



The Pharmaceutical Market in Greece

Annual Report 2008

Executive Summary

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IOBE's Annual Report 2008 on the Greek Pharmaceutical Market includes a description and analysis of the demand and supply-side of the sector, the trends of external trade, the regulatory framework and the global environment of the pharmaceutical market.

Demand for Pharmaceuticals in Greece

Analysis of the pharmaceutical sector's demand-side includes, on one hand, the description of its determinants (demographics, epidemiological data, nutritional habits and lifestyle) and, on the other, the description of the pharmaceutical expenditure evolution (public and private), over time

According to OECD data, the Greek population exceeds 11 million persons, of which 50.5% are female. The average **life expectancy** at birth is 79.3 years (81.4 years for females and 76.6 years for males). Apart from the increase in life expectancy, another significant factor which contributes to the increase of pharmaceutical expenditure over time is ageing of the population. An index which measures the changes in the ageing structure of the population is the **Old Age Dependency Ratio**, which for the EU-27 countries is expected to increase from 25% in 2004 to 41% in 2030. In Greece, the same index –according to Eurostat projections- is expected to increase from 26.4% in 2004 to 39% in 2030.

Regarding **nutritional habits**, Greece in 2003 (the most recent year of available data) was ranked sixth among OECD countries based on daily per capita calorie consumption. In addition, per capita fat and protein intake in Greece exceeds, over time, the OECD averages; fruit and vegetable consumption is almost two-fold in Greece compared with other OECD countries and sugar consumption is lower than the OECD average. Per capita **alcohol consumption** is being reduced over time, while **tobacco consumption** (in grams per person over the age of 15) is increasing, ranking Greece first among OECD countries.

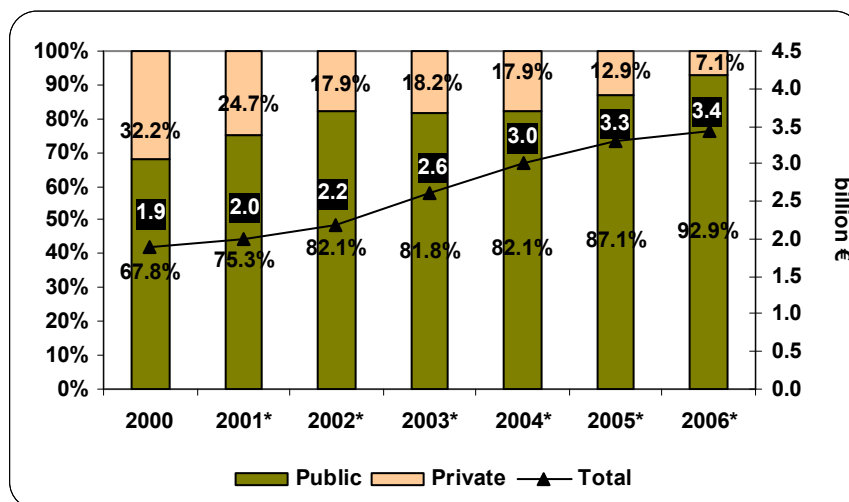
The main **causes of mortality** in Greece in 2006 were cardiovascular diseases, malignant neoplasms, and cerebrovascular and respiratory diseases, which were jointly responsible for 79.7% of total deaths in the country.

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Pharmaceutical expenditure is a proxy for demand in the pharmaceutical sector, and – according to the OECD System of Health Accounts- it includes only expenditure for pharmaceuticals dispensed to outpatients. According to the second revision of National Accounts in Greece (December 2007), pharmaceutical expenditure in 2006 reached **€3.4 billion, accounting for 17.6% of total health care expenditure and 1.6% of GDP**. Indeed, pharmaceuticals in Greece are only a small portion of health care costs (less than one fifth over time) and represent a social good, as 80% is covered by social insurance.

