THE PHARMACEUTICAL MARKET IN GREECE

FACTS & FIGURES

2023

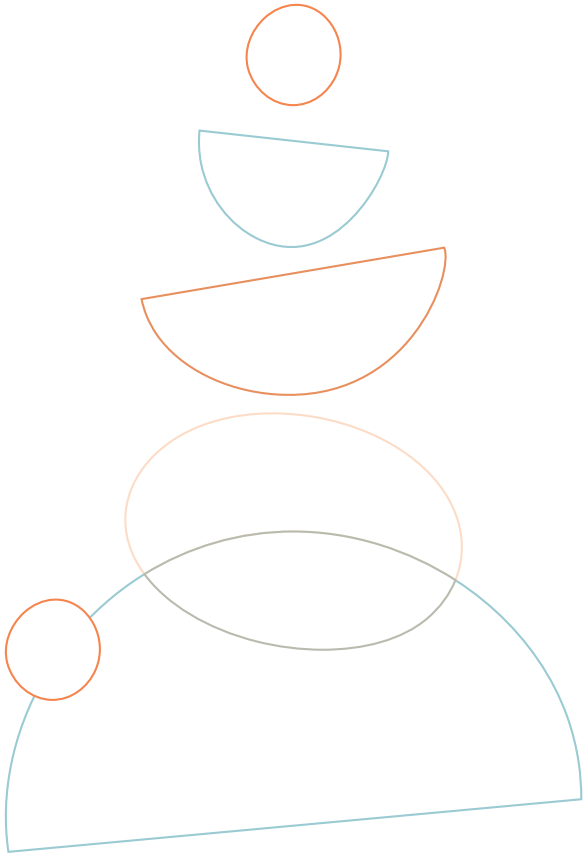
FOUNDATION FOR ECONOMIC & INDUSTRIAL RESEARCH

ΣfEE
HELLENIC ASSOCIATION OF PHARMACEUTICAL COMPANIES

THE PHARMACEUTICAL MARKET IN GREECE

FACTS & FIGURES

2023



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The report **"The Pharmaceutical Market in Greece: Facts & Figures 2023"** prepared by the research staff of IOBE with the cooperation of SFEE.

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"THE PHARMACEUTICAL MARKET IN GREECE: FACTS & FIGURES 2023"

It is with great pleasure to preface the renewed annual edition "The Pharmaceutical Market in Greece: Facts & Figures 2023", produced by the research staff of IOBE in collaboration with SFEE.

This report intends to provide a comprehensive overview of key facts and data of the pharmaceutical market in Greece, and aims to inform both our members and other stakeholders in the broader healthcare sector. This year's edition includes all the latest available data, in order to present an updated profile of the pharmaceutical market and the main changes that occurred.

Although the Greek economy continues to grow in 2023, overall health and pharmaceutical expenditure remains low. In particular, health expenditure declined by around 20% over the period 2009-2022, despite the growing needs of the population. These challenges are further exacerbated by the growing ageing population and high life expectancy, elements that indicate more pressure on health and insurance system.

The challenges for the pharmaceutical industry remain. The global economy is facing constant geopolitical and health pressures, putting a strain on European health systems. In this context, pharmaceutical innovation and the sustainability of health policies are becoming more critical than ever. The need for adequate funding of health systems, collaboration between the pharmaceutical industry and the State, as well as the implementation of evidence-based pharmaceutical policies, are central issues for achieving a healthy and resilient health ecosystem.

We would like to thank IOBE and SFEE research staff.

Konstantinos Papagiannis

President of the Data Monitoring Committee

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President of SFEE

EXECUTIVE SUMMARY

The Greek economy continues to grow in 2023, albeit at a lower rate compared to 2022, while inflationary pressures are contained in a tight monetary policy environment. At the fiscal level, deficits are corrected, but the external deficit remains high.

The population's needs for health and pharmaceutical expenditure are affected by demographic trends and developments, such as the negative natural balance (births - deaths) where is observed a decrease of 64 thousand people (2022), leading to a gradual decrease of the total population. While the high life expectancy (81.6 years in 2023), combined with the increase of the oldest population (over 65 and 80 years old) from 22.9% of the total population in 2023 to 32.8% in 2070, and from 7.3% to 15.3% respectively means that health and social insurance system will be under greater pressure. Additionally, in 2021, deaths from diseases of the circulatory system are responsible for 32.4%, while neoplasms are responsible for 23.5% of total deaths together accounting for 56% of total deaths.

On the health expenditure side, total expenditure in Greece fell by -22.2% in the period 2009-2022 (+10.3% in Southern countries, +28.6% in the EU), to €17.6 bil. in 2022 (8.5% of GDP). Public health expenditure decreased by -29.3% (+6.3% in Southern countries, +32.5% in the EU) over the same period, to €10.9 bil. in 2022 (5.3% of GDP). The decrease in public health expenditure resulted in a shift of expenditure to the private sector, with private health expenditure reaching 38.0% in 2022 (26.6% in Southern countries, 18.7% in the EU).

In the area of expenditure on pharmaceutical coverage, pharmaceutical expenditure (outpatient and inpatient) stood at €6.2 bil. in 2022, with an estimate of €7.1 bil. in 2023. Public expenditure reached €2.7 bil. in 2022 with an estimated slight increase in 2023 to €2.8 bil. Industry's share of pharmaceutical expenditure increased in 2022 to €2.9 bil., compared to €2.4 bil. in 2021. According to the estimates, for 2023, the pharmaceutical industry's participation will further increase to €3.5 bil., while similarly the patient participation shows an increase which is estimated to reach €734 mil. respectively.

The continuous decrease in public pharmaceutical expenditure has resulted in the pharmaceutical industry's participation increasing to 50% compared to 6% in 2012, while at the same time the public participation has decreased to 40%. The patients' participation corresponds to 10%, although increased as an amount since 2013, due to an even greater increase in the industry.

Total outpatient pharmaceutical expenditure (including estimated patient and pharmaceutical industry contibution) reaches €4.2 bil. in 2021, while hospital pharmaceutical expenditure reached €1.5 bil. It is worth noting that from 2022, public pharmaceutical expenditure is now divided into three (3) budgets: a) community medicines (community pharmacies - retail), b) high-cost medicines and c) hospitals (ESY and Papageorgiou). For 2022, the total pharmaceutical expenditure including industry and patient contibution for community pharmacies was set at €2.8 bil., for high-cost medicines at €2.0 bil., and for hospitals at €1.5 bil. Industry and patient participation reached 57.3% of total expenditure, with clawback at €1.2 bil., and rebates at €760 mil.

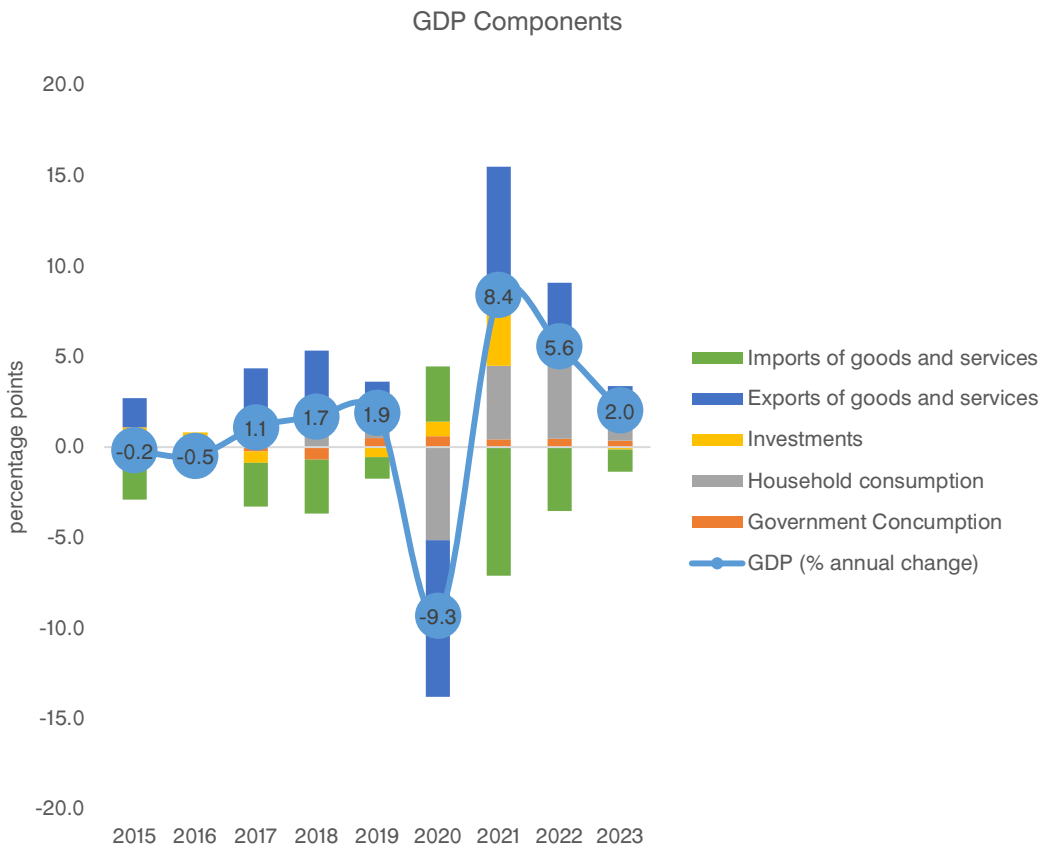
Moreover, for the period 2019-2022, of the 167 innovative medicines that received a central authorisation from the European Medicines Agency, 79 medicines are available to Greek patients (47%), while on average, 72 medicines are available to European patients (43%). Finally, regarding the time required from the date of approval of medicines by the EMA to the date of reimbursement by health systems, in Greece it takes 587 days compared to 531 days in Europe.

Finally, the pharmaceutical sector is a driving force for investment, with R&D expenditure accounting for 7% of total R&D expenditure in Greece (2021), amounting to €91 mil.In addition, for 2023 the domestic production of pharmaceutical products in value terms (ex-factory) amounted to €2,2 bil., with the value added reaching €1.6 bil. (5.0% share in the manufacturing sector). The number of employees in the pharmaceutical products sector was 32.6 thousand in 2022 with a clear upward trend in recent years. Finally, imports and exports of pharmaceutical products amounted to €4.4 bil. in 2023. and €2.8 bil., respectively, with an increase compared to 2022. At the same time, pharmaceutical exports accounted for 5.5% of total Greek exports of all goods in 2023, with France, Germany and the UK as the main export destinations. Similarly, imports account for about 5.3% of the country's total imports in 2023 compared to 4.5% in 2022.

1 ECONOMIC ENVIRONMENT

Greece recorded a 2.0% GDP growth rate in 2023, lower than the performance in 2021 and 2022, while growth is expected to be almost the same in 2024. In 2023, all components, but especially private consumption, stumbled, contributing less to growth as high prices and the cut of support measures reduced household spending. At the same time, exports also grew at a slower pace due to the problems in international trade.

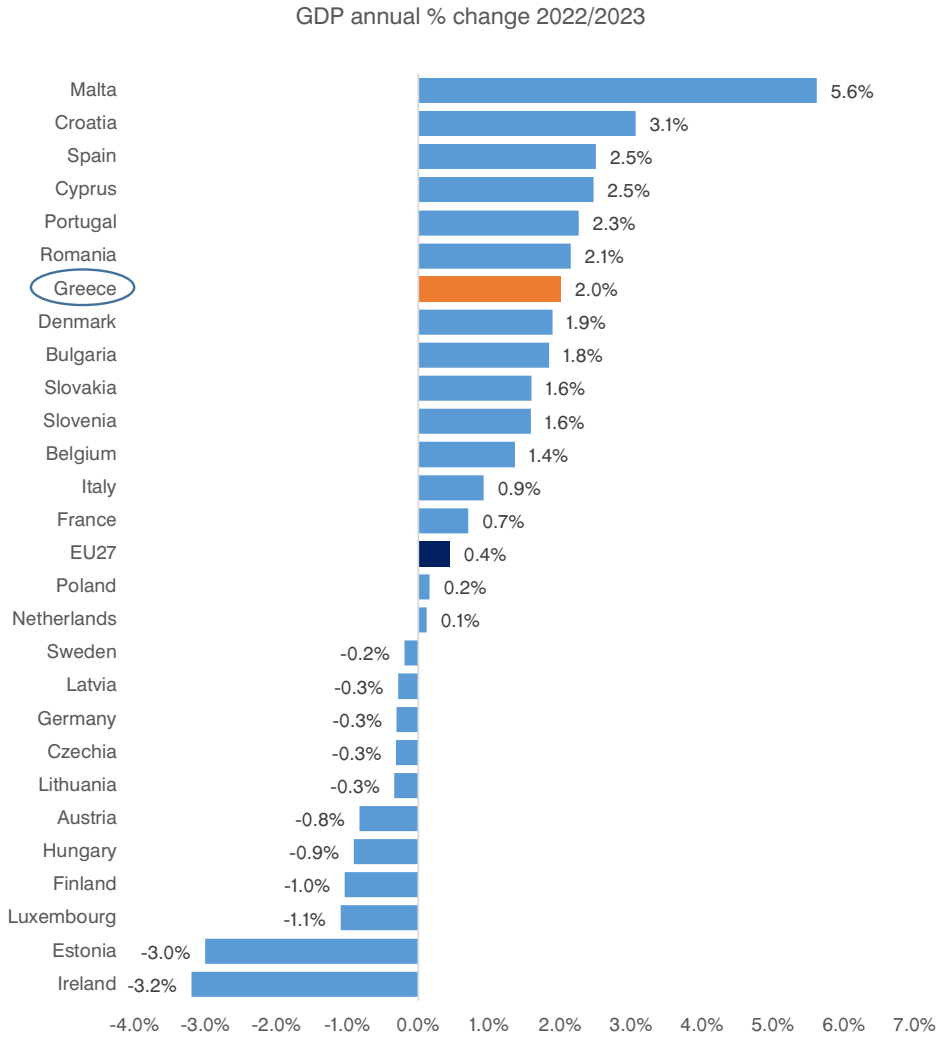
Figure 1: GDP evolution (€) and annual change (%) - Greece



SOURCE: Eurostat, 2024, data processing IOBE

Although Greece recorded a decline in GDP growth rate in 2023, Greece remains high compared to other countries, recording the 7th highest growth rate in 2023 among the EU27 countries, and above the average of 0.4%. The slowdown in economic activity was therefore broader, due to contractionary monetary policy, the easing of fiscal measures and the decline in international trade.

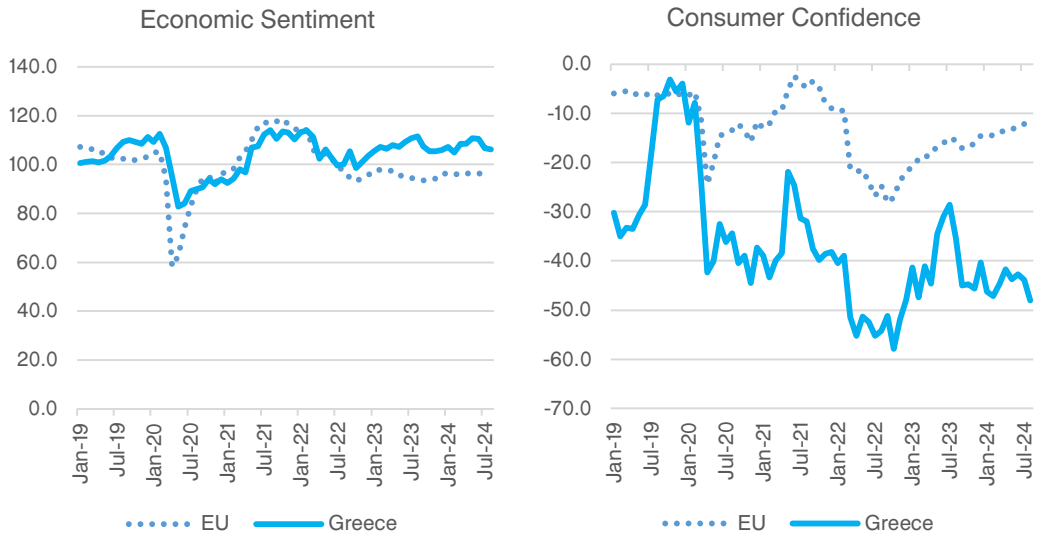
Figure 2: GDP growth 2023 by country



SOURCE: Eurostat, 2024

The economic sentiment index continues to move higher in Greece compared to the European Union (EU) average in both 2023 and early 2024, indicating that business expectations remain strong. However, consumer confidence diverges from the EU average, with a deterioration in 2024, compared to an improvement in the EU.

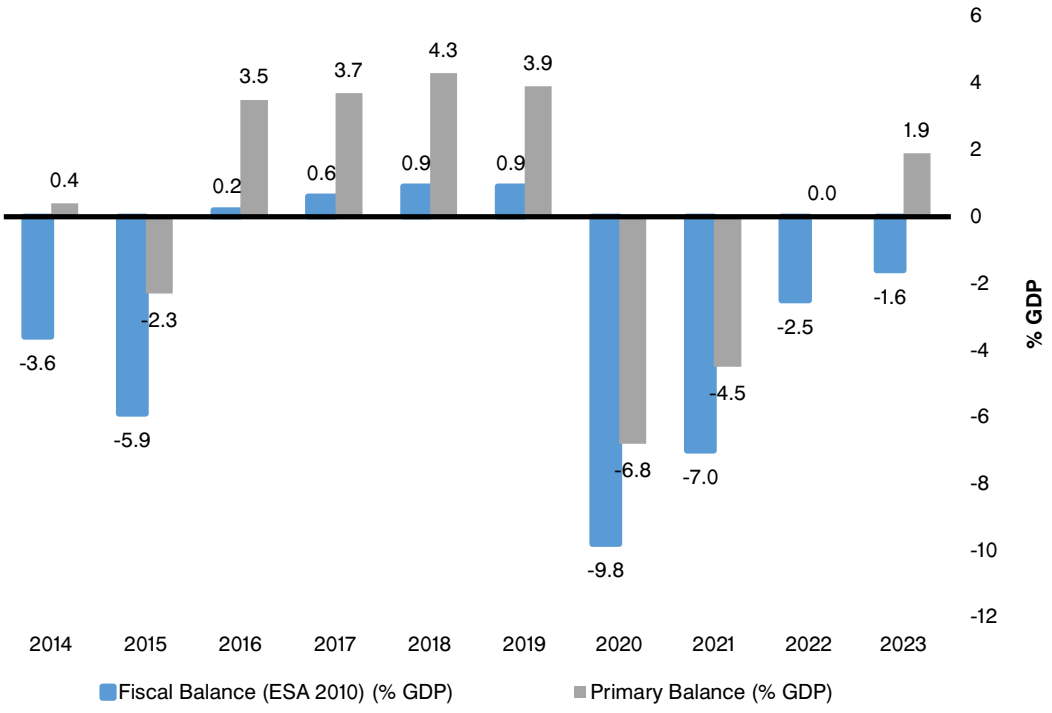
Figure 3: Economic sentiment and Consumer confidence



SOURCE: European Commission, DG ECFIN

In Greece, the fiscal balance was further corrected in 2023, resulting in a deficit of 1.6% of GDP, compared to 2.5% in 2022, as 2023 was the last year in which the general escape clause from the fiscal rules was active. The primary balance returned to positive territory, at 1.9% of GDP, after the deficits in 2020-2021 and the 2022 balance.

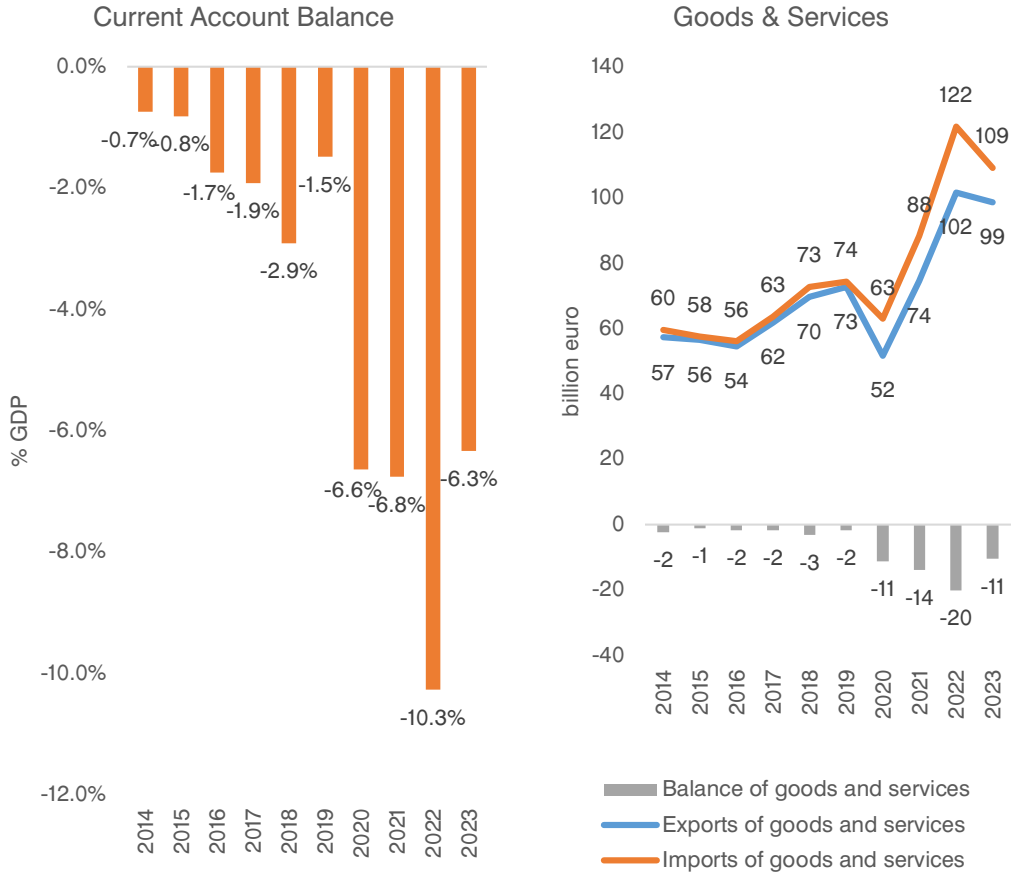
Figure 4: Fiscal Balance and Primary Balance



SOURCE: ELSTAT, 2024. The Fiscal Balance is defined as the balance of income and expenditure of government. It includes interest on debt repayment but does not include the impact of the support to the financial institutions from all interventions during the financial crisis on the general government deficit. The primary balance is the fiscal balance excluding net interest payments on public debt.

The current account deficit was corrected in 2023, (-6.3% of GDP), after a strong deterioration in 2022, mainly due to energy prices, keeping the economy's borrowing needs high. The goods and services balance, which is the largest part of the Current Account, recorded a deficit of €11 bil. in 2023, compared to €20 bil. in 2022, with 65% of the correction coming from the fuel component.

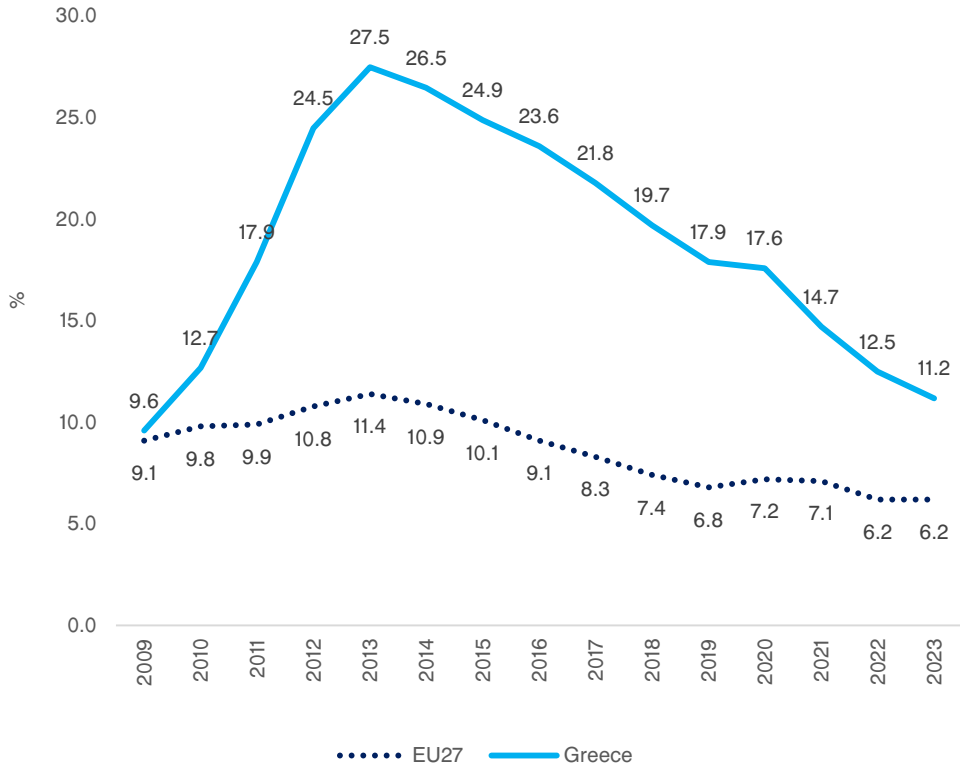
Figure 5: Current account balance



SOURCE: Bank of Greece, 2024, ELSTAT, 2024, data processing IOBE. The Current Account balance is the difference between exports and imports and includes the balances of Goods and Services, Primary Income (labour, entrepreneurship) and Secondary Income (current transfers).

