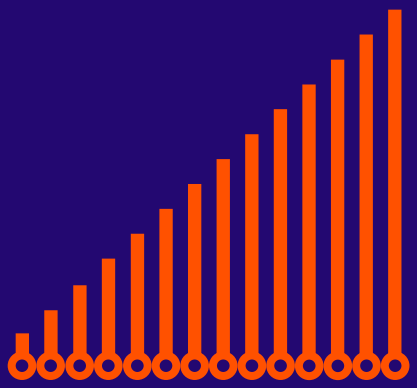
CENTRE OF PLANNING AND ECONOMIC RESEARCH

Issue 55, October 2024

GREEK ECONOMIC OUTLOOK



- Recent (macro-)economic developments
- Fiscal developments
- Human resources and social policies
- Special topics

GREEK

Economic Outlook

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Executive Summary

The complex picture of the Greek economy

The path of the Greek economy in 2024 reveals a series of complex trends, which combine positive and negative developments. Among the positive developments, several stand out: the relatively higher growth rates of the Greek economy compared to other euro area economies (see section 1.3); the creation of high primary surpluses (see section 2.1), the reduction in unemployment (see section 3.1), in the inflation rate (see section1.2); and public debt as a percentage of GDP, and the rise in investment and exports; the improving stock market performance (see section 1.4); the strengthening of the banking system, the regaining of investment grade and the improving of the country's image abroad. These are not small, nor are they trivial. International investment houses and institutions frequently praise the Greek economy for the progress it has made in recent years, especially compared to the previous decade of crisis. The growth rate of the Greek economy is expected to reach 2.2% in 2024 and 2.2% in 2025. The main drivers of economic activity in the coming years will continue to be private consumption, investment, and exports, while the contribution of public consumption is expected to move marginally. Inflation, based on Eurostat's Harmonised Index of Consumer Prices, is expected to fall significantly in the coming years. In 2024 it is expected to be 2.8%, down from 4.2% in 2023, reflecting the large decline in energy prices and the deceleration of food inflation.

On the other hand, however, there are still many open issues. According to the latest ELSTAT data for the second quarter of 2024, consumption continues to take the lead over exports and investment, contributing 88.7% of the country's total GDP, a figure similar to that reflected in 2009 (see section 1.1). Private consumption stood at 70%, a proportion that has not changed for decades. As a result, the annual GDP formation depends mainly on the disposable income of households, their financing, price levels and, of course, tourism, which directly influences the indicator. It should also be noted that the increased consumer spending in the first half of the year is accompanied by the negative trend in the volume index in trade and the unclear expectations in the retail sector. This picture suggests that, despite the increase in consumption, the trade sector has not fully recovered, which creates uncertainty about the stability of consumption in the future. Investment, although increasing, is still low compared to the rest of the euro area. The contribution of investment to GDP stands at 16%, below the euro area average. But it is not only a question of the amount of investment capital, but also of quality. Investment is mainly concentrated in construction (37% of total investment in the first half of 2024, based on ELSTAT). Moreover, labour productivity, the average equivalent disposable income in real terms,[1] the poverty and working poor rates[2] and justice performance appear to be significantly lower than in other euro area countries. Also, inflation recorded rising trends in August 2024, reaching 3.0%, compared to 2.7% in July. Structural inflation, which reflects long-term trends, rose to 3.5%. These increases were mainly driven by the services sector, with the Hotels-cafés-restaurants categories registering a 6.6% rise. Housing and Clothing/Footwear also showed increases, which contributed to inflation, adding significant points to the overall price index. It is noteworthy that for the third consecutive month, services are growing faster than goods. Goods prices, such as durable goods and household goods, fell by 0.9%, which partly moderated the increases in services. However, increases in energy and housing prices remain a concern, with gas rising 28% and electricity rising 9.7%. These price pressures, combined with increases in rents and housing maintenance, create an environment that is likely

1. According to Eurostat data included in its annual publication on the living conditions of EU citizens, the average real disposable income equivalent in Greece in 2023 was 28.38% lower than in 2010. Of all EU countries, a lower income in 2023 compared to 2010 was recorded in four other countries except Greece, but the difference was very small: in Cyprus, lower by 1.85%, in France by 1.79%, in Italy by 0.97% and in Spain by 0.29%. These are countries that were severely affected by the economic crisis of the previous decade and in which exceptional fiscal measures were also taken, although not all of them in the form of memoranda of understanding. Two other countries in this category, Portugal and Ireland, with the former even entering into a memorandum of understanding, have an average disposable income in real terms higher than in 2010: by 10.83% in Portugal and by 30.61% in Ireland (see https://ec.europa.eu/eurostat/web/income-and-living-conditions/information-data).

2. See *Greek Economic Outlook,* KEPE, Issue 54, June 2024, p. 55-59 at www.kepe.gr.

to affect household purchasing power and overall economic stability. Finally, recent data on the current account deficit are not optimistic. According to the Bank of Greece, the current account deficit in the first half of the year stood at EUR 8.8 billion, up by EUR 693.4 million compared to the same period in 2023, which *de facto* sends a negative signal for the competitiveness of the Greek economy.[3]

The new normality

As we move into the second half of the year, a new normality is beginning to emerge in the Greek economy. One of its first features is the resumption of the fiscal framework, which will apply from January of the new year. The new framework, without abandoning the old deficit and debt targets, takes the form of "mild austerity". The old rules of primary surpluses are replaced, for the first time, by public expenditure rules. Each country is committed to increasing its public spending by a specific and predetermined percentage, and if this limit is exceeded, even slightly, then the sanctions formerly known as the 'excessive deficit procedure' are automatically triggered. For Greece, the increase in public spending in 2025 is €3.7 billion. The focus on the level of public spending essentially means that economic policy makers will not have the possibility for allocating further benefits and allowances if there are overruns in primary surpluses (fiscal space). If, however, taxes continue to rise well above targets, as has been the case in Greece in recent years, then they will have room to reduce taxes and especially social security contributions, which, despite reductions of 4.6% over the last five years, are among the highest in OECD member states.

In the new normality, a new banking landscape is taking shape. The good performance of the Greek economy and the upgrade of Greece's credit rating to investment grade in 2023 have had a positive impact on the Greek banking system. Two upgrades of Greek systemic banks to investment grade have already taken place this year. More upgrades are expected to follow, as the rating agencies have changed the outlook of Greek systemic banks to positive. In this favourable environment, the Greek banking sector in 2024 strengthened its profitability, liquidity and capital adequacy ratios amid high key interest rates and favourable domestic economic conditions.

A third feature of the new normality is the increased number of investment instruments to support entrepreneurship. It is not only the Recovery and Resilience Fund and the NSRF. It is also the various development banks and commercial banks (e.g., the new Attica Bank) that, after many years, are entering the financing game. This, of course, is helped by the monetary policy easing cycle of the European Central Bank.

The key question

The question that arises is whether the current positive performance of the Greek economy will eventually outweigh the corresponding negative performance. That is, whether the current recovery turns into future sustainable growth. This will depend primarily on the international environment. Any worsening of the geopolitical crisis in Ukraine and the Middle East and the consequent impact on the international economic environment may also have a negative impact on our own economy. But assuming that this does not happen, the course of events in the economy will depend on the government's choices over the next three years, until 2027. Why until 2027? Because that is when the funding from the Resilience and Recovery Fund runs out. Until then there is a plan and funding, so there is a window of opportunity open. This window of opportunity should be exploited by the current government.

Effective absorption and disbursement of the Recovery Fund and the NSRF is a priority. This is crucial for achieving the projected growth rates of gross fixed capital formation over the next two years. In addition, it is necessary to continue and intensify reforms. Despite the fact that considerable progress has been made in recent years, Greece lags significantly behind in promoting reforms in the areas of product and service markets, especially in network markets, where oligopolistic structures and high prices and charges prevail; the tax system (reducing the tax burden on wage earners, broadening the tax base by combating tax evasion, simplifying tax procedures, redefining the VAT system); labour and production (continuing the reduction of the tax burden on labour and production linking the labour market with universities); bureaucracy (it is not enough to transform paper bureaucracy into digital bureaucracy, but to eliminate it completely); justice (reducing the time it takes to hear cases, strengthening its independence) and institutions (strengthening the credibility and trust of citizens).[4]

3. See also Current Analysis 6/2024, KEPE, September 2024 at www.kepe.gr.

4. The recent award of the Nobel Prize in Economics to Darron Acemoglou, Simon Johnson and James Robinson is a recognition that institutions play an extremely crucial role in a country's growth and prosperity.

The reforms will in turn increase the country's overall productivity, provide incentives for private actors and lead the economy to a new production model based on high wage labour, investment in high value-added sectors, and exports. It is important for citizens to know when and how the projects that will affect their daily lives will be implemented, so that they can monitor and evaluate the progress of these reforms. In other words, there must be a clear road map, a clear timetable. They should see the state as a strong and reliable institution working for the common good. This increases collective trust and encourages a more positive interaction between citizens and state institutions, helping to establish a more equitable and efficient socio-economic structure. It is also necessary to continue the fiscal balance of recent years. In order to achieve the required deceleration of the public debt-to-GDP ratio, it is necessary to maintain primary surpluses, in cyclically-adjusted terms, of 2% of GDP per year. However, a key precondition for this is to increase the efficiency of public spending, through better targeting of social spending, in order to increase public investment and education and health spending, which have a particularly positive impact on real GDP growth in the medium term.

And after 2027?

After 2027, things get tougher: the climate crisis will deepen, the digital transition will become more difficult, the debt settlement will weigh on the budget, the new fiscal rules will limit the flexibility of economic policy and, most importantly of all, the public finances will be more difficult to manage.

Professor PANAGIOTIS LIARGOVAS
Chairman of the Board and Scientific Director,
Centre of Planning and Economic Research (KEPE)

1. Recent (macro-)economic developments

KEPE, *Greek Economic Outlook,* issue 55, 2024, pp. 6-14

1.1. The main aggregate demand components in the first half of 2024

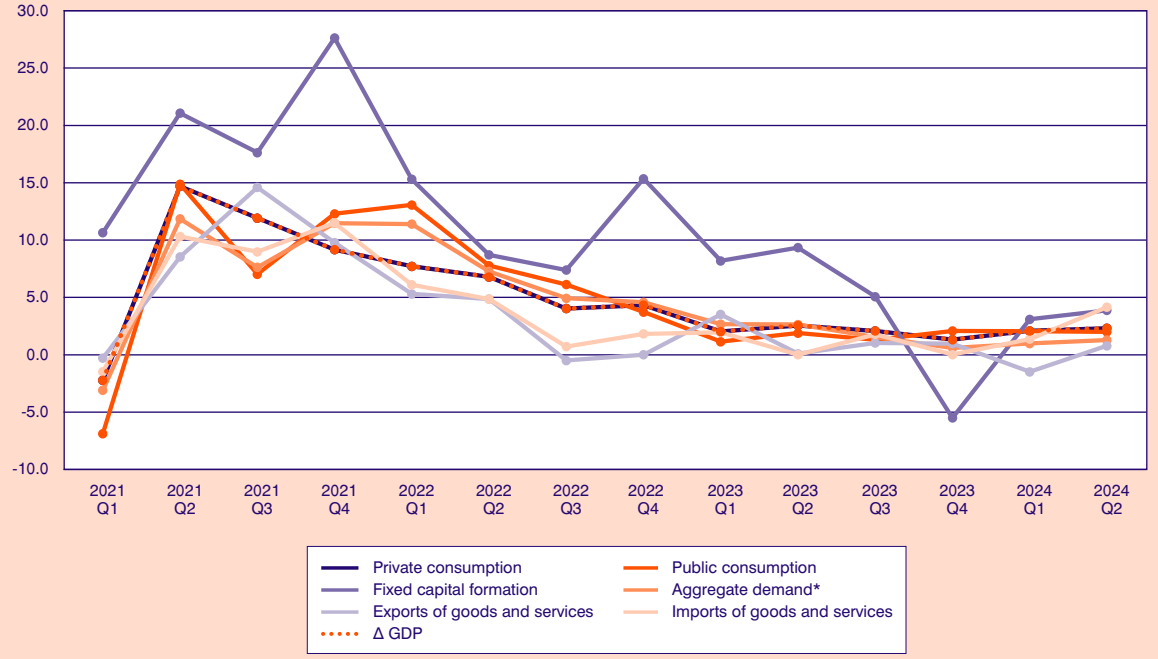
1.1.1. Introduction - Domestic and external demand

Yannis Panagopoulos

In this section, utilizing the existing recorded macroeconomic data, we proceed to the analysis of the current developments of the 1st half of 2024. In the results of Table 1.1.1, in the 1st half of 2024, we observe the existence of positive rates of change in individual macroeconomic variables excluding the exports of goods. There is also a marginal stability in economic growth in the 1st half of 2024, compared to the corresponding 1st half of 2023 (2.20% and 2.29%, respectively). It is noteworthy, in terms of economic growth, that all macroeconomic factors were slightly better in the 2nd quarter relative to the 1st quarter of 2024, excluding *public consumption*, which was slightly lower (by 0.1%).

Regarding the factors that contributed to the path of GDP growth in the 1st half of 2024 (2.2%), it should be noted that *gross fixed capital formation (3.5%)* recorded the largest positive rate of change, followed by, in order of magnitude, *private consumption* (2.2%) and *public consumption* (2.0%). It is noteworthy that the *exports of goods and services* had a negative sign (-0.3%).

FIGURE 1.1.1
Basic macroeconomic variables
(seasonally adjusted data)



Source: National Accounts, ELSTAT.
* Without change of inventories.

TABLE 1.1.1 Basic macroeconomic variables

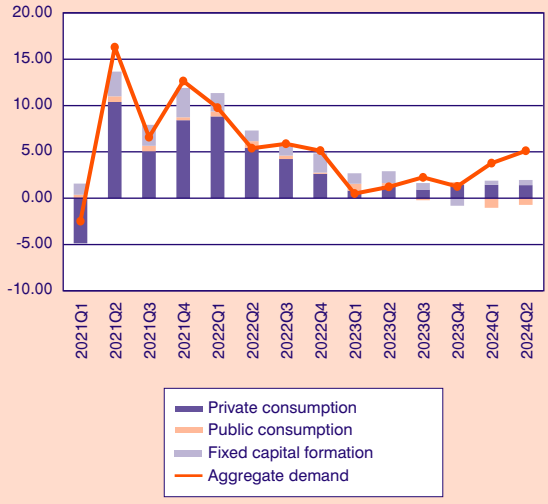
(seasonally adjusted data)

	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2	6 months 2023	6 months 2024
Private consumption	-2.2	14.7	11.9	9.2	7.7	6.8	4.0	4.3	2.0	2.6	2.1	1.3	2.1	2.3	2.29	2.2
Public consumption	-6.9	14.9	7.0	12.3	13.1	7.8	6.1	3.7	1.1	1.9	1.3	2.1	2.1	2.0	1.52	2.0
Fixed capital formation	10.7	21.1	17.6	27.6	15.3	8.7	7.4	15.4	8.2	9.3	5.1	-5.5	3.1	3.9	8.77	3.5
Aggregate demand*	-3.1	11.9	7.6	11.5	11.4	7.3	4.9	4.6	2.7	2.6	1.5	0.6	1.0	1.3	2.66	1.1
Exports of goods and services	-0.3	8.5	14.6	9.8	5.3	4.9	-0.5	0.0	3.5	0.1	1.0	1.0	-1.5	0.8	1.81	-0.3
Goods	11.4	21.2	15.3	10.1	5.5	4.1	2.9	2.7	10.7	0.4	1.6	-1.0	-8.6	2.0	5.57	-3.3
Services	-19.1	58.2	93.6	62.1	22.8	24.9	-1.6	-3.0	6.2	1.0	4.6	5.2	2.4	2.8	3.61	2.6
Imports of goods and services	-1.5	10.3	9.0	11.5	6.1	4.9	0.7	1.8	2.0	0.0	1.8	0.0	1.4	4.1	0.98	2.8
Goods	-0.5	27.0	17.0	26.7	15.6	13.2	4.7	2.1	2.7	-1.6	5.1	1.6	2.6	10.5	0.52	6.5
Services	-13.9	26.9	37.7	41.4	12.3	4.1	-8.4	8.0	10.9	5.5	0.5	-4.0	4.4	6.9	8.16	5.6
Δ GDP	-2.2	14.7	11.9	9.2	7.7	6.8	4.0	4.3	2.0	2.6	2.1	1.3	2.1	2.3	2.29	2.2

Source: National Accounts, ELSTAT.

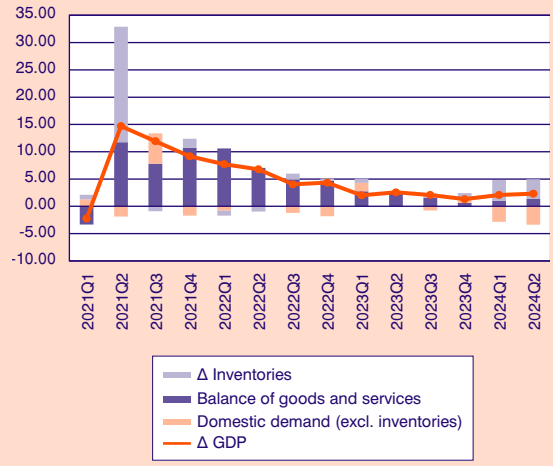
* Without change of Inventories.

FIGURE 1.1.2
Sub-components of domestic demand



Source: National Accounts, ELSTAT, data processing by the author.

FIGURE 1.1.3
Domestic and net external demand*



Source: National Accounts, ELSTAT, data processing by the author.
* The inventory change in 2024Q1 & Q2 are the author's calculation.

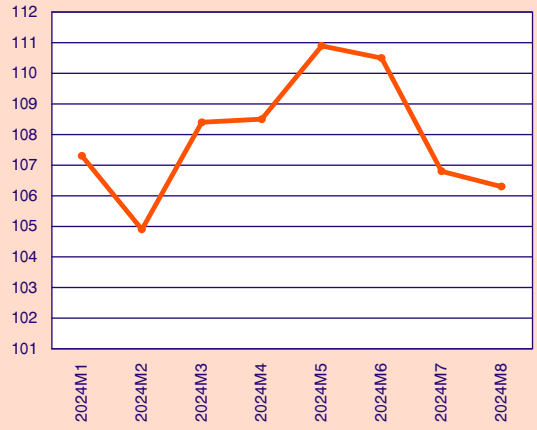
In terms of Q2 2024, we have approximately the same picture with the same order of importance of the individual factors in the recorded path of GDP growth. The only difference is the positive contribution here for *exports of goods and services* (0.8%) (Table 1.1.1).

Domestic demand recorded a similar trend for the 2nd quarter of 2024 (Figure 1.1.2). Thus, based on the existing components in the recorded GDP growth (using seasonally adjusted data), *private consumption* was the most positive component (1.40) followed by *fixed capital formation* (0.56), while *public consumption* was the negative component (-0.72).

As regards to the share of the domestic and external sectors of demand (i.e., the balance of goods and services) in GDP, for the 2nd quarter of 2024, things are considered relatively positive, mainly due to the positive contribution of *the change in Inventories* (3.62) (Figure 1.1.3). Specifically, the negative contribution of the *balance of goods and services* (-3.36) was adequately offset by the positive contribution of *the change in Inventories* (3.62) and *domestic demand* (1.33).

Regarding the course of the Economic Sentiment Index (ESI), as the future "proxy" of aggregate demand, the expectations of households and businesses for the period 1/2024-8/2024 are recorded in Figure 1.1.4. Analytically, while for some months (March 2024-May 2024) the ESI showed an upward trend, from 108.6 to 110.9 points, this was followed by a period of decline, resulting in August 2024 being just above 106 points

FIGURE 1.1.4
Economic Sentiment Index – ESI (1/2024-8/2024)



Source: Eurostat.

(106.3), which means slightly above the levels of February (104.9). In conclusion, households' and firms' expectations after entering 2024 showed a moderate volatility.

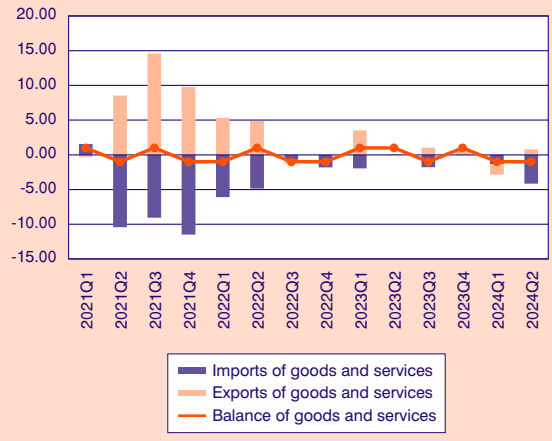
Below, there is a more detailed discussion on the contribution of the country's balance of goods and services to GDP.

Balance of goods and services

The contribution of the external sector (percentage change of exports minus imports) for the 1st half of 2024, as already mentioned above (Figure 1.1.3), is broadly negative (-3.36). Below, we will refer separately to the rate of change of *goods* and the rate of change of *services*. Starting with exports, let us underline that *services*, which constitute the relatively smaller part of exports, showed a 6-month increase of 2.6%, while on the contrary, *goods*, which were the largest part of exports, showed a 6-month decrease of -3.3%. Imported *services*, on the other hand, had a semi-annual increase of 5.6%, while imported *goods* had a semi-annual increase of 6.5%.

As far as the contribution of the *balance of goods and services* to the rate of change of GDP is concerned, let us repeat here that for the 2nd quarter of 2024 it stood at -3.36 points compared to (+)0.09 points for the 2nd quarter of 2023. More specifically, we had the relatively small contribution of exports to GDP estimated at 0.79 units, while, on the other hand, we had the significant negative contribution of imports to GDP, which was of -4.15 units. The general picture, presented in Figure 1.1.5, with the corresponding histograms of exports and imports, is that, regardless of the net share of the *balance of goods and services* in GDP, after Q2 2022 we have a relatively small contribution for both components compared to the period 2021Q2 - 2022Q2, where both components had a significant contribution.

FIGURE 1.1.5
Sub-components of external demand



Source: National Accounts, ELSTAT, data processing by the author.

1.2. Private consumption and investment

Konstantinos Loizos

1.1.2.1. Private consumption

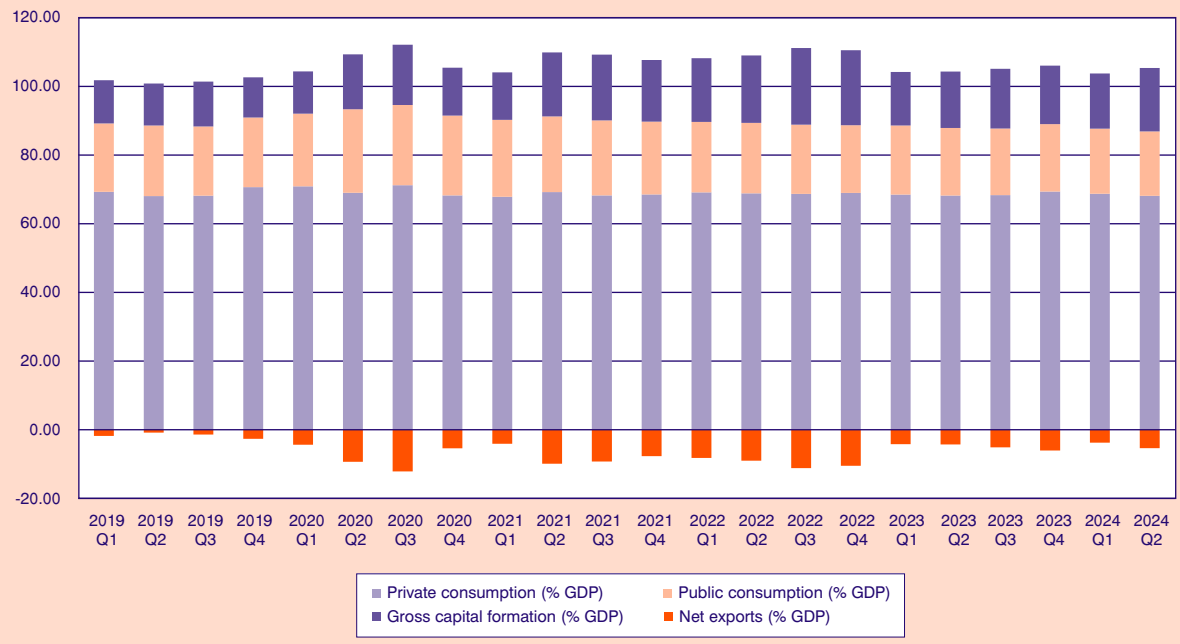
The rise of private consumption expenditure and the maintenance of its share in GDP during the first six months of 2024

According to the quarterly seasonally adjusted *National Accounts*,[1] the private consumption of households and NPISH[2] rose from 38,629 million euros in current prices in the last quarter of 2023 to 39,003 million euros in the first quarter and 39,396 million euros in the second quarter of 2024. Similarly, in terms of chain-linked volumes with 2015 as a reference year, private consumption rose from 34,499 million euros in the last quarter of 2023 to 34,552 million euros in the first quarter and 34,747 million euros in the second quarter of 2024. In terms of percentage changes[3] with respect to the previous quarter, based on seasonally adjusted chain-linked volumes, private consumption showed positive fluctuations in percentage rates, which were 1.6% in the last quarter of 2023, 0.2% in the first quarter of 2024 and 0.6% in the second quarter of the same year. With respect to the corresponding quarter of the previous year, the related rates were relatively constant and equal to 2.1%, 2.1%, and 2.0%.

Private consumption as a percentage of GDP was 68.43% on average during the first six months of 2024, essentially the same with its average in 2023, which was 68.60%. Similarly, public consumption was, as a percentage of GDP, 18.85% in the first six months of 2024, while it constituted 19.71% of total expenditure in 2023. There was a different trend in gross capital formation (fixed capital and change in inventories), which averaged in the first six months of 2024 at 17.28% of GDP, a higher percentage with respect to

1. *Quarterly National Accounts,* Press release, ELSTAT, September 6, 2024.
2. Non-profit institutions serving households.
3. Percentage changes are calculated using the formula $\frac{X_t - X_{t-1}}{X_{t-1}}$.