Diagram 1
Public and Private Pharmaceutical Expenditure

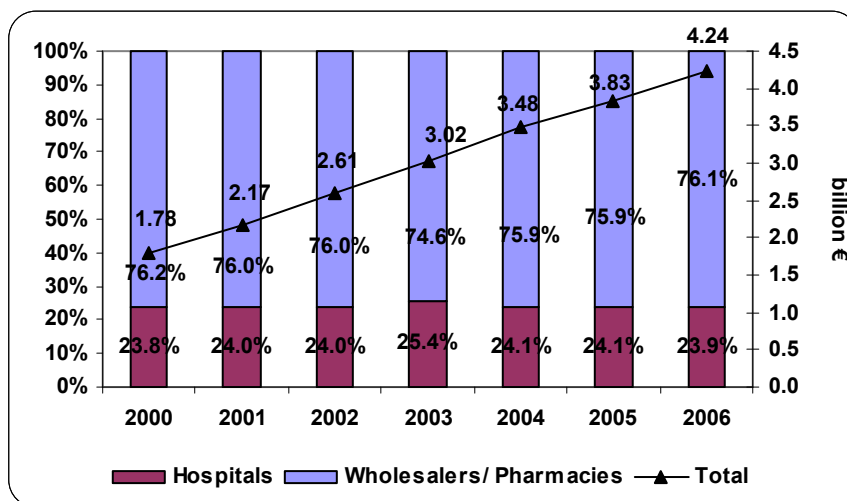


Source: National Statistical Service of Greece (ESYE), National Accounts
* provisional data

The Supply-Side of the Greek Pharmaceutical Sector

On the supply side, the rate of increase of pharmaceutical sales has been reduced by half over the last five years, from 22% in 2001 to 10.8% in 2006. Total sales in 2006 reached €4.2 billion (at ex-factory prices), 76% of which includes sales to wholesalers and pharmacies (and therefore include parallel exports), while the remaining 24% refers to sales to hospitals.

Diagram 2
Pharmaceutical Sales in Value and Shares of Sales towards Hospitals and Wholesalers/ Pharmacies



*Source: National Organisation for Medicines and IOBE calculations
 Data include parallel exports*

Pharmaceutical sales in 2005 included sales of original products at 89% and essentially similar products at 11%. The **first therapeutic category** in terms of sales for 2006 was cardiovascular disease (24.2% of total sales), followed by sales of medicines for the central nervous system (16.2%) and alimentary tract and metabolism (14.3%) (Source: Hellenic Association of Pharmaceutical Companies (SFEE)).

Pharmaceutical **production** in 2006 fell by 1.6%, reaching €666 million. However, the Mean Annual Growth Rate (MAGR) for the period 2000-2006 is 12%. Productivity in the pharmaceutical sector in 2005 was €50,817 per employee (reduced by 8% compared with 2004), while **investment** in the sector exhibited a reduction compared with 2004 by 41% (Source: Annual Industrial Survey, ESYE).

According to IOBE's Biannual Investment Surveys, the largest share of the pharmaceutical sector investments in 2006 aimed to replace existing capital equipment and increase production capacity for products already being manufactured (65% and 22%, respectively). The main **factors affecting investment activity** of pharmaceutical companies were technological changes and incentives offered by the state (significance factor: 50% and 49.5%, respectively).

Based on ESYE's Annual Industrial Surveys, the number of production units in the pharmaceutical sector has been reduced from 63 in 2002 to 60 in 2005 (last year of available data), and the **number of employees** has increased over the same period by 10%. In 2005, 5,183 persons were employed in the production of pharmaceuticals, accounting for 34.4% of employees in the chemical industry. The **capacity utilisation rate** in the pharmaceutical industry was between 80% and 85% during 2007 (IOBE's Business Trend Surveys).