The unemployment rate fell to 11.2% in 2023, continuing its downward trend since 2014, compared to 6.2% in the EU, where it remained stable. The number of people in employment shows a continuous upward trend and has increased by 687 thousand people between 2014-2023.

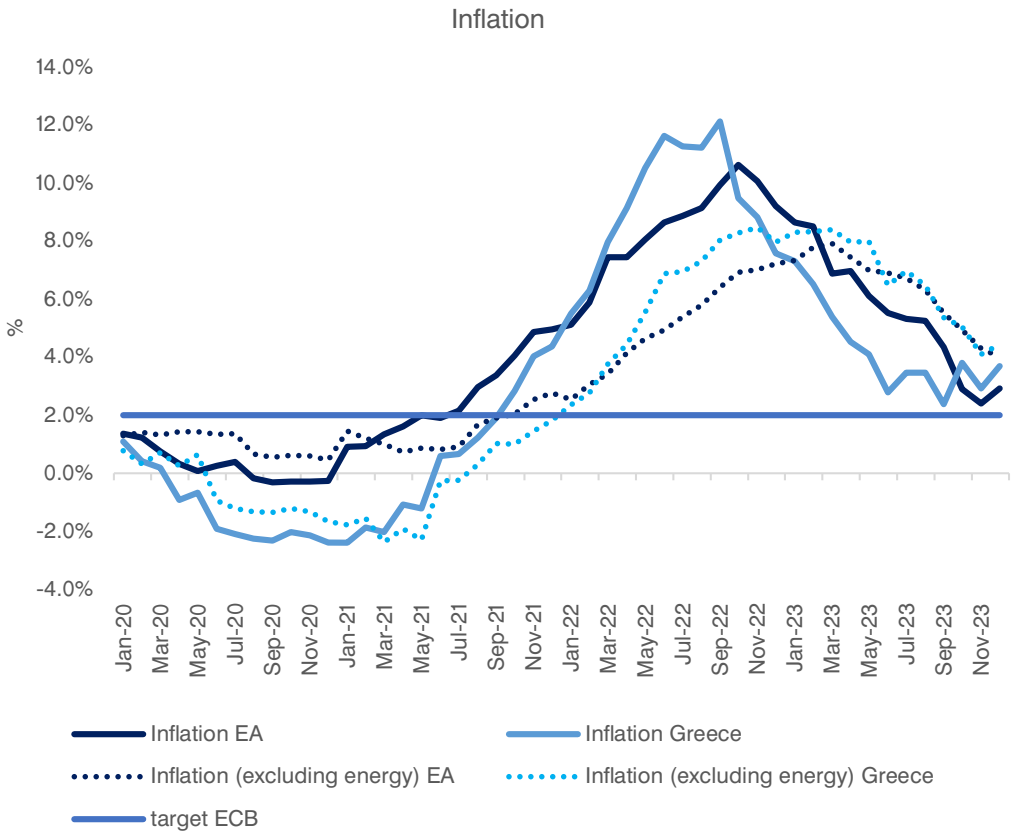
Figure 6: Unemployment rate Greece-EU27



SOURCE: Eurostat, 2024, data processing IOBE

Harmonised inflation in Greece was 4.2% in 2023, compared to 9.3% in 2022 and is lower than the Euro Zone average in 2023 (5.4%). However, inflation, excluding energy, increased in Greece by 6.6%, compared to 6.3% in the EZ in 2023.

Figure 7: Inflation, Greece – EZ

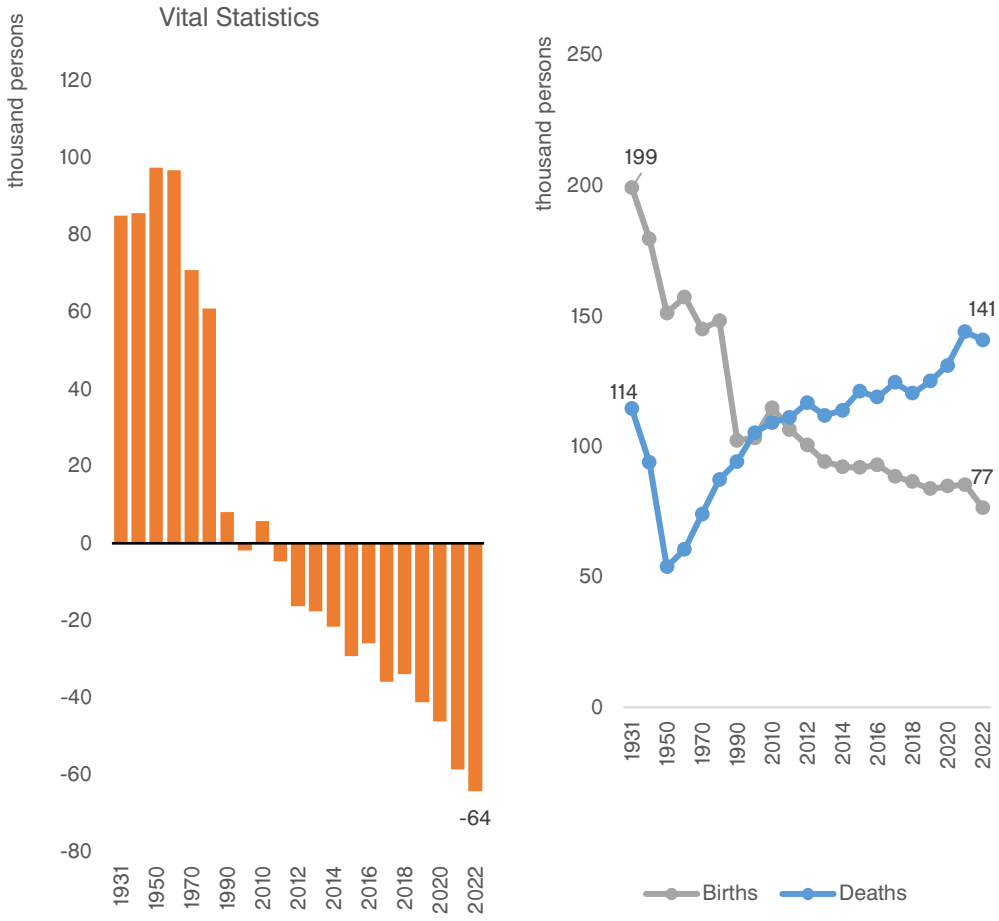


SOURCE: Eurostat, 2024, data processing IOBE

2.1 NATURAL POPULATION CHANGE

In 2022, there were 76.5 thousand births, a decrease of 10.3% compared to 2021, and a decrease of 23.0 thousand compared to a decade earlier. Deaths decreased by 2.2%, totaling 140.8 thousand, remaining at a very high level. As the increase in births did not cover the upward trend in deaths, the result is that the natural change in the population (births - deaths) remains negative by -64.3 thousand in 2022.

Figure 8: Natural population change (thousand persons) – Greece

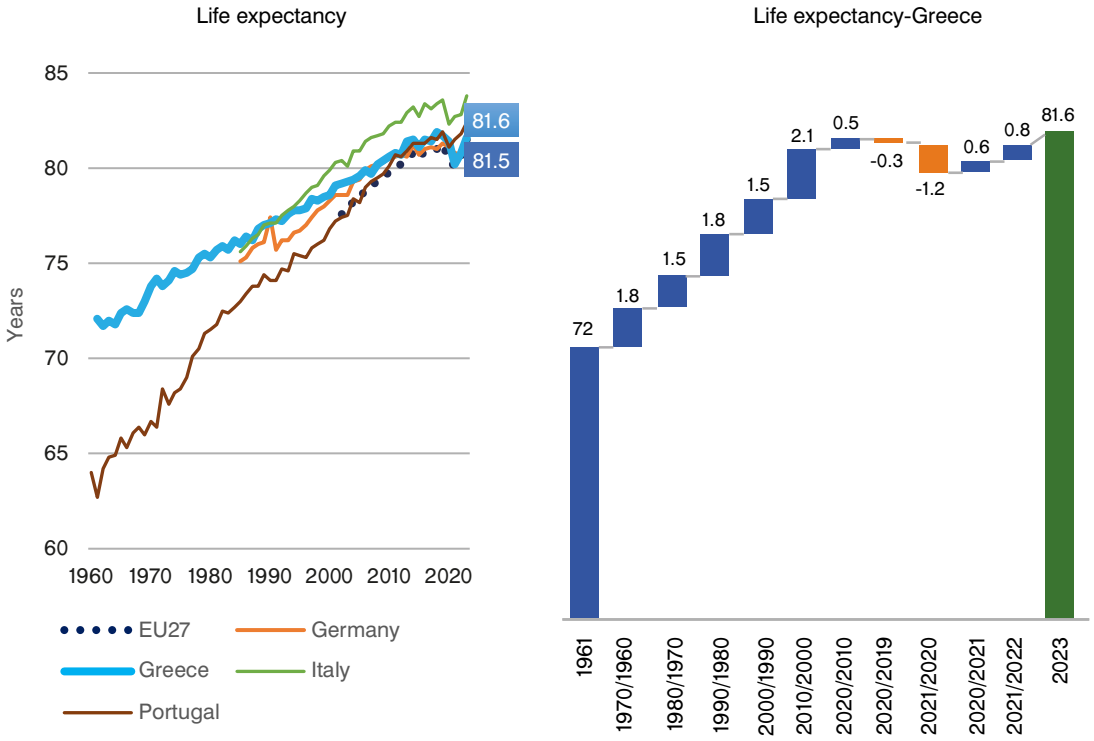


SOURCE: ELSTAT, 2023 * Natural population change (natural balance) is defined as the difference between births and deaths, without taking into account net migration (immigrants – emigrants) **The number of births do not include stillbirths, which in 2022 amounted to 446.

2.2 LIFE EXPECTANCY

The evolution of technology, the improvement of health services, the contribution of Research & Development with the introduction of new innovative treatments are some of the most important factors for increasing life expectancy. In Greece, there is a significant increase in life expectancy of 9.6 years in the period 1960-2023, thus recording a higher life expectancy than the average of the EU27 countries for the same period. Each decade, life expectancy in Greece extended by 1.5-2.0 years, while a negative change was recorded in 2020 and 2021, with Greeks "losing" 1.5 years of life expectancy, while in 2023 it returned to pre-pandemic levels (81.6 years).

Figure 9: Evolution of life expectancy (years) Greece -EU27

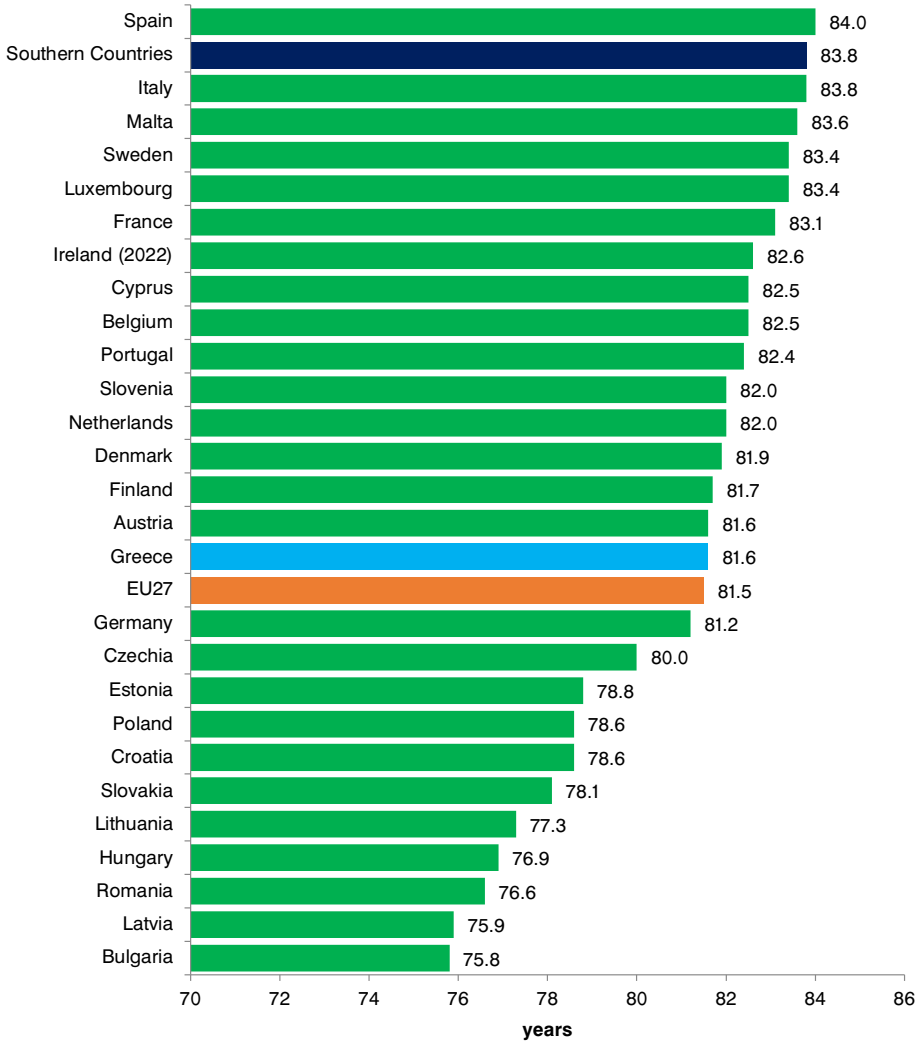


SOURCE: Eurostat, 2024

2.3 AGEING POPULATION

Life expectancy in Greece in 2023 stands at 81.6 years (at pre-pandemic levels), similar to the average of EU27 countries (81.5 years) and lower than in Southern European countries (83.8 years). The highest life expectancy is in Southern Europe, namely in Spain, Italy and Malta.

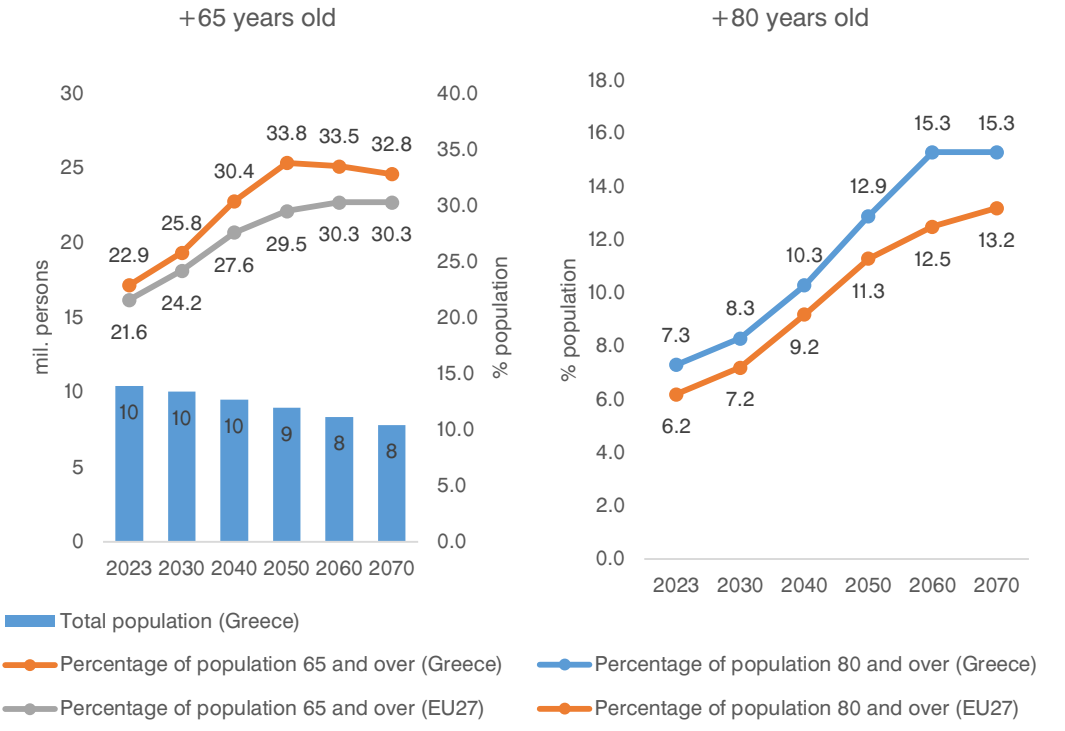
Figure 10: Life expectancy (years) Greece-EU27-Southern countries (2023)



SOURCE: Eurostat, 2024, Southern Countries (Italy, Spain, Portugal), data processing IOBE

The negative sign of the natural population change of recent years is estimated to continue and will lead to a gradual decrease in the total population of Greece by 2070 to 8 mil. (-25.1% compared to current levels). At the same time, the share of the population aged over 65 years is expected to increase from 22.9% in 2023 (21.6% in the EU27) to an estimated 32.8% in 2070, putting more pressure on health expenditure. Double share of the population aged 80 and over from 7.3% to 15.3%.

Figure 11: Population aged 65 and over and 80 years and over (% of total population) Greece-EU27

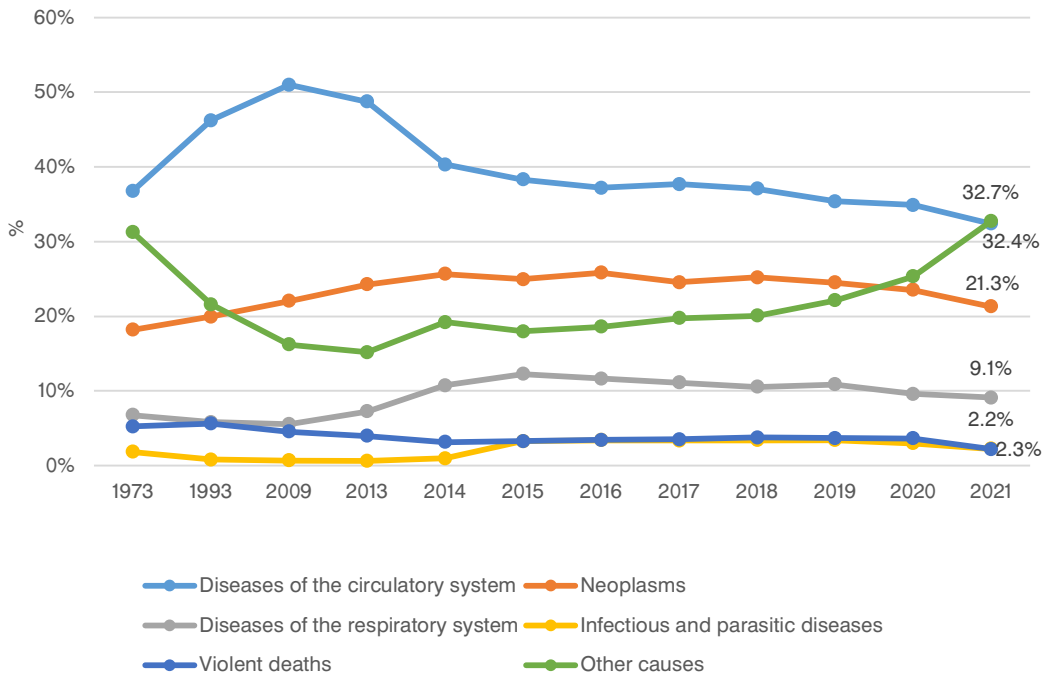


SOURCE: Eurostat, Population Projections, data processing IOBE *Not included the possible permanence of the migration flow from 2015 onwards

2.4 CAUSES OF DEATH - CHRONIC DISEASES-PREVENTION

Deaths from diseases of the circulatory system account for 32.4% of all deaths in 2021, despite a decline in recent years. Neoplasms, which account for 21.3% of total deaths, are also on the decline. It is also interesting to note the decline in total deaths from respiratory diseases after 2015 (9.1% in 2021).

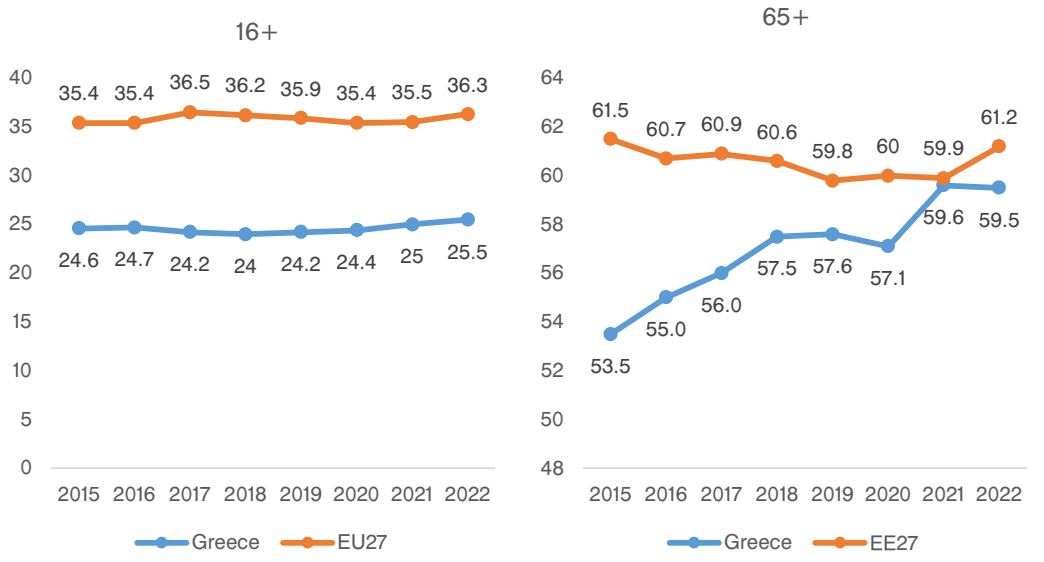
Figure 12: Causes of death (% of total deaths) - Greece (2021)



SOURCE: ELSTAT, 2024, data processed by IOBE. *International Statistical Classification of Diseases and Related Health Problems (ICD-10) Violent Deaths: Traffic accidents, other accidents, suicides, homicides, and other acts of violence. According to the 10th Revision of the International Statistical Classification of Diseases, Injuries, and Causes of Death (ICD-10), this category includes cases where investigations by medical or legal authorities have not determined whether the injury was due to an accident, suicide, or homicide. It also includes deaths resulting from injuries caused by law enforcement officials (including military personnel) while on duty, during attempts to enforce the law, as well as deaths due to injuries sustained in combat operations. Other Causes: Primarily, diseases of the digestive system, diseases of the genitourinary system, diseases of the nervous system and sensory organs, endocrine and metabolic diseases, nutritional disorders, and immune system disorders.

The percentage of the population aged 16 and over with a chronic health problem is increasing from 2015 to 2022, reaching 25.5%, but below the EU27 average (36.3%). Around 60% of the population aged 65 and over have multiple chronic conditions, with a slightly higher proportion in the EU27.

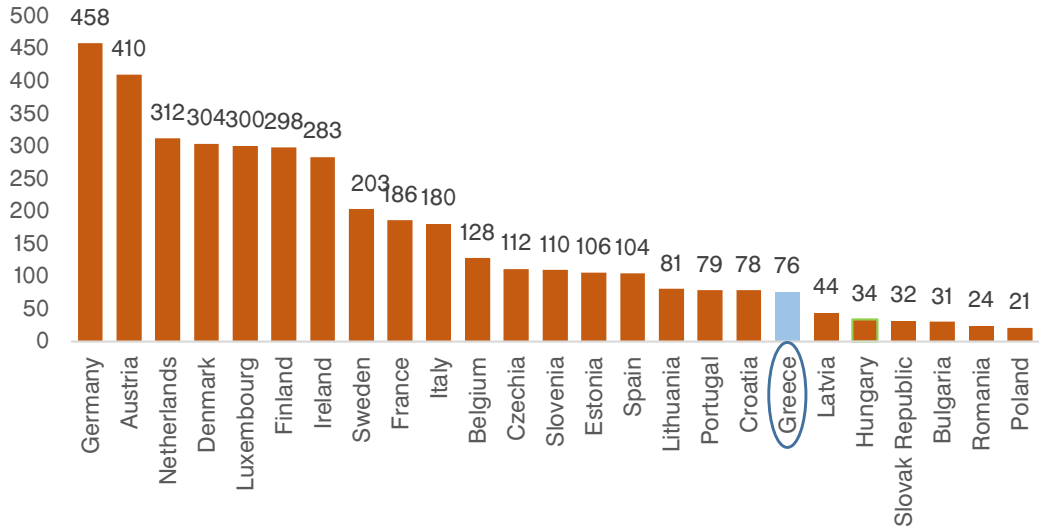
Figure 13: Percentage of population with a chronic health problem - chronic condition, 2018 – 2022



SOURCE: Eurostat 2024, IOBE data processing. Note: Chronic is defined as a health problem or condition that lasts or is expected to last more than 6 months, with or without medication.