FIGURE 1.1.6
The evolution of private consumption and other components of demand as a percentage of GDP
(expenditure approach) (seasonally adjusted data in current prices)



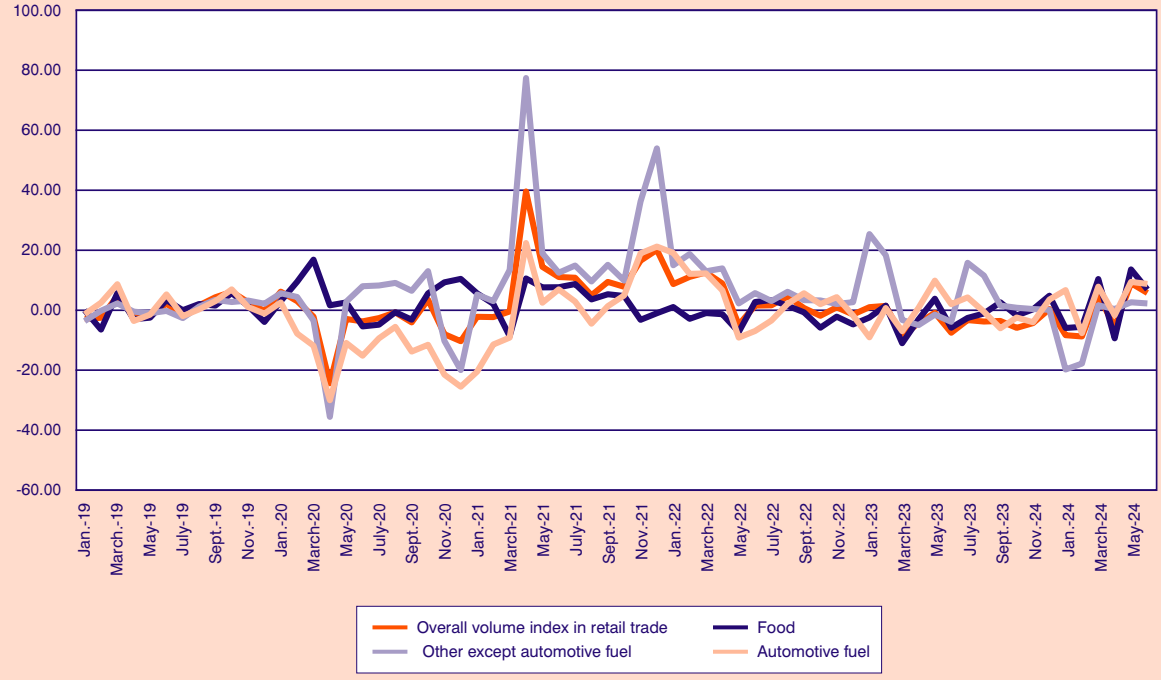
Source: ELSTAT, data processing by the author.

its average value in 2023, which was 16.61% of GDP. Finally, the trade deficit was slightly reduced on average as a percentage of GDP from -4.92% on average in 2023 to -4.56% of GDP in the first six months of 2024. These developments are presented in Figure 1.1.6. The rise in the share of investment in GDP in combination with the small reduction of the trade deficit, which was also accompanied by a reduction in the share of public consumption, could be characterized as positive since, in addition, the share of private consumption remained, in fact, at the same level. To the degree that 78% of the reduction in the share of public consumption in GDP was transformed into an increase in the share of private investment, it seems that there is a kind of reverse crowding out effect, this time of public consumption in favor of private investment instead of the usual opposite effect in the periods under consideration.

Uncertain developments in retail trade

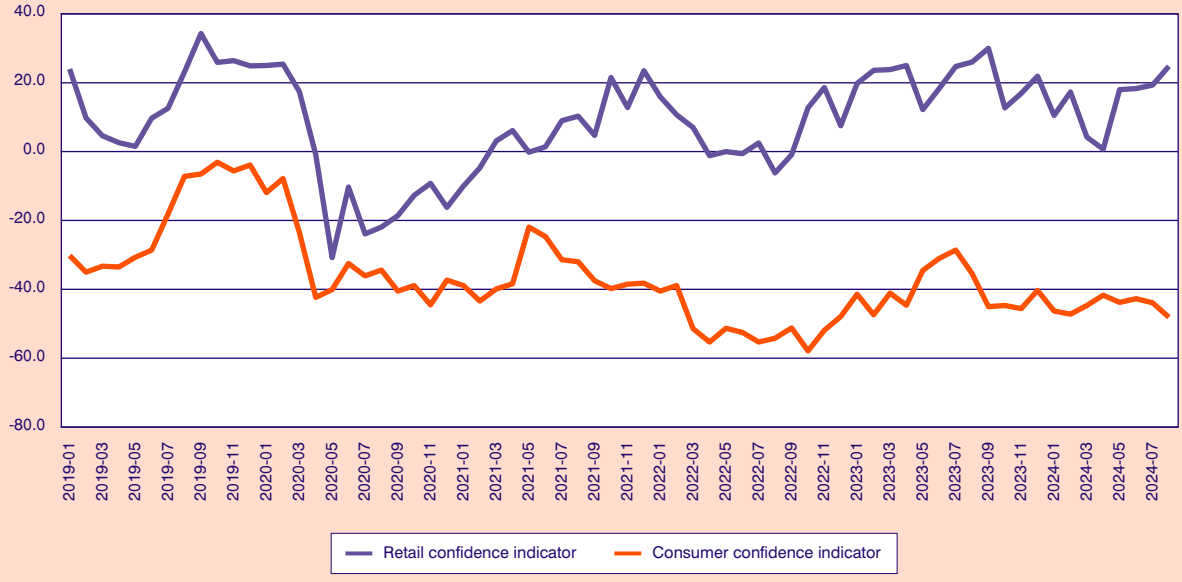
The evolution of retail trade in terms of percentage changes of the overall volume index remained negative on average in the first six months of 2024 (-0.47%) with respect to the corresponding months of the previous year, based on ELSTAT monthly data, as Figure 1.1.7 depicts. However, this negative value was much lower than that of 2023 where on average the percentage change of the overall volume index was -3.27%. In particular, in food items, we observe a positive average percentage change in the first six months of 2024 (1.67%), as opposed to the negative average percentage change in 2023 (-1.22%); in automotive fuel, we observe exactly the opposite development with a negative average percentage change of -5.11% in the first six months of 2024 and a positive one of 5.03% in 2023. Finally, in other items except automotive fuel, the negative average percentage change of -0.65% in 2023 became a positive 3.93% on average in the first six months of 2024. Therefore, the outcome remains dubious and uncertain for retail trade in the first six months of 2024 given that both the average positive percentage changes in food items and in automotive fuel and the negative average percentage change in other items except automotive fuel emerge from monthly data which fluctuate significantly. The same holds true concerning the evolution of the overall volume index with negative percentage changes in three out of six months in 2024.

FIGURE 1.1.7
Percentage changes in the seasonally adjusted overall volume index and the main sector indices in retail trade



Source: ELSTAT, data processing by the author.

FIGURE 1.1.8
Confidence indicators in retail trade



Source: Eurostat, data processing by the author.

Expectations in retail trade fluctuated without a clear trend

Confidence indicators, published by Eurostat and presented in Figure 1.1.8, show fluctuations of both indices of expectations from the last quarter of 2023 until August 2024 with no discernible trend. This fluctuation in expectations is clearly smaller in the consumer confidence indicator in comparison to the retail confidence indicator; however, this does not negate the ambiguity of developments in this sector of the economy. If the results emanating from the data in expectations about the future are combined with the ambiguous developments referred to above about the retail volume indices, then uncertainty in retail trade is further entrenched.

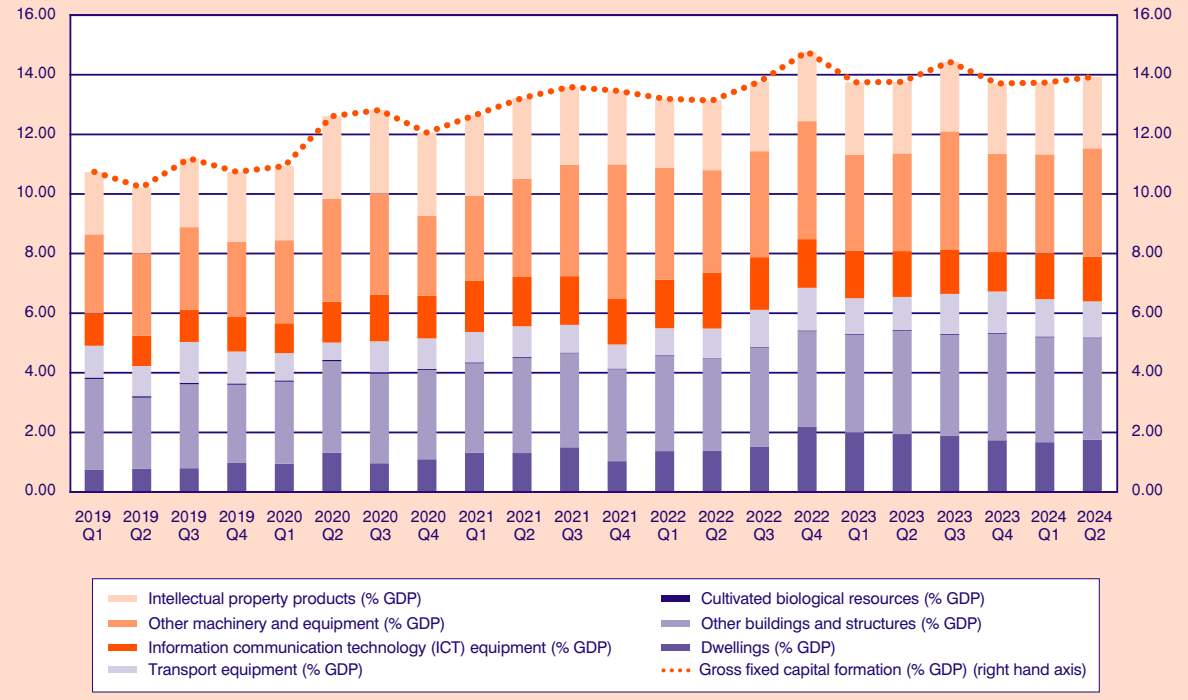
1.1.2.2. Investment

Positive developments in gross capital formation and especially in machinery and transport equipment during the first six months of 2024

Gross fixed capital formation increased from 7,636 million euros in the last quarter of 2023 in current prices to 7,794 million euros in the first quarter and 8,053 million euros in the second quarter of 2024. Similarly, in terms of chain-linked volumes, gross fixed capital formation showed a rising trend from 6,798 million euros in the last quarter of 2023 to 7,290 million euros in the first quarter and 7,345 million euros in the second quarter of 2024. In terms of percentage changes with respect to the corresponding quarter of the previous year, we observe a continuous rising trend, which is reflected in percentage changes of gross investment, from -5.5% in the last quarter of 2023 to 3.1% in the first quarter and 3.9% in the second quarter of 2024. Concerning the percentage rates of change with respect to the preceding quarter, they remained positive in 2024 with percentage changes of 7.2% in the first quarter (compared to -2.2% in the last quarter of 2023) and 0.8% in the second quarter of that year, according to the seasonally adjusted chain-linked volumes.

The above positive developments are confirmed by the rise in the share of investment (gross fixed capital formation) as a percentage of GDP (Figure 1.1.9) during the first six months of 2024 with an average rate of change of 0.78%, as opposed to the negative average rate of change in 2023 (-1.74%). The same applies to

FIGURE 1.1.9
Gross fixed capital formation as a percentage of GDP (overall and by asset)
(seasonally adjusted data in current prices)



Source: ELSTAT, data processing by the author.

machinery and transport equipment as a percentage of GDP where the negative annual average percentage change of -3.16% for 2023 is followed by an average positive percentage change of 2.76% during the first six months of 2024. On the contrary, in the case of buildings (dwellings and other buildings and structures) as a percentage of GDP, the negative trend in percentage changes is maintained since, starting from a value of -0.34% on average in 2023, the average rate of change is still negative and equal to -1.43% in the first six months of 2024. The rise in the share of gross investment in GDP during the first six months of 2024, which was mentioned above, and especially the relevant positive developments concerning machinery and transport equipment, is a positive sign for the Greek economy since it may become the basis for a rise in income and expenditure in the future if it is sustained.

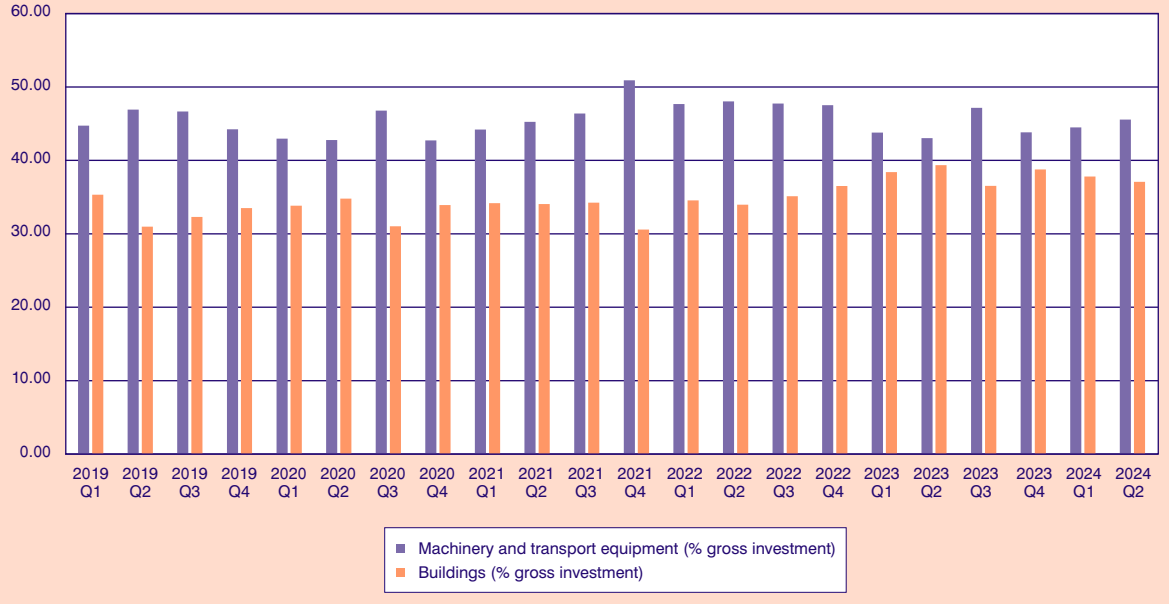
The share of machinery and transport equipment in gross investment rose further with respect to the corresponding share of buildings

According to Figure 1.1.10, the share of machinery and transport equipment in total gross fixed capital formation continued to exceed that of buildings in the first six months of 2024, showing also a rising trend. Additionally, on average, the share of machinery and transport equipment in gross investment increased from 44.45% in 2023 to 45.03% in the first six months of 2024, and correspondingly, the share of buildings fell from 38.27% in 2023 to 37.45% in the first six months of 2024.

Optimism with fluctuations is maintained in the construction sector

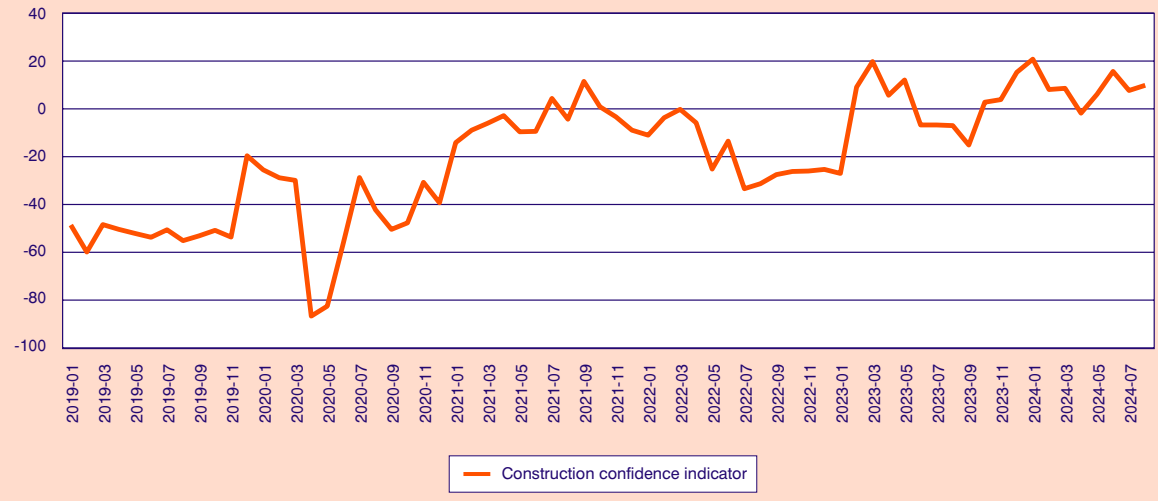
Optimism concerning business expectations in the construction sector is maintained during the first eight months of 2024 despite observed fluctuations. The relevant confidence indicator showed a rising trend during four of the eight months until August 2024 but remained at high levels with small variations with respect to its value in 2023. Indeed, the construction confidence indicator was, on average, 9.39 with a standard deviation from that mean value of 6.67 during the first eight months of 2024, as opposed to its mean value of 0.52 with a standard deviation of 13.5 in the year 2023. The above show that optimism has been preserved in the construction sector despite the fluctuation of the relevant indicator.

FIGURE 1.1.10
Machinery, transport equipment and buildings as a percentage of gross fixed capital formation



Source: ELSTAT, data processing by the author.

FIGURE 1.1.11
Construction confidence indicator



Source: Eurostat, data processing by the author.

1.1.2.3. Conclusions

The above analysis, having as a background the developments during the first six months of 2024, along with the relevant expectations which extended up to the first eight months of this year, showed the contradictory character of developments in the Greek economy, since the rise in consumer expenditure goes together with the negative developments in the overall volume index in retail trade. These are further combined with the ambiguous developments in expectations about retail trade. On the other hand, there are positive developments in gross investment and especially in machinery and transport equipment concerning the relevant levels of expenditure as well as in constructions concerning the level of expectations. The Greek economy has an immediate need for a rise in investment and the improvement of their share in GDP along with the improvement in the share of machinery and transport equipment in gross investment as the basis for a new developmental boost. On the other hand, stimulating domestic trade is important in order to maintain the levels of private consumption and to support employment in the retail sector, which is so important for the Greek economy.

KEPE, *Greek Economic Outlook,* issue 55, 2024, pp. 15-19

1.2. Services drive inflation up again

Emilia Marsellou

Introduction

Inflation in Greece in August 2024 reached 3.0%, up from 2.7% in July. Core inflation also increased to 3.5% compared to 3.1% in July.

The price sub-indices in the Hotels-cafés-restaurants group (6.6%) recorded the largest increases, followed by the Clothing and Footwear group (6.2%) and Housing (5.5%). Regarding the contribution of each sub-indicator on the formation of inflation in August 2024, the group Hotels-cafés-restaurants had the greatest impact (0.73 percentage points), followed by Housing (0.69 pp), Food and non-alcoholic beverages (0.63 p.m.) and Health (0.25 p.m.).

For the third consecutive month (since June 2024), price inflation in services has tended to increase, while increases in goods prices de-escalate.

In the euro area, based on Eurostat's estimates, inflation stood at 2.2%, down from 2.6% in July 2024. The highest rate of increase in prices was recorded by Services (4.1%) and the Food, alcohol and tobacco group (2.3%). Prices in Non-energy industrial goods recorded a minor increase (0.4%), while in Energy, they decreased by -3.0%.

1.2.1. Greece

Based on monthly data, the National CPI in August 2024 recorded an annual increase of 3.0% compared to 2.7% and 2.3% in July and June 2024, respectively. Core CPI increased by 3.5%, compared to 3.1% and 3.0% in July and June, respectively.

The largest price increases were recorded in the Hotels-cafés-restaurants group (6.6%), followed by the Clothing and Footwear group (6.2%) and Housing (5.5%). On the contrary, only the Household equipment group recorded a decrease (-0.9%).

The Hotel-café-restaurant service group had the largest impact on the formation of inflation in August 2024, with 0.73 p.m., followed by Housing (0.69 p.m.), Food and non-alcoholic beverages (0.63 p.m.) and Health (0.25 p.m.), while the Housing equipment group had a marginally negative impact (-0.04%).

Over the past three months, prices in services have risen at a higher rate than in goods, while increases in goods' prices tend to decline. Services that show increasing rates of change in prices are Hotels-cafés-restaurants, Housing, Health and Transport.

More specifically, the annual increase of the National CPI in August 2024 by 3.0% is a combined result of the following changes in the price indices of sub-groups of goods and services. More specifically, increases were recorded by:

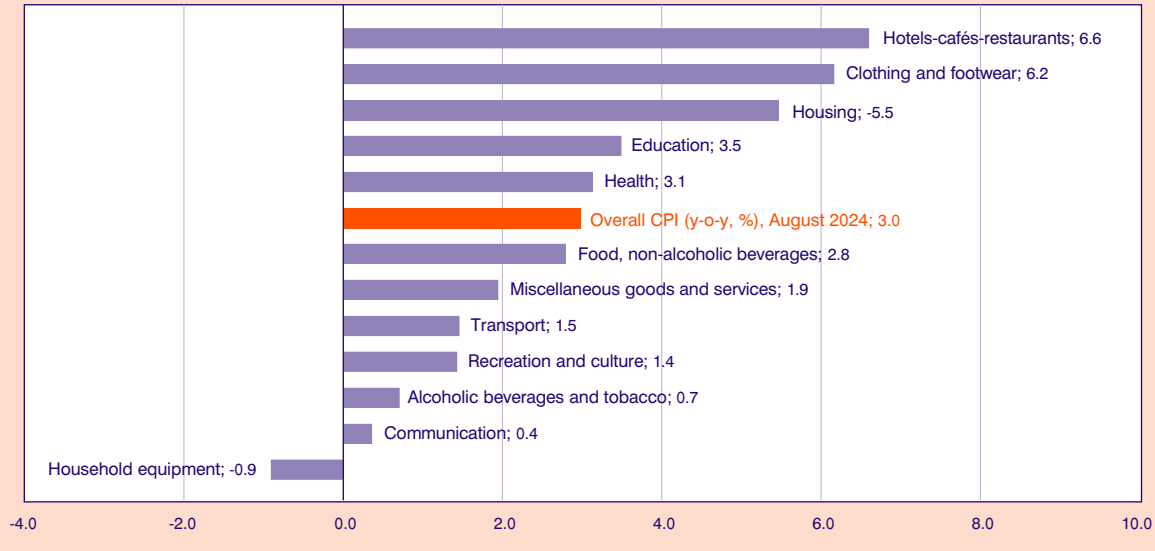
- 2.8% in the group Food and non-alcoholic beverages. This increase, which is mainly due to rising prices of bread (1.0%), breakfast cereals (11.2%), meat (1.4%), fresh fish (11.3%), olive oil (49.1%), dried fruit and nuts (5.0%), fresh vegetables (3.1%), preserved or processed vegetables (1.4%), sugar-chocolates-sweets-ice creams (4.8%) and mineral water-refreshments-fruit juices (6.9%), is partly offset by the decrease in the prices of pizza and quiche (-6.6%), milk, cheese and eggs (-2.0%), fresh fruit (-1.1%), frozen vegetables (-3.3%), potatoes (-4.5%) and food n.e.c. (-2.6%).
- 0.7% in the group Alcoholic beverages and tobacco, due to the increase, mainly, in the prices of (not served) alcoholic beverages (1.4%).
- 6.2% in the group Clothing and footwear, due to the increase in the prices of clothing and footwear.
- 5.5% in the group Housing. This increase, which is mainly due to the rise in the prices of rentals for dwellings (4.6%), services for the repair and maintenance of the dwelling (4.4%), electricity (9.7%), natural gas (28.0%) and heating oil (6.3%), is partly offset by the fall mainly in the prices of municipal charges for refuse collection (-1.5%).
- 3.1% in the group Health. This increase, which is mainly due to the rise in the prices of pharmaceutical products (5.1%), medical, dental and paramedical services (1.7%) and hospital care (3.5%), is partly offset by the decrease, mainly, in the prices of medical products (-2.0%).
- 1.5% in the group Transport. This increase, which is mainly due to the rise in the prices of new motorcars (2.0%), spare parts and accessories for motorcars (3.3%), maintenance and repair of motorcars-motorcycles (3.6%), other services for motorcars–motorcycles (0.8%) and tickets for passenger transport by air (27.3%), is partly offset by the decrease, mainly, in the prices of second hand motor cars (-2.8%) and fuels and lubricants (-5.9%).

TABLE 1.2.1 Inflation in Greece (%)

	National CPI	CPI (m-o-m, %)	Headline Inflation CPI (y-o-y, %)	Core Inflation (y-o-y, %)	Harmonized Inflation (y-o-y, %)	Core HICP (y-o-y, %)
2023M08	114.3	0.0	2.7	5.3	3.5	5.4
2023M09	116.3	1.8	1.6	3.9	2.4	4.2
2023M10	117.0	0.6	3.4	3.5	3.8	3.6
2023M11	116.6	-0.4	3.0	3.3	2.9	2.8
2023M12	116.5	-0.1	3.5	3.1	3.7	3.3
2024M01	115.5	-0.8	3.1	3.2	3.2	3.1
2024M02	115.6	0.1	2.9	2.7	3.1	3.0
2024M03	117.4	1.5	3.2	3.2	3.4	3.4
2024M04	118.0	0.5	3.1	2.9	3.2	3.1
2024M05	117.7	-0.3	2.4	2.7	2.4	2.8
2024M06	118.2	0.5	2.3	3.0	2.5	3.4
2024M07	117.4	-0.7	2.7	3.1	3.0	3.8
2024M08	117.7	0.3	**3.0**	3.5	3.2	3.7

Sources: ELSTAT, Eurostat.

FIGURE 1.2.1
Annual % changes in National CPI sub-categories (August 2024)



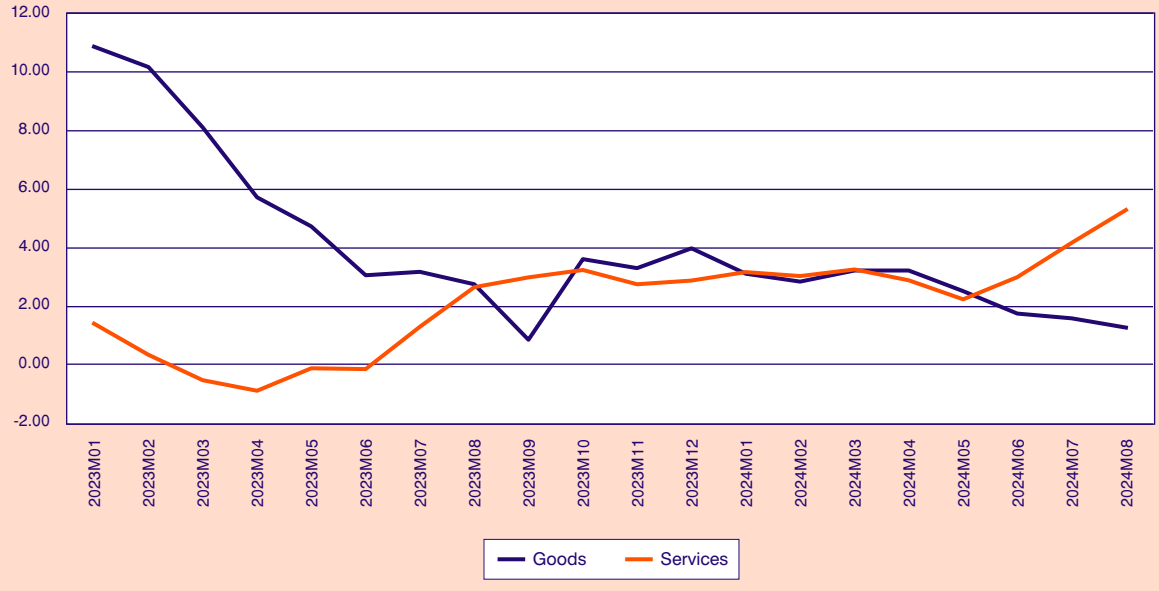
Sources: ELSTAT.