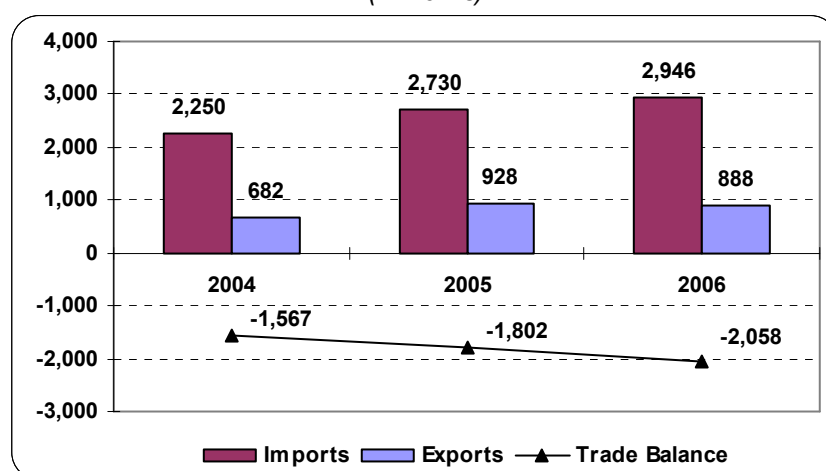
The **Business Confidence Index** in the Pharmaceutical sector exhibits an increasing trend over time, moving –on average– at the same level as the total manufacturing sector. Finally, the **Pharmaceutical Price Index** presents a lower annual rate of increase than both the

Health Price Index and the Consumer Price Index. In particular, pharmaceutical inflation rose by 0.3% in 2006, while the Health and Consumer Price Indices increased by 2.7% and 3.2% respectively.

The External Trade of the Pharmaceutical Sector

Based on Eurostat data, Greek **trade flows of pharmaceuticals** topped €3.8 billion in 2006, exhibiting an average annual increase of 14.4% for the years 2004-2006. Total **imports** increased by 7.9%, reaching €2.95 billion, while pharmaceutical **exports** exhibited a reduction of 4.3% in comparison with 2005, reaching €888 million. The country's **trade balance** for the pharmaceutical sector is negative throughout the period under examination and exhibits an increasing trend (from €1.8 billion in 2005 to €2 billion in 2006).

Diagram 3
Evolution of Imports, Exports and Trade Balance
(million €)



Source: Eurostat

About 83% of total imports derives from the EU-25 countries, and the remaining 17% derives from the extra-EU countries. Similarly, exports are mainly directed to the EU-25 (92.4%). Germany holds the first position in Greece's commercial transactions in the field of pharmaceuticals, as it has the largest share of both exports and imports for 2006.

The Regulatory Framework of the Greek Pharmaceutical Sector

In Greece, all marketed prescription medicines are reimbursed by Social Insurance. The **reimbursement system** includes three co-payment rates for pharmaceuticals (25%, 10%, 0%), based on disease severity and the socio-economic characteristics of the insured.

Regarding the **pricing system**, a price must be assigned to a pharmaceutical product, in order to be marketed, by the Ministry of Development, based on the system of "2+1" (three lowest prices in European countries). In 2007, four Price Bulletins were issued by the Ministry, including prices assigned to new products, as well as price readjustments for pharmaceuticals already marketed.

Finally, one of the major problems of the domestic pharmaceutical industry, which is directly related to the regulatory framework of the pharmaceutical market, is **hospital debt** towards pharmaceutical companies. According to SFEE's report, the total amount of debt in December 2007 was €1.92 billion, exhibiting an increase of 56.4% compared with December 2006 (€1.23 billion). The average payment delay exceeds 20 months.

The International Environment of the Pharmaceutical Sector

According to the IMS World Review 2007, the global pharmaceutical environment in 2006 showed a marginal improvement. **Global market sales** reached \$608 billion, marking an increase of \$42.1 billion compared with 2005 –however the rate of increase was reduced from 6.9% in 2005 to 6.5% in 2006.

North America (USA and Canada) holds the largest share of sales in the global market (47.7% in 2006), followed by the European market (29.9%) and Japan (9.3%). The highest rate of increase, however, was noted in Latin America (12.9%), which is the market with the lowest share of global sales (4.5%).

One of the characteristics of the global pharmaceutical market is the **significant shift of demand from mature to developing markets**, as the growth rates in mature markets gradually moderate, while developing markets, with low shares of global sales, continue to exhibit two-digit growth rates.

The **pharmaceutical market perspectives** for the following years appear to be hazy, as a large number of patents of the leading pharmaceutical products is going to expire by 2012 and, in addition, increased competition is expected from essentially similar products.