In 2022, the per capita expenditure on prevention in Greece reached €76 (from €64 in 2021 and €27 in 2020), remaining among the lowest in the EU, while the increase recorded in almost all countries is partly attributed to vaccination efforts.

Figure 14: Health expenditure per capita on prevention, Greece-EU (2022)

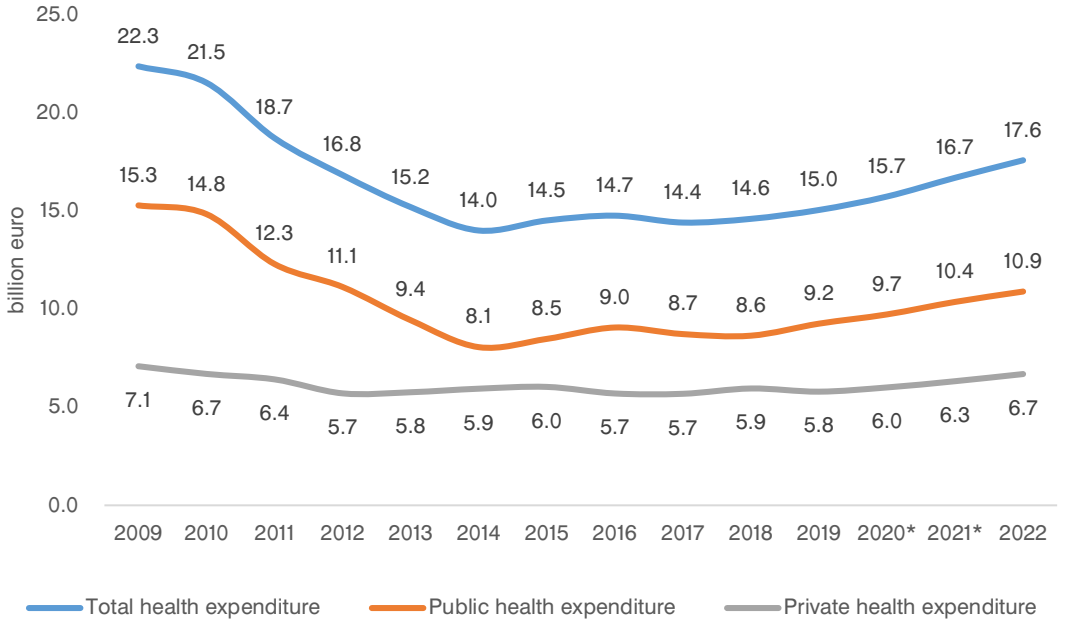


SOURCE: OECD Health Statistics, 2024

3.1 FUNDING OF HEALTH EXPENDITURE

In 2022, total funding for health expenditure in Greece amounted to €17.6 bil. increased by 5.4% compared to 2021, due to the needs created by the pandemic. Public expenditure approached €10.9 bil., an increase of €528 mil. compared to 2021, while private expenditure expanded by €364 mil. to €6.7 bil. in 2022.

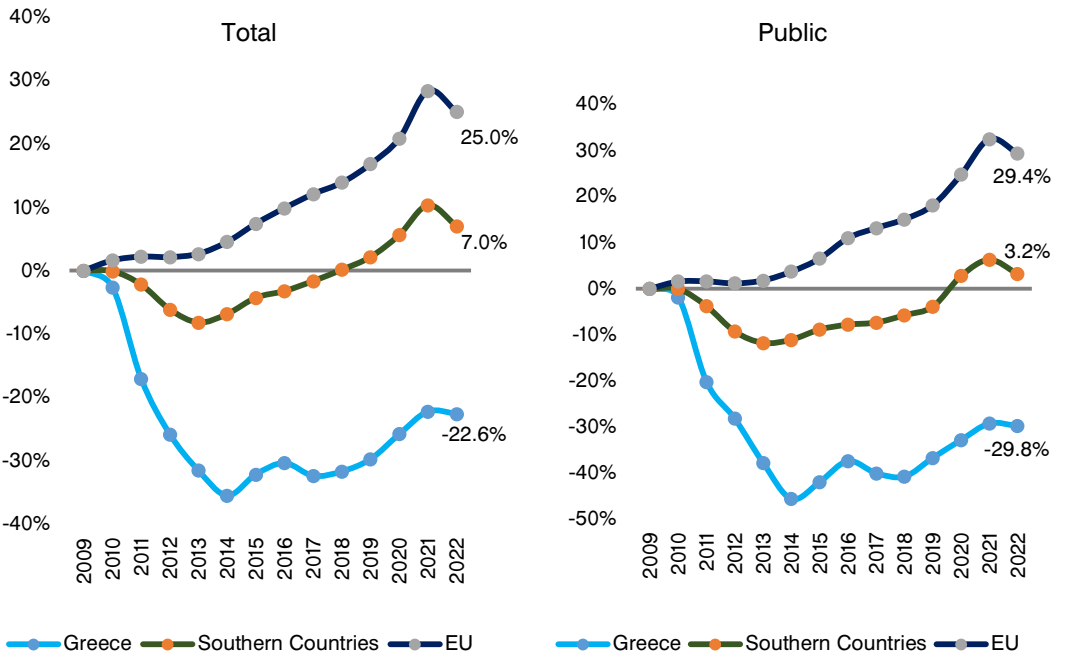
Figure 15: Total, public and private health expenditure (bil. €)



SOURCE: System of Health Accounts (SHA) 2022, ELSTAT, 2024, *Revised data.

Total health expenditure increased by 7.0% in the Southern countries and by 25.0% in the EU in 2022 compared to 2009, with a decrease compared to 2021, while in Greece it remains 22.6% below 2009 levels. Public health expenditure increased by 3.2% in 2022 compared to 2009 in the Southern countries, and by 29.4% in the EU, with a decrease compared to 2021, while in Greece it is 29.8% lower in the same period, again registering a decrease in 2022 compared to 2021 by 0.8% in constant 2015 prices.

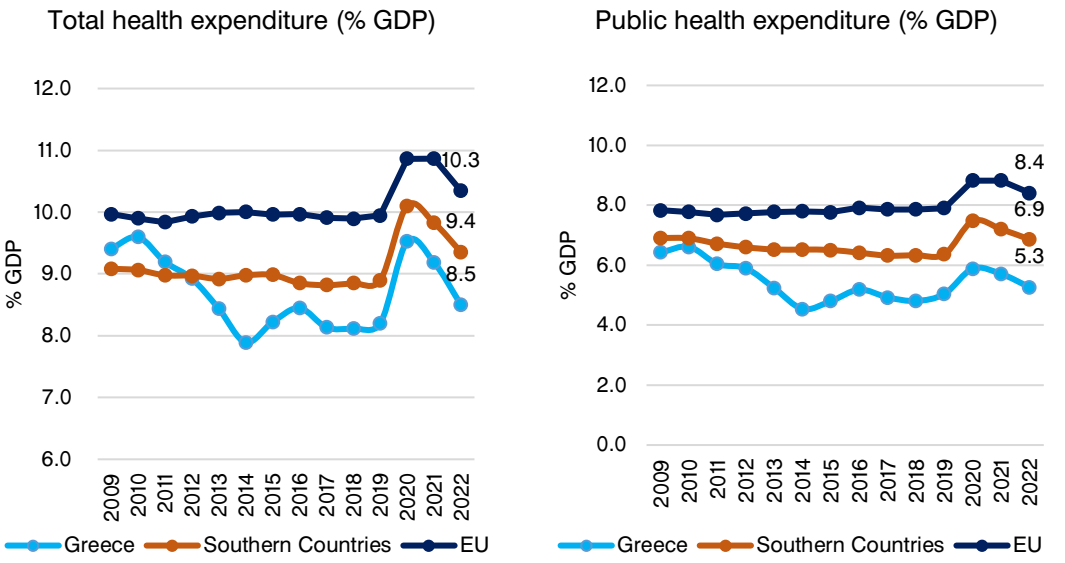
Figure 16: Index of cumulative change in health expenditure (%) Greece-EU-Southern countries



SOURCE: OECD Health Statistics, 2024, data processing IOBE. Southern countries (Italy, Spain, Portugal). 2009 has been chosen as the comparison year and the percentage changes between 2009 and 2021 have been calculated on funding data in constant prices (€ 2015, OECD). For the EU, no available data for Cyprus and Malta.

After the increase in health expenditure as a percentage of GDP due to the pandemic, there is a decline in 2021 and 2022, with a greater intensity in the latter year, mainly due to the high growth of GDP in nominal terms. In 2022, total health expenditure corresponds to 10.3% of GDP in the EU, 9.4% in the Southern countries, while Greece records a share of 8.5% of GDP. In any case, the rates are increased in the period 2020-2022 compared to the previous period, namely in Greece the expenditure is increased by 0.5 GDP unit compared to the average 2009-2019, while in the EU and the Southern countries it is increased by 0.8. In Greece, health expenditure is 1.6 GDP points lower than in the EU over the period 2012-2022. Public funding for health expenditure in Greece reached 5.3% of GDP in 2022, with a decrease compared to 2021 due to GDP growth. In the Southern Countries the corresponding share was 6.9% and 8.4% in the EU.

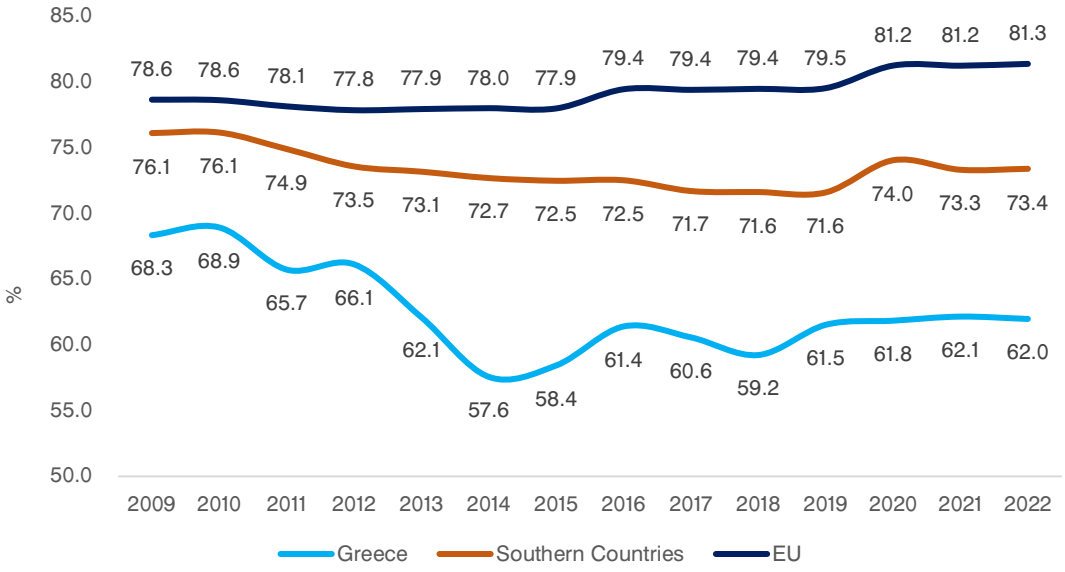
Figure 17: Total & Public funding for health expenditure (% of GDP) Greece-EU27-Southern countries



SOURCE: System Health Accounts (SHA) 2022, ELSTAT, 2024, OECD Health Statistics, 2024, data processing IOBE. Southern countries (Italy, Spain, Portugal). For the EU, no available data for Cyprus and Malta.

Public funding in Greece accounts for 62% of total funding for health expenditure in 2022, roughly the same level as in the last 4 years, but still lagging EU and Southern countries' average. Note that the share of public expenditure in Southern countries and the EU is 11.4 and 19.3 points respectively higher than in Greece.

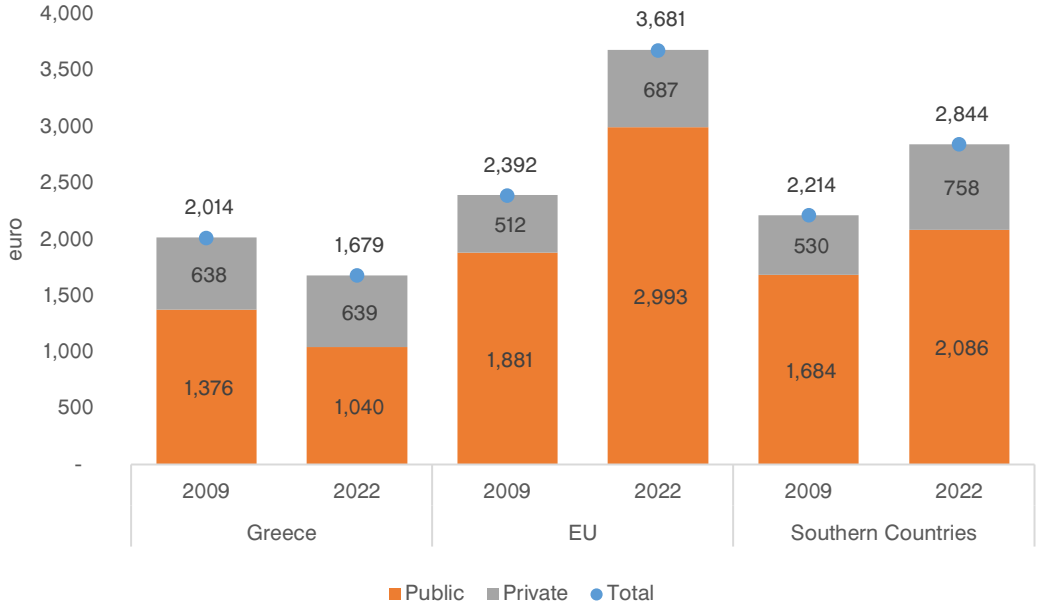
Figure 18: Public funding for health expenditure (% of total) Greece-EU27-Southern countries



SOURCE: System Health Accounts (SHA) 2022, ELSTAT, 2024, OECD Health Statistics, 2024, data processing IOBE. Southern countries (Italy, Spain, Portugal). For the EU, no available data for Cyprus and Malta.

Total per capita health expenditure in Greece amounted to €1,679 in 2022, compared to €2,014 in 2009, with the decrease coming mainly from the decline in public per capita expenditure in this period. The total per capita expenditure in the EU was €3,681, which puts Greece at 46% of the EU average and 59% of the Southern countries' levels. Public per capita health expenditure was €1,040 in Greece, compared to €2,993 in the EU and €2,086 in the Southern countries.

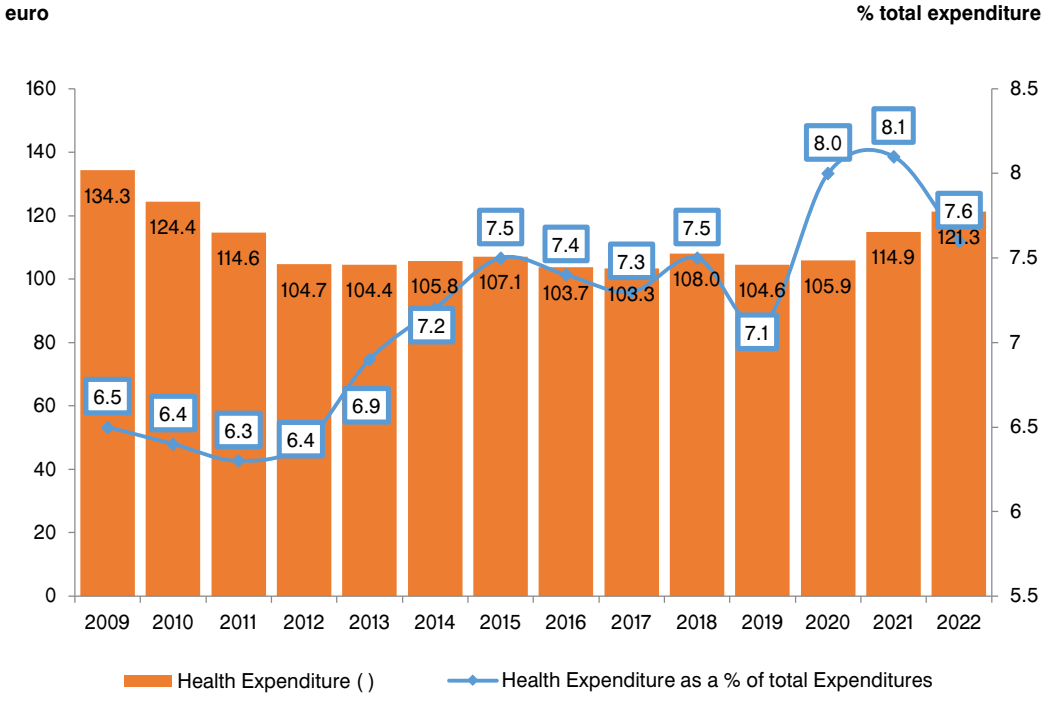
Figure 19: Health expenditure per capita Greece-EU27-Southern countries



SOURCE: System Health Accounts (SHA) 2022, ELSTAT, 2024, OECD Health Statistics, 2024, data processing IOBE. Southern countries (Italy, Spain, Portugal). For the EU, no available are for Cyprus and Malta.

Health care expenditure accounts for 7.6% of total household expenditure incurred through market transactions in 2022, up from 6.5% in 2009. Although the average monthly health expenditure per household in 2022 showed a decrease of -9.7% in absolute terms compared to 2009 (€121 in 2022 compared to €134 in 2009), the share of this expenditure is higher than in 2009, revealing the increased participation of patients in health expenditure and the inelasticity of expenditure for these categories.

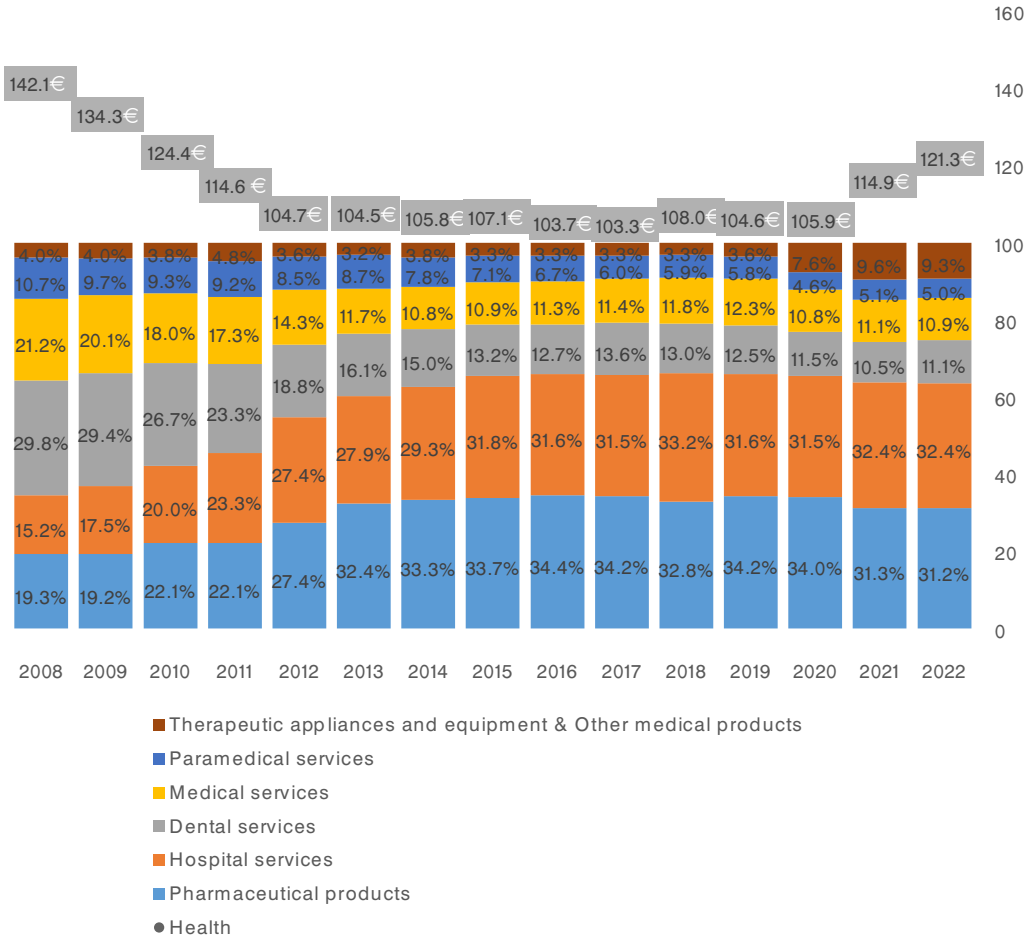
Figure 20: Health expenditure for households - Greece



SOURCE: ELSTAT, 2023, data processing IOBE. Household Budget Survey (HBS), which is conducted annually by the ELSTAT, provides information for the composition of total household spending, according to various socioeconomic characteristics of each household

In the last decade, household spending on healthcare has shifted mainly to cover pharmaceutical and hospital care. Specifically, of the €121 monthly household health expenditure in 2022, 31% is for pharmaceutical care and 32,4% for hospital care, compared to 11% for dental or other medical services (11%) which had a larger share in 2009.

Figure 21: Distribution of health expenditure (%) for households - Greece

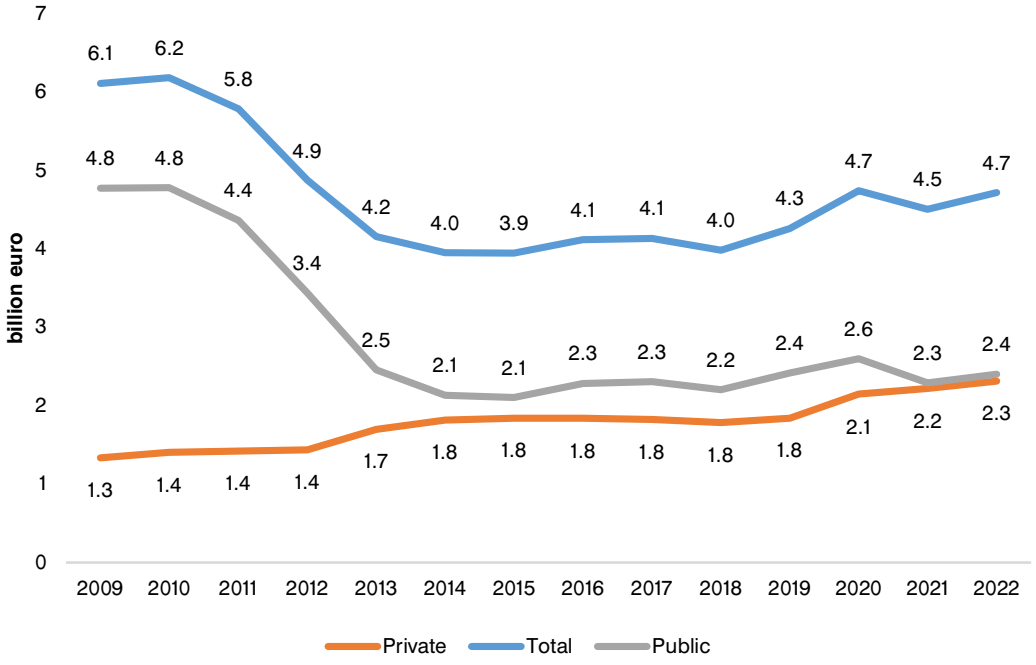


SOURCE: ELSTAT, 2023, data processing IOBE

3.2 PHARMACEUTICAL EXPENDITURE

Total expenditure on pharmaceuticals and other medical non-durable goods accounted for €4.7 bil. in 2022, decreased by 22.8% compared to 2009 in nominal terms. Similarly, public expenditure on pharmaceuticals and other medical non-durable goods dropped from €4.8 bil. in 2009 to €2.4 bil. in 2022, an even further decrease of 49.6%. In contrast private expenditure on pharmaceuticals and other medical non-durable goods increased by 73.3% from €1.3 bil. in 2009 to €2.3 bil. in 2022.