TABLE 1.2.2 Annual % changes in National CPI sub-categories, January 2024-August 2024

Groups of goods and services	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1 Food and non-alcoholic beverages	8.3	6.7	5.3	5.4	3.1	2.1	2.4	2.8
2 Alcoholic goods and tobacco	2.6	2.4	1.8	2.6	1.6	1.8	0.8	0.7
3 Clothing and footwear	3.5	1.3	5.8	4.0	6.4	4.6	4.3	6.2
4 Housing	-2.7	-0.3	0.6	-0.5	-1.6	-0.4	2.4	5.5
5 Household equipment	1.9	1.6	0.0	0.1	-0.3	-0.4	-0.2	-0.9
6 Health	5.7	3.5	4.4	3.6	2.2	2.2	1.9	3.1
7 Transport	0.2	0.5	2.0	3.2	4.0	3.2	3.5	1.5
8 Communication	-2.2	-1.9	-1.8	-1.3	-1.2	-0.7	-0.3	0.4
9 Recreation and culture	2.6	2.9	3.3	2.1	2.2	1.8	1.7	1.4
10 Education	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
11 Hotels-cafés-restaurants	6.4	6.5	6.4	5.2	5.0	5.3	6.7	6.6
12 Miscellaneous goods and services	1.7	1.7	1.3	2.3	1.1	2.2	2.0	1.9
General Index	**3.1**	**2.9**	**3.2**	**3.1**	**2.4**	**2.3**	**2.7**	**3.0**

Source: ELSTAT.

FIGURE 1.2.2
Goods and services price indices, monthly data, annual % change

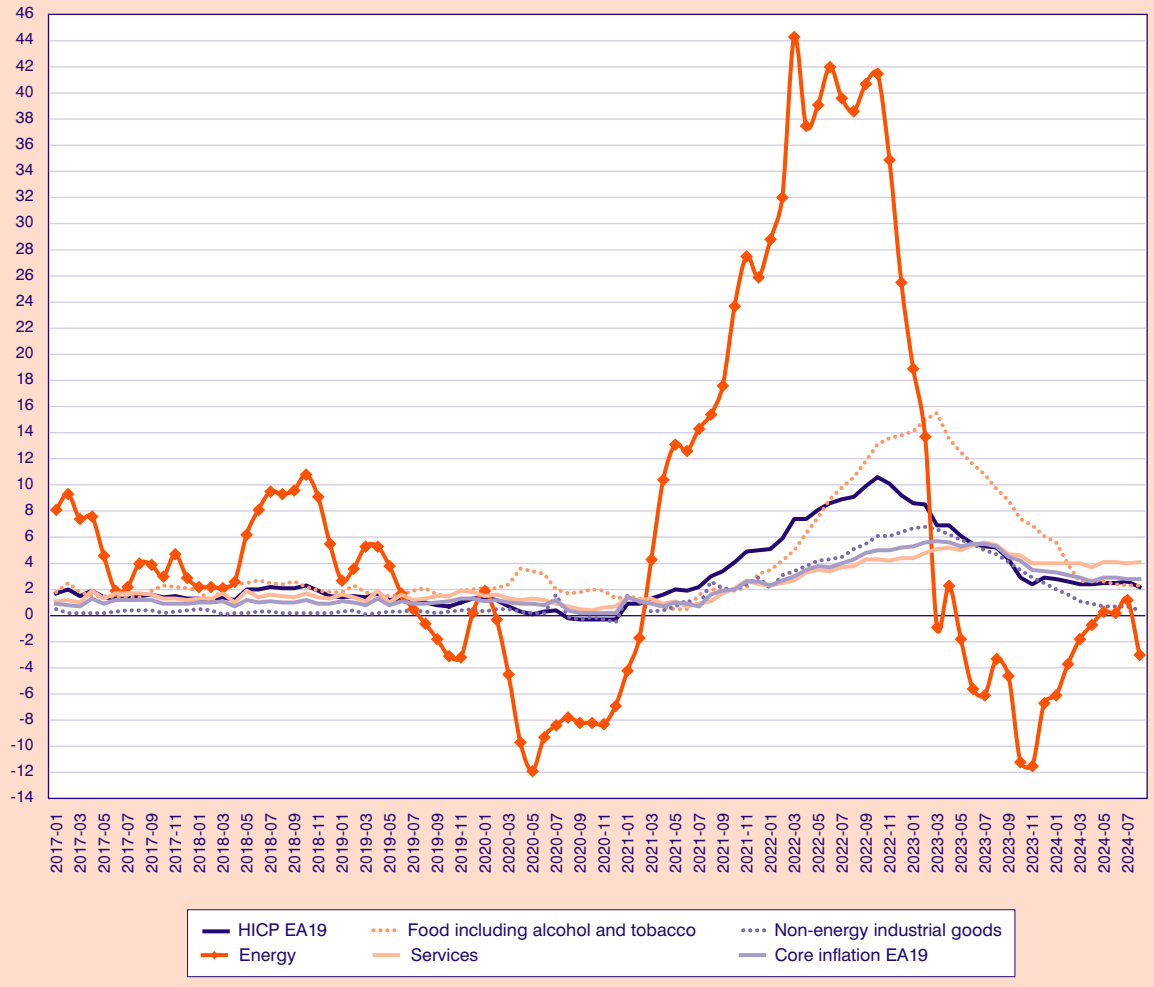


Source: ELSTAT.

- 0.4% in the group Communication, due to the increase, mainly, in the prices of telephone services.
- 1.4% in the group Recreation and culture. This increase, which is mainly due to the rise in the prices of small recreational items-flowers-pets (1.7%), recreational services (2.0%), newspapers, books and stationary (2.5%) and package holidays (7.2%), is partly offset by the decrease, mainly, in the prices of equipment for the reception, recording, and reproduction of sound and picture (-5.9%).
- 3.5% in the group Education. This increase is due to the rise mainly in the prices of fees of pre-primary and primary education (4.0%), fees of secondary education (3.6%) and fees of tertiary education (2.8%).
- 6.6% in the group Hotels-cafés-restaurants. This increase is due to the rise mainly in the prices of restaurants-confectioneries-cafés-buffets (6.7%) and hotels-motels-inns (7.6%).
- 1.9% in the group Miscellaneous goods and services. This increase, which is mainly due to the rise in the prices of hairdressing salons and personal grooming establishments (4.8%), other appliances and articles for personal care (5.4%), private insurance connected with health (14.0%) and motor vehicle insurance (5.6%), is partly offset by the decrease, mainly, in the prices of other personal effects (-3.7%).

On the other hand, prices decreased in the following groups of goods and services:

FIGURE 1.2.3
HICP in the euro area, monthly data, annual % change



Source: Eurostat.

- -0.9% in the group Household equipment. This decrease, which is mainly due to the fall in the prices of non-durable household articles (-5.1%), is partly offset by the increase, mainly, in the prices of furniture and furnishing (3.4%) and domestic services (2.6%).

1.2.2. The euro area

According to Eurostat estimates, inflation in the euro area stood at 2.2% in August 2024, compared to 2.6% in July 2024. Core inflation stood at 2.8%, the same level as in July 2024.

Among the sub-groups of goods and services of HICP, the prices in Services (4.1% vs. 4.0% in July) and the Food, alcohol and tobacco group (2.3%, same as July) recorded the highest rate of increase. Prices in Non-energy industrial goods recorded a minor increase (0.4% compared to 0.8% in July), while Energy recorded a decrease of -3.0% from a 1.2% increase in July.

Among the euro area countries, the highest inflation was recorded in Belgium (4.3%), Estonia (3.4%) and the Netherlands (3.3%), while the lowest inflation was in Lithuania (0.8%), Latvia (0.9%) and Finland (1.1%).

1.3. Factor model forecasts for the short-term prospects in GDP

Factor Model Economic Forecasting Unit
Ersi Athanassiou, Aristotelis Koutroulis, Emilia Marsellou, Theodore Tsekeris

The current section presents the updated forecasts of KEPE concerning the evolution of the rate of change of real GDP in Greece in year 2024.[1] The forecast is conducted using KEPE's dynamic structural factor model.[2] The underlying time series database used to estimate the model and produce the forecasts includes 125 variables,[3] covering the main aspects of economic activity in the country on a quarterly basis and spanning the period from the first quarter of 2000 onwards.

The additional information incorporated in the current updated forecast, as compared to KEPE's immediately preceding estimate published in June 2024, concerns the published data for the second quarter of 2024. According to these data, and more specifically based on the provisional quarterly data of the *National Accounts,* the real rate of change of the GDP of the Greek economy in the second quarter of 2024 strengthened slightly, reaching 2.3% on an annual basis, up from 2.1% in the first quarter of the year. This performance reflects the prevalence of favorable trends in a wide range of key economic variables, with the most notable development being the confirmation of expectations for the recovery of Greek exports of goods, in accordance with the gradual increase in the mean growth rate of the European economy.

Based on the above general picture from the data for the second quarter of 2024, the Greek economy presents a stable and slightly accelerating growth trajectory, with prospects for the rest of the year moving, therefore, in the same direction. On the other hand, risks arising from the external environment remain serious, as geopolitical developments still represent a dominant source of uncertainty, while several EU Member States continue to show weak economic performance, under the influence of the increased costs of living and production, high interest rates and a lack of impetus from the side of international demand. As far as Greece is concerned, these conditions do not favour the mitigation of the structural imbalances of the country's production model, with the issue of the trade balance deficit having returned to the fore, making the Greek economy more vulnerable to the possibility of external disturbances.

In the above context, Table 1.3.1 presents the updated econometric estimates for the rate of change of Greece's real GDP in 2024.[4] According to the estimates, the average annual growth rate of the Greek economy for 2024 is expected to reach 2.1%, a forecast that represents a small upward revision of KEPE's previous forecast (1.9%). For the second half of 2024, the forecast lies slightly above KEPE's previous projection, standing at 2.1% (from 1.9%), as compared to the corresponding period of 2023, and amounting to 2.2% and 1.9% (from 1.9% and 2.0%) for the third and fourth quarters of 2024, respectively. This outlook reflects the aforementioned slight strengthening of the growth rate of the Greek economy in the second quarter of 2024 and the favorable evolution of the majority of the variables incorporated in the forecast.

More specifically, for the second quarter of 2024, the quarterly data of the *National Accounts* at constant prices compared to the corresponding quarter of 2023 show a continued significant rise in private consumption, a large increase in inventories, as well as a strengthening of fixed capital investment driven mainly by an increase in investment expenditure for machinery and transport equipment. In the external sector, the rise in service exports continued, due to a further increase in receipts from tourism, while developments were also positive with respect to goods exports, following two quarters of negative rates of change. At the same time, general

1. The date of the forecast is September 18, 2024.

2. A detailed description of the model can be found in Issue 15 (June 2011, pp. 19-20) of KEPE's scientific journal entitled *Greek Economic Outlook*. See <https://www.kepe.gr/images/oikonomikes_ekselikseis/issue_15enb.pdf>.

3. The database incorporates both real economy and nominal variables, as well as a considerable number of variables reflecting expectations and assessments of economic agents, as reported in earlier issues of the *Greek Economic Outlook*. The seasonal adjustment of the time series is carried out by use of the Demetra+ software, using the TRAMO/SEATS filter.

4. According to the most recent ELSTAT *Quarterly National Accounts* publication, dated September 6, 2024.

TABLE 1.3.1 Estimated real GDP rate of change in 2024 (%, y-o-y)

	2024	
Quarters	**3rd quarter**	**4th quarter**
Quarterly rate of change	2.22 [2.09 , 2.35]	1.93 [1.68 , 2.19]
Mean rate of change, 2nd half	2.08 [1.88 , 2.27]	
Mean annual rate of change*	**2.14** **[2.04 , 2.24]**	

Note: Values in brackets indicate the lower and upper boundaries of the 95% confidence interval of the forecasts.
*The mean annual rate of change incorporates the officially available (provisional) data for the first two quarters of 2024, on a seasonally adjusted basis.

government consumption expenditure declined for yet another quarter, in the context of the adjustments pursued concerning the return to compliance with fiscal targets.

Regarding the course of indicators reflecting the activity of key sectors of the economy, developments in the second quarter of 2024 as compared to the corresponding quarter of the previous year were in most cases positive. First, in the industry sector, the overall industrial production index registered an increase, with the values of the index being boosted in all relevant subcategories and particularly in *energy* and *consumer goods*. At the same time, the turnover index in industry also followed an upward trend, with the exception of the subcategories referring to *durable consumer goods for the domestic market* and *capital goods for the external market*. In the trade sector, the volume index in retail trade showed an increase in six of the eight relevant subcategories, with the exceptions being *food, beverages, tobacco* and *furniture, electrical and household equipment*. In the tourism and construction sectors, a significant increase was observed for yet another quarter in travel receipts, while developments were also favorable in terms of the production index in construction, despite the decrease recorded in the *National Accounts* data in relation to the expenditure on investment in construction. Concerning the course of the domestic labor market, in the second quarter of 2024, a further improvement in conditions was observed, as the number of persons employed increased by 2.2% compared to the second quarter of the previous year and the number of unemployed persons decreased by 12.3%, respectively.

Concerning price data for the second quarter of 2024, developments were indicative of a further small decline in energy costs, as the European harmonized energy price index for Greece decreased compared to the previous quarter. In addition, a further improvement was recorded in relation to average inflation, with inflationary pressures remaining, however, high in key categories of consumer goods and services, such as *food and beverages*, *clothing-footwear* and *hotels-cafés-restaurants*. In terms of the yield of Greece's ten-year government bond, which is linked to the levels of uncertainty in the economy, a small increase was observed as compared to the first quarter of 2024, with the spread against the corresponding German bond remaining stable. In relation to the indicators reflecting agents' expectations and assessments regarding the economic climate in the country, developments in the second quarter of 2024, compared to the first quarter of the year, demonstrate an improvement of the economic climate in Greece and, marginally, in the EU, while business expectations in Greece improved in the industrial sector and declined in the retail trade and construction sectors.

The short-term forecasts for the evolution of the real GDP of the Greek economy in the rest of year 2024 continue to be subject to a significant degree of uncertainty, with the underlying balance of risks and opportunities remaining, nevertheless, somewhat stable. As in previous quarters, economic developments in Greece and in the EU as a whole are susceptible to serious risks arising from geopolitical tensions and the climate crisis, while also being affected by the slow unwinding of inflation and interest rates and the resulting

continuing pressures on household purchasing power and investment. On the other hand, the Greek economy is facing its own particular challenges in terms of dealing with its structural weaknesses, while also being presented with opportunities that can significantly strengthen its resilience and economic prospects. These opportunities include the gradual increase in the average growth rate of the European economy, the positive dynamics of key sectors of activity (industry, tourism, energy), and the availability of significant financial resources through the Recovery and Resilience Facility to strengthen investment and promote reforms that will contribute to maintaining a consistently positive course.

KEPE, *Greek Economic Outlook,* issue 55, 2024, pp. 23-27

1.4. Positive sign for the eight-month 2024 returns in the Greek stock market

Fotini Economou

1.4.1. Introduction

The eight months of 2024 ended with positive returns for the Greek stock market. Despite the turbulence observed in August in the international markets, there have been positive returns since the beginning of the year as well as increased capitalization and transaction values. Mid and small cap indices recorded lower returns compared to the large cap index and the Athex Composite Share Price Index, while sectoral indices presented a mixed picture, with other sectors recording impressive returns and other losses.

In the same period, the European Central Bank (ECB) made the first interest rate cut in June 2024 after consecutive increases, with interest rates recording a further decline at the September 2024 ECB meeting. Under these circumstances, bond yields in August 2024 were lower compared to June 2024, when the de-escalation of interest rates by the ECB began. Reissues and new issues of government bonds during the eight months of 2024 highlighted the increased investor interest in Greek securities, with corporate bonds also showing increased transaction values and corporate bond indices recording positive returns.

The main interest for the period under review remained the goal of Moody's rating agency returning Greece to investment grade. S&P and Scope Ratings revised the outlook for the Greek economy from "stable" to "positive" in April and July 2024, respectively, while Fitch maintained the rating of the Greek economy at BBB- with a stable outlook in May 2024. The September 2024 rating cycle displayed a positive start with the Canadian rating agency DBRS changing the outlook for the Greek economy from 'stable' to 'positive', moving one step closer to the next upgrade. A few days later, the Japanese rating agency R&I maintained the rating of the Greek economy at BBB- with a stable outlook. The September rating cycle ended with the American rating agency Moody's upgrading the Greek economy's outlook from "stable" to "positive", providing a strong positive message to the markets. This development brings the Greek economy closer to regaining the investment grade from Moody's as well, the only rating agency that has not yet given the investment grade to Greece (Table 1.4.1). The return to investment grade by Moody's would have positive effects on the stock market, further increasing investment demand for Greek securities.

This article presents a brief overview of the course of the Greek stock market during the eight months of 2024, focusing on key stock market indices and data. Moreover, the course of the bond market is presented for the same period. The final section of the article summarizes and concludes.

TABLE 1.4.1 Greece's credit rating

Rating Agency	Rating	Outlook	Date of last review
Standard & Poor's	BBB-	Positive	19/4/2024
Moody's	Ba1	Positive	13/9/2024
Fitch	BBB-	Stable	31/5/2024
DBRS Morningstar	BBBL	Positive	6/9/2024
Rating and Investment (R&I)	BBB-	Stable	9/9/2023
Scope Ratings GmbH	BBB-	Positive	12/7/2024

Source: Public Debt Management Agency (PDMA)-September 2024.

1.4.2. The course of the stock market during the eight months of 2024

The eight months of 2024 ended with positive returns for the Greek stock market. More specifically, according to ATHEX data (Table 1.4.2), the Athex Composite Share Price Index recorded a positive return of 10.68%, reaching 1,431.19 points on 30/8/2024 from 1,293.14 points on 29/12/2023. The FTSE/Athex Large Cap Index and the Athex ESG Index recorded high returns of 11.24% and 10.90%, respectively, while mid and small cap indices recorded lower but still positive returns, with the Hellenic Mid & Small Cap Index at 6.17% and the FTSE/Athex Mid Cap Index at 3.11%. The returns, although positive, are lower compared to those of the first four months of 2024, reflecting the turbulence experienced in the international stock markets in August 2024.

The picture is mixed for the ATHEX sectoral indices, with other sectors recording impressively high returns (FTSE/ATHEX INDUSTRIALS 27.80%, FTSE/ATHEX CONSUMER STAPLES 22.35%, FTSE/Athex Banks 19.22%, FTSE/ATHEX FINANCIAL SERVICES 18.48%) and other sectors recording losses (FTSE/ATHEX BASIC MATERIALS -0.32%, FTSE/ATHEX ENERGY & UTILITIES -1.95%, FTSE/ATHEX CONSUMER DISCRETIONARY -2.21%, FTSE/ATHEX REAL ESTATE -2.24%).

According to ATHEX (2024) data, the market capitalization of the ATHEX (assets under custody of domestic and foreign investors in total listed equities with the participation of the Financial Stability Fund) reached €91.85 billion at the end of August 2024 from €80.77 billion at the end of December 2023, recording an increase of 13.72%. The market capitalization increased by 14.70% compared to the end of August 2023, which was at €80.08 billion. The participation of foreign investors (with the participation of the Financial Stability Fund) remained high at 65.53% at the end of August 2024, with foreign investors recording outflows of €45.80 million and 59.70% of total transactions in August 2024. The cash value of settled transactions of August 2024 reached €2,300.41 million, recording

TABLE 1.4.2 Prices and returns for selected indices of the ATHEX (30/8/2024)

	30/8/2024	Year min	Year max	Year change (%)
FTSE/Athex Large Cap	3,473.66	3,122.79	3,665.50	11.24%
Athex ESG Index	1,632.25	1,471.77	1,722.97	10.90%
Athex Composite Share Price Index	1,431.19	1,293.14	1,505.35	10.68%
Athex All Share Index	333.24	304.60	347.29	10.34%
Hellenic Mid & Small Cap Index	2,047.93	1,881.89	2,157.15	6.17%
FTSE/Athex Mid Cap Index	2,320.72	2,054.77	2,459.55	3.11%
FTSE/ATHEX INDUSTRIALS	6,494.05	5,044.08	6,621.39	27.80%
FTSE/ATHEX CONSUMER STAPLES	6,225.47	5,069.68	6,491.28	22.35%
FTSE/Athex Banks	1,265.62	1,057.67	1,354.57	19.22%
FTSE/ATHEX FINANCIAL SERVICES	5,940.74	4,996.31	6,357.41	18.48%
FTSE/ATHEX TECHNOLOGY & TELECOMMUNICATIONS	5,503.34	4,915.95	5,705.00	8.49%
FTSE/ATHEX BASIC MATERIALS	4,854.12	4,369.10	5,876.05	-0.32%
FTSE/ATHEX ENERGY & UTILITIES	4,890.32	4,536.38	5,474.06	-1.95%
FTSE/ATHEX CONSUMER DISCRETIONARY	4,904.88	4,663.68	5,557.48	-2.21%
FTSE/ATHEX REAL ESTATE	4,849.37	4,507.00	5,120.52	-2.24%

Source: Daily official list of trading activity of 30/8/2024.

a small increase of 0.95% compared to August 2023, which was at €2,278.73 million, as well as an increase of 21.13% compared to December 2023, which was at €1,899.19 million. Furthermore, the cash value of settled transactions of equities slightly increased in August 2024 at €2,273.34 million compared to August 2023, which was at €2,254.24 million, also recording an increase for the eight months of 2024 compared to the eight months of 2023, at €21,344.38 million from €17,491.18 million, respectively.

Examining the uncertainty about the short-term course of the market with the help of the KEPE GRIV Implied Volatility Index, the so-called "fear" index, an increase in uncertainty was observed at the end of August 2024 compared to the end of 2023, with fluctuations within the eight months of 2024. The KEPE GRIV index reflects the uncertainty of the derivatives market participants about the expected short-term course of the Greek market and is calculated on the basis of the FTSE/Athex Large Cap options prices. More specifically, the KEPE GRIV index increased in August 2024, reaching 26.85% on 30/8/2024, from 23.09% on 31/7/2024 and 23.86% on 29/12/2023. Moreover, the average daily value of the index increased, reaching 28.10% in August 2024, from 24.51% in July 2024. On 30/8/2024, the index was below its historical average level (since January 2004) for the Greek market, which stands at 32.13%. The evolution of the index indicates an increase in uncertainty for the expected short-term course of the Greek market compared to the end of 2023, with fluctuations within the eight months of 2024.

1.4.3. Greek Government T-bills, Greek Government bonds and corporate bonds during the eight months of 2024

ECB monetary policy decisions remain at the center of interest as they largely influence the course of the bond market. After ten consecutive increases in key interest rates by the ECB from July 2022 until September 2023,[1] when the last increase was recorded, with the aim of the timely return of inflation to the ECB's medium-term target of 2%,[2] the ECB decided on the first interest rate cut since 2019 at its June 2024 meeting[3] (main refinancing operations 4.25%, marginal lending facility 4.50%, and deposit facility 3.75%), with the ECB Governing Council "determined to ensure that inflation returns to its 2% medium-term target in a timely manner" and to "keep policy rates sufficiently restrictive for as long as necessary to achieve this aim". Even though the interest rates remained unchanged in the next ECB meeting of July 2024,[4] a new interest rate cut was recorded in the ECB meeting that followed in September 2024,[5] with the main refinancing operations rate, the marginal lending facility rate, and the deposit facility rate at 3.65%, 3.90% and 3.50%, respectively.

Under these circumstances, by examining the issues of Greek Government T-bills during the eight months of 2024 (Table 1.4.3), it is observed that their yields decreased compared to the end of 2023 for 13-, 26- and 52-week T-bills, with the largest decrease recorded for the 26-week T-bills. Furthermore, looking at the interest rates of the Greek Government benchmark bonds, according to Bank of Greece data for the eight months of 2024 (Figure 1.4.1), we notice that the average monthly yield of the Greek government bonds was clearly lower for all maturities in August 2024 compared to June 2024, when the ECB started the de-escalation of interest rates, with the largest decrease recorded for the 3-year bond. Moreover, compared to December 2023 yields, the average monthly Greek government bond yield in August 2024 was decreased for 3-, 5-, 7-, 15- and 20-year bonds, with the 3-year bond recording the largest decrease, while the 10- and 30-year bond yields increased, with the 30-year bond recording the largest increase.

The recovery of the investment grade for Greece since 2023 and the development of interest rates in view of the monetary policy easing were expected to be reflected in the increased investment interest. This was already observed in the successful issues of the first months of 2024 (including the issue of a new 10-year and 30-year bond)[6] to the most recent issues (the re-issue of the five-year bond[7] in July 2024, as well as the 10-year bond[8] re-issues of May and of June 2024).

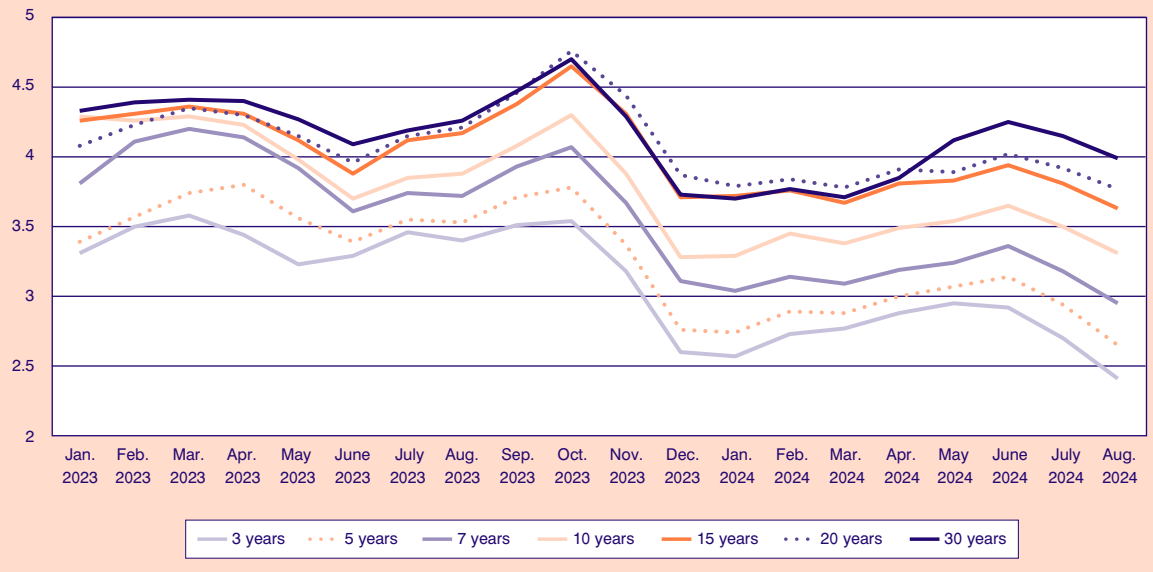
1. See Information about the ECB interest rates, Bank of Greece.
2. See ECB Press Release of the 14th September 2023.
3. See ECB Press Release of the 6th June 2024.
4. See ECB Press Release of the 18th July 2024.
5. See ECB Press Release of the 12th September 2024.
6. See Public Debt Management Agency announcement of 30/1/2024 and 24/4/2024.
7. See Public Debt Management Agency announcement, July 17, 2024.
8. See Public Debt Management Agency announcement, May 22, 2024 and June 19, 2024.

