In addition to this, the universities in Turkey have qualified academic and physical background. All of these provide a strong basis for the pharmaceuticals industry which requires dense R&D activities.

The weaknesses and strengths of the sector have been determined in the Turkish Pharmaceuticals Industry Draft Strategy Document Workshop. Among these are,

- Sustainable economic growth,
- Strategic location which enables easy and cost-efficient access to neighboring markets,
- Qualified labour force, Europe's largest young population,
- The capacity of offering medical treatment to a significant number of patients in critical medical fields,
- The industry is supported by the public sector in terms of production, R&D and management,
- The experience of pharmaceutical companies which have been in the sector for long years, the size of the market to which this experience can be transferred (Central Asia, the Balkans, Africa etc.),
- Health reforms and transparency in health system.

To what extent is the Ministry supporting the strength of local pharmaceutical players, encouraging their growth and development, and defining their role in the marketplace contrasted to and in concert with MNCs?

In order to support the entrepreneurs and increase the competitive power of the companies, significant support mechanisms are offered by the Ministry.

Technology Development Zones: Technology Development Zones (first established in 2001) aim to create the technological knowledge, commercialize the information and technology, increase the quality and standards of the products and production methods, promote innovation to increase the

efficiency and lower production costs, adapt the SMEs to new and advanced technology, create new employment opportunities for researchers, facilitate the entry of foreign capital into the country and increase the competitive power of the industry.

Supports offered to entrepreneurs and academicians in Technology Development Zones are:

- Income, which is exclusively received from the software development and R&D based production in these zones, shall be exempt from income tax and corporate tax until 31.12.2013.
- Deliveries and services, which are produced exclusively in these zones, such as software applications, shall be exempt from value added tax.
- The salaries associated with the tasks on R&D and innovation of the R&D and support personnel employed in the zone shall be exempt from all types of taxes until 31.12.2013.
- Income received by the academicians working in the Zone shall be excluded from the Revolving Fund of the University they are affiliated to.

Academicians can establish a company/become partners of a company and/or be involved in the management of a company in the zone so as to commercialize the results of the research they conducted upon the permission of University's Administrative Board.

San-Tez (Industrial Thesis) Program: A great majority of the R&D capacity in Turkey lies within the universities and public research institutions. The number of the R&D units established by the private sector is insufficient when compared to other countries which are competitive in the field of science and technology.

Taking these into account; the Ministry has initiated the SAN-TEZ (Industrial Thesis) Program. SAN-TEZ Program aims to introduce the SMEs with the culture of R&D and technology development and ensure that the SMEs cooperate with universities while seeking solutions to their problems. SAN-TEZ Program also supports the academicians to commercialize their products and create added value.

All the industrialists involved in manufacturing as well as the universities, members of University Faculties, masters and Ph.D. students can apply to SAN-TEZ Program. 25% of the project costs are covered by the project partner whereas the remaining 75% is covered by the Ministry (as grant).

R&D Centers:

Enterprises employing at least 50 R&D personnel (holding the required R&D capacity and capabilities) can apply to be certified as R&D Centers. Those which fulfill the relevant criteria are certified as R&D Centers and benefit from the relevant support mechanisms offered to R&D Centers.

Support mechanisms within the framework of R&D Centers:

R&D Deduction:

All the R&D and innovation spending carried out

• In R&D Centers,

• In Pre-competition Cooperation Projects,

• Companies located in technology centers,

• In R&D and innovation projects which are supported by public agencies or through foundations established by law or international funds,

• In projects implemented by companies benefiting from techno-entrepreneurship capital incentives

may be subject to deduction.

Incentive for Withholding:

90% of the salaries of R&D and support personnel (with PhD degrees) and 80% of the salaries of R&D and support personnel (the rest) working in:

- Companies located in technology centers,
- In R&D Centers,
- In R&D and innovation projects which are supported by public agencies/R&D and innovation projects which are supported by foundations established by law/ R&D and innovation projects which are supported by international funds or implemented within TÜBİTAK,
- In Pre-competition Cooperation Projects,
- In projects implemented by companies benefiting from techno-entrepreneurship capital incentives

shall be exempt from income tax.

Social Security Contribution Incentive:

The salaries of the employees working:

- For companies located in technology centers,
- In R&D Centers,
- In R&D and innovation projects which are supported by public agencies/R&D and innovation projects which are supported by foundations established by law/ R&D and innovation projects which are supported by international funds or implemented within TÜBİTAK,
- In Pre-competition Cooperation Projects,
- In projects implemented by companies benefiting from techno-entrepreneurship capital incentives

shall be exempt from income tax.

Half of the social security contribution, which is to be paid by the employer, shall be covered by the state for five years.

Techno-entrepreneurship Capital Support: Techno-entrepreneurship Capital Support provides basic capital to young and innovative entrepreneurs with new business ideas so that they could turn their business into initiatives that create added-value and employment for the qualified individuals.

Those who fulfill the criteria stipulated in the legislation are provided with a techno-entrepreneurship capital of up to 100.000 TL as grant and for only once. No guarantee is required. University students who shall complete their undergraduate program within a year as well as post-graduate and PhD students, individuals who have received their postgraduate or PhD degrees no longer than five years ago can apply for the said program.

Pre-competition Cooperation Projects: In this support program, more than one companies come together in the pre-competition stage, they conclude a cooperation agreement which aims to cooperate in R&D activities based on a feasibility report. These companies aim to produce a joint component (of a specific machinery or equipment that they both need) or create a common platform so that they can design new systems, new processes or applications and hence increase the efficiency and added value.