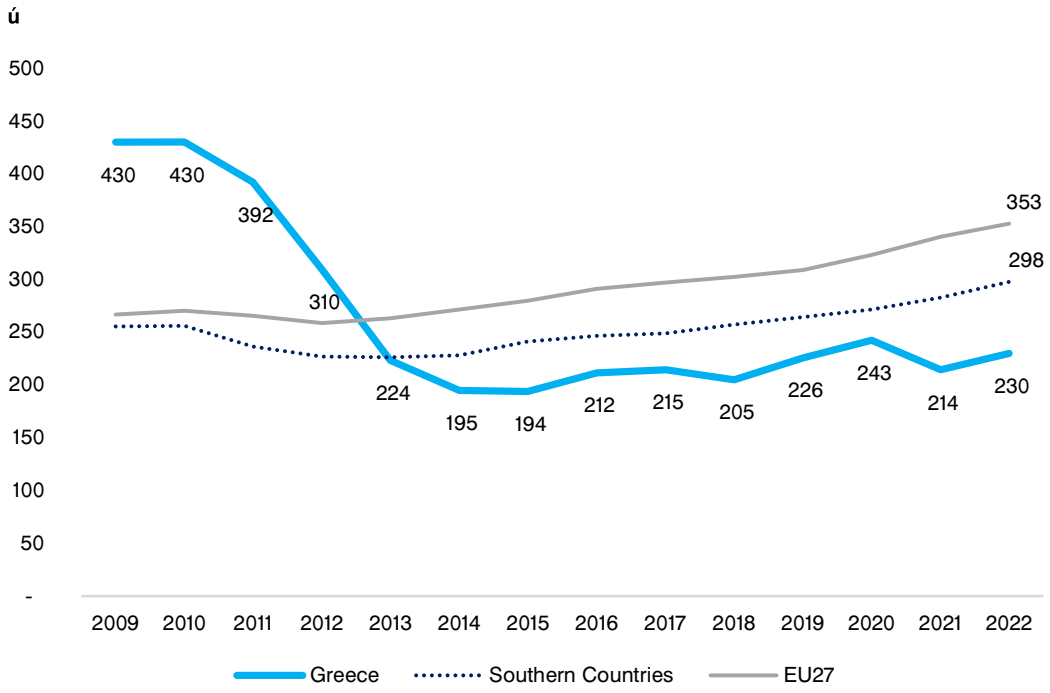
Figure 22: Total expenditure on pharmaceuticals and other medical non-durable goods (bil. €) - Greece



SOURCE: System Health Accounts (SHA) 2022, ELSTAT, 2024, data processing IOBE. According to OECD and SHA, pharmaceutical expenditure falls into a broader category (HC.5.1), which includes prescribed medicines (HC.5.1.1), over-the-counter drugs (OTC) (HC.5.1.2) and other medical non-durable goods (HC.5.1.3). Therefore, total expenditure on pharmaceuticals and other medical non-durable goods, in addition to expenditure on prescription medicines, a set of subcategories that have not been valued to know only the expenditure on prescription drugs (see Annex 7). *Revised data.

Public per capita expenditure on pharmaceuticals and other medical non-durable goods in Greece has been on a downward trend since 2009, and since 2014 it has stabilized at levels lower than in the EU27 and the Southern countries. The per capita expenditure has reached €230, following a temporary increase in 2020, compared to €352 in the EU27 in 2022 and €298 in the Southern Countries, showing an increasing trend since 2012.

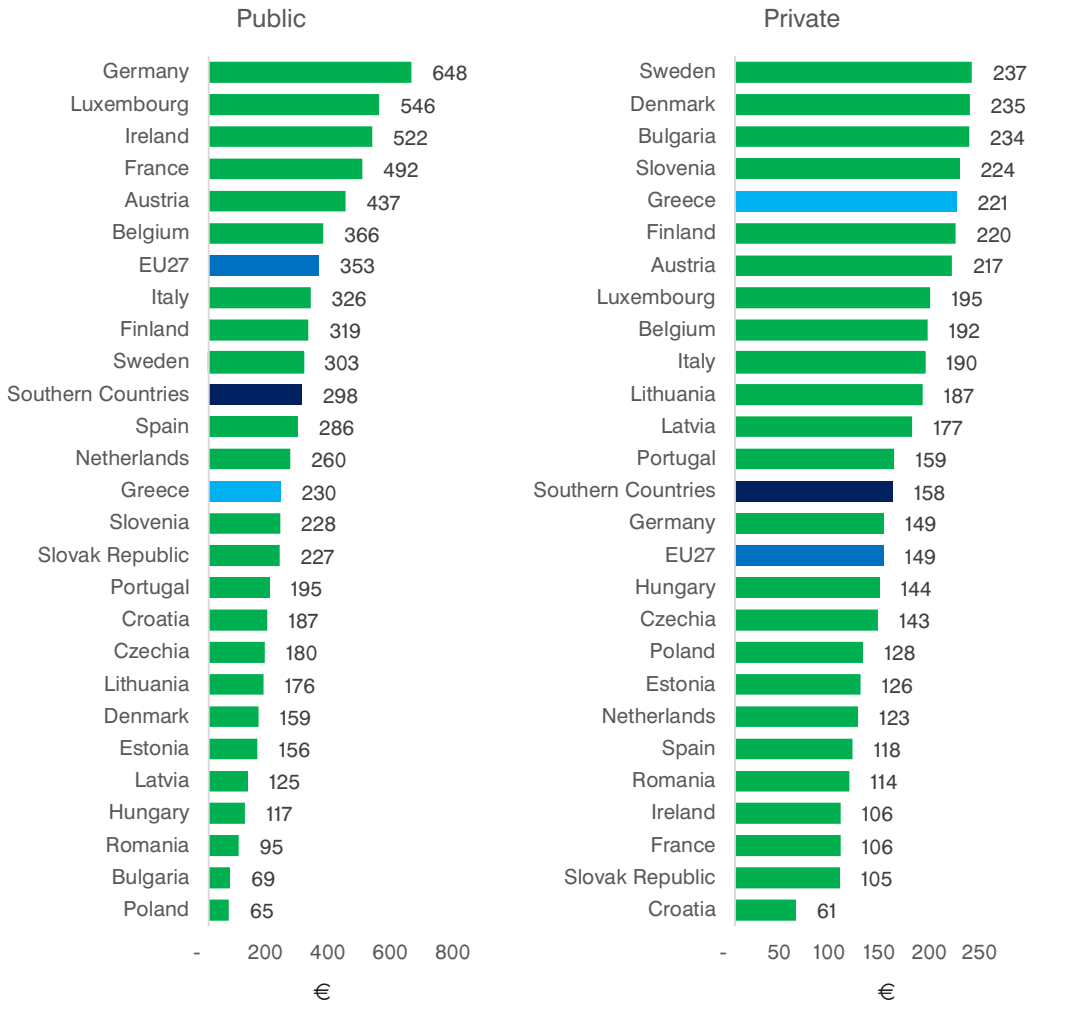
Figure 23: Public expenditure per capita on pharmaceuticals and other medical non-durable goods Greece-EU27-Southern countries



SOURCE: System Health Accounts (SHA) 2022, ELSTAT, 2024, OECD Health Statistics, 2024, data processing by IOBE. Southern countries (Italy, Spain, Portugal). For the EU, no data are available for Cyprus and Malta.

Specifically, the highest public expenditure per capita on pharmaceuticals and other medical non-durable goods in 2022 is recorded in Germany, Luxembourg and Ireland, while Greece (€230) is below the EU average (€353) and below the Southern countries (€298). In contrast, in private per capita expenditure on pharmaceuticals and other medical non-durable goods, Greece (€221) ranks 5th above the EU average (€149).

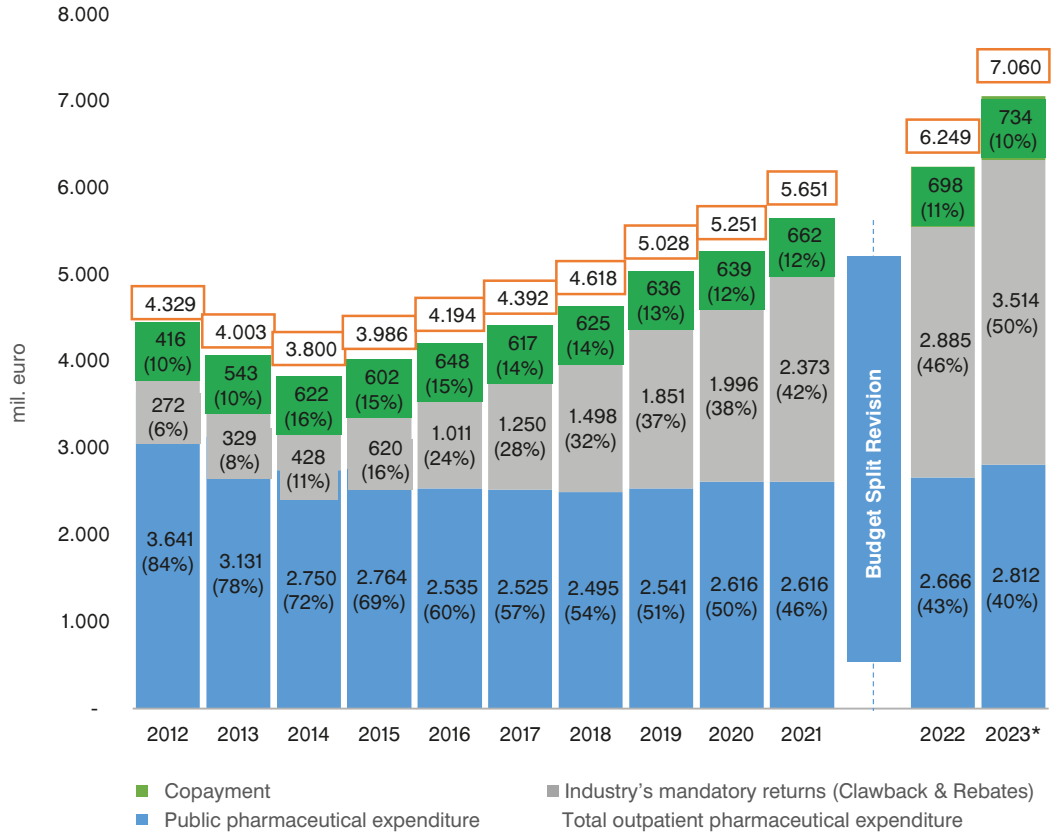
Figure 24: Public and private per capita expenditure on pharmaceuticals and other medical non-durable goods (2022)



SOURCE: OECD Health Statistics, 2024, data processing IOBE. Southern countries (Italy, Spain, Portugal). For the EU, no available data for Cyprus and Malta.

Pharmaceutical expenditure, both outpatient and inpatient, is estimated at €7.1 bil. in 2023, compared to €6.2 bil. in 2022. Public expenditure increased to €2.8 bil. in 2023, from €2.7 bil. in 2022, while the pharmaceutical industry's contribution to pharmaceutical expenditure via clawback and rebates is estimated to exceed €3.5 bil., compared to €2.9 bil. in 2022. It should be noted that the pharmaceutical industry's contribution has seen a significant increase in recent years, with an increase of €629 mil. in 2023 compared to the previous year. Finally, patient participation1 increased in 2023 to €734 mil., compared to €698 mil. in 2022.

Figure 25: Evolution of pharmaceutical expenditure, 2012-2023



SOURCE: EOPYY 2012-2023, data processed by IOBE-SFEE. The share of each category in total expenditure is shown in brackets. Note: Out of pocket payments are not included. *For 2023, clawbacks and rebates are estimations. The public pharmaceutical expenditure includes the state-determined budgets for community medicine expenditure, high-cost medicines, and hospital medicines (ESY – Papageorgiou), as well as specific closed budgets for these categories. The industry's contribution includes clawbacks, rebates, and estimated discounts within closed sub-budgets. Patient contributions only include the amount paid by the patient in the reimbursed market (i.e., the legally defined copayment rates of 0%, 10%, and 25%) and the additional charge resulting from the difference between Retail Price (RP) and Reimbursement Price (RP).

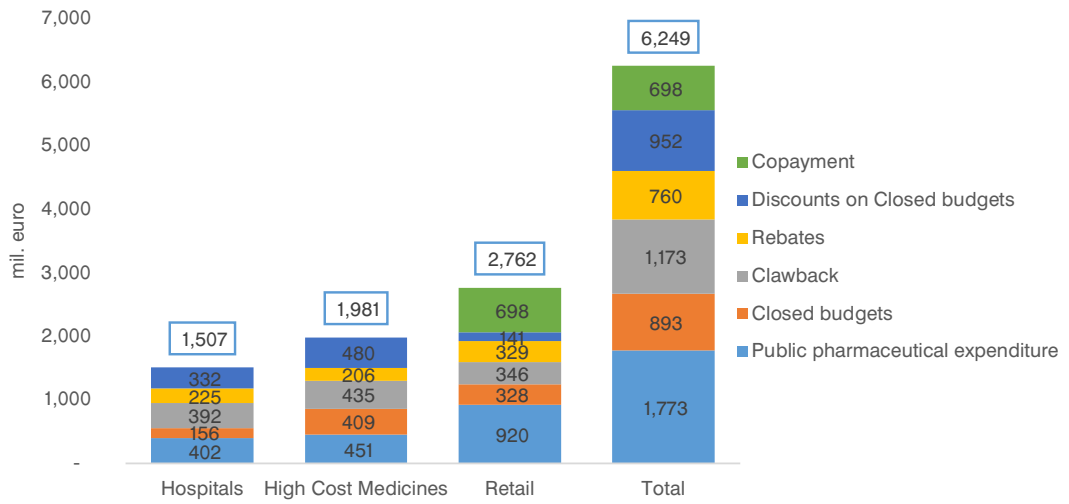
More specifically, compared to 2012, there is an increase of the industry's contribution to the total pharmaceutical expenditure, which now stands at 50%[1], compared to 6% in 2012. In contrast, public expenditure fell to 40%, less than half of 2012 levels (84%), while patient participation, although increased in absolute terms since 2012, is 10%.

In 2022, the way public pharmaceutical expenditure is allocated changed. Based on this change, the public pharmaceutical expenditure will now be allocated to the following three (3) budgets:

- medicines available through community pharmacies (community medicines - retail),
- high-cost medicines available through EOPYY pharmacies (1A and 1B medicines), and
- medicines available through hospitals (ESY and Papageorgiou)

In 2022, total pharmaceutical expenditure, including pharmaceutical industry returns as well as patient contribution, reached €2.8 bil. for community pharmacies, €2.0 bil. for high-cost medicines and €1.5 bil. for hospitals medicines. The industry and patient contribution to the total pharmaceutical expenditure in 2022 amounted to 57.3% of the total. Overall, total pharmaceutical expenditure for 2022 (inpatient and outpatient) amounted to €6.2 bil., as mentioned above.

Figure 26: EOPYY total pharmaceutical expenditure, 2022



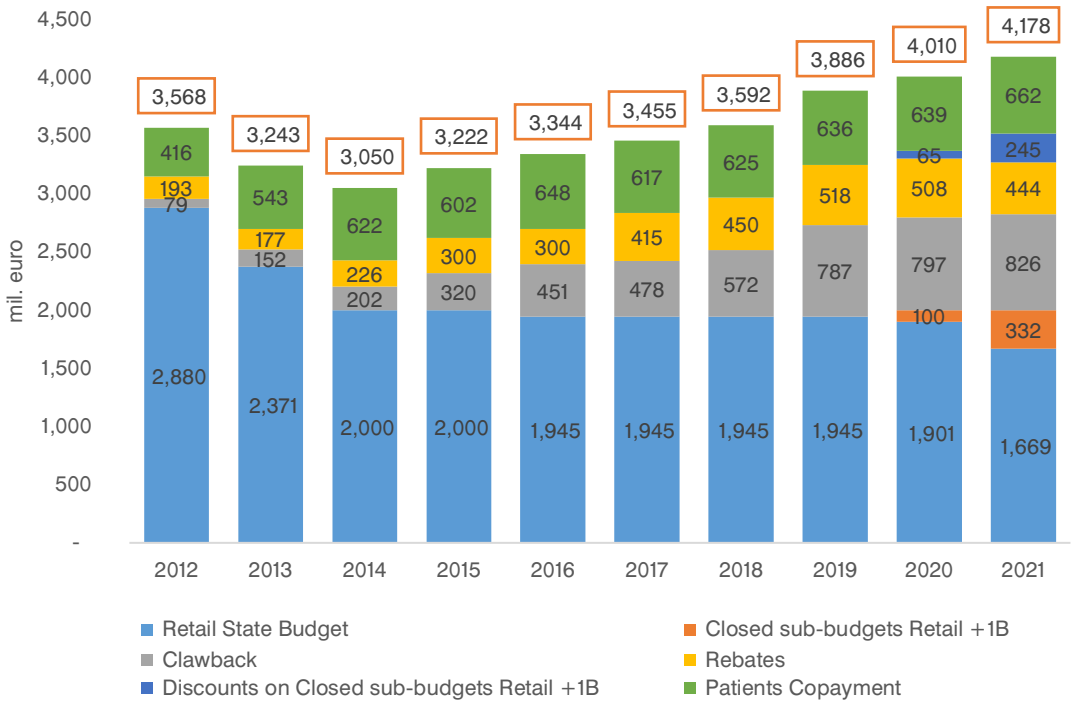
SOURCE: EOPYY, data processing IOBE-SFEE. Data for rebates in closed budgets are SFEE estimations.

[2] According to estimates by IOBE and SFEE

It is important to note that, due to this change in the allocation of pharmaceutical expenditure, the data up to 2021 are not comparable with those for 2022.
However, to illustrate the data and to show how the different categories evolve over time, it is useful to present the data for 2012-2021.

Total outpatient pharmaceutical expenditure (including estimated patient and pharmaceutical industry contributions) reached €4.2 bil. in 2021. Public funding (including closed retail sub-budgets) stood at €1.7 bil. in 2021, decreased compared to previous years. Industry participation in funding (clawbacks, rebates, and discounts on closed sub-budgets) amounted to €1.5 bil. in 2021, compared to €1.4 bil. in 2020 and €272 mil. in 2012. The reduction in public outpatient funding over the period 2012-2021 by around 31% resulted in a significant increase in industry participation over the same period of 458% and patient participation of 59%.

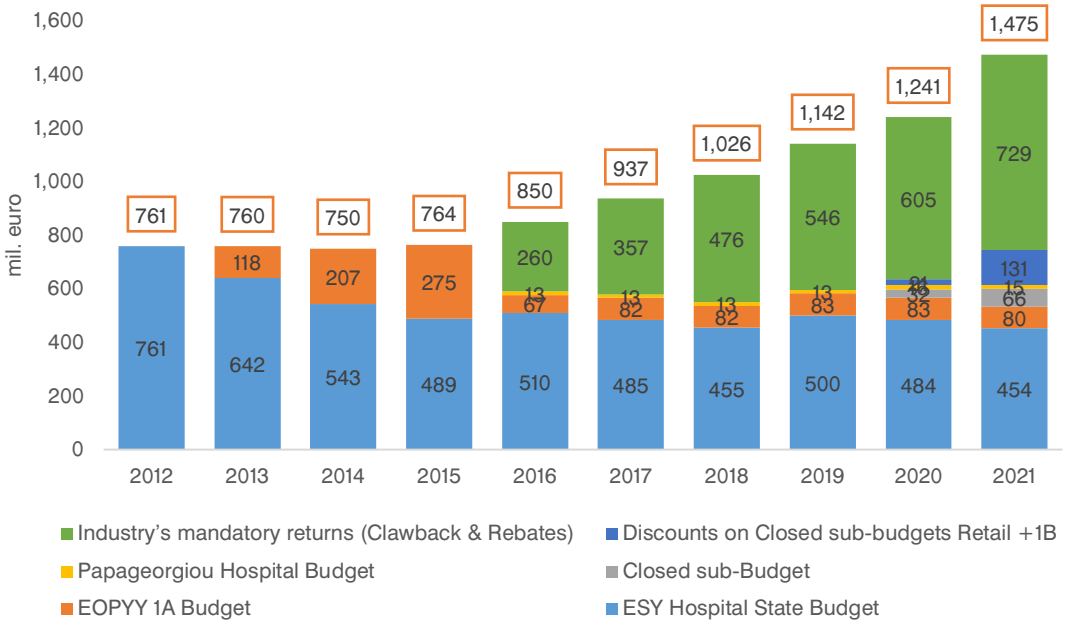
Figure 27: Evolution of outpatient pharmaceutical expenditure, 2021-2022



SOURCE: EOPYY 2012-2021, data processing IOBE-SFEE, Note: Direct payments (out of pocket) are not included. Public pharmaceutical expenditure also includes closed retail sub-budgets +1B. Industry's mandatory returns include clawbacks, rebates, and closed sub-budget discounts. Patient participation: What the patient pays to the reimbursed market (i.e. 0%, 10%, 25%) and the burden resulting from the difference between Retail Price - Reimbursement Price

Public pharmaceutical expenditure for ESY hospitals was set at €549 mil. for 2021, contracted by -28.1% compared to 2015 (€764 mil.), following the imposition of a closed budget. The continued reduction in public hospital pharmaceutical expenditure resulted in an increase in the pharmaceutical industry's contribution (through automatic reimbursement mechanisms and mandatory and voluntary rebates), which for 2021 reached €729 mil., compared to €260 mil. in 2016.

Figure 28: Public hospital pharmaceutical expenditure and industry participation



SOURCE: EOPYY 2012-2021, data processed by IOBE-SFEE. The public pharmaceutical expenditure includes the ESY hospitals, EOPYY (1A), the special purpose hospitals (Aretaieio etc.), Papageorgiou as well as the closed sub-budgets of the above.

PATIENTS' CONTRIBUTION

Public pharmaceutical expenditure includes expenditure on prescription medicines, i.e. all medicines reimbursed by Social Security Funds (SSF). Net public pharmaceutical expenditure is the final amount reimbursed by SSFs after deduction of the mandatory rebates and clawbacks paid by pharmaceutical companies.

Private pharmaceutical expenditure includes co-payment rates of insured persons for reimbursed medicines (statutory participation & the additional charge that incurs when the patient chooses a medicine with a higher Retail Price than the Reimbursement Price), the private expenditure of consumers (patients) for pharmaceuticals and related items not covered by insurance funds and for those medicines that they pay for or choose to pay for in full, as well as the reimbursement of part of the expenditure by private insurance companies.

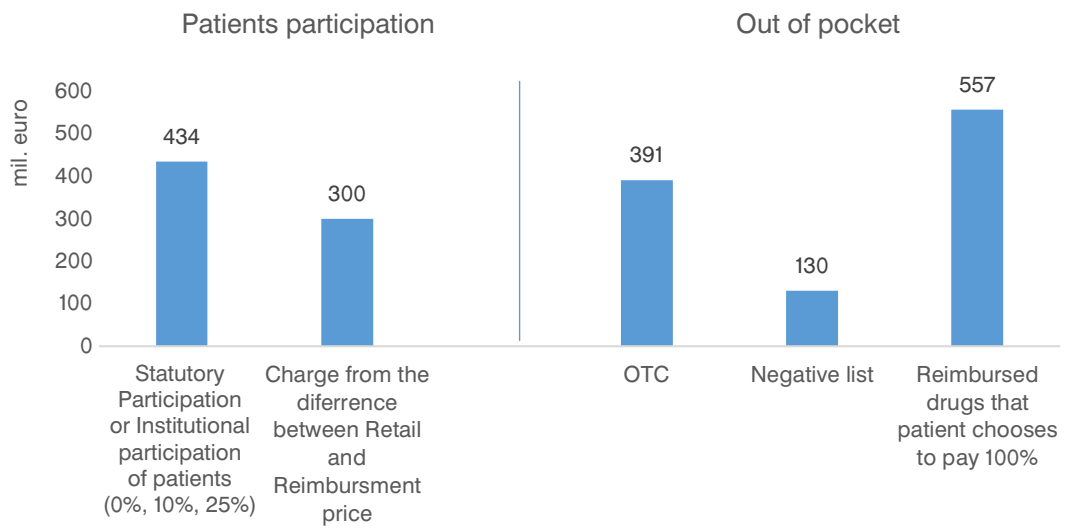
Patient participation in reimbursed medicines is divided into:

- Statutory Participation: 0% or 10% or 25% of the reimbursement price
- Charge resulting from the difference between the Retail Price and the Reimbursement Price when the patient chooses a medicine with a Retail Price Higher than the Reimbursement Price

Other private payments for medicine include:

- either non-prescription medicines (OTC),
- either prescription medicines that are not reimbursed (Negative List)
- either prescribed medicines of the reimbursement list, but the patient chose not to use his insurance right and chose to pay them entirely out of his pocket.