TABLE 1.4.3 Greek Government T-bills yields (issues from the end of 2023 to August 2024)

Date	13 weeks	Date	26 weeks	Date	52 weeks
31/7/2024	3.23%	21/8/2024	3.09%	5/6/2024	3.34%
3/7/2024	3.42%	24/7/2024	3.30%	6/3/2024	3.73%
30/4/2024	3.67%	26/6/2024	3.44%	6/12/2023	3.70%
3/4/2024	3.75%	29/5/2024	3.55%		
31/1/2024	3.83%	24/4/2024	3.69%		
3/1/2024	3.84%	27/3/2024	3.75%		
1/11/2023	3.88%	21/2/2024	3.83%		
		24/1/2024	3.77%		
		27/12/2023	3.87%		

Source: Ministry of Economy and Finance.

FIGURE 1.4.1
Monthly average yield (%) of Greek Government benchmark bonds (Jan. 2023 – Aug. 2024) for maturities of 3, 5, 7, 10, 15, 20 and 30 years



Source: Bank of Greece.

The increase in the raising of medium- and long-term[9] funds from the international capital markets should also be noted.

The ATHEX corporate bond indices also completed the eight months of 2024 with positive returns. According to ATHEX data, the Hellenic Corporate Bond Price

9. See Public Debt Management Agency Quarterly Bulletin No110 and No 114, for the first semester of 2023 and 2024, respectively.

Index[10] recorded a return of 2.12% and the Hellenic Corporate Bond Index[11] a return of 4.40% for the eight months of 2024.[12] Furthermore, the cash value of settled transactions of corporate bonds increased in August 2024 compared to August 2023, reaching €16.33 million from €15.35 million, respectively, also recording an increase for the eight months of 2024 compared to the eight months of 2023, at €210.13 million from €148.81 million, respectively.

1.4.4. Conclusion

The eight months of 2024 ended with a positive sign for the Greek stock market. Despite the turbulence observed in August 2024 in international markets, positive returns, as well as increased capitalization and transaction values were recorded since the beginning of the year. Mid and small cap indices recorded lower returns compared to the large cap index and the Athex Composite Share Price Index, while sectoral indices presented a mixed picture, with other sectors recording high returns and other losses. The positive effects of the recovery of the investment grade in 2023 and the start of the interest rate de-escalation by the ECB in June 2024 were reflected in the government bond market with increased investment interest and reduced yields. Corporate bonds also recorded increased transactions value, with the corporate bond indices recording positive returns since the beginning of the year. The immediate goal remains the return to the investment grade by the Moody's rating agency, with the recent improvement of the outlook of the Greek economy from "stable" to "positive" bringing Greece one step closer to this goal.

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10. Based on the net price of each bond.

11. Based on the net price, accrued interest and the value of the payments of each bond.

12. Returns on 28/8/2024 according to the daily official list of trading activity of the ATHEX of 30/8/2024.

KEPE, *Greek Economic Outlook,* issue 55, 2024, pp. 28-30

1.5. Recent developments and prospects of global economic activity: The global economy on a stable growth trajectory

Aristotelis Koutroulis

The global economy moves along a path of gradual recovery. However, the high interest rates and the escalation of geopolitical tensions in Eastern Europe and the Middle East pose serious threats to global economic activity.

In the 1st half of the year, the global economy demonstrated remarkable resilience against adverse financial conditions and the escalation of geopolitical tensions in Eastern Europe and the Middle East. The strengthening of economic activity was helped by robust consumer spending in major economies with high employment rates, increased real wages and improved household portfolios providing a boost to private consumption.

In 2024, the global GDP growth rate is estimated to exceed 3 percentage points, reaching 3.2% (see Table 1.5.1). This upward revision of global economic growth projections is linked to the better-than-expected performance of the US economy and the improvement of short-term growth prospects in the United Kingdom, Brazil and India. Although the US and Chinese economies are set to slow over the next year, this slowdown is expected to be offset by stronger economic performance in Canada, Japan, Europe, Argentina, Brazil and South Africa. Against this backdrop, the annual rate of change of global GDP in 2025 will remain close to the 2024 levels (see Table 1.5.1).

Overall, the global economy appears to be following a stable growth trajectory. Nevertheless, global GDP growth rates remain lower than the average annual growth rate of the 2001-2019 period. This is due to escalating geopolitical unrest, high interest rates and limited fiscal space. In particular, the first two factors are the major source of risks and uncertainty that threaten the orderly functioning of the global economy (OECD, 2024).

Regarding price developments, global inflation continued to moderate throughout the first half of 2024. In many advanced economies, despite rising nominal wages and upward price pressures in the services sector, inflation is gradually approaching the target levels of central banks (see Table 1.5.2). A fall in inflation is also recorded in several economies of the developing world. However, in this group of countries inflation levels remain higher than in advanced economies. An exception is China's economy where inflation is low due to weak domestic demand (UN, 2024).

Looking ahead, inflation is set to moderate further in most economies. However, this projection is subject to significant risks. These include the possibility of renewed upward pressure on the prices of energy products and other basic commodities due to a generalization of hostilities in the Middle East region.

Inflation moderation has increased the room for a gradual easing of monetary policy in most advanced economies. Indeed, several central banks, such as the European Central Bank, have already proceeded with small interest rate cuts. Still, the persistence of core inflation and especially service price inflation prevents monetary authorities from a bold rate cut.

In contrast to monetary policy margins, fiscal policy margins have narrowed. The large public debts inherited by several economies during the pandemic period combined with the high interest rates prevailing worldwide have increased the share absorbed by public debt servicing at the expense of public spending for investment and social purposes. Under these circumstances, fiscal policy in 2024 appears to be tighter with more than half of economies demonstrating lower public deficits than in 2023 (UN, 2024).

As for employment, the steady decline in the number of job vacancies per unemployed person combined with the small rise in unemployment suggests that the tight conditions in labor markets in advanced economies are beginning to ease. This conclusion is also reinforced by labor force surveys which reveal a reduction in labor force and skill shortages (OECD, 2024). The reasons that explain this picture are related to the weakening of labor demand and the increase in supply (partly due to the increase in migration flows from developing to advanced economies) (OECD, 2024).

Regarding international trade, the high demand for industrial products, especially those related to energy and artificial intelligence, and more generally, the rise of manufacturing activity worldwide, has led to an

TABLE 1.5.1 Real Gross Domestic Product
(annual percentage changes)

	2023*	2024**	2025**
World Economy	3.1	3.2	3.2
USA	2.5	2.6	1.6
Euro Area	0.5	0.7	1.3
Japan	1.7	-0.1	1.4
United Kingdom	0.1	1.1	1.2
Brazil	2.9	2.9	2.6
Russia	3.6	3.7	1.1
India	8.2	6.7	6.8
China	5.2	4.9	4.5

Source: OECD (2024).
* Estimations, ** Projections.

TABLE 1.5.2 Inflation
(annual percentage changes)

	2023*	2024**	2025**
USA	3.7	2.4	1.8
Euro Area	5.4	2.4	2.1
Japan	3.3	2.5	2.1
United Kingdom	7.3	2.7	2.4
Brazil	4.6	4.4	4
Russia	6	7.8	5.5
India	5.4	4.5	4.1
China	0.3	0.3	1

Source: OECD (2024).
* Estimations, ** Projections.

increase in global commodity flows. Global services trade continues to grow, albeit at a slower pace, as global tourism has almost returned to its pre-pandemic levels (UN, 2024).

References

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2. Fiscal developments

KEPE, *Greek Economic Outlook,* issue 55, 2024, pp. 31-37

State Budget, public debt and fiscal figures perspectives

Elisavet I. Nitsi

2.1. The 2024 State Budget execution and the 2025 Preliminary Draft State Budget

The 2025 Preliminary Draft State Budget was recently submitted to the Greek Parliament. The Draft, in addition to the 2025 Budget, also contains estimations of both the macroeconomic figures and the execution of the 2024 Budget. Table 2.1.1 presents the State Budget data of 2024 and 2025.

The 2024 State Budget execution

For the present year, 2024, and according to the data from the 2025 Draft Budget and the European System of Accounts (ESA), the country's real Gross Domestic Product (GPD) growth rate is estimated to reach 2.2%, the same as the European Commission's Spring economic forecast. This forecast of the Ministry of Finance is related to the increase in investments and private consumption. The increase in gross value added is also significant, reflecting the upward trend of the Greek economy.

The 2024 fiscal figures of the 2025 Draft Budget display a deviation from the forecasts of the 2024 Budget forecasts, as it was submitted. The primary State Budget result is estimated to be a surplus of 4.3 billion euros (1.9% of GDP), against 2.5 billion euros, i.e., 1.8 billion euros more (0.8% of GDP) than was foreseen in the 2024 State Budget Introductory Report. Compared to 2023, when the primary deficit reached 2.2 billion euros (1.0% of GDP), the improvement amounts to 2.1 billion euros (0.9% of GDP). The State Budget overall result is estimated to be a deficit of 5.4 billion euros (2.3% of GDP), against a deficit of 6.3 billion euros, i.e., 823 million euros less (0.3% of GDP) than was foreseen in the 2024 State Budget Introductory Report. Compared to 2023, when the Central Government deficit reached 6.8 billion euros (3.1% of GDP), the improvement amounts to 1.4 billion euros (0.7% of GDP).

More specifically, revenues are expected at 70.8 billion euros (30.5% of GDP), increased by 5.6 billion euros or 8.5% compared to the 2023 Budget forecast, and 2.4 billion euros or 3.5% compared to 2024 Budget forecast. This increase will mainly occur from tax collection and more specifically from VAT of 1.8 billion euros or 7.7%, personal income tax of 1.5 billion euros or 11.6%, business income tax of 617 million euros or 8.6%, as well as transfers of 1.2 billion euros or 22.2%. The increase in tax collection is mainly due to a decrease in tax evasion combined with an increase in electronic transactions, as revenues from corporate income tax and VAT increased in relation to the 2024 Budget forecast and an increase in wages, which increased the income of employees and thus also the personal income tax return.

Revenues from the Public Investment Program (PIP) decreased by 786 million euros or 16.8% compared to the 2024 Budget forecast, while they increased from 2023 by 716 million euros or 22.6% from 2022. In contrast, the Recovery and Resilience Fund's revenue increased by 1.2 billion euros or 64.8% compared to the 2023, while they did not deviate compared to 2024 Budget forecast.

Accordingly, the expenditures are estimated at 76.2 billion euros (32.9% of GDP), increased by 1.6 billion euros or 2.1% from the 2024 Budget and 4.2 billion euros or 5.8% from 2023. This increase arises mainly from interest paid, by 984 million euros or 11.2%; transfers, by 797 million euros or 2.5%; and purchases of goods and services, by 466 million euros or 28.7%, from the 2024 State Budget forecast. From 2023, there is an increase in non-allocated expenditure by 3.1 billion euros or 26.7%; compensation of employees, by 884 million euros or 6.3% and interest paid, by 684 million euros or 7.5%. This increase is primarily due to the increase in State Budget expenditures for dealing with natural disasters and helping those affected, financing program actions to deal with the accuracy, demographic and housing issues, the energy crisis and other emergency needs.

Finally, Public Investment Program (PIP) spending increased by 900 million euros or 10.5% compared to the

TABLE 2.1.1 State Budget figures according to the European System of Accounts Methodology (ESA), million €

	2023	2024		2025
	DYE April 2024	Budget forecast 2024	Preliminary Draft Budget estimate 2025	Preliminary Draft Budget forecast 2025
State Budget				
Net Revenue	**65,231**	**68,379**	**70,788**	**74,612**
Revenue	62,466	62,960	66,247	68,721
Taxes	23,454	24,379	25,254	26,508
From which:				
VAT	7,018	7,067	7,192	7,239
Excise taxes	2,485	2,487	2,434	2,395
Personal income tax	12,705	13,337	14,174	15,052
Business income tax	7,175	6,696	7,792	7,972
Other current taxes	2,539	2,428	2,501	2,545
Social contributions	58	56	58	58
Transfers	5,572	6,902	6,810	8,996
Sales of goods and services	732	889	802	1,021
Other current revenue	3,284	4,138	3,893	3,133
Sales of fixed assets	2	23	38	5
Tax refunds	6,888	6,588	7,059	7,322
Expenditure[1]	**72,058**	**74,632**	**76,218**	**80,562**
Compensation of employees	14,039	14,833	14,923	14,682
Social benefits	417	411	368	404
Transfers	33,108	32,282	33,079	34,203
Purchases of goods and services	2,334	1,626	2,092	1,837
Subsidies	118	81	76	81
Interest payments (gross basis)	9,100	8,800	9,784	9,356
Other current expenditure	49	111	150	101
Non-allocated expenditure (without PIP)	11,627	15,210	14,726	18,152
Purchase of fixed assets	1,266	1,277	1,020	1,748
Public Investment Program (PIP)[2]				
Revenue	3,166	4,668	3,882	4,300
Expenditure	9,112	8,550	9,450	9,200
Recovery and Resilience Fund[3]				
Revenue	1,913	3,144	3,152	4,450
Expenditure	2,089	3,617	3,617	5,140

TABLE 2.1.1 (continued)

	2023	2024		2025
	DYE April 2024	Budget forecast 2024	Preliminary Draft Budget estimate 2025	Preliminary Draft Budget forecast 2025
State Budget Primary Balance by ESA[4]	**2,247**	**2,547**	**4,322**	**3,406**
% GDP	1.0%	1.1%	1.9%	1.4%
State Budget Balance by ESA[4]	**-6,828**	**-6,253**	**-5,430**	**-5,950**
% GDP	--3.1%	-2.7%	-2.3%	-2.5%
GDP	**220,303**	**233,775**	**231,904**	**242,338**

Sources: Preliminary Draft State Budget 2025, Ministry of Finance.
State Budget Introductory Report 2024, Ministry of Finance.

Notes:
1. The Central Administration expenditures are analyzed according to the major categories of the p.d. 54/2018 (A' 103).
2. PIP revenues are included in transfers and other current revenues, while PIP expenses are included in appropriations under allocation.
3. The Recovery and Resilience Fund revenues are included in the transfers, while the corresponding expenses are included in the appropriations under allocation.
4. Deficit (-)/Surplus (+)

2024 Budget estimate and 338 million euros or 3.7% compared to the 2023 PIP spending, while expenditures of the Recovery and Resilience Fund increased compared to the 2023 expenditures (1.5 billion euros or 73.1%), but the provision made in the 2024 Budget is accurate.

Preliminary Draft Budget 2025

Regarding the 2025 Preliminary Draft Budget, the macroeconomic forecast for the country's GDP growth rate is 2.3%, higher only by 0.1% compared to 2024. However, it should be noted that this forecast is higher than the Eurozone average (1.4% according to the European Commission's Spring forecasts and 1.5% according to the IMF forecasts). Despite the unfavorable economic, climatic, and geopolitical environment, with the limitation of fiscal support after the pandemic and the energy crisis and contractionary monetary policies, as well as the effects of the wars in Ukraine and the Middle East and the effects of the climate crisis that have a negative impact on economic activity, the Greek economy remains resilient in terms of GDP growth rate, with investments and private consumption being the driving forces.

In fiscal terms, the 2025 Preliminary Draft foresees a small improvement of the State Budget's deficit with a simultaneous increase of revenues, but in the context of fiscal stability, due to the increase in expenditures that is predicted to exceed the increase in revenues, compared to the estimate for 2024. The State Budget's result, according to the ESA, will be restricted to a deficit of 6.0 billion euros (2.5% of GDP), increased by 520 million euros or 9.6% compared to the 2025 Preliminary Draft Budget estimate, while the primary result will be a surplus of 3.4 billion euros (1.4% of GDP), reduced by 916 million euros or 21.2%.

More specifically, net revenues, expected to reach 74.6 billion euros (30.8% of GDP), are increased by 3.8 billion euros or 5.4%. The increase in revenue is projected to come mainly due to the economy's projected growth, leading to increased VAT collectability, by 1.3 billion euros or 5%, and transfers, by 2.2 billion euros or 32.1%, mainly due to the increased, ESA-adjusted revenues of the RRF by 1.3 billion euros and the co-financed part of the PIP by 418 million euros or 10%. Expenditures will reach 80.6 billion euros (33.2% of GDP), increased by 4.3 billion euros or 5.7% compared to the 2025 State Budget Draft estimates for 2024 and will arise primarily from non-allocated expenditures (3.4 billion euros or 23.3% more

than in 2024) and, secondly, from transfers (1.1 billion euros or 3.4%). In addition, 3.4 billion euros are expected from the Recovery and Resilience Fund, which will be used for the implementation of actions included in the National Recovery and Resilience Plan "Greece 2.0", as well as 9.2 billion euros from the PIP, mainly through the execution of programs that are part of the new NSRF 2021-2027, as well as the financing of rebuilding and new infrastructure projects due to natural disasters.

2.2. The evolution of Greek public debt, second quarter 2024

According to the latest data available from the Public Debt Management Agency,[1] on 30/6/2024 the General Government's debt amounted to 355.9 billion euros, reduced by 35 million euros compared to the previous quarter and by 783 million euros (0.2%) from the end of 2023. The debt has a fixed interest rate, and the weighted average duration is 19.24 years. The average repricing duration is 18.77 years, while the servicing cost on a cash basis including Swaps is 1.32%. The net debt result of the General Government, without cash reserves (which amounted to 34 billion euros), reached 322 billion euros in the period under review. The net debt of the General Government increased by 1.7 billion euros (0.8%) from the previous quarter, while it decreased by 1.1 billion euros (0.3%) compared to the end of 2023.

Regarding the Central Government's debt, it amounted to 407.1 billion euros, showing an increase of 1.5 billion (0.4%) compared to the previous quarter and 2.4 billion (0.6%) compared to the corresponding quarter of 2023. In addition, cash deposits decreased by 250.2 million (1.3%) compared to the previous quarter and 2.1 billion euros (9.9%) compared to the end of 2023, while it decreased by 479 million (2.4%) compared to the corresponding quarter of 2023.

The composition of Central Government debt in the second quarter of 2024 is presented in Table 2.2.1. The Central Government's debt was structured in fixed interest and euros. There is a change in the composition of debt in favor of negotiable debt over non-negotiable, compared to the previous quarter (395 million or 0.4%), to the end of 2023 (3.4 billion or 3.3%), and to the corresponding quarter of 2023 (6.7 billion or 9.8%). Finally, guarantees of the Greek State stood at 28.3 billion euros, decreased by 445 million euros (1.6%) compared to the previous quarter, 439.6 million euros or 1.5% compared to the end of 2023 and 1.2 billion euros or 4% from the corresponding quarter of 2023.

The distribution of the debt, based on its remaining duration in the first half of 2023, is reflected in Table 2.2.2. Short-term Greek government securities (with a maturity of less than one year) represent 17.6% of the total, against 12.1% from the medium-term securities (with a maturity of one to five years), and 71.2% from long-term issues (maturity after five years) from 17.2%, 12% and 70.8%, respectively, in the previous quarter of 2024. Compared to the corresponding quarter of 2023, an increase in the share of medium-term and long-term securities and a corresponding reduction in short-term securities is exhibited

The average residual maturity of the total Central Government debt stood at 16.82 years, slightly increased from that of 17.18 years in the corresponding quarter of 2023. It should be noted that the average residual maturity of the total Central Government debt has tripled since the country's entry into the support mechanism, which amounted to 7.65 years in the second quarter of 2010. Furthermore, regarding the new borrowing of the Greek government during the reporting period, the weighted average maturity rose to 16.77 years, an increase from the level of 12.80 years at which it had formed in 2023.

The new borrowing for the first half of 2024 decomposes to 53.5% of treasury bills and 46.5% of fixed bonds (Graph 2.2.1).

Graph 2.2.2 shows the redemption schedule of the Central Government debt based on the latest published data. From the display of newer data, it seems that apart from the current year (2024), the dispersion of the burden of redemption of public debt has now leveled, with few exceptions, at less than 15 billion euros per year until 2070.

2.3. Fiscal figures perspectives

The 2025 Draft Budget was drawn up in a period of high uncertainty with successive risks, which cannot be foreseen, and with the new framework of EU rules, where any flexibility due to the pandemic and the energy crisis has been significantly reduced, as the new fiscal rules implemented clearly define the margins for annual expenditure increases, as recorded in the Medium-Term Fiscal-Structural Plan 2025-2028.

1. *Public Debt Bulletin,* June 2024, General Accounting Office, Ministry of Finance.

TABLE 2.2.1 Composition of Central Government debt[1] (in million €)*

Period	2023 (B΄ quar.)	2023 (D΄ quar.)	2024 (A΄ quar.)	2024 (B΄ quar.)
Outstanding Central Government debt	**404,685.60**	**406,522.91**	**405,540.58**	**407,059.67**
Debt by type of interest rate				
Fixed rate[2]	404,685.60	406,522.91	405,540.58	407,059.67
Floating rate[2,3]	0.00	0.00	0.00	0.00
Debt by way of trading				
Tradable	99,147.97	102,443.77	105,440.55	105,835.51
Non-tradable	305,537.63	304,079.14	300,100.03	301,224.16
Debt by currency				
Eurozone	404,685.60	406,522.91	405,540.58	407,059.67
Non-Eurozone currencies	0.00	0.00	0.00	0.00
Cash deposits of the H.R.[4]	**19,655.20**	**21,272.80**	**19,426.70**	**19,176.5**
Debt guaranteed by the Central Government	**29,432.30**	**28,697.90**	**28,704.30**	**28,258.33**

Source: Public Debt Bulletin, General Accounting Office, Ministry of Finance.

Notes:
1. Central Government debt differs from General Government debt (Maastricht definition) by the amount of intra-sectoral debt holdings and other ESA '95 adjustments.
2. Fixed/floating ratio is calculated taking into account: i) interest rate swap transactions, ii) the use of funding instruments by the ESM regarding the loans that have been granted to the Hellenic Republic and iii) the incorporation of the risk metrics of the EFSF's liability portfolio into the Greek debt portfolio.
3. Index-linked bonds are classified as floating rate bonds.
4. Including balance of dedicated cash buffer account, 15,697.3 million euros on 31/3/2023 and 30/6/2023.
* Estimates.

Despite the international uncertainty, the forecast for growth in 2024 at 2.2% and 2.3% in 2025 can be considered feasible, as it is supported by most International Organizations' forecasts, with investments and private consumption being the main driving forces. The smaller deficit, less than the reference value of 3% of GDP, as well as the continuous reduction of the debt-to-GDP ratio also contribute. In addition, the recovery of the investment grade and the improved prospect of the Greek economy's extroversion is strengthening its prestige and credibility and may further improve both investments and interest in Greek bonds. Moreover, the acceleration of the implementation of the "Greece 2.0" projects and the investments covered by grants and loans of the Recovery and Resilience Fund, the structural reforms in the markets of goods and services, as well as the labor market, will contribute to the achievement of the growth rate forecast for 2025. Finally, the faster-than-expected de-escalation of inflation and the strengthening of the competitiveness of the financial system may also have a positive effect on growth.

However, in addition to the positive conditions for the Greek economy, there are uncertainties and risks that can negatively affect its growth rate. The most important risk comes from the threat of a new round of energy crisis that seems very feasible after the latest escalation in the Middle East. In the last period, the oil price fluctuated at high levels, while there are projections that it will reach a price range of 90 to even 100 dollars a barrel if the situation in the Middle East derails. Such an increase would lead to a new acceleration of inflation and would limit the economic development path, creating significant discrepancies in the fiscal forecasts

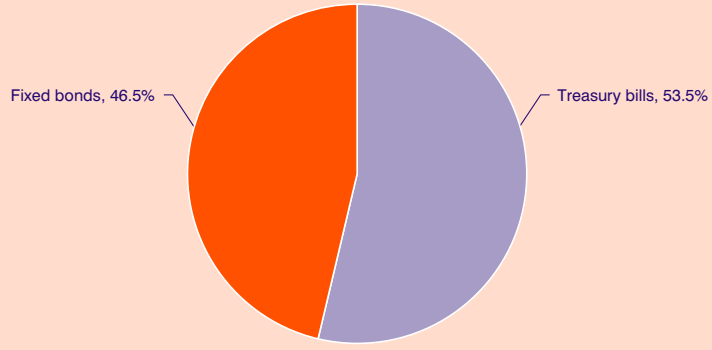
TABLE 2.2.2 Budgetary Central Government debt by residual maturity (amounts in mil. €)*

Period	2023 (B΄ quar.)	2023 (D΄ quar.)	2024 (A΄ quar.)	2024 (B΄ quar.)
Total amount	**404,685.60**	**406,522.91**	**405,540.58**	**407,059.67**
Short-term (up to 1 year)	71,385.66	71,986.49	69,797.43	67,783.96
Medium-term (1 to 5 years)	48,205.73	45,536.20	48,801.48	49,429.50
Long-term (more than 5 years)	285,094.21	289,000.22	286,941.67	289,846.21

Source: Public Debt Bulletin, General Accounting Office, Ministry of Finance.

* It concerns the volume of bonds, treasury bills and short-term securities and not the total debt of the Central Administration.

GRAPH 2.2.1
Composition of new borrowing, A΄ Semester 2024



Source: Public Debt Bulletin, General Accounting Office, Ministry of Finance.