Innovation and improvement of the technological infrastructure shall also be given the priority in the next period. The participation of the private sector in R&D activities is very important for us. Programs that are currently implemented by the Ministry in the field of R&D, innovation, design, techno-entrepreneurship, cooperation between universities as well as the programs carried out by KOSGEB and TAAK aim to increase the efficiency and participation of the private sector in these areas.

How do you see the role of the pharmaceutical and healthcare industry in fixing Turkey's trade deficit, and to what extent are the different ministries, although with different agendas and priorities, working together and aligned in achieving the 2023 goals?

First of all, I believe it makes sense to have a look at the foreign trade figures related to the sector. According to TAAK data, exports volume realized in the "Manufacturing of Basic Pharmaceutical Products and Materials" in 2002 is 263 million USD and the imports volume is 1,7 billion USD. The ratio of exports meeting the imports is only around % 9,5. If we look at the first six months of 2012, we see that exports amount to 324 million USD and imports amount to 2,1 billion USD. These figures state that the ratio of exports meeting the imports is % 15,4. Figures of import and export have tremendously increased in the last ten years. The ratio of exports meeting the imports has also increased which is good news!

These figures cannot be considered sufficient though. Pharmaceuticals industry is one of the industries in which we have largest deficit.

Turkey aims to realize 500 billion USD of export and become one of the top ten economies in the world by 2023. However, 500 billion USD of exports in itself is not sufficient if the imports amount to 700 billion USD. Balance between imports and exports must be ensured and the problem of current deficit must be solved. Current deficit can only be solved with production and technology in the long term. By enhancing the production capacity and improving technological infrastructure, Turkey can increase the exports and substitute the imported goods with domestic production. The new incentive package has been drafted in way to address current deficit.

As the government of the Republic of Turkey, we have struggled to lower the high prices and use the purchasing power of the public to do so. We have succeeded in it. Large scale health projects shall be implemented in the years to come and a giant leap is expected in health tourism. All of these factors suggest that the demand shall also increase. We strongly believe that the public sector must prefer domestic products in public procurement. We have made new arrangements in the tender legislation so as to ensure that domestic products are preferred in public procurement. For instance, even if the price of a product that is produced in Turkey is 15% more expensive than an imported product, it is always possible to prefer to use the domestic one. Similarly, large private sector hospitals are encouraged to meet their needs through domestic products.

Turkey attracts the attention of investors worldwide. Turkey's young population (half of the population is under 28) of 74 million people as well as its ever-increasing national income, has turned the country into a significant domestic market in the world. According to the data obtained from Entrepreneurship Information System, the turn over for pharmaceuticals has exceeded 10 billion TL in 2011.

The first quarter of 2012 has witnessed a noteworthy dynamism thanks to the investment decisions taken by Pfizer and AMGEN. Turkey has become the center of operations for many different sectors.

A common vision must be adopted while determining the challenges and problems faced by the Turkish pharmaceuticals industry and health sector, increasing the innovation capacity and trade volume, improving the qualifications of the employees and accessing new markets. Our basic

objective must be to increase the production and exports through finding common solutions to common challenges, creating common opportunities and adopting a common vision.

In order to prevent the current deficit in Turkish pharmaceuticals industry and reverse the situation (turning it into a sector which creates surplus), there is need for sound and solid cooperation between the universities, public sector and private sector. The sector should focus on more R&D, promote investments and ensure that imported drugs and pharmaceuticals are produced in the country. On the other hand, we must strive to make use of domestic resources in the provision of raw materials and hence take another step towards eliminating the foreign trade deficit. To give an example, a Turkish pharmaceuticals industry has made a commercial agreement with a Turkish glass company to supply its medicine bottles for one year. This is a great example of contribution to the elimination of current deficit. Similar steps must be taken by other companies.

Dr Nihal Altan-Bonnet a Turkish cell biologist is about to receive the prestigious US Presidential Early Career Award for Scientists and Engineers from president Barak Obama for her research achievements at Rutgers University in Newark, USA. What initiative have you set in place to bring back or attract such prominent Turkish and foreign personalities to Turkey in order to facilitate knowledge-based industries?

Yes, we are very proud of Dr. Nihal Altan Bonnet and her success. Such awards have previously been given to many Turkish scientists before. It is important for a country to be able to preserve its intellectual individuals and prevent brain drain. Turkey has suffered from this phenomenon for years. Now is the time to reverse the situation. TTBOTAK has launched a new initiative. Workshops have been held in the United States and Turkish scientists were informed about the employment opportunities in Turkey and possibilities of benefitting from EU funds. TTBOTAK's policy favors the circulation of intellectual individuals, who conduct valuable research abroad and perform world-class R&D. Concerning the applications received from abroad to conduct research in Europe, Turkey is the country with the largest number of applicants for research scholarships. So far 155 Turkish scientists have applied for Marie Curie Research Programs and Scholarships offered within the framework of the Seventh Framework Program of the EU and returned to Turkey.

Turkish scientists naturally hesitate about returning to the country since they are not sure whether they will be provided with the same standards they have abroad. It is extremely important that the companies and institutions that will employ these scientists guarantee them the relevant standards. Turkey has taken concrete steps recently in terms of technological development. There are many companies and initiatives offering world-class services and activities. The opportunities offered in Turkey as well as the potential of the country must be introduced to Turkish scientists abroad. The universities, research foundations, research institutions and Turkish scientists working abroad must meet in common platforms.

TTBOTAK an affiliated body of the Ministry has launched a new scholarship program in 2010. The aim of this program is to attract Turkish scientists who work and study abroad to Turkey and hence reverse brain drain. Both the Ministry and the relevant authorities are ready to support any type of initiative in that sense.

There is one other issue that I'd like to stress: It should never be perceived that the government has a policy for drawing all t

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