Figure 29: Total Private Pharmaceutical Expenditure (2023)



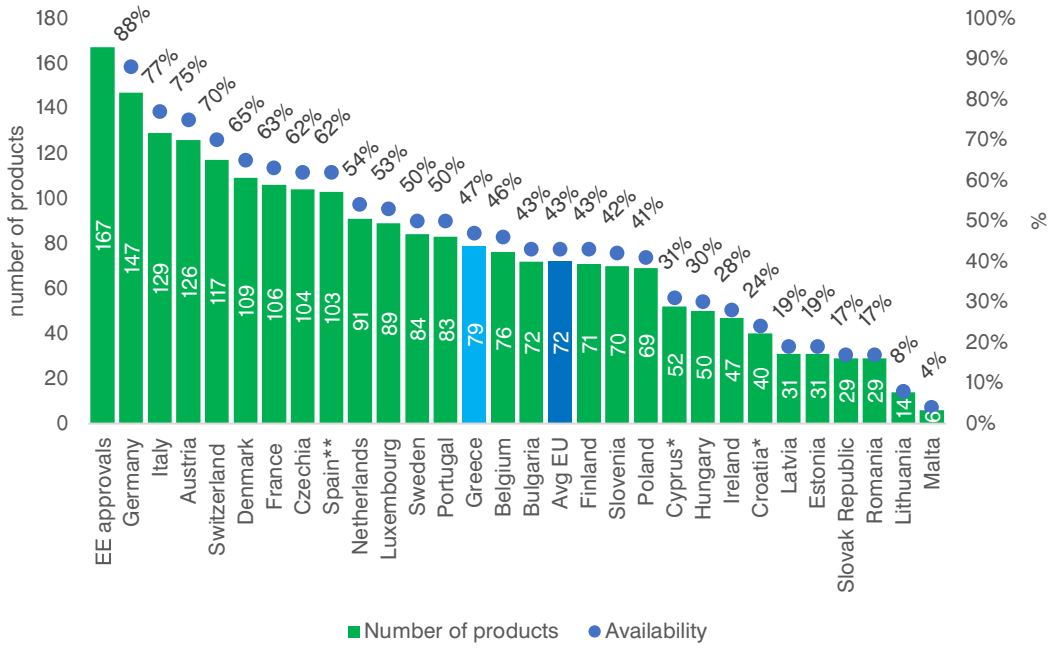
Source: Data from IDIKA (Statutory Patient Participation), OTC and Negative list, SFEE calculations based on EOPYY and IQVIA. The data for 2023 of patient participation are estimations.

3.3 PATIENT ACCESS TO INNOVATIVE THERAPIES

The availability of innovative medicines and the time for patients to access innovative treatments varies significantly from country to country, which creates inequalities in patient access to new treatments. The European Federation of Pharmaceutical Industries (EFPIA), attempting to examine the degree of patient access to new innovative treatments, has been conducting annual surveys since 2004, taking into account the W.A.I.T. (Waiting to Access Innovative Therapies) of the two individual indicators of the W.A.I.T. study: a) the availability of new innovative therapies and b) the time required from the date of their approval by the EMA to the date of their reimbursement by the health systems

According to the latest study published in June 2024, for the period 2019-2022, of the 167 innovative medicines that received a central authorization from EMA, 79 medications are available to the Greek patient (47%) of the total approved innovative medications compared to 72 medications which is the EU average (43%) (Figure 30).

Figure 30: Rate of availability of new medicines (2019-2022)



SOURCE: EFPIA W.A.I.T Indicator June 2024, European Union average: 72 products available (43%).In most countries availability equates to granting of access to the reimbursement list, except in DK, FI, LU, SE where some hospital products are not covered by the general reimbursement scheme.*Countries with asterisks did not complete a full dataset and therefore availability may be unrepresentative. **In Spain, the WAIT analysis does not identify those medicinal products being accessible earlier in conformity with Spain's Royal Decree 1015/2009 relating to Medicines in Special Situations

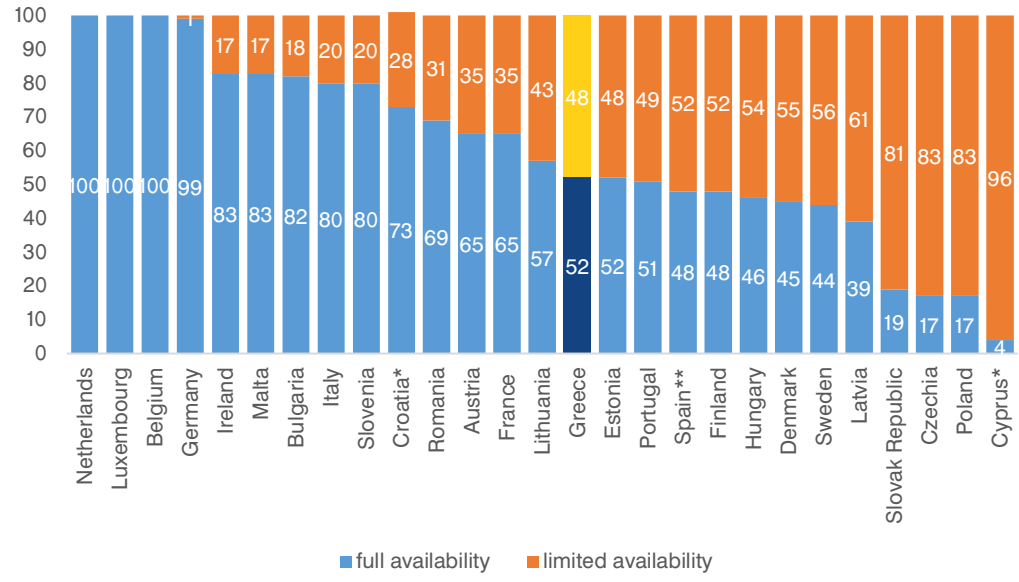
In the chart, it should be highlighted that both pharmaceutical products with full availability and pharmaceutical products with limited availability are included.

Medicines with "limited availability" in Greece are those that are available to the Greek patient through the IFET channel and through the Electronic Pre-authorization System of the Greek National Organization for Health Care Services (EOPYY).

Figure 31 shows both the full availability and limited availability of approved innovative medicines by country.

The study showed that at the European level 40% of available medicines are available with access restrictions. In Greece, the corresponding percentage is estimated at 48%.

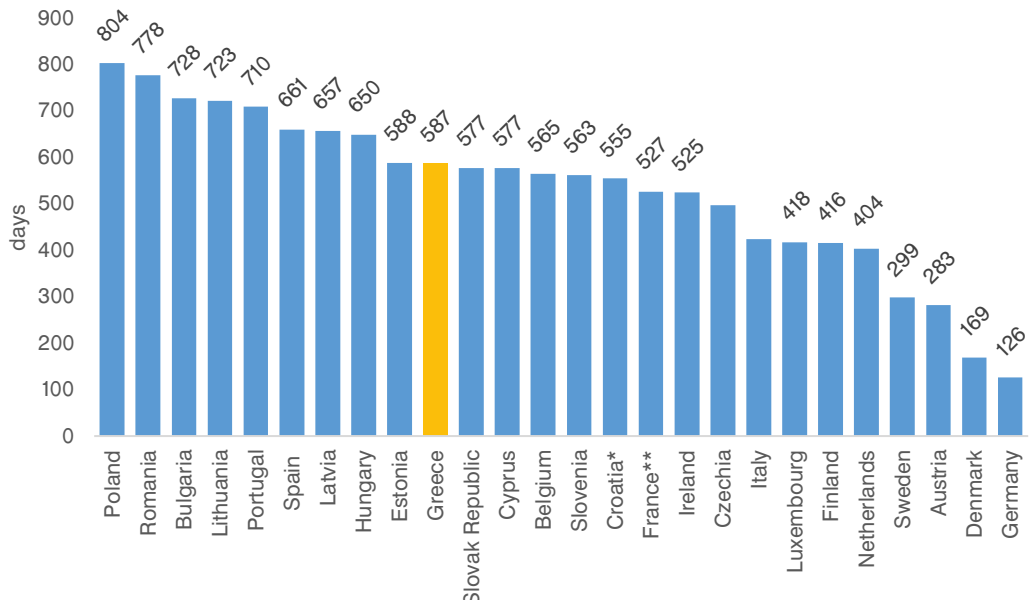
Figure 31: Rate of full availability of innovative medicines (% of 167 approved at EU, 2019-2022



SOURCE: EFPIA W.A.I.T Indicator June 2024, European Union average: 72 products available (43%), Limited Availability (40% of available products) Netherlands did not submit complete information on restrictions to available medicines meaning that limited availability is not recorded in these countries. ¶ In most countries availability equates to granting access to the reimbursement list, except in DK, FI, LU, SE where some hospital products are not covered by the general reimbursement scheme. *Countries with asterisks did not complete a full dataset and therefore availability may be unrepresentative. **In Spain, the WAIT analysis does not identify those medicinal products being accessible earlier in conformity with Spain's Royal Decree 1015/2009 relating to Medicines in Special Situations

Regarding the time required from the date of drug approval by the European Medicines Agency to the date of reimbursement by healthcare systems, Greece has significantly improved the time needed for the reimbursement of new therapies. It now shows only small deviations compared to the European average, as this period is estimated at 587 days (compared to the EU average of 531 days), according to the study.

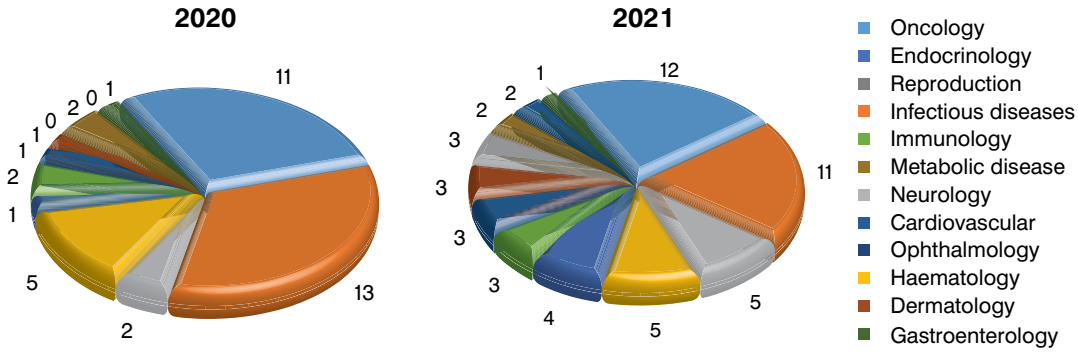
Figure 32: Time from central approval to availability (2019-2022)



SOURCE: EFPIA W.A.I.T Indicator June 2024, European Union average: 531 days (mean %) (Note: Malta is not included in EU27 average as only 2 dates were submitted in total) ¶ In most countries availability equates to granting of access to the reimbursement list, except in DK, FI, SE where some hospital products are not covered by the general reimbursement scheme. *Countries with asterisks did not complete a full dataset and therefore availability may be unrepresentative **For France, the availability time (527 days, n=79 submission dates) does not include products in the Accès précoce system (n=18 dates submitted) for which the price negotiation process is usually longer. If it is assumed that products under the Accès précoce system are immediately available (availability time = 0), the average availability time is 424 days. In the present analyses, MHRA dates were used for products in the 2021-2022 period and EMA dates for products in the 2019-2020 period.

The number of new active substances approved by the European Medicines Agency (European Medicines Agency-EMA) in 2021 (54 new approvals) increased by 38.5% compared with 2020 (39 approvals).

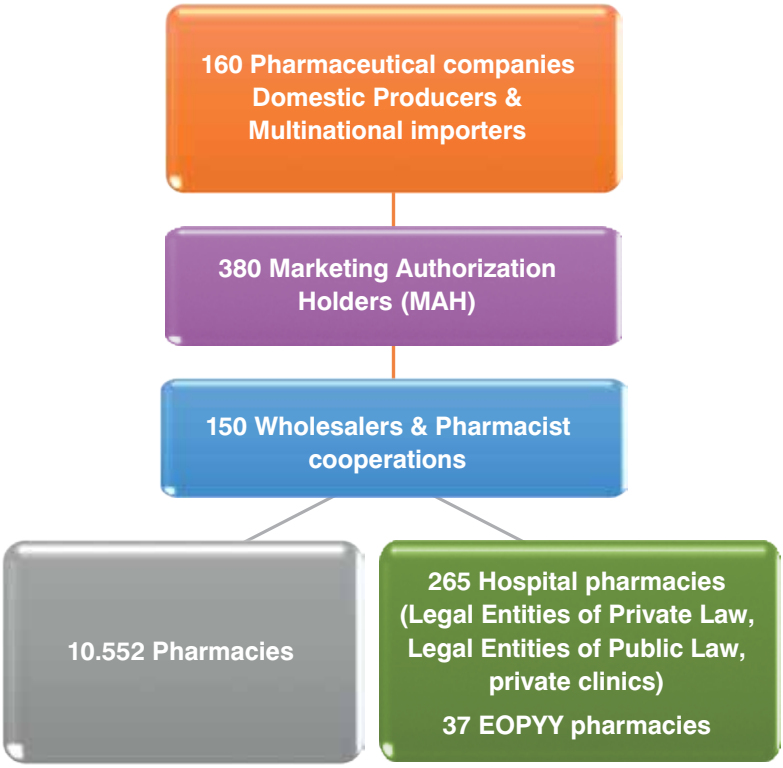
Figure 33: New medicines approvals 2020-2021



SOURCE: IQVIA, EFPIA Pipeline Innovation Review 2022

4.1 THE PHARMACEUTICAL CHAIN IN GREECE

The production and distribution of pharmaceutical products is one of the most dynamic sectors of the Greek industry. The supply chain for pharmaceutical products is comprised of pharmaceutical companies (both manufacturers and importers), wholesalers (both storage and distribution) and pharmacies. More specifically, pharmaceutical products, except those distributed through hospitals, where wholesalers are not involved, follow the path: pharmaceutical companies - wholesalers - pharmacies.

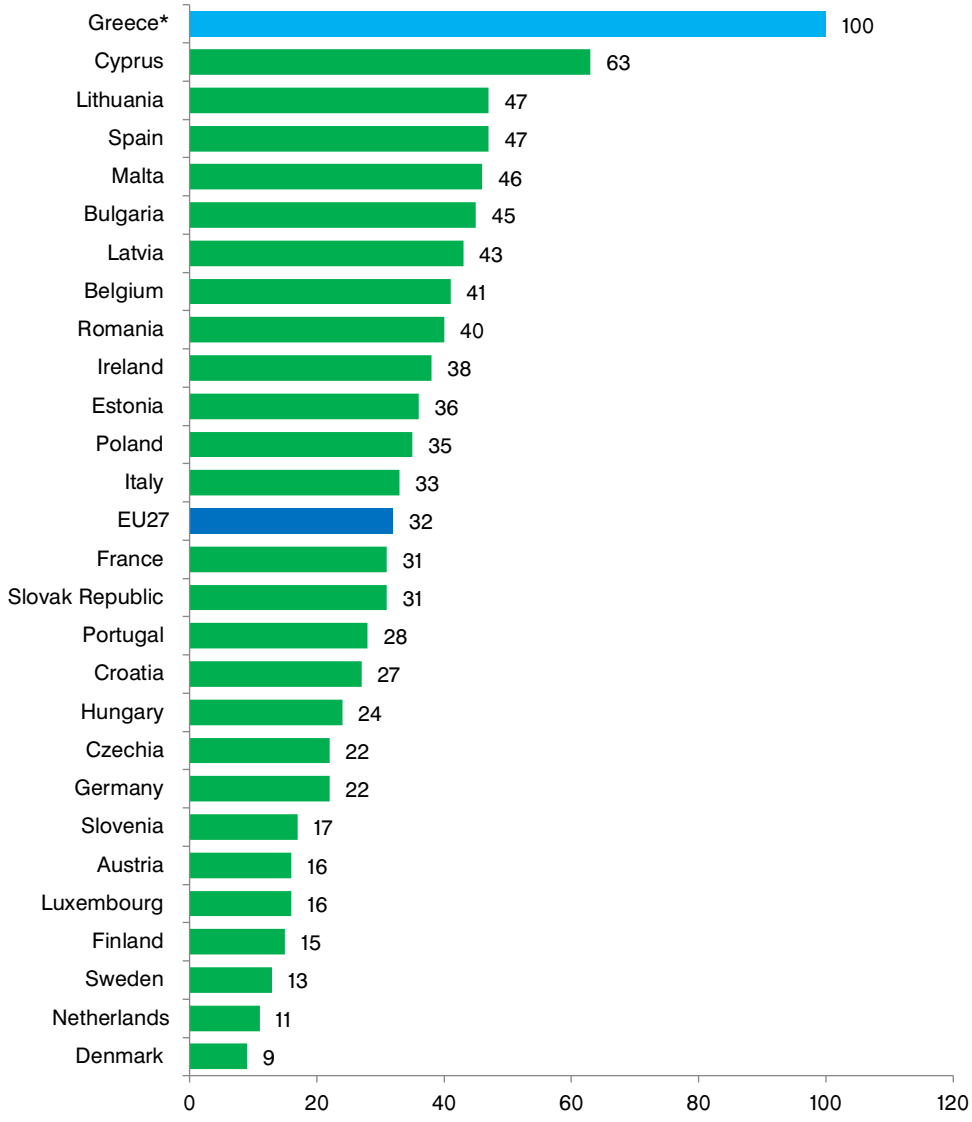


SOURCE: ELSTAT, EOF, EOPYY, Panhellenic Association of Pharmaceutical Wholesalers

At the same time, direct sales from pharmaceutical companies to pharmacies are allowed. In certain cases, it is possible for the dispensing of medicines by doctors or the direct delivery of medicines from the pharmaceutical company to the patient after approval of the insurance fund. The role of wholesalers in the pharmaceutical sector is played by private pharmaceutical wholesalers and pharmacists' cooperatives.

The density of pharmacies in Greece is the highest among the EU27, with around 100 pharmacies per 100,000 inhabitants in 2022, compared to EU27 average of 32 pharmacies per 100,000 inhabitants.

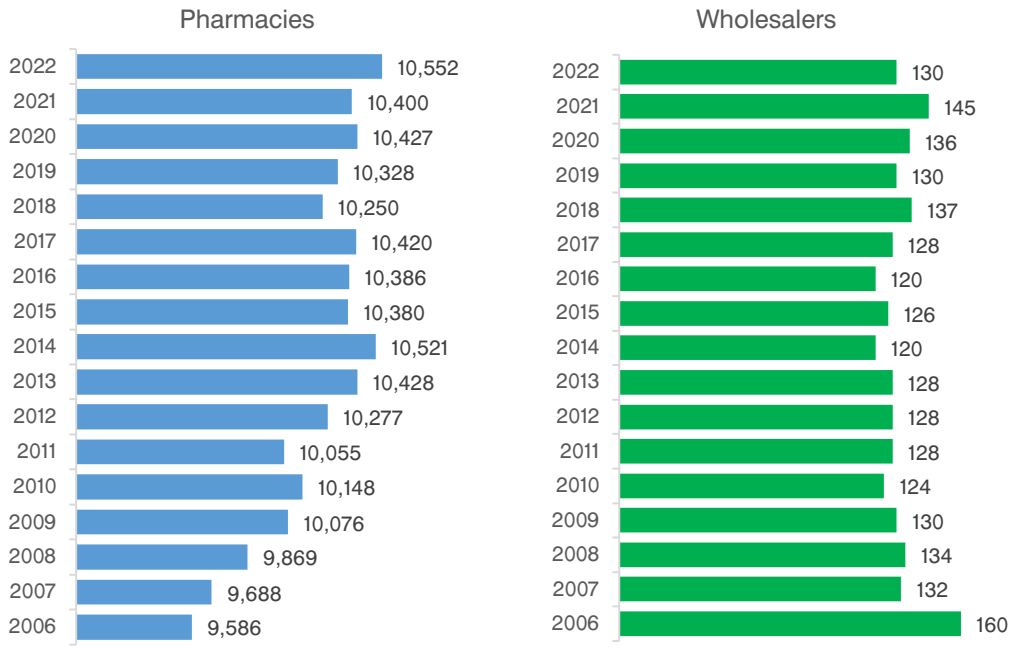
Figure 34: Number of pharmacies per 100.000 inhabitants, EU27 (2022)



SOURCE: ABDA. German Pharmacies, Figures Data Facts 2023, ELSTAT., 2023 * Data for Greece come from the latest available ELSTAT. data

In 2022, 10,552 pharmacies operated in Greece, out of which 3,805 pharmacies (36.1%) located in Attica. The number of wholesalers decreased from 145 in 2021 to 130 in 2022.

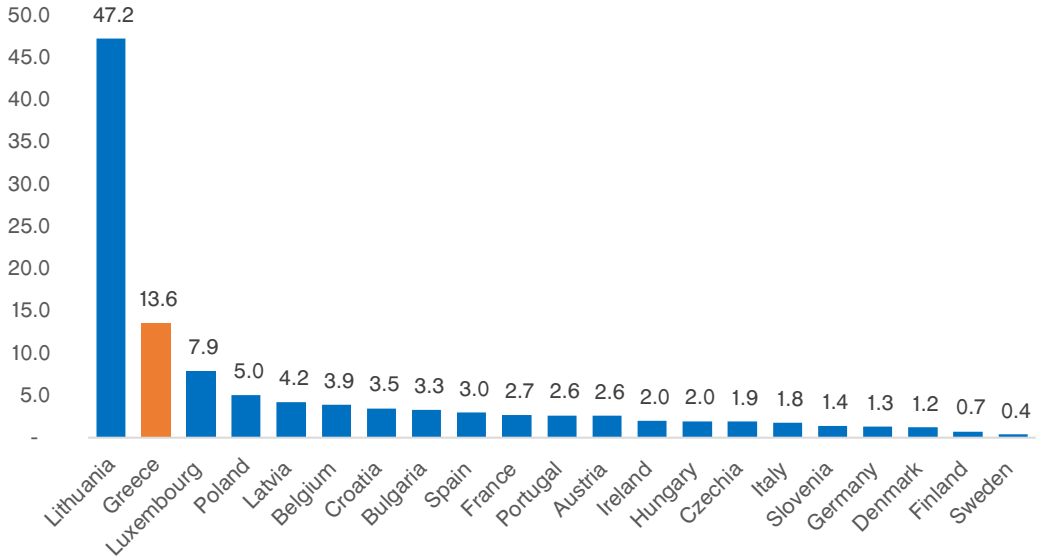
Figure 35: Pharmacies and wholesalers- Greece



SOURCE: ELSTAT, 2023

The wholesale market for pharmaceuticals is fragmented in Europe. In several European countries there are 10-30 pharmaceutical wholesalers on average, while in Greece there are 130 private pharmaceutical wholesalers and cooperatives. Pharmaceutical wholesalers in Greece account approximately in 14 per 1 mil. inhabitants, higher than any other country except Lithuania.