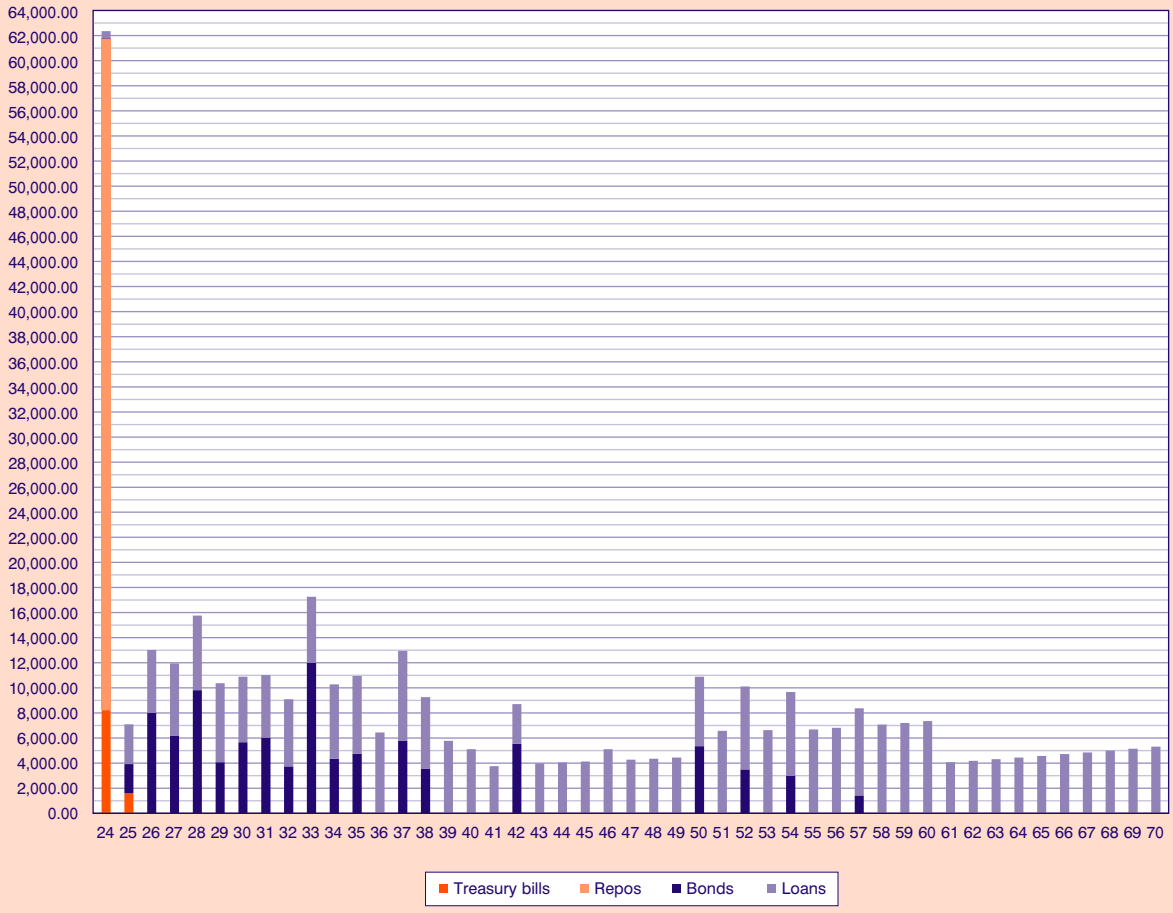
of the draft Budget and the Medium-Term Fiscal Plan 2025-2028, which are done based on a scenario that the barrel will fluctuate at 80 dollars. In addition, the war in the Middle East creates barriers to trade with negative consequences for development.

In addition, the need to deal with the climate crisis consequences on a permanent basis creates a need to allocate funds in the country's Budget to strengthen security with restoration and new infrastructure projects, the strengthening of civil protection and prevention, as well as state aid.

For the fiscal figures, increased revenues are foreseen with the increase in tax collections, both direct (increase in income tax due to growth and increased incomes) and indirect (increased revenues from VAT due to inflation and increased private consumption). At the same time, expenses are also expected to increase, as it is necessary not only to provide funds to deal with natural disasters, fires and floods, a possible new energy crisis, but also to finance reforms whose main objectives are to increase disposable income both from wage and pensions increases and from the reduction of insurance contributions.

As for public debt, it is expected to de-escalate to 149.1% of GDP in 2025. Although the debt-to-GDP ratio is decreasing, in nominal terms the debt shows a stabilizing trend. This is due to the growth of the Greek economy and not to the reduction of the debt. Of course, this forecast also follows the assumptions about the growth of the economy.

GRAPH 2.2.2
Redemption schedule of Budgetary Central Government Debt on 31/3/2024 (amounts in million euro)



Source: Public Debt Bulletin, General Accounting Office, Ministry of Finance.

Notes: Buy-backs are scheduled for the smoothening of redemptions. Including extension of EFSF loans agreed on at the Eurogroup of 22-6-2018.

3. Human resources and social policies

KEPE, *Greek Economic Outlook,* issue 55, 2024, pp. 38-45

3.1. Recent developments in key labour market variables

Ioannis Cholezas

3.1.1. Introduction

At the time of writing, data from ELSTAT's Labour Force Survey were available up to the second quarter of 2024 and data for paid employment from the ERGANI information system were available for the first half of the year. Thus, the analysis that follows relies on and is restricted by those data.

Therefore, based on the data analysed, the labour market continued to improve in the first half of 2024, with employment increasing and unemployment decreasing on an annual basis with a parallel increase in the number of labour force participants. On the downside, the population continue to decrease, a phenomenon which needs to be studied further. On the other hand, the increase in the participation of women in the labour market in recent years is a positive development, even though the participation rate still falls short of the European average. Developments are also positive in the field of paid employment, which continued to expand in the first half of 2024 with a historically high positive balance of flows, while the reduction in conversions of full-time contracts to rotating employment contracts without the consent of the employee is another fact that causes optimism. Finally, the impressive increase in job vacancies recorded in the first quarter of the year did not continue in the second quarter. The comparison with the EU-27 countries is sometimes favourable and sometimes unfavourable. However, what one should keep in mind are the important differences between sectors in the Greek economy, and between businesses of different sizes.

3.1.2. Labour Force Survey

The first six months of the year show continued population decline with little variation between age groups. The number of employed people increased, further closing the gap compared to the pre-crisis period and driving the employment rate to a new maximum. Correspondingly, the number of unemployed people decreased, causing the unemployment rate to fall below 10%. However, gender and age differences remain a concern, although these narrowed compared to the same period last year.

Population

The decrease in the number of people aged over 15 continued in the second quarter of 2024, both on an annual and a quarterly basis. Compared to the second quarter of 2023 (2023Q2), the decrease reached 0.7% for the age group 15–64 (48 thousand people), while compared to 2024Q1, the decrease reached 0.2% (17.9 thousand people). Thus, there were 6.558 million people aged 15-64 and 9.020 million people aged 15+ in 2024Q2. The biggest proportional annual decrease involved people aged 30-44 by almost 73 thousand (3.7%), while the maximum increase involved people aged 25-29 (9.9 thousand or 1.7%), followed by the 15-19 age group (9.2 thousand or 1.6%). The age composition of the population remained almost unchanged. Only the share of the 30-44 age group changed by more than half a percentage point. Moreover, the number of women in the population decreased to a greater extent (0.9%) compared to men (0.5%). Note that part of the decrease in the 30-44 age group may be due to the emigration from the country of either natives or foreigners. The number of the latter seem to have declined much faster than the natives on an annual basis (14.4% decrease vs. 0.1%).

On a year-on-year basis, it is difficult to observe significant population changes. When the time span increases, however, they become apparent. Thus, since

2008, the population decreased by 806.7 thousand people (or 11%), while in the last decade the decrease reached 6.9%, which is equivalent to 489 thousand fewer people aged 15-64.[1] The biggest reductions are found in the age group 20-44. For example, the number of people aged 30-44 has decreased by more than 22% in the last ten years. On the contrary, the number of people over 65 increased significantly, reaching 10% in the last ten years. These findings suggest that the problem is twofold. On the one hand, the population is ageing, due to the increase in life expectancy and the reduction in the birth rate. On the other hand, the number of people of productive age is decreasing. Foreigners contributed the most to this phenomenon, and seem to have left the country en masse since the economic crisis; approximately 40% of all outflows in the period 2008-2024 involved foreigners, leading to a proportional decrease of their number of over 57%. On the other hand, the increase of more than 10% in people aged 15-19 in recent years is an optimistic note, but, at the same time, it constitutes a challenge, as ways must be found to keep them in the country in the years to come.

The Employed

The number of employed people over the age of 15 increased from the first quarter of the year by 154.4 thousand, due to the seasonal strengthening of economic activity, which is typical in the second quarter. A better picture of the evolution of the employed over time, however, can be obtained when examining the annual change. Employed persons aged 15-64 in the second quarter of 2024 reached 4.199 million, up by 78.6 thousand (1.9%) compared to the second quarter of 2023. The increase of 11%, i.e., 12.7 thousand, of those employed over the age of 65 was spectacular. The new pensioner employment framework, established by Law 5078/2023 and implemented on January 1, 2024, may also have contributed to this. Note that the corresponding increase in the period 2022Q2-2023Q2 was less than 5 thousand people, i.e., approximately 4.5%.[2] However, it should be stressed that the increase in the number of the employed aged 65+ was driven primarily from men (16.5% increase compared to 2.2% for women). In addition, the number of the employed aged 15-19 increased significantly (4.9%), but had a small impact overall due to the small size of the group. The number of the employed aged 25-29 (4.5%) and 45-64 (4%) also increased; the latter group had the greatest impact overall, contributing 81.3 thousand new employees. On the other hand, only the number of the employed aged 30-44 decreased (26.4 thousand or 1.7%), just as it had happened in the period 2022Q2-2023Q2.

As a result of the above changes, the employment rate of people aged 15-64 increased further, reaching 64%, i.e., 1.7 percentage points higher than in 2023b. This is the highest employment rate historically for the Greek economy. However, due to the decrease in the population, the number of employed people still fell short of the corresponding one in 2008Q2 by approximately 350 thousand people. The differences between men and women persisted, but narrowed to 16.9 percentage points, due to the faster increase in the employment rate of women in the last year (2.1% compared to 1.2% of men). Despite the increase, the employment rate of women aged 15-64 in the second quarter of 2024 never exceeded 55.6%. In contrast, the gap in the employment rate between young persons aged 15-29 and mature ones aged 30-64 widened over the last year, with 73.2% of the latter group employed in the second quarter of this year compared to a mere 36.6% of first group. The expansion of the gap was driven by the increase in the employment rate of people aged 30-64.

Apart from gender and age, differences in employment rates are also recorded between people of different citizenships. In particular, people without Greek citizenship systematically record higher employment rates than those with Greek citizenship. In the second quarter of 2024, the employment rate of those over 15 reached 47.8%, while the corresponding rate for people with foreign citizenship reached 54.8%. Both rates have increased compared to the first quarter of the year. However, only the employment rate of those with Greek citizenship increased on an annual basis by 1.2 percentage points, while that of foreigners decreased by 2.1 percentage points. Reasonably, then, the difference between the two groups over time shrank to 7.1 percentage points. These changes are also reflected in the number of employees, which increased on an annual basis in terms of employees of Greek nationality and decreased in terms of foreigners. It is worth noting at this point that the differences in employment

1. The fact that the number of people aged 15-64 decreased faster than the total number of people aged 15+ suggests that the population is ageing.

2. The increase in the number of the employed aged 15-64 in period 2022Q2-2023Q2 reached 64.3 thousand, i.e., 1.6%. The increase was smaller, but not greatly, compared to period 2023Q2-2024Q2 (1.9%).

TABLE 3.1.1 Sectoral composition of employment

		Primary	Secondary	Tertiary
2008Q2	Employed (in thousand)	516.0	1,031.2	3,090.1
	Share (%)	11.1	22.2	66.6
2023Q2	Employed (in thousand)	467.4	659.7	3,108.4
	Share (%)	11.0	15.6	73.4
2024Q1	Employed (in thousand)	478.9	693.5	2,998.3
	Share (%)	11.5	16.6	71.8
2024Q2	Employed (in thousand)	476.7	682.0	3,166.8
	Share (%)	11.0	15.8	73.2
2008Q2-2024Q2	Employed (in thousand)	-39.4	-346.8	144.5
	Change (%)	-7.6	-33.6	4.7
2023Q2-2024Q2	Employed (in thousand)	9.3	22.3	58.4
	Change (%)	2.0	3.4	1.9

Source: Labour Force Survey, ELSTAT, KEPE processing.

rates concern men. Women have about the same low employment rates; sometimes this is higher for women with Greek citizenship, for example in the first two quarters of 2024, and sometimes for foreigners, for example in the second and third quarters of 2023.

The sectoral composition of the employed did not change substantially in the last year (see Table 3.1.1). Thus, in 2024Q2, just over one in ten (11%) were employed in the primary sector, 15.8% were employed in the secondary sector and almost three in four were employed in the tertiary sector (73.2%). Over time, i.e., the period 2008Q2-2024Q2, substantial changes are recorded between the secondary and tertiary sectors, with the latter (66.6% share in 2008Q2) strengthening at the expense of the former (22.2% share in 2008Q2). However, examining individual periods, one finds that the importance of the secondary sector in employment decreased during the intense economic crisis, i.e., the years 2008-2013, while it has stabilised since then. On the contrary, the importance of the tertiary sector strengthened faster during the crisis period (4.1 percentage points), while in the following years, it continued at a lower rate (2.4 percentage points).

Due to the magnitude of the changes, changes in shares can create a false picture. For example, the relative stability of those employed in the primary sector does not mean that there have been no losses or gains in terms of employment, but that these have not deviated significantly from changes in total employment. Indicatively, employment in the primary sector decreased by 39.4 thousand people in the period 2008Q2-2024Q2, while the secondary sector lost approximately one-third of its employees during that time. This means approximately 347 thousand lost jobs. In contrast, in the same period, the tertiary sector has expanded with 144.5 thousand new employees and acted as a shock absorber. Over the past year, all sectors experienced employment growth. In relative terms, the secondary sector is the big winner, with an increase in employment by 3.4%, while in terms of the number of new jobs, the tertiary sector stands out with 58.4 thousand new jobs.

In the last year, most new positions were created in the *Professional, scientific and technical activities* (27.7 thousand), followed by the *Accommodation and food service activities* (25.7 thousand). This is the only major industry with an employment share close to 10% where the number of employed people increased. In the largest sector in terms of employment, i.e., *Wholesale and retail trade, repair of motor vehicles and motorcycles*, the increase in the number of the employed reached 7 thousand, essentially equivalent to stagnation (i.e., 1% increase), while the second largest sector *Agriculture, Forestry and Fishing* exhibited an annual increase of only 2%. The *Construction* sector continued its expansion, adding 18.6 thousand new positions in the last

year. In contrast, large declines occurred in small and very small industries such as *Other service activities* (2.1% share and 9.1% decrease) and *Real estate activities* (0.3% share and 11.3% decrease).

The Unemployed

The unemployment rate fell to 9.9% in the second quarter of the year for those aged 15-64 and 9.8% for those over 15. In addition to the seasonal drop, which was expected and strong (2.4 percentage points), the unemployment rate decreased on an annual basis by 1.4 percentage points. Note that the maximum unemployment rate for people aged 15-64, from 2007 to the second quarter of 2024, amounted to 28% and the minimum to 7.4%. This means that despite the steady decline in recent years and a spectacular drop of about 18 percentage points from the peak, the unemployment rate needs to fall another 2.5 percentage points to reach the trough. This applies to both sexes. It seems that in the case of women, the unemployment rate approached the minimum level faster, since it was 1.4 percentage points away from the low point in 2024Q2, while for men it was slower, since in the same period the divergence reached three percentage points. The result was a narrowing unemployment rate gap between sexes to 4.6 percentage points. Foreigners are another group that faced greater difficulties in finding employment after the financial crisis. This did not change in 2024Q2, since the unemployment rate for foreigners reached 14.9% compared to 9.7% for people with Greek citizenship.

Moreover, if one examines how the unemployment rate changed by age group, it becomes clear that the age group 15-19 continued to be further away from the minimum (20.3 percentage points), so the effects of the crisis are spread over time; the 20-24 age group has achieved the greatest convergence with just 2.4 percentage points remaining, which means that the effects have largely been offset. It is not the same for everyone, however, as the picture differs between genders by age, with women aged 15-19 showing the largest deviation from the minimum (28.6 percentage points), followed by women over 65, while the 25-29 age group has reached the minimum unemployment rate over time. In contrast, age in men appears to be less important as a differentiating factor in the prospects of finding employment. In 2024Q2, the 15-19 age group was 13.1 percentage points away from the minimum, while the 45-64 age group had achieved the greatest convergence, with 2.8 percentage points remaining. Despite the disparity found in the age groups of young people, grouping them in one 15-29 age group, the unemployment rate remains very high (18.4%), even though the difference with the 30-64 age group narrowed in 2024Q2 to 10.6 percentage points, i.e., 1.8 percentage points lower than in 2023Q2.

Changes in the number of the unemployed aged 15-64 describe a similar picture. The decrease reached 105.3 thousand from the first quarter and 64.8 thousand on an annual basis, so there were 460 thousand unemployed, i.e., 94.1 thousand more than in 2008Q2. Unemployed women showed a greater decrease in both periods. Especially on an annual basis, the decrease in the number of unemployed women was more than three times that of men. However, most of the unemployed continued to be women in 2024Q2 (56.2% of the total). Similarly, by age, the number of the unemployed aged 15-19 increased, for both men and women, while almost all other age groups saw unemployment decrease, except for men aged 45-64 and women over 65 years old. In addition, the number of unemployed people belonging to the wider group of young people aged 15-29 years decreased by approximately 21.1 thousand people on an annual basis, while the number of unemployed people aged 30-64 years decreased by 43.7 thousand people. Proportionately, the decrease was greater for young people (13.1% versus 12%). Nevertheless, young people aged 15-29 continued to be over-represented among the unemployed, constituting 29.8% of the unemployed compared to 18.2% of the population and 15.5% of the labour force.

Labour force

The total number of people aged 15+ who are either employed or actively looking for work, thus unemployed, reached 4.795 million in the second quarter of the year. Of these, approximately 55% were male and the remaining 45% female. This is an increase of 25.5 thousand on an annual basis and 47.8 thousand on a quarterly basis. Despite the upward trend observed in recent years, the losses from the economic crisis have not been compensated. Combined with the population decline mentioned above, the labour force continued to fall short by 208.5 thousand people compared to 2008Q2. A closer look reveals that the labour force losses are due to men (282.6 thousand fewer), since there were 74.2 thousand more women in the labour force in 2024Q2.

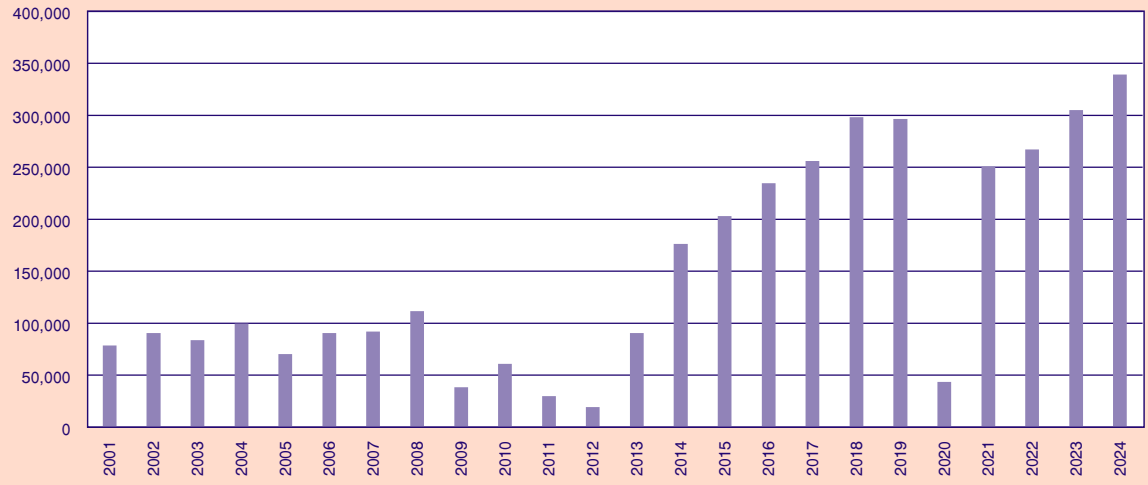
Despite the smaller size of the labour force compared to the pre-crisis period, the labour force participation rate of people aged 15-64, i.e., those most likely to be able and willing work, reached 71% in 2024Q2, increased by 0.7 percentage points on an annual basis.

This is the highest participation rate ever recorded. About eight in ten men participate in the labour force (78.7%) and more than six in ten women (63.5%). A look at participation by age group shows that young women are more likely to participate than older women, and they mimic men's behaviour in this respect. This may mean that while women participate early in their working lives, they then leave the labour force for a variety of reasons, including starting a family and having children in the 30-44 group or early retirement in the 45-64 group. Over time, due to the pension system reforms of recent years and actions to balance work and family life, it is expected that there will be a greater uniformity between the two sexes, leading to an increase in the number of labour force participants, provided that population decline will not offset any such benefits. In any case, it should be clear that the participation of women in Greece falls short of the corresponding size in most European countries. Indicatively, note that the average EU-27 participation rate for women aged 15-64 was 70.8% in 2024Q2, more than 7 percentage points above the Greek female participation rate. In any case, the participation rate in 2024Q2 almost equalled the peak for men, recorded in 2009Q3 (78.9%), while significantly exceeding pre-crisis female participation levels. This means that the crisis had a different effect on men and women. It pushed the former out of the workforce at first and took them many years to re-enter. In the case of women, the crisis pushed them into the labour force, possibly in an attempt to compensate for the losses in household income when men lost their jobs. The challenge is to keep women in the workforce when economic conditions improve.

3.1.3. ERGANI

The data of the ERGANI information system is a source of valuable information on the evolution of paid employment, which is the dominant form of employment in our country. Based on Eurostat in 2024Q2, the share of employees aged 15-64 reached 70.5%[3] of total employment. The first six months of 2024 were characterized by the creation of approximately 339 thousand new salaried employment positions. As shown in Graph 3.1.1, the performance of the first semester is the best of the last two decades. Apart from 2020, which was marked by the dramatic reduction in economic activity due to the corona virus and the social protection measures, paid employment seems to have continued its upward trend, as in the first half of 2023 new positions also exceeded the barrier of 300 thousand. Examining each month separately, it appears that all months

GRAPH 3.1.1
Balance of hires and withdrawals, first semester



Source: Reports from the Information System ERGANI, Ministry of Labour and Social Security.

3. The respective figure in the EU-27 was 86.6%. The data was retrieved from: <https://ec.europa.eu/eurostat/databrowser/view/lfsq_egaps__custom_12923973/default/table?lang=en>.

had a positive sign with the exception of January. Also, compared to the same month in 2023, performance was better every month except for January, when the balance was negative and wider, and June, when it was positive, but with 4.8 thousand fewer new positions compared to June 2023. May showed the largest deviation from the corresponding month in 2023 with more than 31 thousand additional new positions. The simultaneous increase in hiring and firing in the first six months of 2024 widened the positive balance and is an indication that mobility has increased in the labour market.

The composition of the recruitments did not change substantially from previous years. A total of 1.7 million new employment contracts were signed in the first six months of the year, i.e., 4.7% or 77.2 thousand more than in 2023. More than half were full-time contracts (55.4%), approximately three out of four were part-time contracts (35.6%) and one out of ten were rotating job contracts. Compared to 2023, the share of full-time hires has increased by 4 percentage points, roughly as much as the share of part-time hires has fallen, while the share of rotating employment contracts has marginally decreased from 9.4% to 9%. The figures in 2024 are closer to those of 2022. Therefore, the course of recruitment and its composition do not cause concern.

Conversions of full-time contracts to flexible forms also increased in 2024 (20.4 thousand) compared to 2023 (19.5 thousand) but remained below the level of 2022 (22.8 thousand). Three out of four conversions involved new part-time contracts (74.6%) and almost one out of four involved new rotational employment contracts with the employee's consent (23.1%). The reduction in conversions to rotational employment without the employee's consent in the first half of 2024 compared to previous years was impressive. In particular, only 2.3% of all conversions involved this type of contract, compared to 8.2% in 2023 and 10.2% in 2022. This is a favourable development.

3.1.4. Job vacancies

Vacancies (outside the agricultural sector) increased in the first two quarters of 2024 on an annual basis, according to ELSTAT data.[4] In the first quarter, vacancies doubled, reaching 71 thousand (70,826), while in the second quarter they increased by 58.8%. Thus, the number of vacant positions in 2024Q2 approached 59 thousand (58,941). As noted in the previous issue of *Greek Economic Outlook*, job vacancies have been on the rise in recent years, despite the decline in unemployment. This, in short, means that if the vacancies were filled, the unemployment rate would be even lower. The following analysis assumes that the vacancies declared by the companies are real and that they are declared in their entirety.

Eurostat[5] collects data on the share of vacancies in total employment for the whole economy and for each sector separately. In the case of Greece, however, there are no data for the entire economy, as no information is collected for the agricultural sector. The closest approach to the whole economy is the business economy category. The vacancy rate in Greece was 2.2% in 2024Q2, i.e., the same as the EU-27 average. Differences between countries clearly exist. For example, the corresponding rate in Belgium was 4.2% and in the Netherlands 5.3%, while in Spain it was 0.5% and in Bulgaria 0.7%.

Table 3.1.2 shows the vacancies in the largest sectors in terms of employment in Greece and contrasts them to the EU-27 average. In the last column of the table, the number of vacancies is approximated as the product of employment with the vacancy rate. In *Wholesale and retail trade, repair of motor vehicles and motorcycles*, the largest industry in the country in terms of employment, vacancies reached 1.7%, when the EU-27 average was 2.2%. Despite the low vacancy rate, due to the number of employees, this rate corresponded to 12,000 vacancies. The largest gaps were found in the *Accommodation and food service activities*, both in terms of index and absolute numbers. Vacancies corresponded to 8.3% of all employed in the industry and, due to the size of employment there, their number exceeded 36.5 thousand. A large number of vacancies were reported in *Professional, scientific and technical activities* (11.6 thousand) with the vacancy rate reaching 6.7%. Finally, *Manufacturing* had a low vacancy rate (2.1%) and slightly above the European average, while in *Construction,* it was one unit higher (3.1%), but still close to the EU-27 average.

If one were to compare vacancy rates across various sectors in Greece and the EU-27 and set a limit of one percentage point of deviation, then one would have to worry about *Accommodation and food service activities*; *Professional, scientific and technical activities*; *Administrative and support activities* and *Water supply,*

4. See ELSTAT (2024), Job vacancies: 2024Q2. ELSTAT Press Release (in Greek). Available at: <https://www.statistics.gr/el/statistics/-/publication/SJO41/->.

5. See <https://ec.europa.eu/eurostat/databrowser/view/jvs_q_nace2__custom_12909929/default/table?lang=en>.

TABLE 3.1.2 Job vacancies by industry, 2024Q2

	Employment	Share	Job vacancies index			Job vacancies
			Greece		EU-27	Greece
			All firms	Firms with > 10 persons	All firms	All firms
	(thousand)	(thousand)	(%)	(%)	(%)	(thousand)
Wholesale and retail trade, repair of motor vehicles and motorcycles	706.3	16.3	1.7	1.5	2.2	12.0
Accommodation and food service activities	439.7	10.2	8.3	4.1	3.2	36.5
Manufacturing	407.5	9.4	2.1	1.6	1.8	8.6
Public administration and defence, compulsory social security	361.1	8.3	2.3	2.2	-	8.3
Education	343.9	7.9	0.8	0.8	-	2.8
Human health and social work activities	317.0	7.3	1.6	1.6	-	5.1
Professional, scientific and technical activities	289.7	6.7	4.0	2.8	2.8	11.6
Transportation and storage	240.5	5.6	1.6	1.5	2.2	3.8
Construction	175.5	4.1	3.1	1.9	3.2	5.4
Information and communication	109.6	2.5	0.9	1.0	3.0	1.0
Administrative and support service activities	94.7	2.2	9.3	9.3	3.8	8.8
Other service activities	91.4	2.1	3.6	3.9	-	3.3
Financial and insurance activities	83.9	1.9	0.5	0.5	1.8	0.4
Arts, entertainment and recreation	50.6	1.2	5.5	3.0	-	2.8
Electricity, gas, steam and air conditioning supply	48.0	1.1	1.0	1.2	1.6	0.5
Water supply, sewerage, waste management and remediation activities	41.7	1.0	2.7	2.6	1.6	1.1

Source: Eurostat, KEPE processing.