Figure 36: Wholesalers per 1 mil. inhabitants EU22



SOURCE: GIRP 2021-2022

EOPYY PHARMACIES

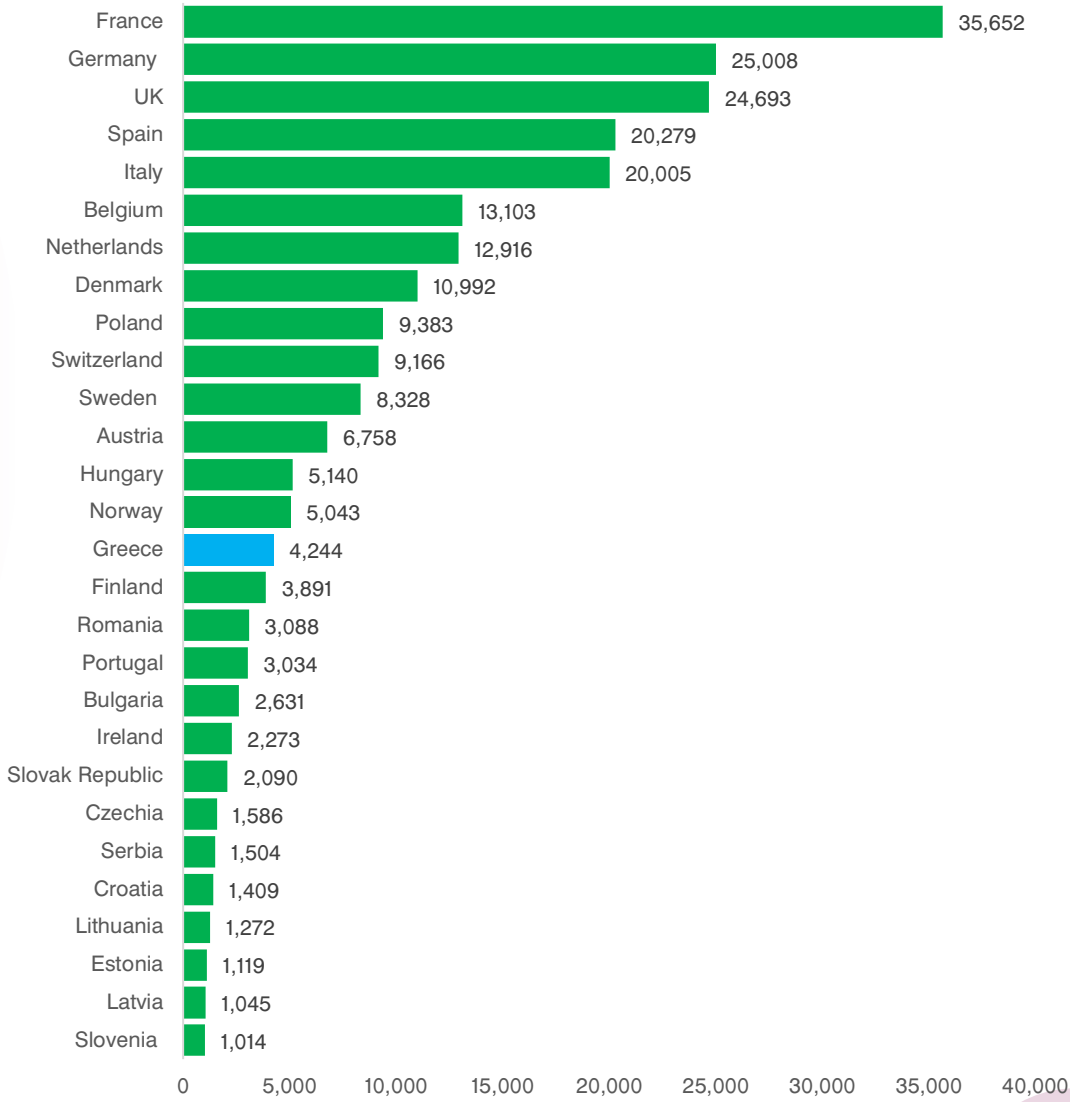
EOPYY Pharmacies

EOPYY initially operated 5 pharmacies in Attica region and 1 in Thessaloniki, supplying high-cost medicines without copayment and without the confirmation of the prescription by the relevant social security fund (except 2 month). Currently, 37 pharmacies of EOPYY are operating across the country, of which 3 serve as distribution centers and 2 do not have a pharmacist on staff. In other parts of the country, insured citizens can obtain high-cost medicines for the treatment of serious diseases (Law 3816/2010) from EOPYY's local health units, after placing an order. Additionally, under the provisions of Law 5057/2023, EOPYY is now permitted to deliver medications to patients' homes for the treatment of serious illnesses in chronic patients. Based on the ministerial decree published in Government Gazette 64/B'/16-01-2014, the list of high-cost, serious diseases pharmaceutical products that fall under the provisions of L.3816/2010 was split into two distinct lists. The first list relates to pharmaceutical products that are only available for hospital use, while the second list includes those pharmaceuticals, which their use begins in the hospital and can be continued on an outpatient setting. EOPYY pharmacies and public hospitals procure products of the first list in hospital price reduced by 5% and the corresponding rebates, while pharmaceuticals of second list followed the way of pricing applied under the provisions set by the Ministry of Health. By 2015, most high-cost drugs (N.3816 / 2010) provided by the EOPYY pharmacies and hospital pharmacies. Since January 2016, under the new legislative regulation for hospital clawback (N. 4354 / 12.16.2015, Section D, Article 41), all high-cost medicines that their use is hospital only (Annex 1A) are exclusively administered from pharmacies in public hospitals. EOPYY pharmacies provide exclusively high-cost drugs belonging to Annex 1B and Annex 1A of government gazette for use only in specific private clinics.

4.2 RESEARCH AND DEVELOPMENT (R&D)

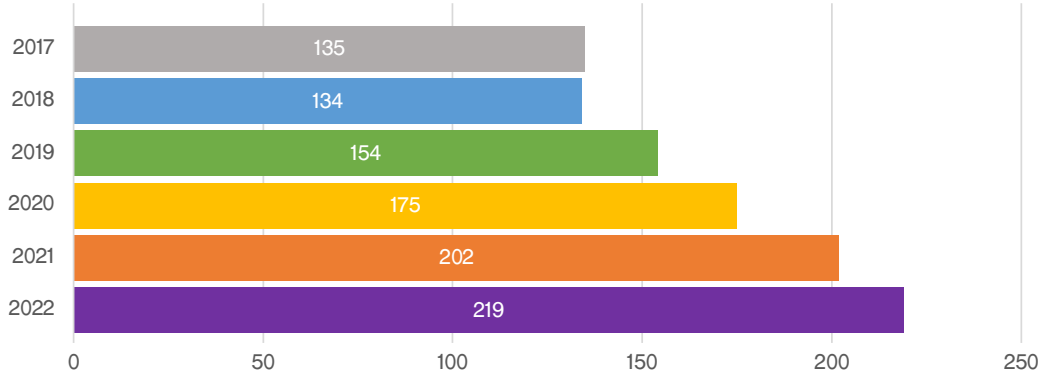
The number of clinical trials, regardless of phase or stage, conducted in Greece from 1998 to 2023 was 4,244 clinical trials (2,500 completed).

Figure 37: Number of clinical trials regardless of phase or stage (1998-2023)



SOURCE: Clinical trials gov, 2023

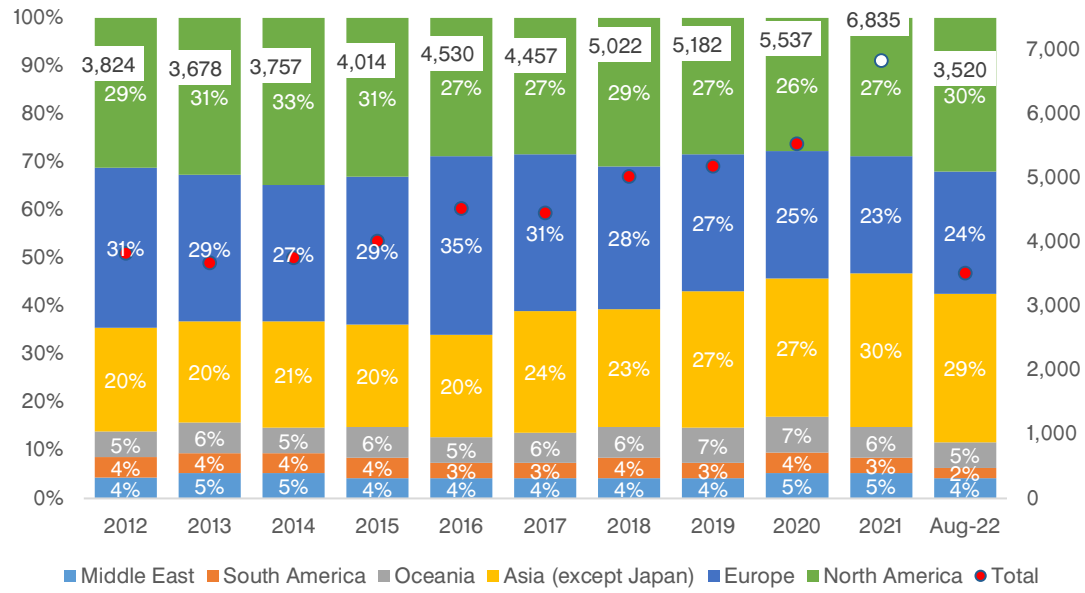
Figure 38: Total number of clinical studies per year, Greece (2017-2022)



SOURCE: EOF

At a global level, Europe notes a decline compared to North America and Asia in the number of clinical studies from 2019 onwards. Europe accounts for 24% of total clinical studies for 2022 compared to 30% for North America and 29% for Asia.

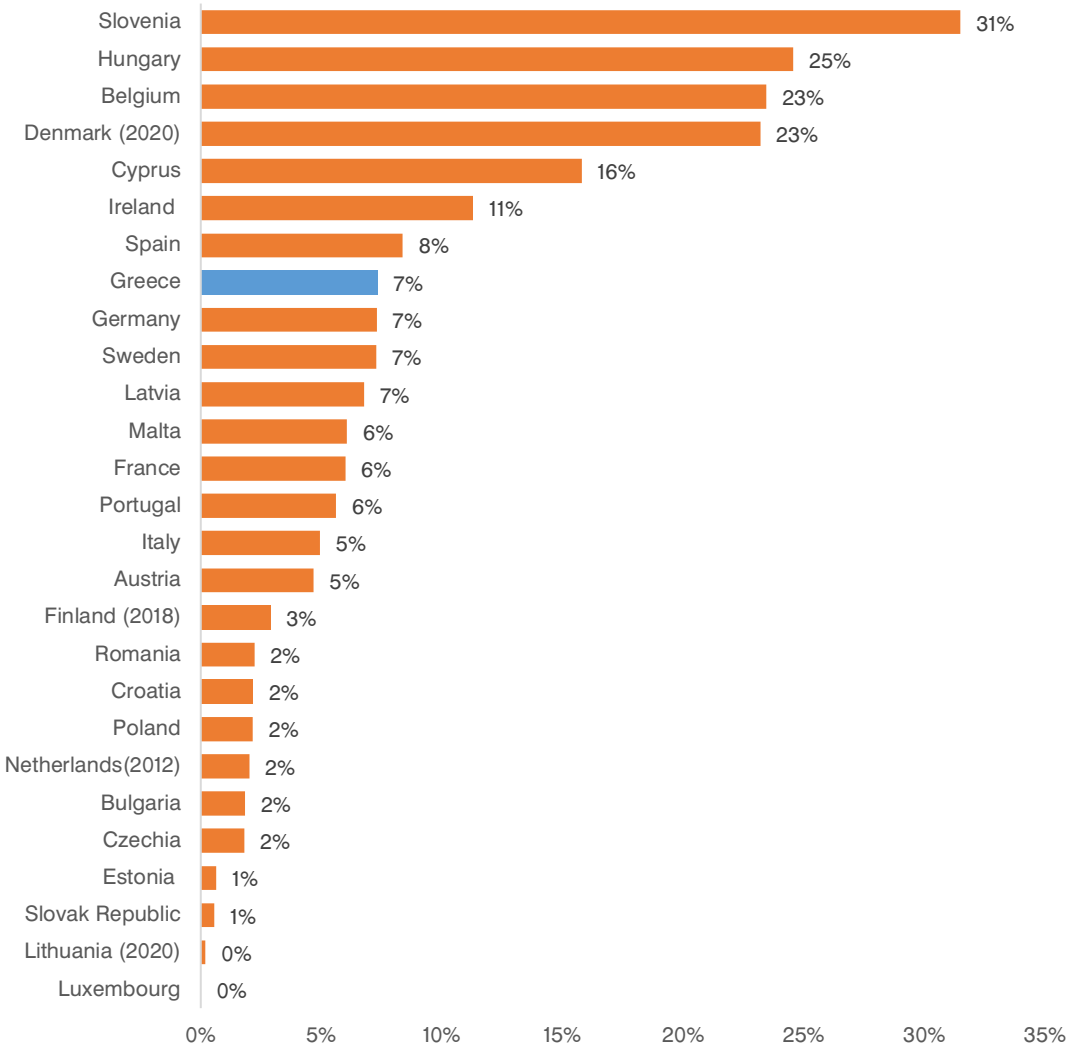
Figure 39: Total number of clinical studies by geographic region (2012-2022)



SOURCE: IQVIA, EFPIA Pipeline Innovation Review 2022

The pharmaceutical industry's R&D expenditure reached €91 mil. (from €95 mil. in 2020 and €76 mil. in 2019) and represents 7% of total R&D expenditure in Greece, lower than in 2020 (8%). Compared to EU countries, Greece ranks 8th, while Slovenia (31%) ranks first.

Figure 40: Pharmaceutical industry R&D expenditure (% of total R&D expenditure) (2021)

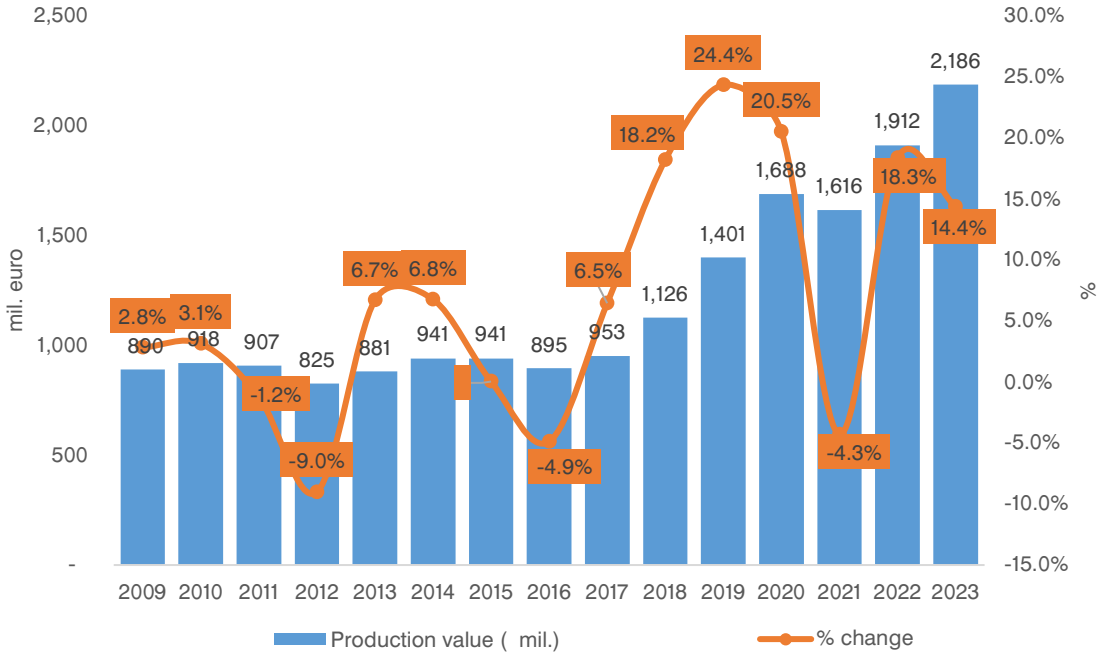


SOURCE: Eurostat, 2024, data processing IOBE

4.3 PRODUCTION

According to the Prodcom survey (Eurostat), pharmaceutical production in Greece in terms of value (ex-factory) approached €2.2 bil. in 2023, increased by 14.4% compared to 2022, while production is more than double compared to the average for the period 2009-2017 (€906 mil.).

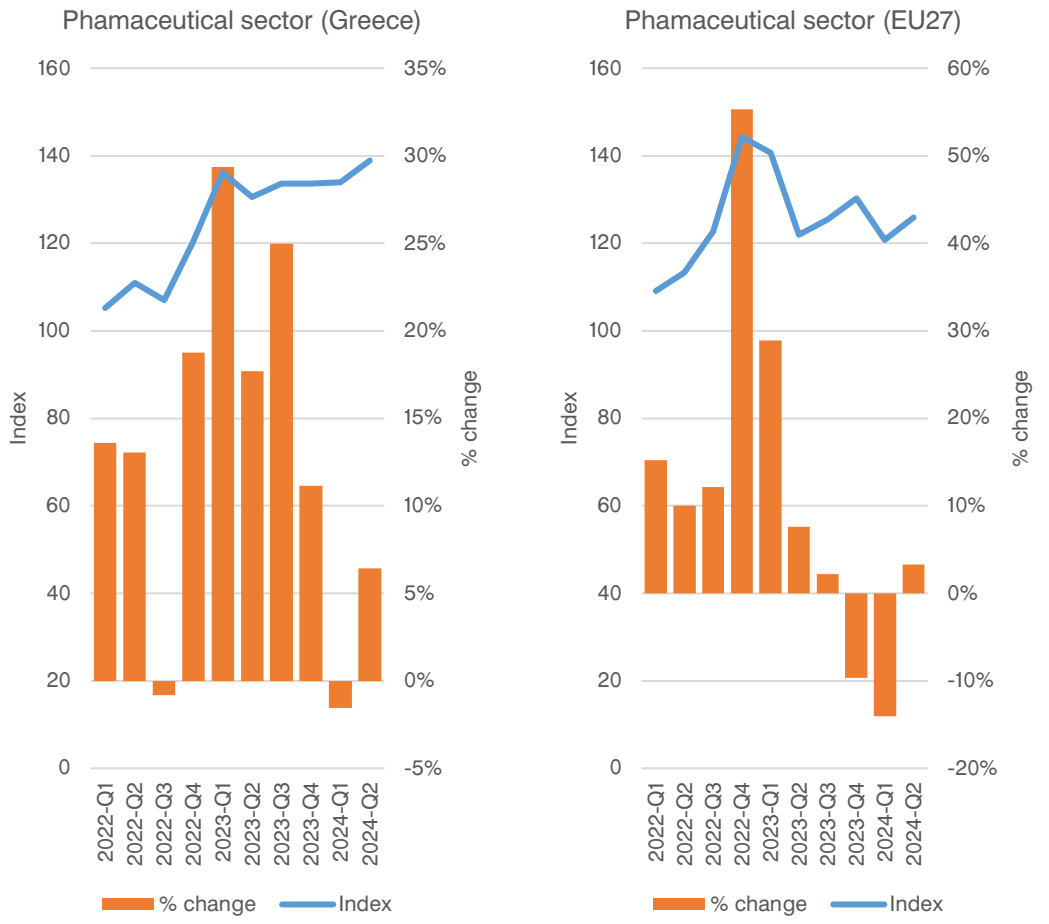
Figure 41: Production of pharmaceutical products (mil. €)



SOURCE: Eurostat 2024, PRODCOM Database, data processing IOBE. *Any changes based upon review of data from Eurostat

The index of industrial production of pharmaceutical products increased in 2023 compared to 2022 by 20.5%, with an increase of 5.5% in EU27. The index in Greece increased with significant intensity in all quarters of 2023, with a slight slowdown at the end of the year and a decline in the first quarter of 2024, with a renewed increase in the second quarter, while in the EU27 a strong negative change was recorded in the 4th quarter of 2023 and at the beginning of 2024, with a slight increase in the second quarter.

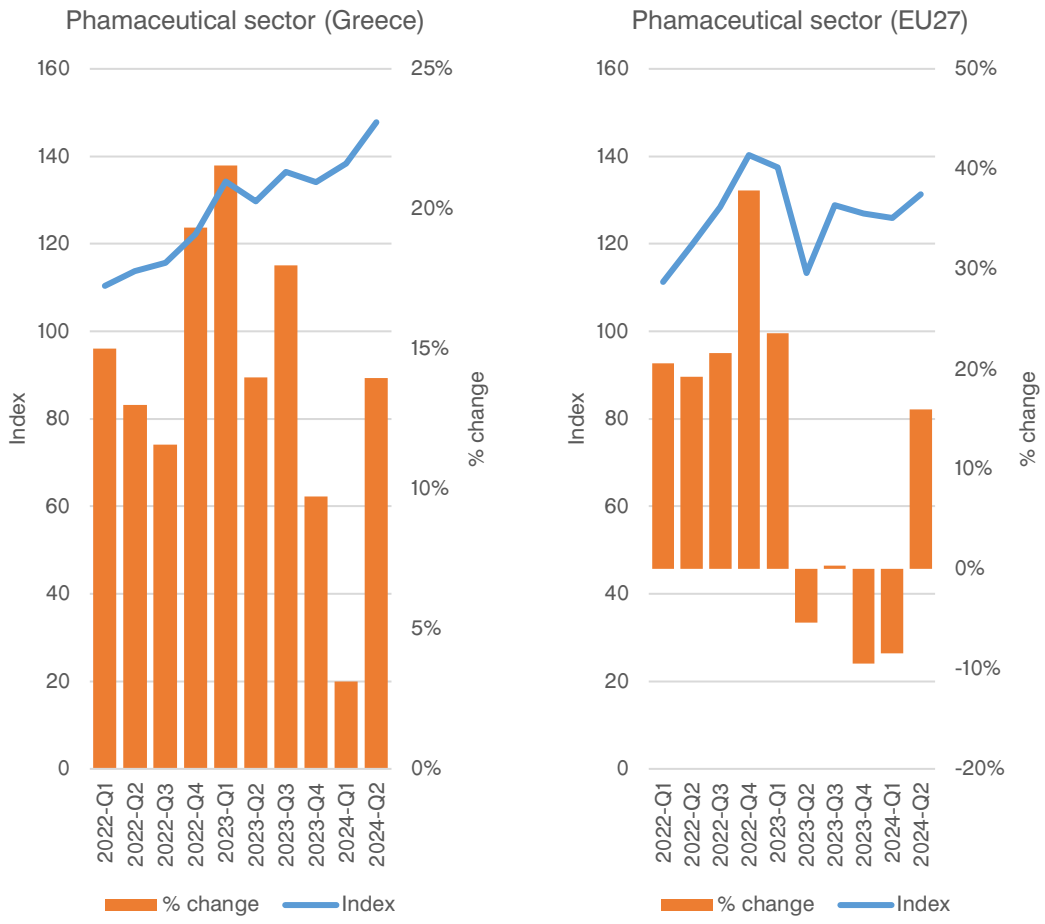
Figure 42: Industrial index of pharmaceutical production (2021=100)



SOURCE: Eurostat, 2024, seasonally adjusted and adjusted data by working days, data processing IOBE

Pharmaceuticals production turnover continues its upward trend in 2023, while growth continues in the first two quarters of 2024. The EU27 turnover index recorded an increase in 2022 and a decrease in 2023, while in the 2nd quarter of 2024 there was a significant increase.

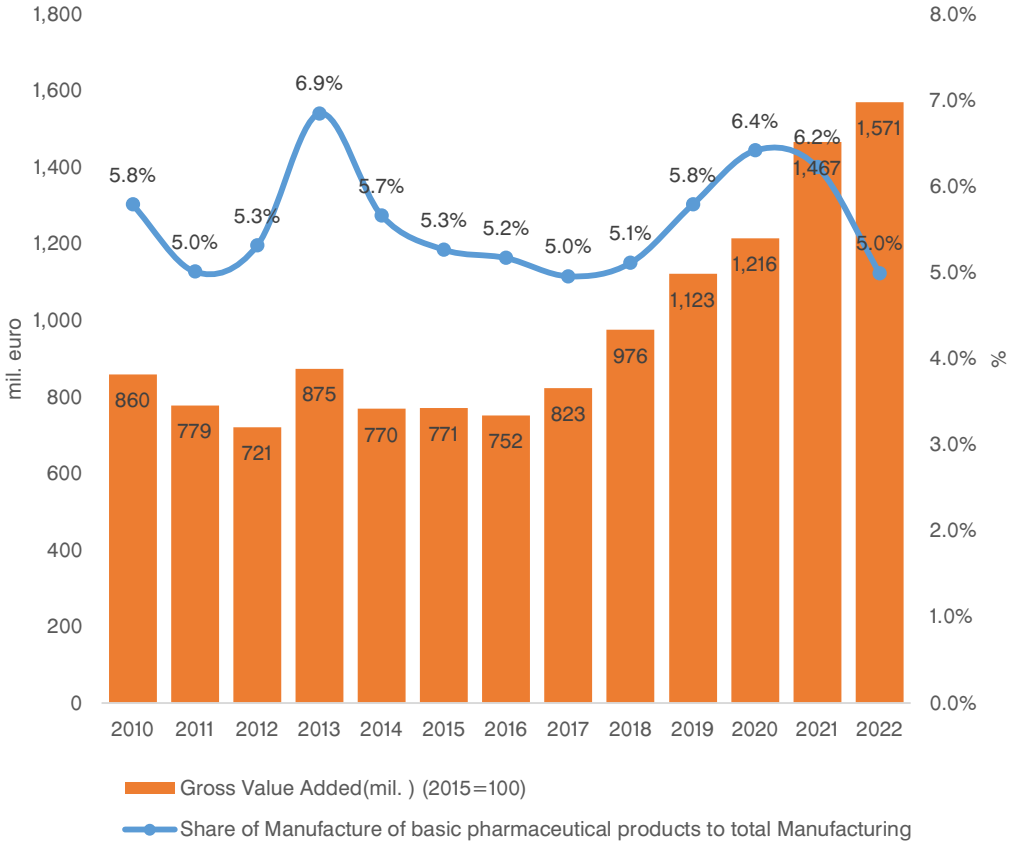
Figure 43: Turnover index in pharmaceutical production (2021=100)



SOURCE: Eurostat, 2024, seasonally adjusted and adjusted data by working days, data processing IOBE

The Gross Value Added (GVA) of the domestic pharmaceutical sector is estimated at €1.6 bil. in 2022 at constant prices (2015=100.0), accounting for 5.0% of total manufacturing value added in national accounts terms.

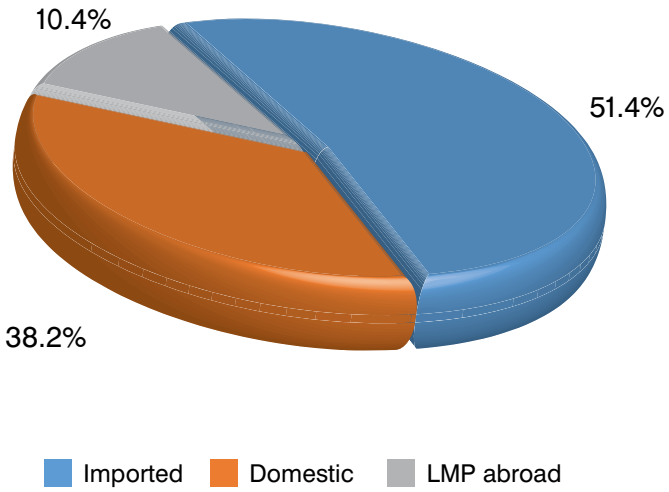
Figure 44: Gross Value Added of pharmaceutical production and share in manufacturing (%)



SOURCE: Eurostat, 2024, National Accounts, data processing IOBE*Any changes based upon review of data from Eurostat. These data are based on 2015, instead of 2010 as published in the previous edition * Value added is calculated as the difference between total output minus cost of sales. ** C21: Manufacture of basic pharmaceutical products and pharmaceutical preparations include only the companies active in the production of medicines and pharmaceutical preparations. In C21 manufacturing companies are not included firms that belong to subsector 46.46 Wholesale of pharmaceutical products.