Note: Industries are ranked in descending order based on the number of employees.

wastewater treatment, waste management and remediation activities. Especially if, after all, the number of vacancies was underreported, as seems to be the case in *Accommodation and food service activities*, where more than 80 thousand vacancies were estimated to exist in the summer of 2024.[6]

Finally, interestingly, the vacancy rate appears to be related to firm size. Larger companies, i.e., those with more than 10 employees, tend to have fewer vacancies. To some extent this is to be expected, as small businesses are often looking for workers to take on multiple responsibilities and tasks, who are harder to find. This seems to be the case in most industries. There are some exceptions, such as *Information and communication*, where larger firms have a higher vacancy rate than the total, and there are some industries where size does not appear to have an effect, such as *Education* and *Human health and social work activities;* public ownership is strong in the two latter industries.

6. See <https://www.imerisia.gr/toyrismos/93413_toyrismos-oi-aities-ton-kenon-theseon-ergasias-anazitoyntai-lyseis-tis-teleytaias> where the views of the president of the food tourism federation are presented in May 2024.

3.2. Average annual change by firm size in the EU27, 2009-2023

Vlassis Missos

Over the years, several studies have highlighted the poor productivity performance of the EU countries. In particular, when compared to the US, European countries appear to lag behind, showing more modest increases. With few exceptions, the rate of productivity growth in many EU countries is low and marked by fluctuations. The causes of this weak growth vary, though increasing attention is being given to the role of the sectoral composition of economic activity and sectoral specialization developments in European countries.[1]

As it is a key macroeconomic variable, improving productivity is essential for achieving social welfare. Standards of living and income levels are directly linked to productivity over time and the effective utilization of productive resources. In this context, a crucial aspect of interventions aimed at enhancing productivity is the provision of incentives to promote innovation among small enterprises, whose activities play a pivotal role in overall productivity.[2] Further shaping and strengthening the dynamism of small-scale entrepreneurship are central objectives of development policy, which, when achieved, foster the creation of high value-added products and services.

Against this background, the average annual growth rates of business sector productivity in EU countries are presented below. The figures have been converted into real terms according to the 2015 deflator, and productivity is defined as the ratio between value added and the employed population. The data exclude the agricultural sector and include manufacturing and services, without the financial and public sectors. In parallel, the graphs below show the average annual change in productivity for the period 2009 to 2023 for all EU countries except Malta.

Figure 3.2.1 shows the average annual change in the total number of enterprises by EU country. Ireland leads with the most significant growth (5.2%), driven by substantial investment coming from large multinational high-tech and specialized knowledge companies. Lithuania, Bulgaria, Latvia, and Romania follow with rates close to 2.7%, while Denmark, Czechia, and Poland show average annual growth of around 2%. Slovenia, the Netherlands, Hungary, and Germany report increases of over 1.5% annually, while 11 countries show positive but modest growth.

Conversely, negative annual growth is observed in countries such as Luxembourg, Austria, and Greece. In Luxembourg, the exclusion of the financial sector –which significantly contributes to the country's value-added– explains part of the decline. In Austria, reductions in the mining sector and a slight decline in manufacturing have been among the most contributing factors. The transition to greener, more ecologically sensitive energy production and the diversification of production techniques has notably affected the mining sector from 2009 to 2023. In Greece, however, productivity growth over this period remains effectively stagnant, with negligible change.

Moreover, in Figure 3.2.2, the annual rate of change in business sector productivity is shown for each category of enterprises. The total number of enterprises in each EU country is divided into four categories based on the number of employees. Enterprises with up to nine employees are classified as "micro", those with 10 to 49 employees are taken as "small", enterprises with 50 to 249 employees are "medium", and those with 250 or more employees are classified as "large". This classification system, however, is not unique, but it may serve as the basis for other amendments proposed to further enhance the analysis.[3]

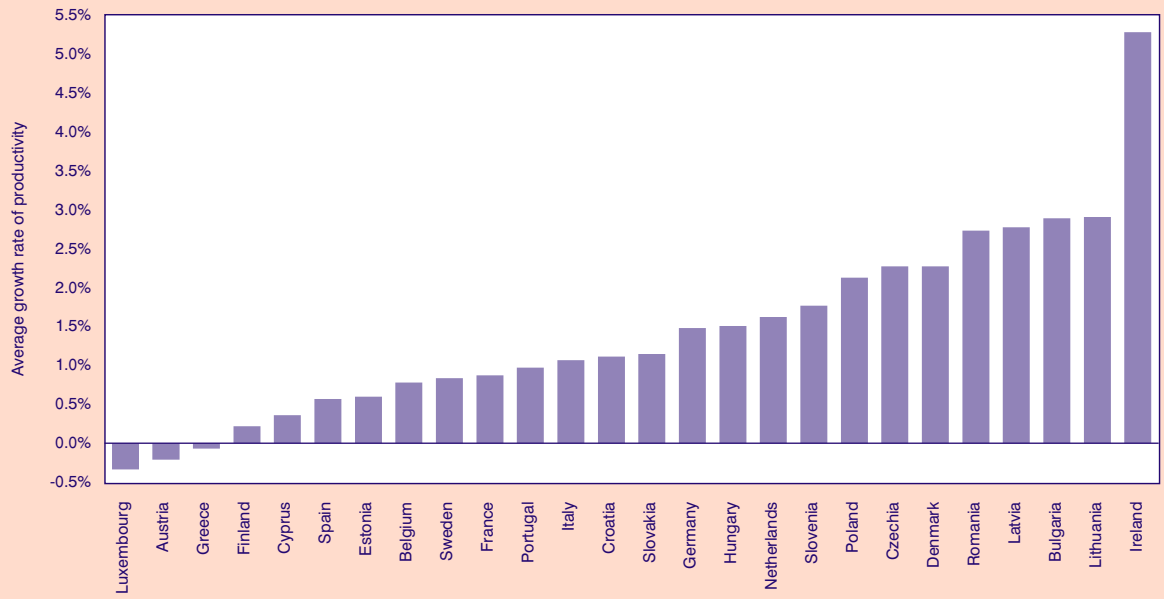
Accordingly, the countries with the highest average annual productivity of micro-enterprises are Lithuania

1. Buiatti C., Duarte J. B. & Saenz L. F. (2017), "Why is Europe falling behind? Structural transformation and services' productivity differences between Europe and the U.S.", Cambridge-INET Working Paper Series 2017/04; Duernecker G. & Sanchez-Martinez M. (2023), "Structural change and productivity growth in Europe – Past, Present and Future", *European Economic Review*, 151, 1-36.

2. Akcigit U. (2024) 'The innovation paradox', *Finance & Development Magazine*, Washington D.C.: International Monetary Fund, 32-35.

3. Regarding the definition of SMEs in the EU, see European Commission Recommendation of 6 May 2003, c(2003), 1422.

FIGURE 3.2.1
Average annual change in business sector productivity in EU countries, average 2009-2023



Source: Eurostat, Structural Business Statistics and author's calculations.

(3.8%), Greece (3.6%), Ireland (3.4%), Poland (3.4%) and Romania (3.3%). For Greece in particular, this finding is of particular importance as it reflects a significant countervailing trend that is able to sufficiently offset the overall picture of average productivity in the economy that appears in the other groups of entrepreneurial activity. At the same time, Lithuania (3.9%) and Romania (3.9%) rank among the highest in terms of average productivity of *small* enterprises –occupying 10–49 employees– together with Bulgaria (3.9%) and Denmark (3.3%). Greece, on the other hand, comes last with significantly negative rates of change (-4.3%).

In the category of medium-sized enterprises (50 to 249 employees), Denmark (3.5%), Lithuania (3.2%), and Romania (3.1%) are the top performers. Eleven countries show positive growth rates below 1.5%, while Greece and Austria have negative average productivity. In the category of large enterprises, Ireland (7.6%), Slovakia (4.8%), Bulgaria (3.6%), and Romania (2.9%) lead the way. Seven countries recorded growth between 2% and 3% (Romania, Lithuania, Latvia, Slovenia, Poland, the Netherlands and Denmark), four between 1% and 2% (Croatia, Germany, France and Hungary), and ten between 0% and 1% (Cyprus, Sweden, Italy, Belgium, Czechia, Estonia, Austria, Finland, Greece and Luxembourg). The latter is indicative in explaining the low productivity levels in the EU, as a significant number of countries show weak performance among large enterprises, which are typically expected to achieve increasing returns to scale. However, the situation is more complex than it appears. Notably, Portugal and Spain ended up with negative productivity levels.

In conclusion, the productivity level of firms in each country over time depends on the specific structure of its economic activity. The design of production patterns and the organization of relationships between business units are fundamental aspects of industrial policy that are once again gaining attention. Classifying enterprises by size helps to identify both the strengths and weaknesses of the production system and provides a basis for formulating targeted policy proposals.

FIGURE 3.2.2
Average annual productivity change by firm size category in the EU countries, average 2009-2023

Source: Eurostat, Structural Business Statistics and author's calculations.

KEPE, *Greek Economic Outlook,* issue 55, 2024, pp. 49-69

De-globalization and trade fragmentation: The position of Greece in the new landscape

Artemis Stratopoulou*

Abstract

This article examines whether de-globalization has affected the trade patterns of Greece. Additionally, it explores the impact of de-globalization on the US, China, and Europe. Various indices and measures are utilized, namely, trade (% of GDP), the KOF globalization index and its subindices, relative comparative and relative trade advantages and participation in global value chains. The time period of the empirical analysis spans from 1970 to 2022. The findings indicate that Greece relies heavily on global trade and faces significant challenges due to its high dependence on imports of goods and its limited integration into global value chains (GVCs). The Greek economy exhibits persistent trade deficits, partially mitigated by the exports of services supported by its strong relative comparative advantage in transport and travel services. Exports of goods are concentrated on agricultural products, fuels, mining products and textiles, while exports of capital- and technology- intensive products are limited. Also, Greece's domestic value added in foreign final demand is weak. Furthermore, the study provides data on the trade patterns of key players in the global economic landscape, revealing significant signs of trade decoupling between the US and China. However, evidence shows that the EU's trade patterns remain relatively unaffected.

Keywords: *de-globalization, trade fragmentation, comparative advantage, global value chains*

JEL Classification: *F01, F41, F60*

1. Introduction

In recent years, we have witnessed a slowdown in global trade and financial flows, widely recognized as de-globalization. De-globalization has become a significant topic among policymakers and academics due to the reversal in the integration of global markets, evidenced by many key indicators, after decades of increasing globalization in trade, capital, and information flows. The concept of globalization dates back to the period 1870-1914 (the first wave of globalization) and evolved thereafter in three waves. The period 1989-2008, marked as the fourth wave of globalization, was characterized by large and sustained increases in cross-border trade and the rapid expansion of Global Value Chains (GVCs) (World Economic Forum, 2019).[1]

However, after the 2008 Global Financial Crisis (GFC), a "slowbalization" took place (Konstantakopoulou and Argyropoulos, 2022), amplified further during the COVID-19 pandemic.[2] Decreased demand during the GFC, but most importantly, strict trade policies, the war in Ukraine and inevitable trade barriers because of the pandemic, caused significant disruptions in GVCs. Many companies that used to source their in-

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– Opinions or value judgments expressed in this article are the author's own and do not necessarily reflect those of the Centre of Planning and Economic Research.

1. Available at *A brief history of globalization,* World Economic Forum (weforum.org)

2. *Economist.* "Slowbalisation: The steam has gone out of globalisation." *The Economist* (2019): 34-43 <https://www.economist.com/leaders/2019/01/24/the-steam-has-gone-out-of-globalisation?utm_medium=cpc.adword.pd&utm_source=google&ppccampaignID=18151738051&ppcadID=&utm_campaign=a.22brand_pmax&utm_content=conversion.direct-response.anonymous&gad_source=1&gclid=CjwKCAjw59q2BhBOEiwAKc0ijXPLiAgAZzsmzaFpqnabHOJQc7nNPwcP7_L7-ao40nRedv9vYYoq4hoCXWgQAvD_BwE&gclsrc=aw.ds>.

FIGURE 1
US intermediate goods imports with specific trade partners (Canada, China, Mexico, East Asia and Pacific, Europe and Central Asia, North America), reference years 2010 and 2021

Source: WITS.

Note: Latest data available till 2021.

puts from around the world, are now facing serious difficulties, and they need to adapt to the new conditions. One way to secure their supply chains is to relocate production back home or to neighboring countries (reshoring and nearshoring, respectively), an option that reinforces trade fragmentation. Another way to strengthen supply chains is to increase trade partners, i.e., to diversify imports. The latter explains the US-China decoupling; after years of strong trade interdependence between them, US imports of many product categories from China have fallen dramatically. This was, actually, a result of President Donald Trump's trade war, begun in 2018, which continued under the Biden presidency, retaining many of those policies.

Indeed, data reveal a shift of intermediate goods imports from China and East Asia towards Canada, Europe and Central Asia (Figure 1). Import shares of intermediate goods increased in 2021 compared to 2010; however, this increase in shares is lower for China and East Asia.

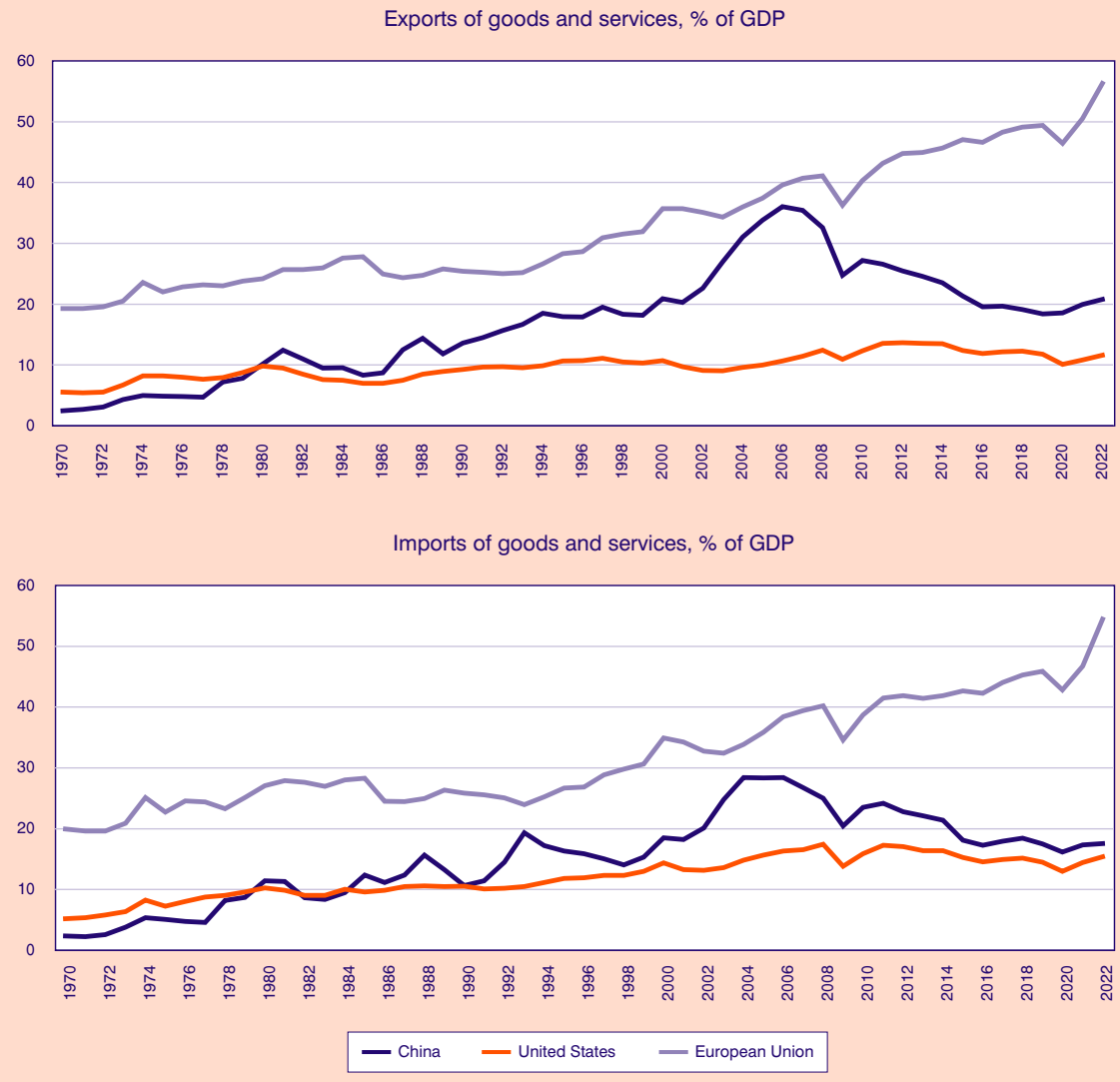
On the other hand, although there are signs that the global economy is shifting towards de-globalization, there is no strong evidence from the European Union trade patterns supporting this. Figure 2 shows exports and imports as a percent of GDP for China, the United States and the European Union, and it is obvious that although a slowbalization is happening for the US and China, especially after the 2008 GFC, European Union integration in global markets seems to be unaffected.

In EU countries, exports of intermediate goods, which is considered a very reliable indicator of the participation in global value chains, have continued to rise as a share of GDP after the GFC. Thus, European participation in global value chains has not been significantly affected by de-globalization tendencies (Darvas, 2020).

This study contributes to the related literature by looking into the effects of de-globalization on key global economies (the United States, China, and the European Union), while it also assesses Greece's trade dynamics in this evolving and challenging landscape. A detailed empirical analysis is provided, contributing to a deeper understanding of how de-globalization is reshaping global economic relations and the main implications for both large and smaller economies, like Greece.

The present article is structured as follows: section 2 discusses related literature, section 3 provides the methodology used, section 4 presents the main findings, and finally, section 5 concludes.

FIGURE 2
Exports and imports of goods and services as % of GDP for China, the United States and the European Union



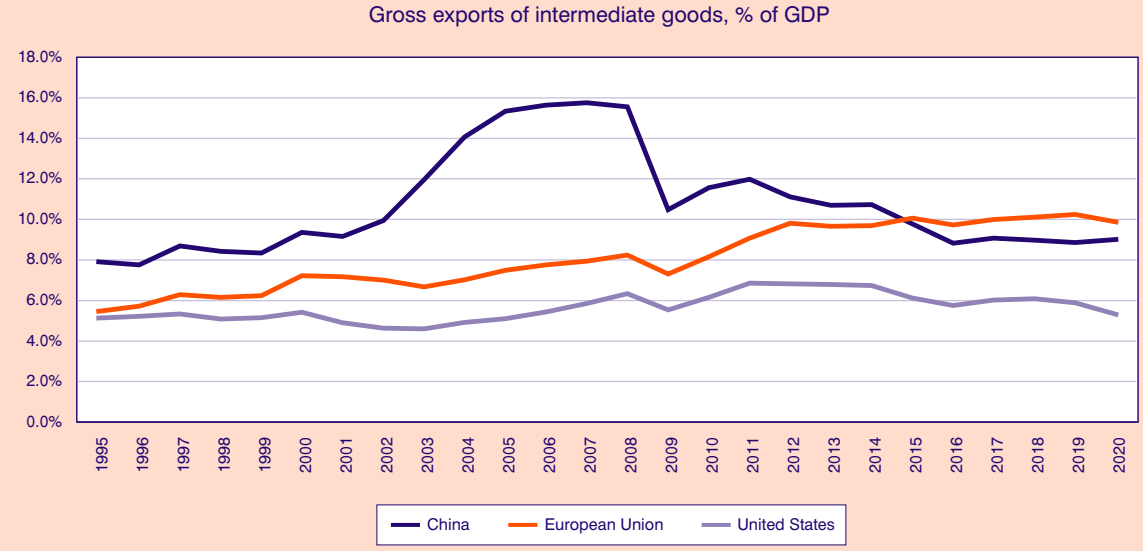
Source: World Bank Development Indicators.

Note: Examination time period 1970-2022. Data for 2023 are not available for all countries/regions.

2. Literature review

After years of growing integration in the global markets, we are witnessing a significant slowdown of trade and financial flows nowadays, a trend known as de-globalization. This switch has attracted significant attention from policymakers and academics. Through the years, globalization has evolved in four distinct waves, with the most recent one taking place between 1989 and 2008. This last wave was characterized by rapid growth in cross-border trade and high integration in the Global Value Chains (GVCs), however, a "slowbalization" took place after the 2008 Global Financial Crisis (GFC) and was further amplified by the COVID-19 pandemic. O'Rourke and Williamson (2014) argue that the last wave of globalization did not break down because of technological regression, rather they suggest that this wave ended because governments enforced various measures for geopolitical and domestic reasons (Chase-Dunn, Kawano and Brewer 2000; Findlay and O'Rourke, 2003; Jones, 2005, 2007, 2014; Kindleberger, 1973; Meyer, 2017).

FIGURE 3
Gross exports of intermediate goods as % of GDP for China, the United States and the European Union



Source: World Bank Development Indicators, OECD TiVA database and own calculations.
Note: Data from the two sources overlap between 1995-2020.

Globalization refers to the growing interdependence among nations, while de-globalization is exactly the opposite, i.e., the process of weakening interdependence among countries. The era of de-globalization we have been in since the GFC seems to be mainly driven by trade patterns that were largely affected by government policies. An interesting view on the origins of de-globalization is given by Witt (2019), who argues that politics has a central role as a key driver of de-globalization. In his study, two relevant theories of de-globalization from political science are presented, liberalism and realism, in order to prove that international business research should develop a greater integration of politics in its understanding of the qualitative shift demanded in strategies, structures and behaviors.[3] Certainly, adaption of nations to the new trade landscape is required, since de-globalization, persistent or not, comes with significant implications.

Trade fragmentation and de-globalization can influence various aspects of an economy, ranging from economic growth and employment to industry structures and international relationships. Recent studies have examined the effects of de-globalization on global businesses and regional economies with empirical evidence suggesting that de-globalization has been taking place since the global financial crisis, particularly in developed countries (Kim, Li and Lee, 2020).

Trade fragmentation and lower dependence on global supply chains can make economies less prone to external shocks. For instance, countries that diversify their supply chains and rely more on domestic or regional sources can shield their economies especially in times of unexpected, extraordinary events or crises like natural disasters, pandemics or geopolitical tensions. Moreover, de-globalization could lower import dependence, especially for essential goods and technologies. For example, in order to lessen their susceptibility to disruptions or geopolitical tensions that could impair international trade channels, countries could prioritize regional cooperation or home production for necessities like food, energy, pharmaceuticals, and defense equipment. Bailey and De Propris (2014)

3. Liberalism identifies domestic political pressures against globalization as a cause of de-globalization, whereas realism identifies as a starting point of de-globalization the end of US domination and the prevalence of China as a geostrategic competitor. The two theories lead to different expectations about the future world economy: liberalism suggests a patchwork of economic linkages, while realism predicts the emergence of economic blocs around major countries (Witt, 2019).

investigate the reshoring of the automotive sector in the UK, highlighting that one of the factors leading to home production is the greater awareness of the importance of supply chain resilience.

Trade fragmentation can lead to the repatriation of jobs that were previously outsourced to other countries. With nearshoring or reshoring, countries may see an increase in employment opportunities within their borders, particularly in sectors that have been adversely affected by globalization and offshoring; however, this increase is limited and not as significant as expected (Bailey and De Propris, 2014).

De-globalization can also have significant environmental implications. Localized production and consumption can potentially reduce the carbon footprint associated with the long-distance transportation of goods. De-globalization may also foster the development and use of more "green" and "clean" production practices. Furthermore, EU carbon policies can lead to further de-globalization by enhancing national climate policies and low-carbon technologies.

Another important advantage of trade fragmentation and de-globalization is the protection of domestic industries from unfair competition, especially from countries with lower labor standards and lax environmental regulations (Stiglitz, 2007). This can secure domestic industries and prevent job losses. Some argue that de-globalization can help preserve local cultures and traditions by promoting local businesses and products. De-globalization may guide countries towards more targeted domestic or regional policies aiming to address issues like income inequality, regional development, or environmental conservation by relying on and being affected less by global market dynamics and any international trade agreements.

However, de-globalization comes with great costs. Economic research has identified many benefits attributed to globalization, from higher economic growth to poverty reduction and even lower inflation. Less integrated markets, for instance, may result in higher consumer prices due to increased production costs, tariffs, and reduced competition. Rogoff (2003) argues that the globalization process helps in reducing inflation and any reversal of the free flow of production factors will re-introduce price pressure. Less integrated markets restrict consumers' access to imported goods, while domestic alternatives may be more expensive to buy or of lower quality. Dropping out of global markets influences countries in terms of their comparative advantage gains, by losing the benefits of specialization. This could hamper innovation, limit technological diffusion, and reduce productivity gains that arise from participating in global value chains.

Protectionism policies from one country may also provoke retaliatory measures from trading partners, leading to trade tensions and escalating trade wars. Such conflicts can disrupt global commerce, increase uncertainty for businesses, and dampen investor confidence. Trade fragmentation and de-globalization can disproportionately harm developing countries that rely heavily on international trade compared to more advanced economies. Especially for vulnerable countries, de-globalization forces them to reassess their position in global markets as conventional trade agreements and partners may be jeopardized (Jordaan, 2022). Reduced access to global markets and declining foreign investment may hinder poverty reduction efforts and increase income inequality. Khan and Riskin (2001), in favor of globalization benefits, find that China's poverty reduction can be attributed to the opening up of its economy.

Fragmented supply chains may lead to increased environmental degradation as countries prioritize local production, often without stringent environmental regulations. This could result in higher levels of pollution, deforestation, and resource depletion, undermining global efforts to address climate change and sustainable development. Wang et al. (2019) find that globalization, and especially social and cultural globalization, has enabled developed countries to significantly decrease their carbon emissions but has led to more emissions in less developed countries.

Hillebrand (2010), despite arguing that protectionism may improve income inequality in some countries, believes that a reversal in globalization will have considerable negative implications for the global economy. Moreover, Komolov (2021) highlights the fact that de-globalization conditions could give countries the opportunity to support national production and development; however, the overall radicalization of political discourse could lead to social tension and military confrontation.

Globalization and de-globalization each bring their own set of advantages and disadvantages. However, as evidence show, globalization could come with more substantial benefits. While de-globalization can offer some benefits, such as increased resilience and protection of local industries, it comes at the cost of reduced economic growth, less innovation and higher prices for consumers. These effects seem to be more pronounced for the less developed and vulnerable economies. Therefore, emphasis should be given to maintaining global economic integration for promoting overall prosperity and sustainable growth, considering always that nations will promote cooperation among themselves in order to address shared challenges, foster mutual understanding, and build a resilient global economy.

3. Methodology

For the analysis, the present article uses various measures and indices, namely, trade (% of GDP), the KOF globalization index and its subindices, relative comparative and relative trade advantages measures and participation in global value chains measures.

Trade (% of GDP) is one of the most used indices, and it is defined as the sum of exports and imports of one country as a share of its GDP.

Besides the standard, and most cited, trade to GDP ratio, the KOF Globalization Index provides information on globalization trends along the economic, social, and political dimensions. It is a composite index and constitutes a revised version of the original index introduced by Dreher (2006) and updated in Dreher et al. (2008). The latest version of KOF contains both *de facto* and *de jure* indicators along the different dimensions of globalization based on 43 variables.[4] The focus of this article is mainly on economic globalization that is further broken down to trade and financial globalization.

The KOF Economic Globalization Index is a composite index of trade and financial components of globalization containing both *de jure* measures (trade regulations, trade taxes, tariffs and trade agreements, investment restrictions, capital account openness and international investment agreements) and *de facto* measures (trade in goods and services and trade partner diversity, foreign direct investment, portfolio investment, international debt, international reserves, and international income payments).

Revealed Comparative Advantage (RCA) was proposed by Balassa (1965) in order to measure a country's relative advantage or disadvantage in a certain class of goods or services as evidenced by trade flows. RCA is based on Ricardian trade theory and uses trade data to "reveal" differences in productivity between countries. More precisely, RCA states that a country has a revealed comparative advantage in a given product *i* when its ratio of exports of product *i* to its total exports of all goods (products) exceeds the same ratio for the world as a whole:

$$RCA = \frac{\frac{X_i}{\sum_{j \in P} X_j}}{\frac{X_{wi}}{\sum_{j \in P} X_{wj}}} \geq 1$$

where, P is the set of all products (with $i \in P$); X_i is the country's exports of product i; X_{wi} is the world's exports of product i; $\sum_{j \in P} X_j$ is the country's total exports (of all products j in P); and $\sum_{j \in P} X_{wj}$ is the world's total exports (of all products j in P). When $RCA > 1$, a country is said to have a revealed comparative advantage for a given product or service. The higher the value of a country's RCA for a given product/service category, the higher its export strength in it.

Vollrath (1991) modified the Balassa index to incorporate both export and import components, calculating the difference between revealed comparative export advantage and revealed import advantage. The Relative Trade Advantage (RTA) index is therefore calculated as follows:

$$RTA_{ij} = RXA_{ij} - RMA_{ij}$$

where RXA_{ij} is the revealed comparative advantage in exports and is identical to RCA calculated above[5]:

$$RXA = \frac{\frac{X_i}{\sum_{j \in P} X_j}}{\frac{X_{wi}}{\sum_{j \in P} X_{wj}}}$$

and RMA_{ij} is the respective comparative advantage in imports calculated similarly:

$$RMA = \frac{\frac{M_i}{\sum_{j \in P} M_j}}{\frac{M_{wi}}{\sum_{j \in P} M_{wj}}}.$$

Finally, integration in global value chains is assessed by domestic value added in foreign final demand and foreign value added in domestic final demand measures. Domestic value added embodied in foreign final demand shows how much domestic value added is included, via direct final exports and via indirect exports of intermediates through other countries, in the demand of foreign final consumers. Foreign value added embodied in final domestic demand shows how much value added in final goods and services (purchased by households, government, non-profit institutions serving households and as investment) originates from abroad.

4. The KOF Globalization Index measures the economic, social and political dimensions of globalization. KOF Globalization Index – KOF Swiss Economic Institute, ETH Zurich.

5. RTA can take negative values since it is measured as the difference between RXA and RMA. Relative export advantage is actually the Relative Comparative Advantage (RCA) as RCA uses only exports in its derivation.

4. Empirical results

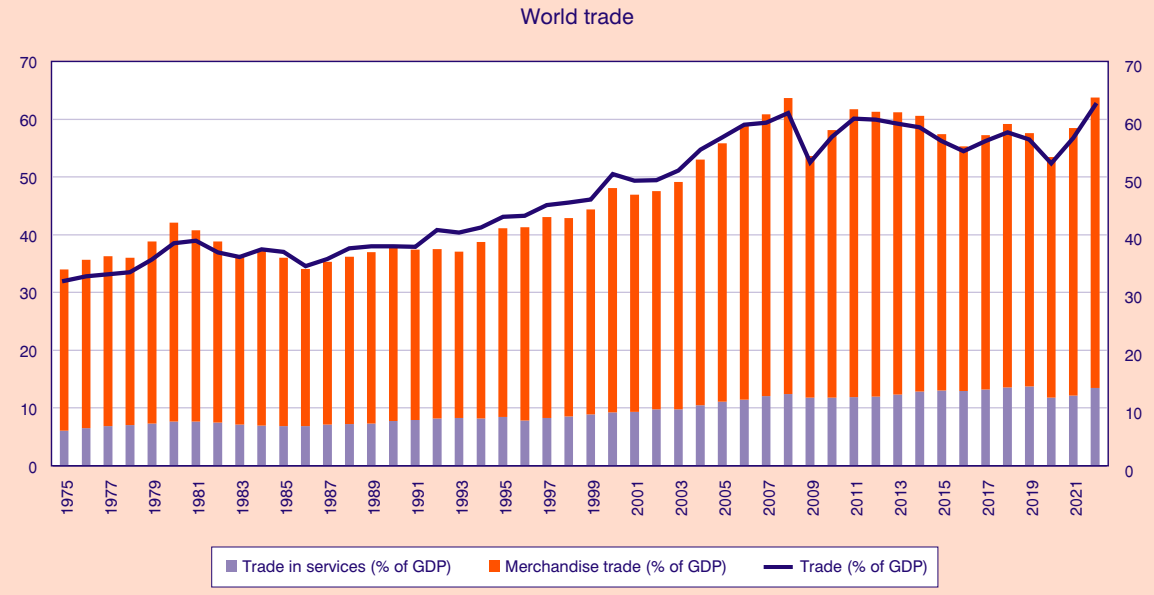
4.1. Signs of slowbalization

Basic elements of the globalization process are the growing integration and interdependence of economies around the world; the free movement of goods, services, and capital across borders; the movement of labor force and knowledge and technology transfer across international borders (IMF, 2008).[6] In 2008, world trade peaked at 61.1% of global GDP, while thereafter stagnated between 56%-59%. In 2020, after the pandemic, global trade reduced by 7.2% compared to the previous year (Figure 4). Data also show that trade in goods accounts for the largest proportion of total trade, experiencing, however, an 18% reduction between 2008-2009. On the other hand, trade in services fell by 5% the same period.

Figure 5 depicts the KOF General Index and the KOF Economic Globalization Index covering the 1970-2021 period. An overview shows an upward trend of the general index, meaning that the world market has become more globalized over the years. However, the Economic Globalization Index shows a stagnation, especially after the 2008 Global Financial Crisis (GFC). Thus, the trajectory of the Economic Globalization Index provides evidence of a paradigm shift to less integrated global trade relationships. This trend could be attributed to both *de jure* and *de facto* measures (see Figure 6 below).

Figure 6 shows that both *de jure* and *de facto* economic globalization slowed down after the 2008 GFC. More precisely, trade regulations, taxes and tariffs increased as the *de jure* trade globalization index indicates, while the *de facto* component of trade globalization presents a remarkable stagnation and, in some cases, a significant reduction (i.e., the 2008 GFC and the COVID-19 pandemic) signaling entering an era of diminishing integration in global markets. However, it is worth noting that de-globalization is more evident through the trade component of the KOF Globalization Index compared to the financial component (Figure 7). This means that trade indicators seem to be affected by the current severe trade policies and, consequently, reflect reductions in trade flows.

FIGURE 4
World trade, merchandise trade and trade in services, as percentages of GDP, 1975-2022

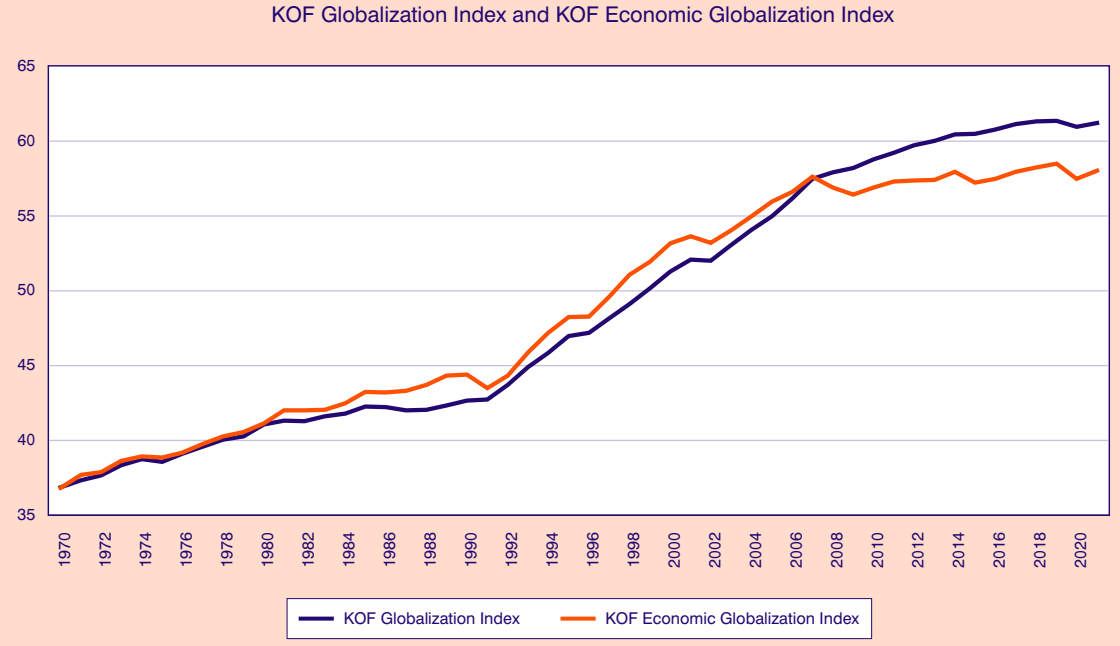


Source: World Bank Worldwide Development Indicators.

Note: The above three variables overlap between 1975 and 2022.

6. Available at Issues Brief - Globalization: A Brief Overview (imf.org)

FIGURE 5
KOF Globalization Index and KOF Economic Globalization Index, World, 1970-2021



Source: KOF Globalization Index – KOF Swiss Economic Institute, ETH Zurich.

Note: Data for KOF index and subindices are available between 1970 and 2021.

4.2. Global trade fragmentation at the forefront

Those data, together with the recent policy landscape, suggest a highly restrictive future for cross-border trade. Rising non-tariff measures and distortive subsidies following the pandemic and the Russia-Ukraine war point to rising risks of global trade fragmentation. Greater protectionism could divide nations into rival blocks, resulting in significant economic costs. For instance, Bolhuis, Chen and Kett (2023) examine alternative global trade fragmentation scenarios and find that output losses can be significant for all groups of countries, especially, though, for low-income countries.

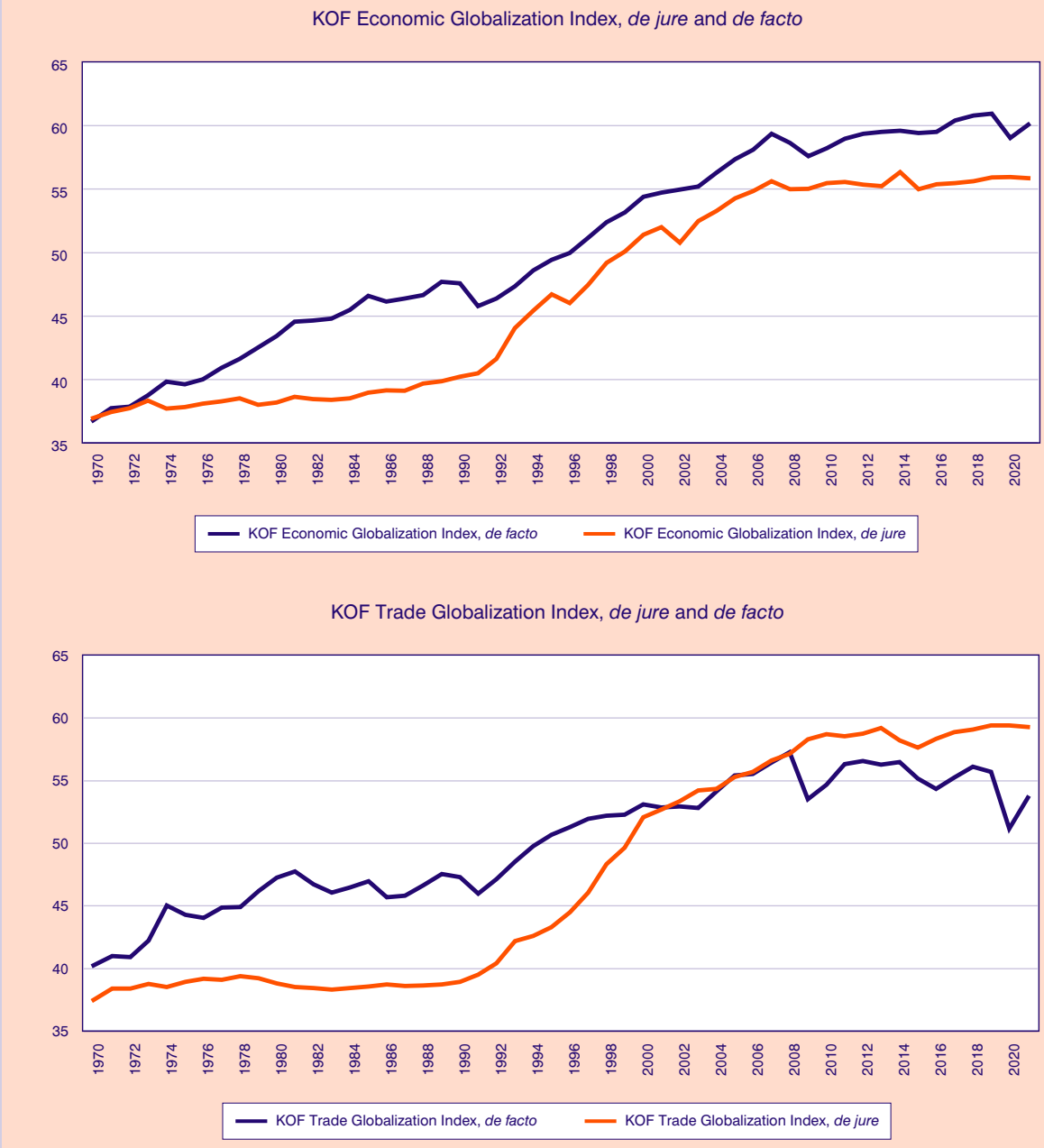
4.3. How is Greece affected?

Greece relies heavily on global trade compared to other EU countries, as evidenced by the share of the trade to GDP ratio (Figure 8). Evidence is provided below on how Greece is affected by trade fragmentation and de-globalization by presenting and discussing data on its export profile, participation in GVCs and its competitive advantage that shapes trade structure.

4.3.1. Greece: Trade data, integration in GVCs and comparative advantage

Figure 9 presents the current account decomposition for Greece, while Figures 10 and 11 show exports and imports of goods, and services. It is obvious that Greece relies heavily on imports of goods, while its export profile is not so competitive. However, the services balance is always positive, mainly due to the high dependence of Greece on tourism services. According to data presented, the GFC contributed largely to the deterioration of the current account, which reached 14.92% of GDP in 2008; however, evidence of recovery started to appear from 2012 onwards (Konstantakopoulou, 2015). Furthermore, it is obvious that the negative balance of goods was catalytic and an essential driver of the current account deficits. Between 2012 and 2019, the current account balance showed signs of improvement, but in 2020, a remarkable drop occured due to the outbreak of the Covid pandemic; however, this deterioration was not as severe as during the GFC. Right after the pandemic, according to Bank of Greece data, receipts from travel services grew at 68% between 2021 and 2022, while foreign passen-

FIGURE 6
KOF Economic and Trade Globalization Index, *de jure* and *de facto,* World, 1970-2021

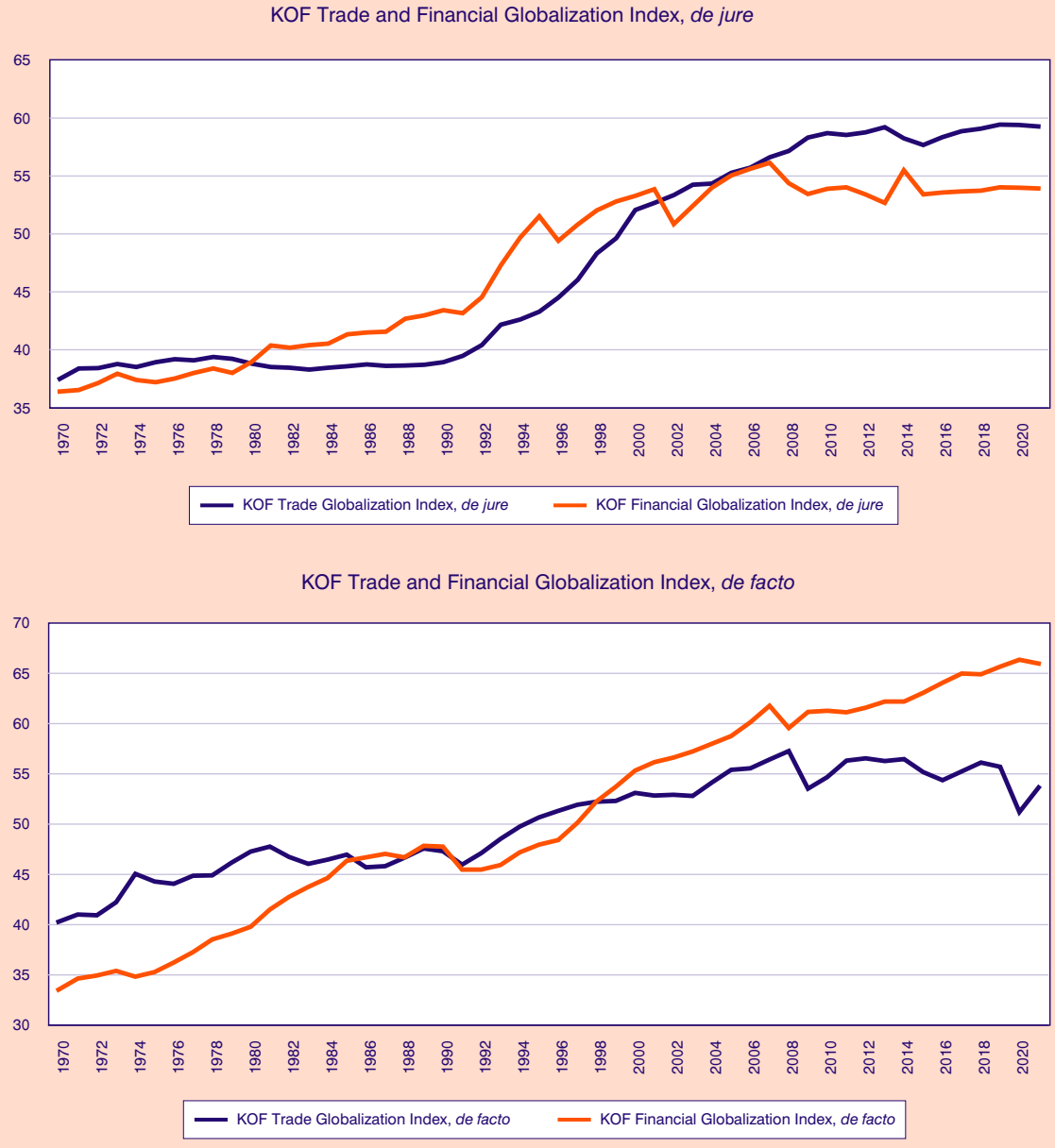


Source: KOF Globalization Index – KOF Swiss Economic Institute, ETH Zurich.

Note: Data for the KOF index and subindices are available between 1970 and 2021.

ger arrivals throughout Greece's airports grew at 85% compared to 2021. Nevertheless the goods balance is always negative and greater than the services balance; thus, Greece experiences trade balance deficits steadily over the years. More precisely, the current account deteriorated significantly in 2022; imports of goods, driven by stronger consumption patterns and increases in industrial production and investment, were higher than exports of goods (Bank of Greece, 2023). Higher oil prices and the negative contribution of the primary and secondary income accounts, the same year, aggravated the current account deficit.

FIGURE 7
KOF Trade and Financial Globalization Index, *de jure* and *de facto,* World, 1970-2021

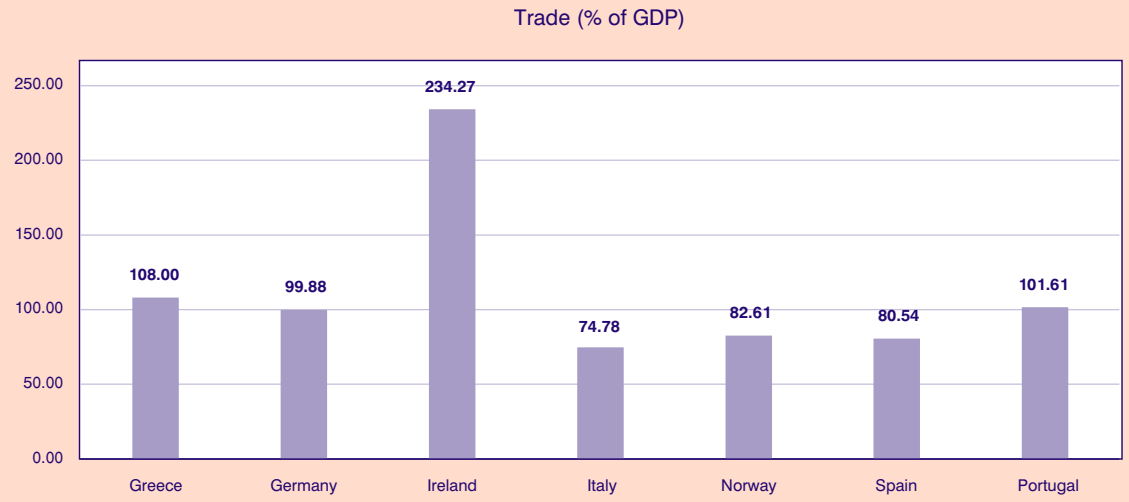


Source: KOF Globalization Index – KOF Swiss Economic Institute, ETH Zurich

Note: Data for the KOF index and subindices are available between 1970-2021.

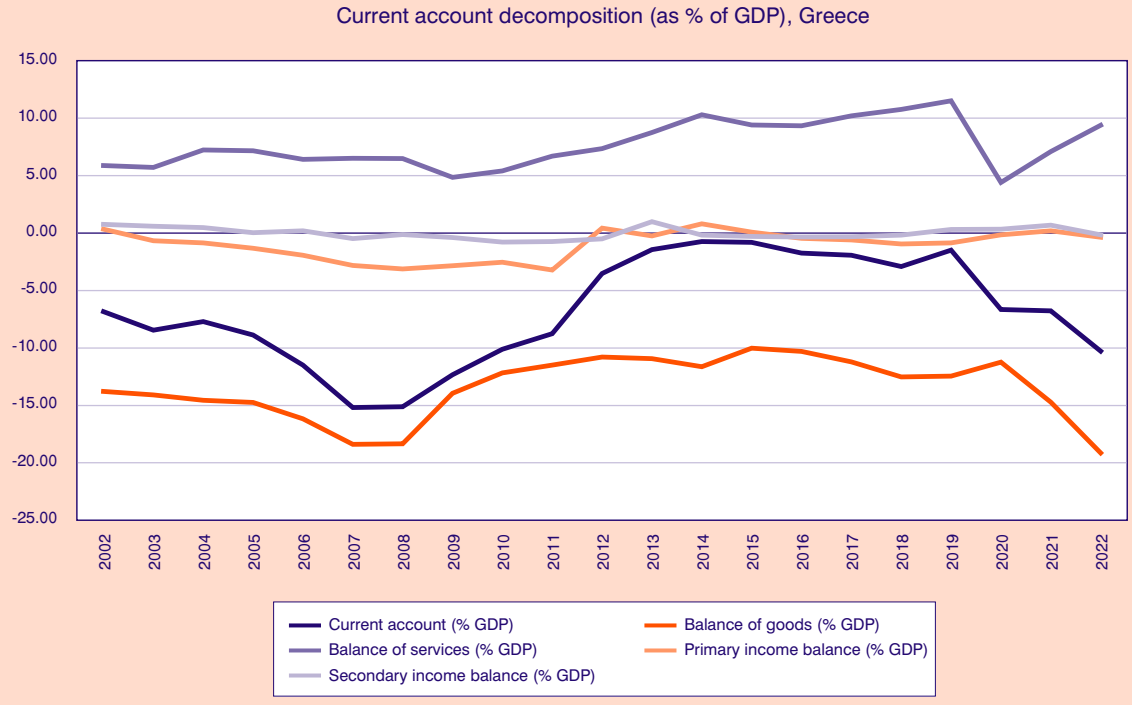
It is obvious that the trade balance deficit is the most problematic component of the current account with large persistent deficits throughout the time, peaking at 44.05 billion euros in 2008 (Figure 10). The main reasons behind trade imbalances are i) the high dependence of Greece on imports, ii) Greece's low participation in value chains, iii) the low competitiveness of Greek products, iv) the composition of the exported products where the Greek exports of capital-intensive and technology-intensive products are significantly lower compared to other Eurozone countries and v) the energy dependence of the economy (Konstantakopoulou, 2015). On the other hand, the services trade balance is always positive during the examination period (Figure 11), while it contributes significantly to holding back the large current account deficits.

FIGURE 8
Trade (% of GDP), 2022



Source: World Bank Development Indicators.

FIGURE 9
Current account decomposition as % of GDP, Greece, 2002-2022



Source: Bank of Greece, ELSTAT, own calculations.

Note: Data at Bank of Greece for current account start in 2002.

FIGURE 10
Trade in goods in Greece for the period 2002-2022

Source: Bank of Greece.

Note: Available data for exports and imports of goods start in 2002.

FIGURE 11
Services trade in Greece for the period 2002-2022

Source: Bank of Greece.