Strengthening co-operation between international and domestic factories is a key pillar of the country's pharmaceutical sector activity. Specifically, 38.2% of pharmaceuticals are produced in domestic factories and in certified production facilities with highly educated personnel, while with appropriate incentives, domestic production of international pharmaceutical products may increase.

Figure 45: Percentage of pharmaceutical production in Greece and abroad (in market volume)

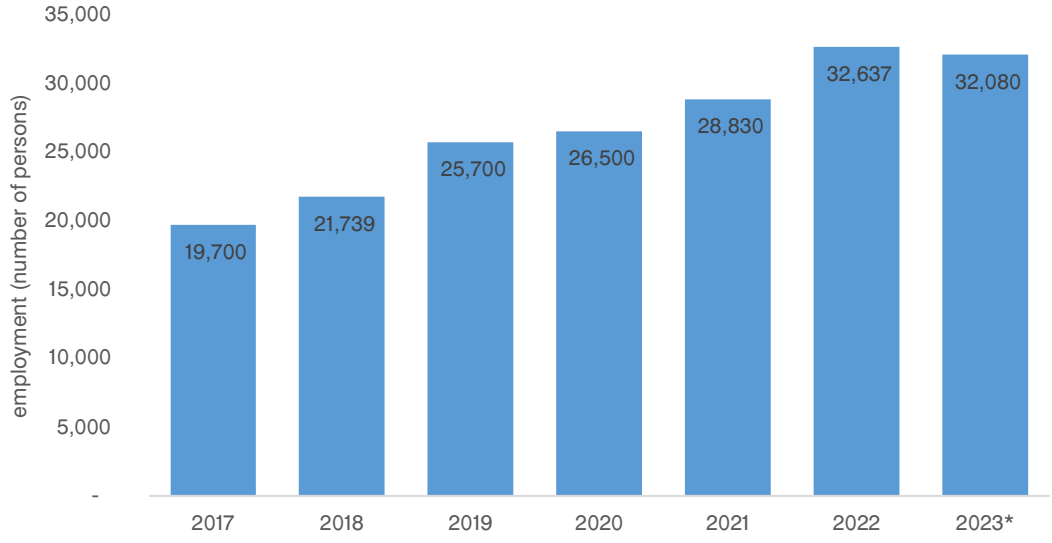


SOURCE: IQVIA 2024, LMP abroad = Products of international companies manufactured / packaged in Greece * Factories: 28 Greek-owned factories and 1 foreign-owned factory LMP

4.4 EMPLOYMENT

In Greece, total employment in the pharmaceutical sector approached 32.1 thousand persons in 2023, with a clear upward trend despite the slight decline last year, while in 2020 employment in the wider sector stood at 26.5 thousand.

Figure 46: Employment in pharmaceutical sector (thousand persons)

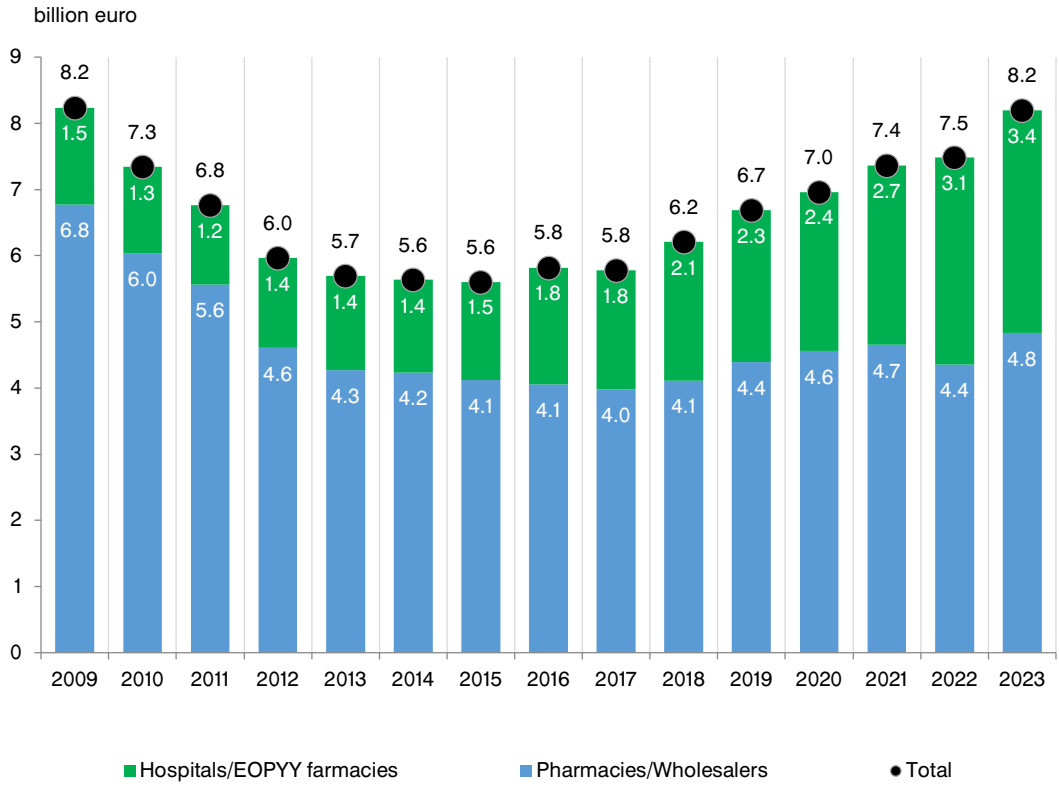


SOURCE: Eurostat 2024, Labour Force Survey, Estimations IOBE-SFEE, ICAP, data processing IOBE * Data for sectors 21.1 Manufacture of basic pharmaceutical products and 21.2 Manufacture of pharmaceutical preparations and 46.46 Wholesale of pharmaceutical products.

4.5 SALES

In 2023, sales of medicines to pharmacies and wholesalers (in value terms) amounted to €4.8 bil., increased by 10.9% compared to 2022, while sales to hospitals and EOPYY pharmacies amounted to €3.4 bil., increased by 7.4%. Total sales approached €8.2 bil., up 9.4%, at the same level as in 2009. Over the last 7 years, the share of sales to pharmacies/wholesalers approached 64%, compared to 77% in the period 2009-2016.

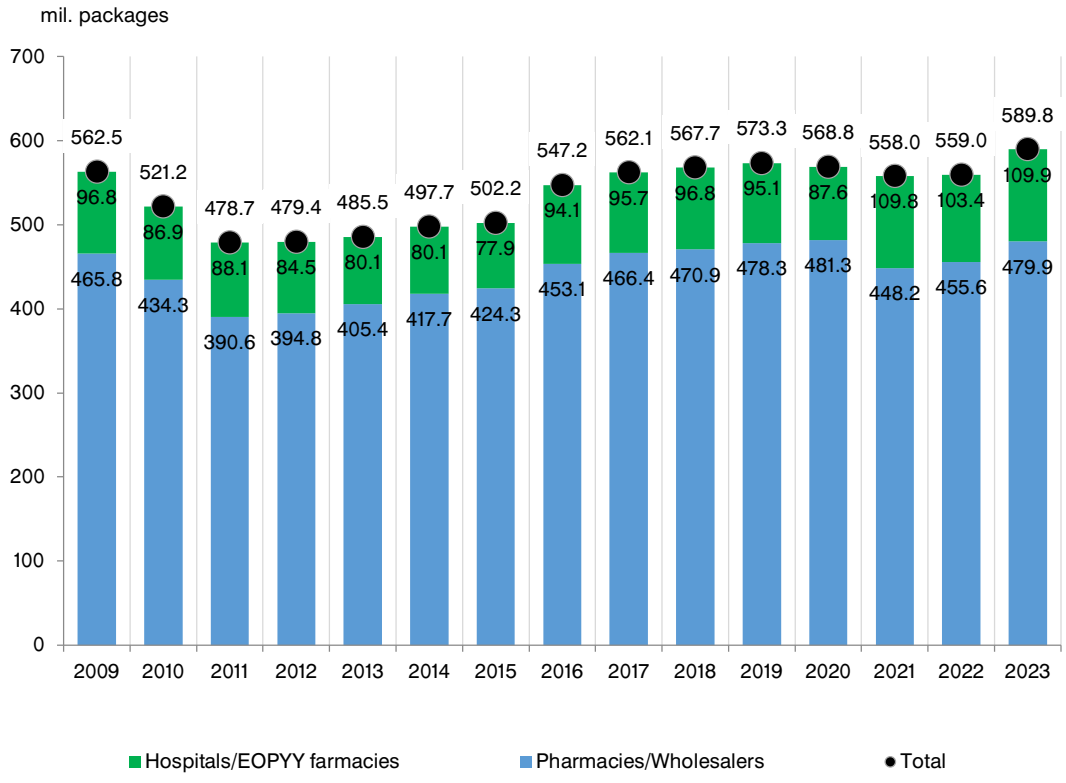
Figure 47: Sales of medicines by value (in bil. €) – Greece



SOURCE: EOF, 2024 (Pharmacies/Wholesalers at retail prices and hospitals at hospital prices) * Total drug sales are recorded on a monthly basis by the National Medicines Agency (NDA) and include sales of pharmaceutical products by pharmaceutical companies to hospitals (at hospital prices) and wholesalers/pharmacies (at retail prices). Sales are also recorded in terms of number of packages. Included are parallel exports, which in 2023 amounted to €293 mil.

An increase in the number of packages was recorded in 2023 by 5.5% to 590 mil., with a 5.3% increase in pharmacies and wholesalers and a 6.3% increase in hospitals and EOPYY pharmacies.

Figure 48: Sales of medicines by volume (mil. packages) - Greece



SOURCE: EOF, 2024 * Possible replacements of smaller packages

According to IQVIA data, at the retail level (community pharmacies), the increase in pharmaceutical expenditure in Greece ranks in 7th place among 9 countries.

Table 1: Pharmaceutical expenditure at retail level by country, in bil. €

Country	2023	2024	% change 2023/2024
UK	**€ 12.0**	**€ 13.3**	*10.8%*
Belgium	**€ 3.4**	**€ 3.7**	*8.8%*
Austria	**€ 4.3**	**€ 4.6**	*7.0%*
Germany	**€ 40.9**	**€ 43.7**	*6.8%*
France	**€ 23.4**	**€ 25.0**	*6.8%*
Portugal	**€ 2.4**	**€ 2.5**	*4.2%*
Greece	**€ 3.0**	**€ 3.1**	*3.3%*
Spain	**€ 11.8**	**€ 12.1**	*2.5%*
Italy	**€ 9.1**	**€ 9.1**	*0.0%*

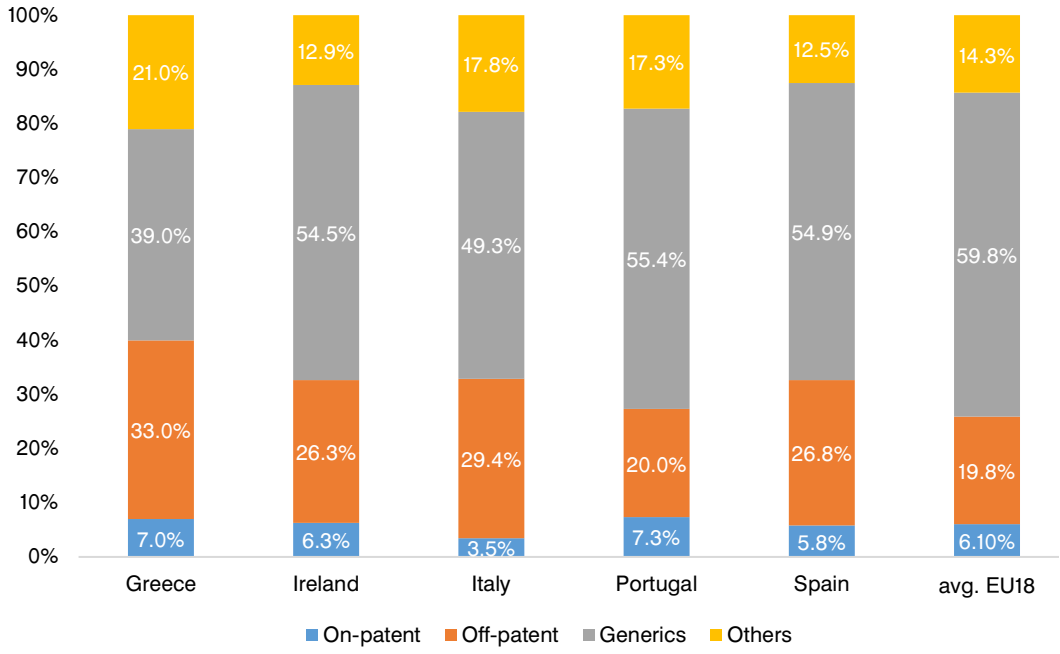
SOURCE: IQVIA data (MAT/03/24), IQVIA analysis. Note
1: Based on PPP of Mar-2023 for Greece; Note
2: Excluding L.3816 drugs for Greece; Note 3: Sales through the retail-pharmacy channel and for prescription-bound drugs only for all countries.

4.6 STRUCTURE OF THE PHARMACEUTICAL MARKET

Pharmaceutical products can be classified according to their patent protection status. According to IQVIA data, the penetration rate of patent-protected medicinal products (on patent) in terms of volume accounts for 7.0% of the market, which is higher than the average of EU18 (6.1%), which can be partly justified by their significantly lower prices in Greece compared to EU18 countries (€1.08 per unit on average compared to €2.24)

The market share of non-protected pharmaceutical products (off-patent and generics) amounted to 72.0% (33.0% and 39.0% respectively). It is worth noting that the penetration rate of off-patent products is higher than the average of EU18 (19.8%), while the penetration rate of generics is much lower than the average of EU18 (59.8%).

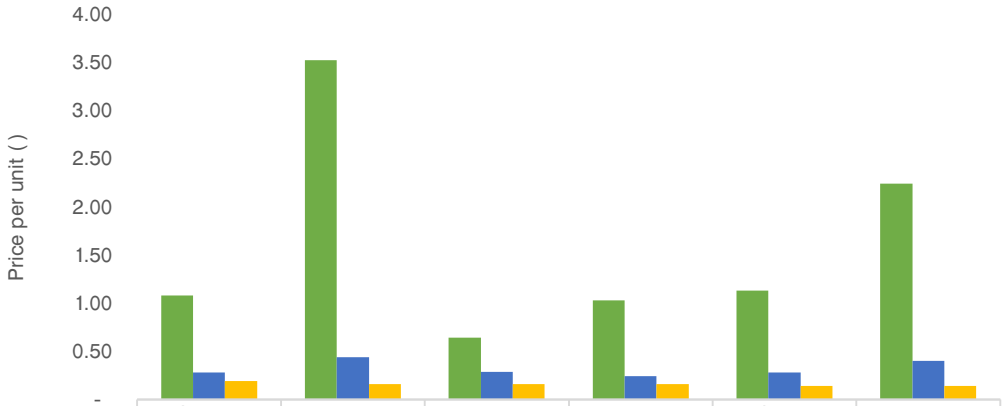
Figure 49: Penetration of pharmaceuticals in EU18, 2022 (in volume) based on patent status



SOURCE: IQVIA, 2024, * Note1: only retail sales are included for all countries**The EU average is made up of available data from 18 countries: Greece, Ireland, Italy, Portugal, Spain, Belgium, France, Germany, Netherlands, UK, Finland, Norway, Sweden, Austria, Czechia, Hungary, Poland and Slovakia.

Based on IQVIA's data, the increased penetration in volume of unprotected medicines (off-patent & generics) is justified for off-patent medicines by their significantly lower prices compared to EU18 countries (€0.28 per unit vs. €0.40), while the lag in penetration of generics by their relatively higher prices compared to EU18 countries (€0.19 per unit vs. €0.14).

Figure 50: Pricing of pharmaceuticals in EU18, 2023 (price per unit. €) based on patent status

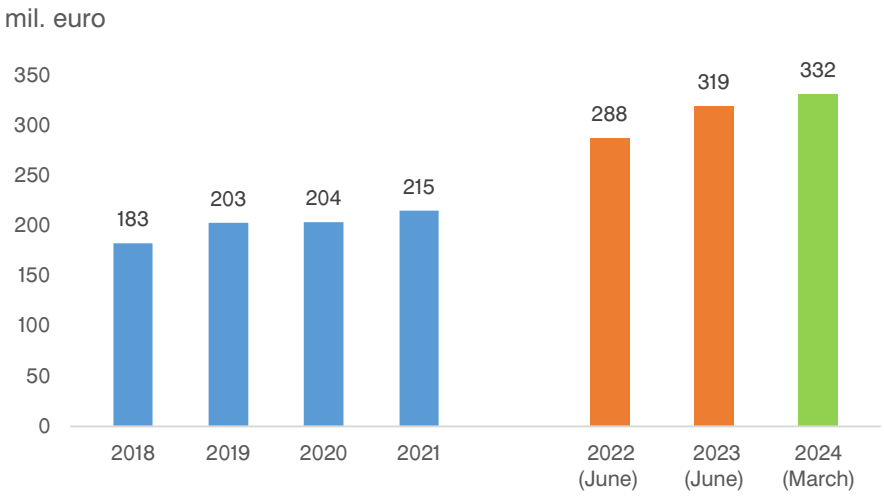


	Greece	Ireland	Italy	Portugal	Spain	avg. EU18
On-patent	1.08	3.52	0.64	1.03	1.13	2.24
Off-patent	0.28	0.44	0.29	0.24	0.28	0.40
Generics	0.19	0.16	0.16	0.16	0.14	0.14

SOURCE: IQVIA, 2024, Note1: only retail sales are included for all countries 2 The EU average is made up of available data from 18 countries: Greece, Ireland, Italy, Portugal, Spain, Belgium, France, Germany, Netherlands, UK, Finland, Norway, Sweden, Austria, Czechia, Hungary, Poland and Slovakia

The OTC market followed an upward trend since 2018 in terms of value onwards, from €183 mil. in 2018 to €332 mil. in March 2024.

Figure 51: OTC sales in value (in mil. €)

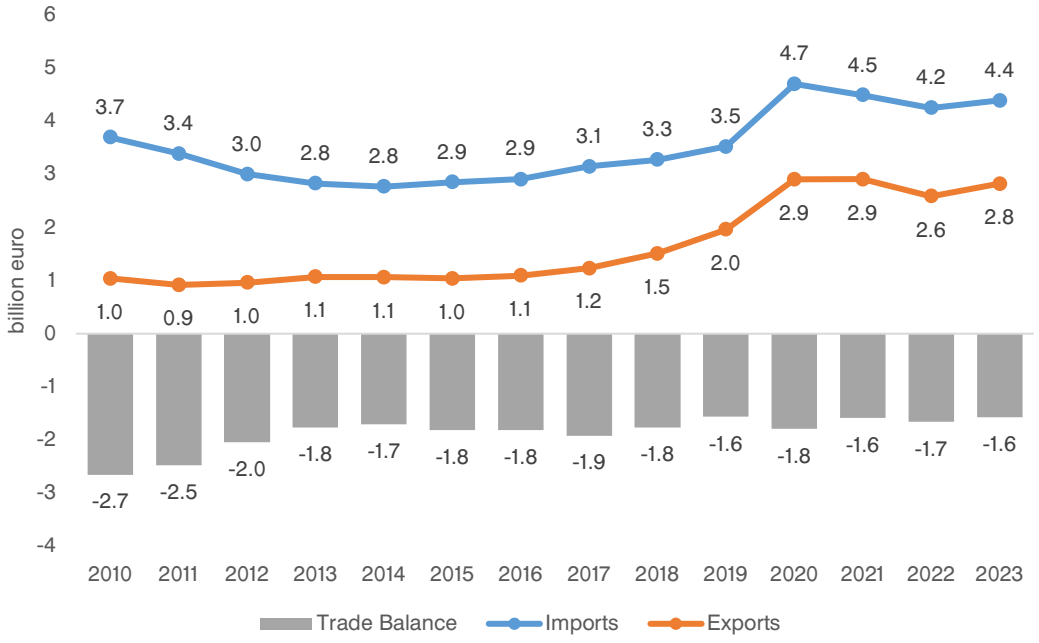


SOURCE: EFEX, *From 2022 rolling twelve-month period

4.7 EXTERNAL TRADE

The pharmaceutical sector's imports in 2023 amounted to €4.4 bil, an increase of 3.3% compared to 2022. The sector's exports were significantly boosted to €2.8 bil, an increase of 9.0%, resulting in a deficit of €1.6 bil.

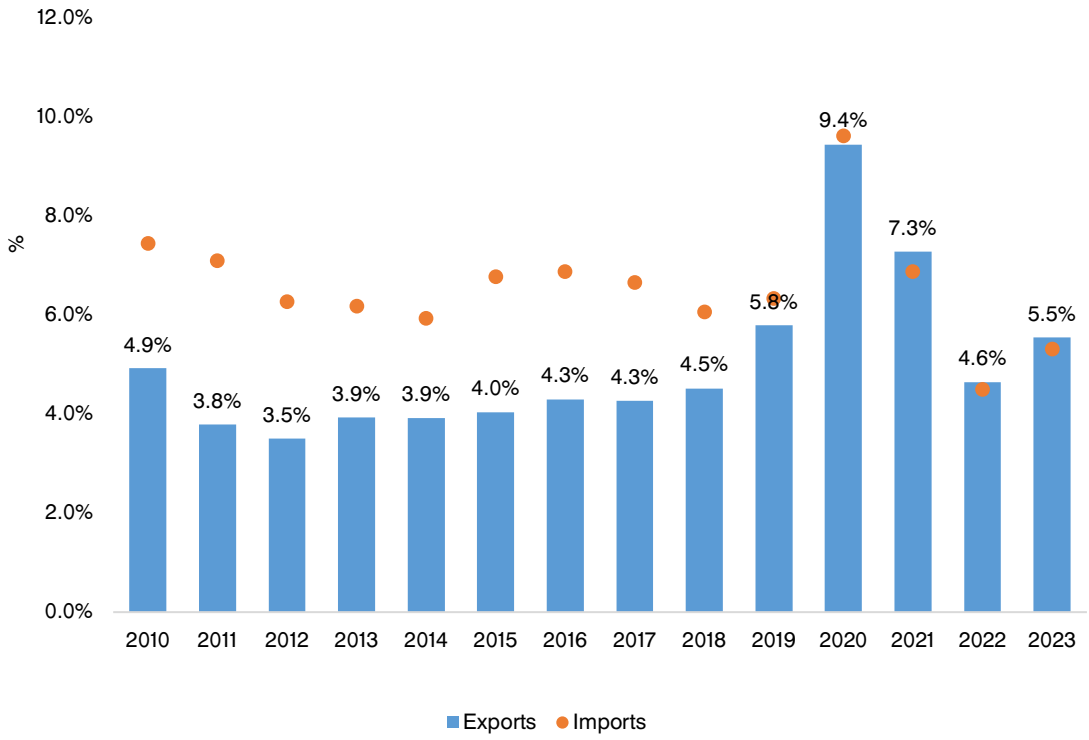
Figure 52: Evolution of pharmaceutical trade balance (billion €)



SOURCE: Eurostat 2024, International trade, EU Trade Since 1988 By CPA, data processing IOBE

Exports of pharmaceutical products as a share of total Greek exports account for 5.5% in 2023, while imports account for 5.3% of the country's total imports, compared to 4.5% in 2022. The decline in fuel prices brings the shares of the remaining products back to previous levels.

Figure 53: Share of pharmaceutical exports-imports (% of total exports-imports)-Greece



SOURCE: Eurostat 2024, International trade, EU Trade Since 1988 By CPA, data processing IOBE.

France ranks first among the destinations of pharmaceutical exports from Greece, with a share of 13.8% in 2023, with a slight increase in value, while Germany ranks second with a share of 12.9%, due to a 9.0% decrease in export value. The United Kingdom and Cyprus follow with 7.3% each, along with an increase in export value to Cyprus. Significant export growth is recorded for Spain (+65.6%), Austria (+48.4%), and Italy (+39.7%).