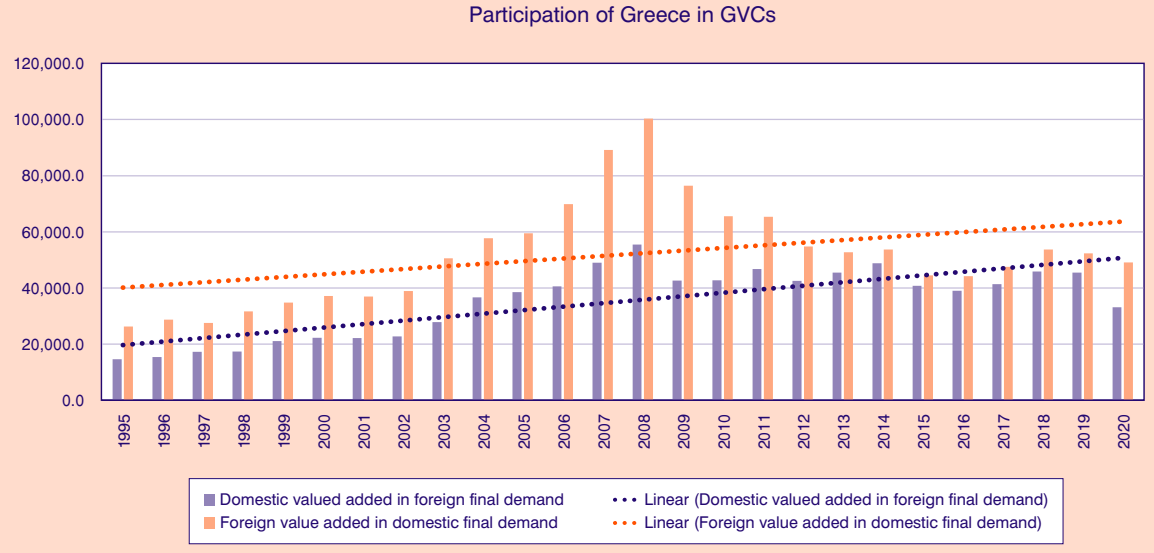
Note: Available data for exports and imports of services start in 2002.

Greece's total domestic value added in foreign final demand, including all sectors, is weak compared to the foreign value added in domestic final demand (Figure 12). This means that Greece is considered primarily a consumer of foreign inputs rather than a supplier of goods and services to the other countries. In more detail, from 1995 to 2008, there is a clear upward trend, reflecting Greece's growing contribution to the global economy through exports. Following the 2008 financial crisis, there is a pronounced decline, reflecting the economic recession's impact. However, an upward trend is revealed through the years for its domestic value added, which is still lower than the foreign value added. Similarly, foreign valued added in domestic final demand shows an upward trend until 2008, peaking around the same time. The post-2008 period shows that this indicator stabilizes at a level lower than the pre-crisis peak. These patterns highlight, on one hand, the significant impact of the GFC and, on the other hand, the high dependency of Greece on imports and its limited integration in Global Value Chains.

Breaking down domestic and foreign valued added by sector of activity, it is evident that Greece adds more value to the foreign final demand in the services sector and to a lesser extent in the manufacturing sector (Figure 13).[7] The same pattern is revealed for the foreign valued added in the domestic final consumption of Greece; foreign industries in the services, manufacturing and mining and quarrying sectors are the ones that add the highest value added (Figure 14).

Another factor contributing to the low domestic value added may be Greece's position in terms of upstreamness and downstreamness. For instance, the country could be involved mainly in the production of raw materials, that add less value (upstreamness), or it may produce final goods that are not extensively used in other countries' exports (downstreamness). GVC positioning indicators have recently developed and com-

FIGURE 12
Domestic valued added in foreign final demand and foreign value added in domestic final demand, Greece, 1995-2020

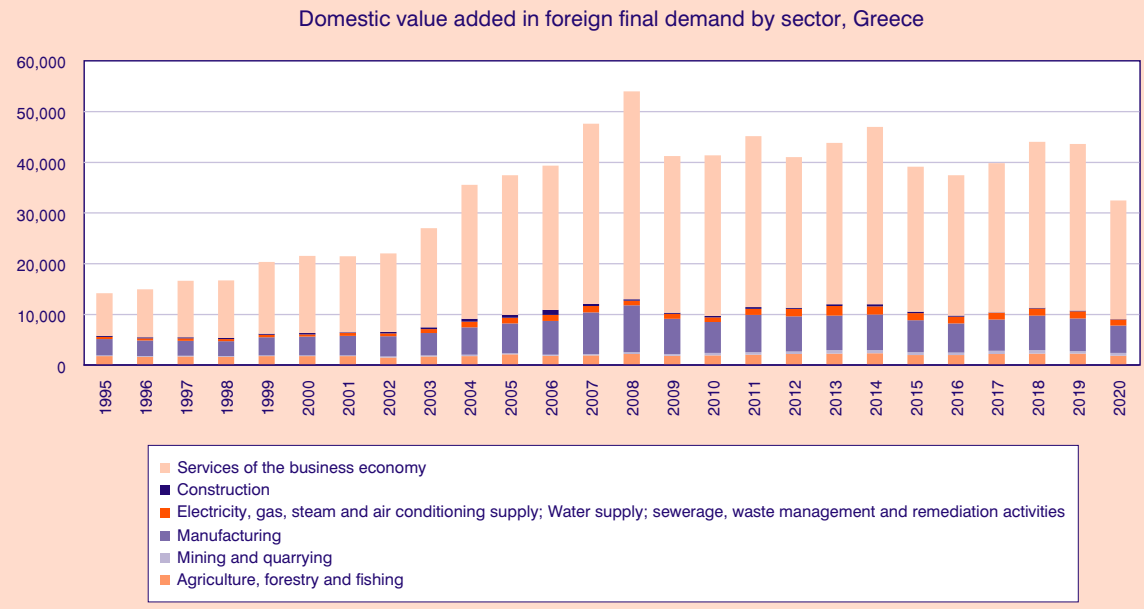


Source: OECD TiVA database, 2023.

Note: Data are available between 1995-2020.

7. The OECD TiVA (Trade in Value Added) database categorizes services to the business economy into sectors from G to N. This classification typically aligns with the ISIC (International Standard Industrial Classification) system. The categories for services to the business economy from G to N based on OECD TiVA classifications include: Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles (G); Transportation and Storage (H); Accommodation and Food Service Activities (I); Information and Communication (J); Financial and Insurance Activities (K); Real Estate Activities (L); Professional, Scientific, and Technical Activities (M); Administrative and Support Service Activities (N).

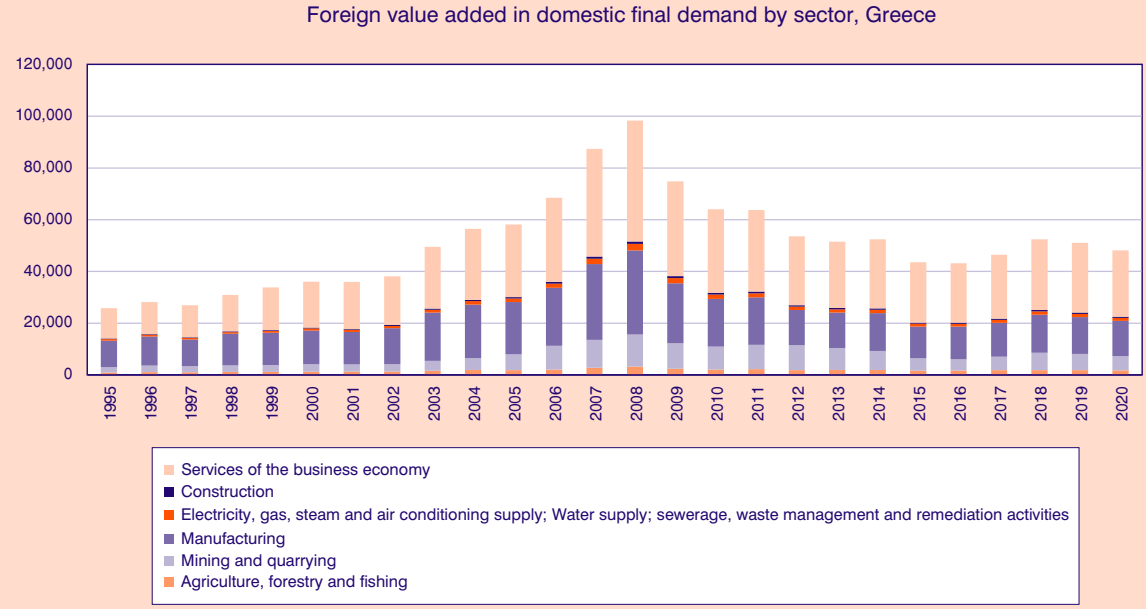
FIGURE 13
Domestic value added in foreign final demand by sector, Greece, 1995-2020



Source: OECD TiVa.

Note: Data are available between 1995-2020.

FIGURE 14
Foreign value added in domestic final demand by sector, Greece, 1995-2020



Source: OECD TiVa.

Note: Data are available between 1995-2020.

plement the existing common indicators of GVC participation that are already available to researchers (the World Bank's WITS GVC and OECD-TiVA datasets).[8]

4.3.2. Greece's competitive advantage

Comparative advantage is one of the fundamental concepts in international trade, revealing an economy's ability to produce a particular good or service at a lower opportunity cost than its trading partners. The theory of comparative advantage was formulated in the 19th century by David Ricardo, who argued that countries can benefit from trading with each other by specializing in products and services in which they have a lower opportunity cost and trading with other countries to obtain goods and services in which they have a comparative disadvantage.

Ricardo attributed the source of each country's comparative advantage to differences in labor productivities resulting from differences in their technologies. Thereafter, various trade models were developed, each presenting different factors as the drivers of comparative advantages. For instance, Heckscher and Ohlin underscored the different proportions of factor endowments that each country has as the main source of comparative advantage. Differences in technology and knowledge (Young, 1991), in R&D and knowledge diffusion (Grossman and Helpman, 1991; Rivera-Batiz and Romer, 1991) are considered other sources of comparative advantage. Furthermore, Eaton and Kortum (2002), Romalis (2004), Costinot, Donaldson and Komunjer (2012), Arkolakis, Costinot and Rodríguez-Clare (2012), and Levchenko and Zhang (2016) point to technological differences, productivity and endowments as the main drivers of comparative advantage creation. Other studies argue that institutional quality (Levchenko, 2007; Costinot, 2009; Nunn and Trefler, 2014), workers' human capital or the distribution of worker skills (Costinot, 2009; Ohnsorge and Trefler, 2007) and labor market flexibility (Cuñat and Melitz, 2012) are the driving forces of comparative advantages.

Being a fundamental concept in international economics, comparative advantage was investigated by many empirical studies (Balassa and Noland, 1989; Richardson and Zhang, 2001; Yue and Hua, 2002; Lee, 2011; Mallick and Marques, 2016; among others).

Using data from the International Trade Center of the World Trade Organization, the RCA indexes for Greece during the period 2008-2022 for 17 product categories and 11 service categories are calculated.

Results on RCA are presented in Table 1, which shows that Greece experiences a revealed comparative advantage in agricultural products, food, fuels and mining products and pharmaceuticals for the whole examination period. A disadvantage appears in machinery and transport equipment, office and telecom equipment, electronic data processing and office equipment, telecommunications equipment, integrated circuits and electronic components, transport equipment and automotive products. Furthermore, Greece had a comparative advantage in textiles and clothing until 2011 and 2014, respectively; however, since then, it has experienced a disadvantage in these product categories. Finally, it is difficult to draw conclusions from iron and steel and chemicals as its advantages and disadvantages alternate over the years.

Table 2 reports findings on the revealed comparative advantage of Greece in eleven (11) selected services categories. Results indicate that Greece experiences a strong comparative advantage in transport and travel services, which is mainly related to its large dependency on tourism activities, whereas in all other service categories, a comparative disadvantage is revealed.

Following Vollrath (1991), the RTA index for Greece for the same product and service categories as above is computed. Results are summarized in Table 3. A positive value of the RTA is found in agricultural products, fuels and mining products (from 2010 onwards) and textiles (from 2015 onwards). In contrast, a negative RTA is found for manufactures, machinery and transport equipment and clothing categories. A positive value means that the relative trade advantage is over zero, pointing to greater exports than imports. On the other hand, a negative value indicates greater imports than exports, and hence, RTA is below zero. Therefore, RTA could be considered as a sign of a country's production specialization. Konstantakopoulou and Tsionas (2019) examine whether comparative advantages of countries have driven their export specialization for the euro area. They use various measures such as the RCA and the Relative Trade Balance, together with different econometric techniques, and find that export specialization is linked to comparative advantages. Moreover, they prove that the GFC has worsened export competitiveness in Greece, which is also characterized by weak and medium export specialization.

8. For instance, Mancini et al. (2024) developed a new open-access dataset of positioning indicators for a range of countries and sectors covering an extensive period, utilizing the most recent data from widely used inter-country input-output tables.

TABLE 1 Revealed Comparative Advantage across 17 product categories for Greece between 2008 and 2022

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Agricultural products	2.398	2.482	2.565	2.250	2.178	2.201	2.111	2.421	2.499	2.232	2.145	2.125	2.322	2.236	1.990
Food	2.661	2.663	2.769	2.514	2.323	2.366	2.266	2.611	2.688	2.393	2.333	2.222	2.471	2.331	2.104
Fuels and mining products	0.794	0.737	1.683	1.745	2.057	2.165	2.328	2.650	2.811	2.743	2.599	2.446	2.314	2.270	2.269
Fuels	0.543	0.518	1.639	1.711	2.109	2.231	2.380	2.685	2.915	2.831	2.655	2.528	2.453	2.464	2.372
Manufactures	0.692	0.649	0.628	0.601	0.520	0.507	0.517	0.542	0.546	0.523	0.521	0.566	0.633	0.589	0.550
Iron and steel	1.280	1.335	1.171	1.586	1.130	0.896	0.803	1.058	0.892	1.020	1.266	1.088	1.300	0.921	0.948
Chemicals	1.058	1.012	1.089	0.941	0.851	0.907	0.928	0.956	0.952	0.948	0.911	1.049	1.311	1.136	0.902
Pharmaceuticals	1.577	1.497	1.623	1.372	1.274	1.405	1.329	1.233	1.242	1.291	1.357	1.630	2.249	1.831	1.284
Machinery and transport equipment	0.351	0.334	0.304	0.299	0.271	0.241	0.266	0.290	0.293	0.257	0.258	0.275	0.303	0.295	0.295
Office and telecom equipment	0.208	0.172	0.165	0.215	0.172	0.138	0.240	0.289	0.318	0.243	0.286	0.285	0.283	0.253	0.327
Electronic data processing and office equipment	0.148	0.123	0.088	0.076	0.067	0.066	0.397	0.620	0.739	0.456	0.598	0.616	0.600	0.427	0.616
Telecommunications equipment	0.378	0.294	0.306	0.397	0.347	0.266	0.258	0.258	0.259	0.257	0.248	0.234	0.275	0.334	0.209
Integrated circuits and electronic components	0.043	0.062	0.081	0.135	0.056	0.046	0.051	0.018	0.019	0.022	0.018	0.022	0.033	0.057	0.235
Transport equipment	0.286	0.347	0.270	0.222	0.204	0.170	0.163	0.173	0.155	0.111	0.117	0.111	0.164	0.147	0.126
Automotive products	0.083	0.072	0.091	0.092	0.095	0.065	0.059	0.063	0.060	0.049	0.055	0.055	0.074	0.067	0.057
Textiles	1.610	1.457	1.249	1.072	0.873	0.840	0.849	0.877	0.971	0.952	0.864	0.900	0.873	0.922	0.947
Clothing	2.263	1.772	1.681	1.459	1.199	1.124	1.041	0.864	0.838	0.898	0.882	1.173	0.902	0.919	0.843

Source: International Trade Center of the World Trade Organization and own calculations.

TABLE 2 Revealed Comparative Advantage across 11 services categories for Greece between 2008 and 2022

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Manufacturing services on physical inputs owned by others	0.031	0.028	0.015	0.016	0.018	0.019	0.047	0.07	0.042	0.098	0.085	0.084	0.113	0.05	0.052
Maintenance and repair services n.i.e.	0.453	0.568	0.462	0.369	0.381	0.396	0.25	0.207	0.174	0.149	0.134	0.15	0.228	0.291	0.252
Transport	2.455	2.52	2.602	2.434	2.386	2.198	2.227	2.399	2.488	2.512	2.622	2.594	3.602	2.714	2.327
Travel	1.422	1.554	1.382	1.51	1.546	1.731	1.776	1.822	1.797	1.774	1.802	1.891	1.731	2.857	2.33
Construction	0.326	0.432	0.875	1.531	0.914	0.916	1.304	0.997	0.956	0.599	0.396	0.554	1.405	1.021	0.81
Insurance and pension services	0.33	0.404	0.426	0.565	0.569	0.591	0.52	0.372	0.375	0.484	0.403	0.442	0.56	0.454	0.388
Financial services	0.033	0.048	0.045	0.047	0.039	0.057	0.047	0.045	0.049	0.051	0.041	0.04	0.066	0.181	0.146
Charges for the use of intellectual property n.i.e.	0.014	0.019	0.029	0.027	0.037	0.024	0.04	0.023	0.034	0.028	0.031	0.024	0.029	0.02	0.026
Telecommunications, computer, and information services	0.209	0.245	0.285	0.291	0.289	0.307	0.303	0.26	0.313	0.303	0.262	0.242	0.289	0.229	0.19
Other business services	0.242	0.252	0.169	0.175	0.254	0.245	0.237	0.207	0.237	0.26	0.233	0.214	0.299	0.231	0.234
Audiovisual and related services	0.369	0.426	0.447	0.539	0.557	0.572	0.704	0.611	0.693	0.541	0.599	0.51	0.938	0.824	0.621

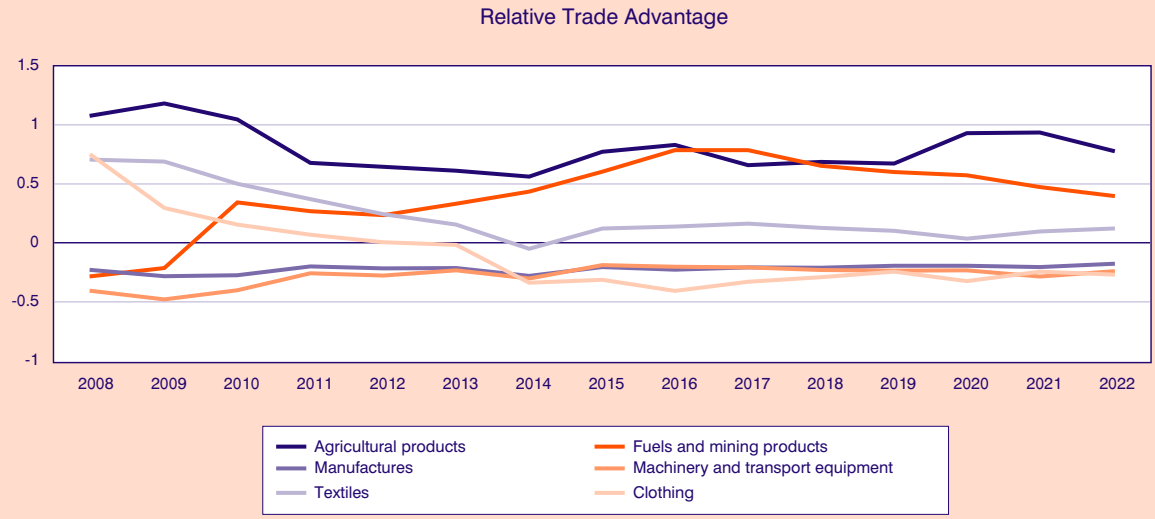
Source: International Trade Center of the World Trade Organization and own calculations.

TABLE 3 Relative Trade Advantage across 17 product categories for Greece between 2008 and 2022

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Agricultural products	1.078	1.181	1.044	0.676	0.644	0.611	0.560	0.770	0.831	0.657	0.687	0.673	0.930	0.934	0.779
Food	1.209	1.236	1.078	0.744	0.633	0.625	0.568	0.799	0.865	0.657	0.713	0.627	0.959	0.898	0.785
Fuels and mining products	-0.282	-0.215	0.343	0.267	0.234	0.332	0.433	0.604	0.786	0.785	0.651	0.600	0.573	0.473	0.398
Fuels	-0.616	-0.548	0.090	0.015	0.019	0.134	0.200	0.265	0.483	0.521	0.384	0.338	0.249	0.206	0.189
Manufactures	-0.231	-0.283	-0.275	-0.199	-0.217	-0.214	-0.281	-0.206	-0.229	-0.208	-0.211	-0.194	-0.196	-0.206	-0.177
Iron and steel	0.439	0.638	0.529	0.879	0.536	0.215	0.137	0.327	-0.011	0.140	0.335	0.270	0.420	0.103	0.086
Chemicals	-0.144	-0.229	-0.245	-0.398	-0.412	-0.405	-0.355	-0.437	-0.436	-0.398	-0.337	-0.254	-0.277	-0.174	-0.151
Pharmaceuticals	-0.577	-0.630	-0.724	-1.023	-0.888	-0.712	-0.606	-0.778	-0.694	-0.638	-0.391	0.182	0.702	0.417	0.087
Machinery and transport equipment	-0.408	-0.479	-0.401	-0.258	-0.277	-0.234	-0.302	-0.190	-0.203	-0.207	-0.230	-0.235	-0.235	-0.287	-0.242
Office and telecom equipment	-0.260	-0.272	-0.253	-0.257	-0.331	-0.240	-0.161	-0.159	-0.086	-0.127	-0.092	-0.088	-0.134	-0.156	-0.120
Electronic data processing and office equipment	-0.355	-0.358	-0.314	-0.312	-0.255	-0.347	-0.252	-0.170	0.013	-0.180	-0.031	-0.005	-0.053	-0.128	0.015
Telecommunications equipment	-0.366	-0.371	-0.303	-0.175	-0.193	-0.221	-0.250	-0.308	-0.263	-0.254	-0.314	-0.305	-0.324	-0.307	-0.217
Integrated circuits and electronic components	-0.036	-0.054	-0.139	-0.302	-0.578	-0.172	-0.012	-0.026	-0.021	-0.006	-0.013	-0.032	-0.079	-0.095	-0.121
Transport equipment	-0.767	-1.044	-0.856	-0.424	-0.481	-0.392	-0.640	-0.279	-0.313	-0.311	-0.304	-0.381	-0.337	-0.370	-0.387
Automotive products	-0.802	-0.871	-0.454	-0.318	-0.170	-0.241	-0.336	-0.358	-0.397	-0.407	-0.429	-0.457	-0.462	-0.505	-0.492
Textiles	0.705	0.688	0.501	0.369	0.244	0.155	-0.052	0.121	0.136	0.163	0.127	0.103	0.034	0.097	0.120
Clothing	0.741	0.294	0.155	0.069	0.004	-0.017	-0.338	-0.315	-0.408	-0.331	-0.292	-0.243	-0.324	-0.245	-0.271

Source: International Trade Center of the World Trade Organization and own calculations.

FIGURE 15
Relative Trade Advantage across six main product categories for Greece during the 2008-2022 period



Source: International Trade Center of the World Trade Organization; own calculations.

In Figure 15, the evolution of the RTA of the six main product categories from 2008 to 2022 is presented to illustrate Greece's relative trade advantage. A good RTA appears in agricultural products and fuels and mining products, which is indicated by the positive value of the indicator. Especially for fuel and mining products, the RTA has increased over time, moving to positive territory from 2010 onwards and peacking in 2016 (at 0.785) before dropping slightly but remaining well above zero. This trend contrasts with the other product categories, which embarked on a downward trajectory from 2009 onwards on the back of the adverse effects of the sovereign debt crisis and the subsequent recession. Thus, the sector of fuels and mining products does not appear to be affected by the negative consequences of the previous decade's crisis. Manufactures, machinery and transport equipment, as well as clothing remain persistently below zero from 2013 onwards, indicating a relative trade disadvantage.[9]

4.3.3. Greece's position

Considering trade data and current account decomposition, it is obvious that Greece's economy is highly dependent on global trade, making it more vulnerable to trade fragmentation and de-globalization than other EU countries. Moreover, Greece relies heavily on imports of goods, maintaining a less competitive export profile. Although Greece consistently maintains a positive balance in services, largely due to its strong tourism sector, the goods trade balance is persistently negative, contributing to a steady current account deficit. This situation worsened in 2022 due to increased imports driven by higher consumption, industrial production, and investment (which increased imports of raw materials), coupled with rising oil prices.

Greece's participation in Global Value Chains (GVCs) is relatively limited. The domestic value added in foreign final demand, although showing an upward trend, remains lower than the foreign value added in domestic final demand. This indicates a high dependency on imports and a weaker position within GVCs. Greece contributes more value to foreign demand in services than in manufacturing, highlighting its economic structure's focus on less industrialized sectors. Furthermore, Greece's position in GVCs suggests it is more involved in upstream activities, such as raw material production, which add less value compared to downstream activities that are integral to other countries' exports.

The competitive advantage analysis highlighted Greece's strength in specific sectors. The Revealed Comparative

9. Data on the RTA for selected services categories show that a good RTA appears in travel services.

Advantage (RCA) index shows that Greece experiences an advantage in agricultural products, food, fuels, mining products, and pharmaceuticals through the years. However, it faces disadvantages in machinery, transport equipment, and high-tech sectors such as telecommunications and electronic components. Greece's comparative advantage in textiles and clothing has also declined since 2011. In the services sector, Greece has a strong comparative advantage in transport and travel services, whereas it experiences disadvantages in most other service categories, such as telecommunications, financial services, and intellectual property-related services.

When considering both exports and imports through the Relative Trade Advantage (RTA) index, Greece shows a positive trade advantage in agricultural products, fuels, and mining products, indicating stronger exports than imports in these sectors. Conversely, it has a negative trade advantage in manufacturing and high-tech sectors, where imports exceed exports, underscoring the challenges Greece faces in enhancing its industrial and technological capabilities.

5. Conclusion

After decades of increasing global integration, there is now evidence marking a de-globalization era, mainly driven by various economic, geopolitical, and health crises. Data point to global trade fragmentation, with countries like the United States and China decoupling and diversifying their trade partners, while the European Union seems mainly unaffected, maintaining its global trade integration. The shift towards de-globalization and trade fragmentation offers mixed implications: it can enhance economic resilience and protect domestic industries but may also lead to higher consumer prices, reduced innovation, and environmental concerns.

De-globalization seems to affect Greece significantly due to its trade profile. As analyzed, Greece experiences a high reliance on imports, while retaining a less competitive export profile, all of which pose significant challenges adapting to this new challenging landscape. While Greece benefits from certain competitive strengths, its heavy reliance on imports of goods and its limited integration into global industrial value chains pose significant challenges in front of global trade shifts and economic pressures. For Greece, strategic adaptation is prerequisite, emphasizing competitive advantages in services and targeted support for sectors with potential comparative advantages. As global trade dynamics evolve, the balance between global integration and national resilience will be crucial in shaping future economic policies and international relations.

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