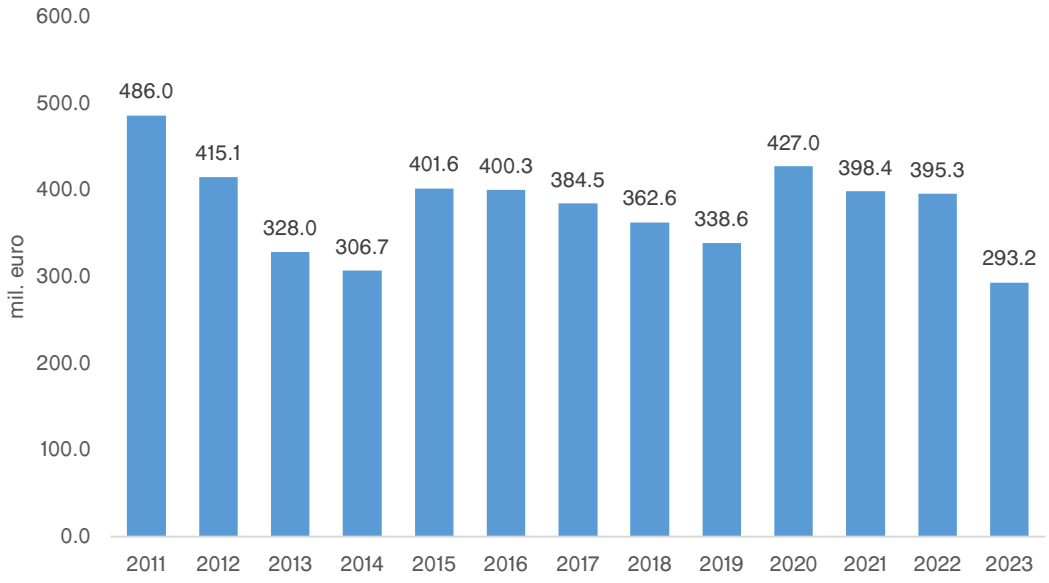
Table 2: Exports of medicines by country

Country	Exports 2023	Share 2023	% change
France	389,023,280	13.8%	0.4%
Germany	362,998,314	12.9%	-9.0%
UK	205,176,831	7.3%	-15.7%
Cyprus	204,866,300	7.3%	17.2%
Austria	197,727,977	7.0%	48.4%
Italy	154,947,875	5.5%	39.7%
Spain	147,538,797	5.2%	65.6%
Netherlands	117,349,483	4.2%	10.6%
South Korea	97,565,339	3.5%	36.4%
Turkey	80,230,343	2.8%	5.5%

SOURCE: Eurostat, International trade, EU Trade by CPA, 2024, data processing IOBE.

Finally, some of the exports are parallel exports recorded by the EOF based on the sales declared by pharmaceutical companies in Greece, which amounted to €293.2 mil. in 2023, with a decrease compared to the period 2020-2022.

Figure 54: Parallel exports (in values)



SOURCE: EOF

4.8 PRICING OF PHARMACEUTICALS

PRICE DEFINITIONS

Maximum Wholesaler Price: price at which medicinal products are sold to pharmacies. This price includes the gross profit margin of the wholesaler, which is calculated as a percentage on the maximum ex-factory price (Table 6).

Maximum Retail Price: price at which medicinal products are sold by pharmacies to consumers, and it is defined by the wholesale price, adding the lawful profit margin of the pharmacy as set out in the respective ministerial decree and the applicable Value Added Tax (VAT 6.0%). In particular: a) 35% on the wholesale price for prescription non-reimbursed medicinal products b) for reimbursed prescription products see Table 4 and for non-prescription products up to 30% (Table 4)

Ex-factory price: price at which medicinal products are sold by the marketing authorization holders (MAHs) to wholesalers and is calculated based on the wholesaler price reduced a) for prescription reimbursed medicinal products by the Social Insurance Funds with price up to 200 € by 4.67% and with a price exceeding € 200,01 by 1,48% b) for prescription medicinal products which are not reimbursed by the Social Insurance Funds by 5.12%,

Maximum Hospital Price: price at which medicinal products are sold by the Marketing Authorization Holders to the State, State hospitals, Social Care Units, EOPYY pharmacies, public law legal entities referred to in par. 1 of Article 37 of Law 3918/2011, pharmacies of private clinics. The maximum hospital price shall be determined on the basis of the ex-factory price reduced by 8.74%.

Profit margins of wholesalers vary depending on the reimbursement status of each product that is, on whether the product belongs in the positive, negative list or if they fall under L.3816/2011 provisions and its relative wholesaler price. Also, pharmacists profit margins vary according to the wholesaler price of each product. For medicines reimbursed by the social security funds, profit margins and the price structure are set as follows:

Table 3: Mark-up in the pharmaceutical supply chain

	Reimbursed Products up to 200€	Reimbursed Products > 200.01€	Negative list products
Wholesalers (over ex-factory)	4,9%	1,5%	5,4%
Pharmacies	(Table 4)	(Table 4)	35%

SOURCE: M.D. (4274/22.11.2019)

Table 4: Percentage of profit (mark-up) Private Pharmacies

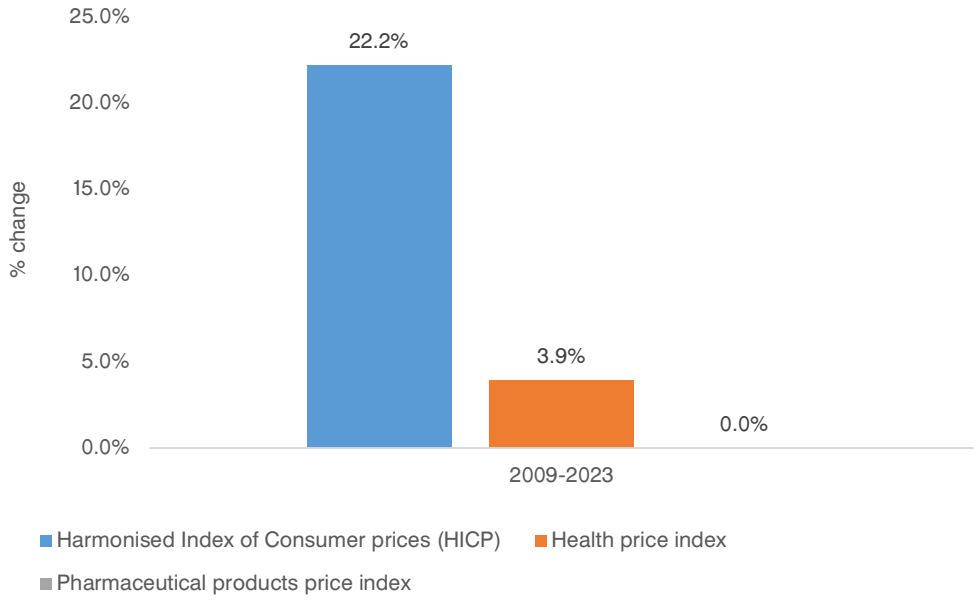
Wholesale price (€)	Percentage	Wholesale price (€)	Percentage
	(mark-up) Private Pharmacies		(mark-up) Private Pharmacies
0 - 50,00	30.00%	900,01 - 1000	5.50%
50,01 - 100	20.00%	1000,01 - 1250	5.00%
100,01 - 150	16.00%	1250,01 - 1500	4.25%
150,01 - 200	14.00%	1500,01 - 1750	3.75%
200,01 - 300	12.00%	1750,01 - 2000	3.25%
300,01 - 400	10.00%	2000,01 - 2250	3.00%
400,01 - 500	9.00%	2250,01 - 2500	2.75%
500,01 - 600	8.00%	2500,01 - 2750	2.50%
600,01 - 700	7.00%	2750,01 - 3000	2.25%
700,01 - 800	6.50%	>3000	2.00%
800,01 - 900	6.00%		

SOURCE: M.D. (4274/22.11.2019)

The above gross profit rates apply to all reimbursed medicines dispensed by private pharmacies, including the pharmaceutical products of par 2 of article 12(Law N. 3816/2010). When these drugs are dispensed from private pharmacies and the relevant expenditure is not covered by the EOPYY or other public entity, the pharmacist's profit (markup) is determined according to the percentages of the above table.

Over the period 2009-2023, the pharmaceutical price index remained stable, compared to a 3.9% increase in the health price index, while the general price index increased (22.2%).

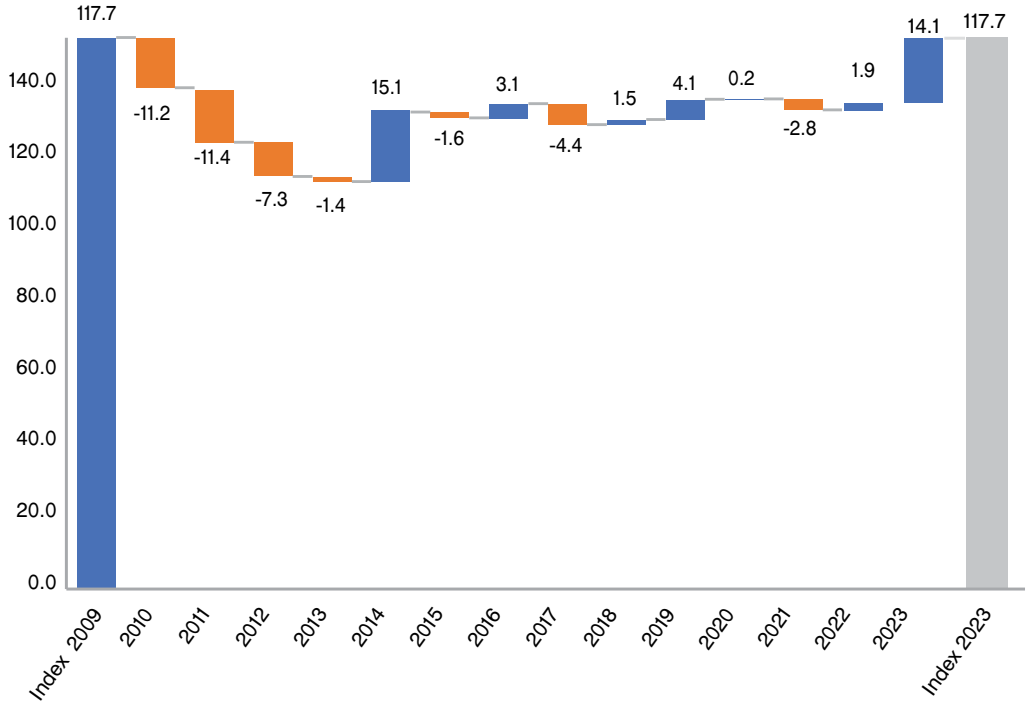
Figure 55: Annual change (%) of HCIP by category (2015=100)



SOURCE: Eurostat, 2024, Harmonised Indices of Consumer Prices (HICP), data processing IOBE.E

The pharmaceutical price index was set at 117.7 points in 2023, on the same level as in 2009. The index showed a continuous decline from 2010 to 2013, with fluctuations in the period 2014- 2022, while inflationary pressures on raw materials etc. inflated the index in 2023.

Figure 56: Annual change (%) of HCIP and index levels (2015=100)



SOURCE: Eurostat, 2024, Harmonised Indices of Consumer Prices (HICP), data processing IOBE.

4.9 EVALUATION OF MEDICINAL PRODUCTS PROCEDURE (HTA)

The Marketing Authorization Holder (MAH) submits an application to the HTA Committee to evaluate the medicine, accompanied by a complete dossier including the relevant information and documents. The Committee carries out a formal check of the dossier and informs the MAH of any deficiencies. If the dossier is incomplete, the MAH has 60 days to submit the required information; otherwise, the application will be rejected.

After the submission of the complete dossier, a rapporteur and external evaluators are appointed to receive the dossier and prepare the relevant evaluation reports. It is noted that the HTA Committee may, by unanimous and specifically reasoned decision, decide not to appoint external evaluators or to appoint only one external evaluator. The final proposal is then drawn up and notified to the members of the Final Proposal Committee. The evaluation of the recommendation follows. If the evaluation outcome is positive, the file is referred to the Negotiation Committee. The Negotiation Committee will hold a meeting with the MAH to assess the financial impact and suggest reimbursement price to the Evaluation Committee.

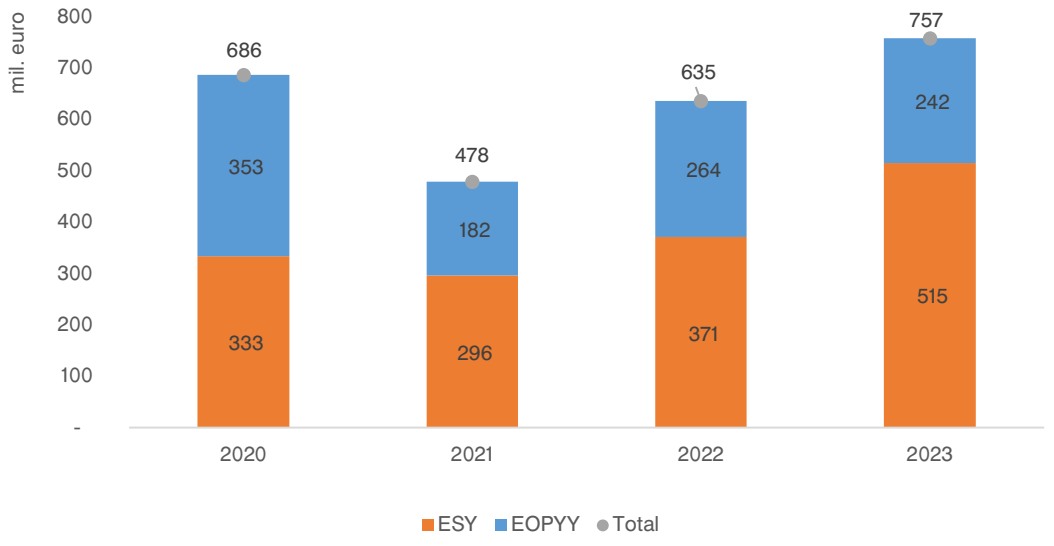
Then follows the opinion of the Negotiation Committee, which is forwarded to the Evaluation Committee and then to the Minister of Health. The decision of the Minister of Health shall be issued within 180 days of the submission of the application. After the Minister of Health's decision is issued, a summary of the opinions of the Evaluation Committee, which include at least their reasoning, is published on web site of EOF, after information relating to commercial confidentiality and personal data has been removed.

The Hellenic Association of Pharmaceutical Companies (SFEE) collects and records the data concerning the outstanding debts of the State to its member companies (on a voluntary basis). In this way, a summary picture of the total sales, collections and amounts due for invoices issued up to 31.12.2023 is presented for the pharmaceutical sector only. The data collected is not only for overdue debts, but for the total of invoices issued in the specific period described above.

The total amount of outstanding debts shown below relates to the ESY and the EOPYY, as they constitute the largest part of health expenditure. In particular, the analysis shows that: At 31.12.2023 the aggregated debts amounted to €757 mil., €242 mil. from EOPYY and €515 mil. from hospitals. In conclusion, aggregate debts increased from €635 mil. in December 2022 to €757 mil. in December 2023.

Generally, there is a relatively stable repayment of outstanding public debts to pharmaceutical companies. As pharmaceutical companies are more than 6 months behind in settling their debts compared to other providers, the establishment of a stable repayment schedule makes them better able to support both the market and their own operations.

Figure 57: Outstanding debts of the public sector to SFEE member companies by year (€ mil.)



SOURCE: SFEE, based on voluntary reporting by member companies. Note: Military hospitals have been included in the ESY hospitals

6.1 SYSTEM OF HEALTH ACCOUNTS (SHA)

In 2012, the Hellenic Statistical Authority (ELSTAT.) in collaboration with the Center for Health Services Management and Evaluation of the Nursing Department of the University of Athens and based on the methodology of the Organisation for Economic Cooperation and Development (OECD) with the involvement of expert consultant Dr. Markus Schneider (of BASYS, Germany), published for the first-time statistics on National Health Expenditures (both public and private) based on the System of Health Accounts (SHA) of the Organization for (OECD). Since then, the Hellenic Statistical Authority (ELSTAT.) publishes every year statistical data for the Funding on Health Expenditures at national level based on the new System of Health Accounts manual SHA 2011 of the OECD, against SHA 1.0 that used for earlier data.

According to article 6 of the European Regulation (EU) 1338/2008 of the European parliament and Council on Community Statistics regarding public health issues, and following collaboration with international organizations such as the OECD (Organisation for Economic Co-operation and Development) and the World Health Organization (WHO), the new SHA 2011 manual was developed, based on the International Classification of Health Accounts (ICHA). Consequently, ELSTAT, under a gentleman's agreement with the European Commission, has submitted data to international organizations as well as to Eurostat according to the new SHA 2011 methodology for the years 2009 to 2013, with data for 2014-2015 also submitted under the same methodology."

Transition table from SHA 1.0 to SHA 2011 codes		
System of Health Accounts SHA 1.0	**Funding Sectors (HF)**	**System of Health Accounts SHA 2011**
HF.1.1	General Government (excl. Social Security Funds)	HF.1.1
HF.1.2	Social Security Funds (SSFs)	HF.1.2
HF.2.2	Private Voluntary Insurance Schemes	HF.2.1
HF.2.3	Private Households Out-of -pocket Expenditures	HF.3.1
HF.2.4	Non Profit Institutions Financing Schemes	HF.2.2
HF.2.5	Corporation Financing Schemes	HF.2.3
HF.3	Rest of the World	HF.4
HF.0	n.e.c	HF.0

System of Health Accounts SHA 1.0	Health care providers (HP)	System of Health Accounts SHA 1.0
HP.1	Hospitals (public and private)	HP.1
HP.2	Residential. Long-term care facilities	HP.2
HP.3.1-3.4. HP.3.6	Providers of ambulatory health care	HP.3
HP.3.5. HP.3.9	Providers of ancillary services	HP.4
HP.4	Retailers and other providers of medical goods	HP.5
HP.5	Providers of preventive care	HP.6
HP.6	Providers of health care system administration and financing	HP.7
HP.7	Rest of Economy	HP.8
HP.9	Rest of the World	HP.9
HP.0	n.e.c	HP.0

The SHA is organised around a tri-axial system for the recording of health expenditure, defining:

- health care by function (HC)
- health care service provider industries (HP) and
- health care financing agencies (HF)

Function category (HC): The boundaries of a functionally defined health care system delimit the subject area of health accounts. This approach is "functional" in the sense that it refers to the purposes of health care. Health care in Greece comprises the sum of activities performed either by institutions or individuals pursuing, through the application of medical, paramedical and nursing knowledge and technology, the purposes of:

- promoting health and preventing disease;
- curing illness;
- caring for persons affected by chronic illness who require nursing care;
- caring for persons with health-related impairment, disability, and handicaps who require nursing care;
- providing and administering public health;
- providing and administering health programmes, health insurance and other funding arrangements.

Provider category (HP): The production and the provision of health care services along with their financing take place in a wide range of institutional settings that vary across countries. The way of organising health care services reflects the country-specific division of labour between providers of health care services. A classification of health care providers serves the purpose of arranging country-specific institutions into common, internationally applicable categories and provide tools for linking data on personnel and other resource inputs as well as output measurement.

Financing agency (HF): The financing of health care is one of the reporting dimensions. A detailed breakdown of expenditure on health by financing agencies is an essential component of a comprehensive SHA. Cross-classification tables refer to:

- HC x HP: Health care expenditure by function and provider: data on which type of health care goods and services are supplied by which health care provider;
- HC x HF: Health care expenditure by function and by financing agency: data on who pays for which type of services and goods;
- HP x HF: Health care expenditure by provider and by financing agency: data on who pays which health care provider.

More specifically, on the basis of the aforementioned system (SHA 2011), for each expenditure category the following items are depicted:

- The funding agency - e.g. the Ministries (HF 1.1.), Social Security Funds (HF1.2), Households (HF 3.1). etc.
- The health care provider to which this expenditure is directed- e.g. General Hospitals (HP 1.1), Offices of physicians (HP 3.1), Offices of dentists (HP 3.2), etc.
- The health care function pertaining to each expenditure- e.g. Inpatient curative care (HC 1.1), Outpatient curative care (HC 1.3), etc.

The SHA 2011 has been adopted by most of OECD countries since all Member States of the EU are obliged to implement this system (pursuant to Community legislation) in order to transmit economic data for health care (from 2003 onwards) to OECD, Eurostat and WHO, through a common questionnaire jointly developed by the above three Organizations.

The SHA (for Greece) was developed in line with the “bottom-up” approach and following the funding agencies perspective. Health expenditure data were transmitted by the relevant Ministries (the Ministry of Health and Social Solidarity, the Ministry of Economy and Finance, the Ministry of National Defense, the Ministry of Culture, Ministry of Education, Religious Affairs & Sports and the Ministry of Interior), by the Social Security Funds (SSFs), by the Hellenic Association of Insurance

Companies (EAEE), by Individual Non-Governmental Organizations, by the Church of Greece, by the Household Budget Survey (HBS) conducted by ELSTAT and the Managing Authority of the Ministry of Health.

Health expenditure, according to the new SHA methodology 2011 is comprised by the respective expenditure for:

- **Care Services. Rehabilitation**
    - HC.1 Hospitals (public and private)
    - HC.2 Residential, Long-term care facilities
    - HC.3 Providers of ambulatory health care
- **Ancillary Health Care Services**
    - HC.4 Providers of ancillary services (e.g. clinical diagnostic imaging and laboratory services, patient transport and emergency rescue services)
- **Products Supply for Outpatient Patients**
    - HC.5 Retailers and other providers of medical goods (pharmaceuticals, vision glasses, hearing aids, orthopedic belts and accessories)
- **Other Medical Products. Healthcare Management etc.**
    - HC.6 Preventive Care Services & Public Health
    - HC.7 Healthcare Management & Social Security Funds
    - HC.9 Non-specialized services by type

Funding of Health Expenditure: is defined as the Funding on Consumption Expenditure of resident units on health care goods and services irrespective of where that consumption takes place (i.e. in the economic territory of the country or abroad), and irrespective of the funding agency (which may be in the economic territory of the country or abroad). Therefore imports of health care goods and services must be included while exports must be excluded.

Public or Private Funding of Expenditure is defined on the basis of the type (public or private) of the funding agency and on the basis of the type (public or private) of the Health Care Provider. For example, public funding of expenditure on hospitals does not mean the total expenditure of the public hospitals but the total amount of funding that both the public and the private hospitals get by the public funding agencies (Ministries Social Security Funds).

The expenditure directed to a healthcare provider (e.g., hospitals) sometimes includes more

than one healthcare activity. This means, for example, that the amount reported for hospital-directed expenditures is greater than the amount allocated specifically to inpatient care (HC1.1).

Inpatient curative care services HC.1.1

Under this category are included activities relating to inpatient services in either public, private, psychiatric and special treatment hospitals.

Day cases of curative care HC.1.2

Under this category are classified all expenses relating to blood dialysis that are covered by any Social Security Fund (SSF).

Outpatient curative care HC.1.3

This category reflects medical and paramedical examination for patients from outside the hospital. Moreover, services such as mobile care units. private clinics and diagnostic centers are also included under this category.

Pharmaceutical and other medical non-durables HC.5.1

This category includes various pharmaceutical products such as medicines. sera. vaccines. bandages etc.

Therapeutic appliances and other medical durables HC.5.2

This category includes medical supplies such as eyeglasses, hearing aids, orthopedic devices etc.

6.2 PHARMACEUTICAL EXPENDITURE - SALES

Data on "pharmaceutical expenditure" are often confused with data on "total pharmaceutical sales" released by the National Organization for Medicines (EOF).

EOF records sales of medicinal products from pharmaceutical companies to hospitals, wholesalers and pharmacies, on a monthly basis. On the other hand, according to the OECD's International Classification of Health Accounts, with which Greek statistics have been harmonized, pharmaceutical spending is the total expenditure for medicinal products prescribed for outpatient care (non-hospital treatment). Therefore, **pharmaceutical expenditure is only a fraction of total pharmaceutical sales.**

More precisely, **pharmaceutical sales are** composed of:

(a) Public pharmaceutical expenditure which is incurred by social insurance funds (partially returned to public funds, as VAT of 6% and mandatory discounts/ rebates/ clawback from pharmacists and pharmaceutical companies are included);

(b) Hospital sales from pharmaceutical products (invoiced at hospital price = ex-factory price minus 8.74% - rebates);

(c) Sales of pharmaceutical products that are re-exported (parallel exports);

(d) Sales of pharmaceutical products to citizens at their own cost; (OTC & Negative List)

(e) Patient's copayment, which does not burden social security funds.

Regarding point (b), it should be noted that pharmaceutical sales to hospitals are included in hospital expenditure, so should be excluded from the analysis to avoid double-counting.

Regarding points (c) and (d), it should be noted that these sales are not part of public pharmaceutical expenditure; on the contrary, revenue to the government is generated, in the form of VAT, income tax, payroll tax, social security contributions, etc.

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