

KEPE, *Greek Economic Outlook*, issue 51, 2023, pp. 60-73

Greece's recent economic performance and post-pandemic prospects

Pródromos Prodromídis*,**

Abstract

The article describes Greece's recent performance in terms of COVID-19 mortality, real output per capita, unemployment, public investment spending, the trade deficit, and price inflation. Greece emerges as a country that (a) achieved a mid-range mortality rate in the EU despite the relatively high population share of elderly people, and also (b) exhibited one of the lowest price inflation rates in the EU, both before and during the war in Ukraine. Even though the external trade deficit spiked in 2022, as Greece switched to expensive substitutes for Russian energy imports, the country turned a corner as real per capita output started (feebly in 2020-21, more prominently in 2022) to converge to the EU-27 average for the first time since 2009, and the unemployment rate continued to fall. The extensive public investment spending plan agreed with the EU is a source of optimism regarding future output.

Keywords: real GDP per capita, inflation, unemployment, COVID-19 mortality, trade deficit, public investment spending

JEL Classification: E20, E30, F10, H50, I12

1. Introduction

In a year when international uncertainties are running high, Greece, the EU's most over-indebted country,

stands at a socioeconomic, electoral, and geopolitical crossroads.

The OECD (2023) and the Bank of Greece (2023) are optimistic of the country's prospects as long as credible economic policies are implemented, the reform momentum and consensus among stakeholders are maintained, the infrastructure is upgraded, modest primary budget surpluses are achieved, the public sector is modernized, the institutions are strengthened, and vulnerable households are supported.

In line with the good practice of cross-checking assessments on matters of importance, the article looks into Greece's recent performance in terms of a number of crucial variables, namely, real output per capita, COVID-19 mortality, public investment spending, unemployment, the trade deficit, and price inflation –each in a separate section (the six sections that follow)– in order to evaluate the situation and make inferences or draw conclusions about the prospects. The inferences and conclusions are supplied in the last (the eighth) section.

2. Real per capita output

Over the course of Greece's membership in the Eurozone,¹ the country's real per capita Gross Domestic Product (GDP) initially expanded (until 2007),² then contracted (up to 2013), stabilized and recovered. The mild recovery was interrupted initially by the COVID-19 pandemic (in 2020), and subsequently (though less visibly) by the sanctions and countersanctions and the energy crisis that followed the Russian invasion of Ukraine (in 2022). See Figure 1.

The largest reduction occurred in 2011, the second largest occurred in 2020 (first year of the pandemic), and additional large reductions (in descending order)

* Senior Research Fellow, Centre of Planning and Economic Research (KEPE). E-mail: pjprodr@kepe.gr

** The article has benefited from helpful comments offered by an anonymous referee. The editorial suggestions made by Nicky Spanoudis are greatly appreciated.

– 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. Greece met the Maastricht criteria in mid-2000 and joined the Eurozone in early 2001.

2. Year 2007 included, as the global financial crisis spread.

FIGURE 1
The evolution of real GDP per capita in Greece and the EU-27 during 2000-22, in €

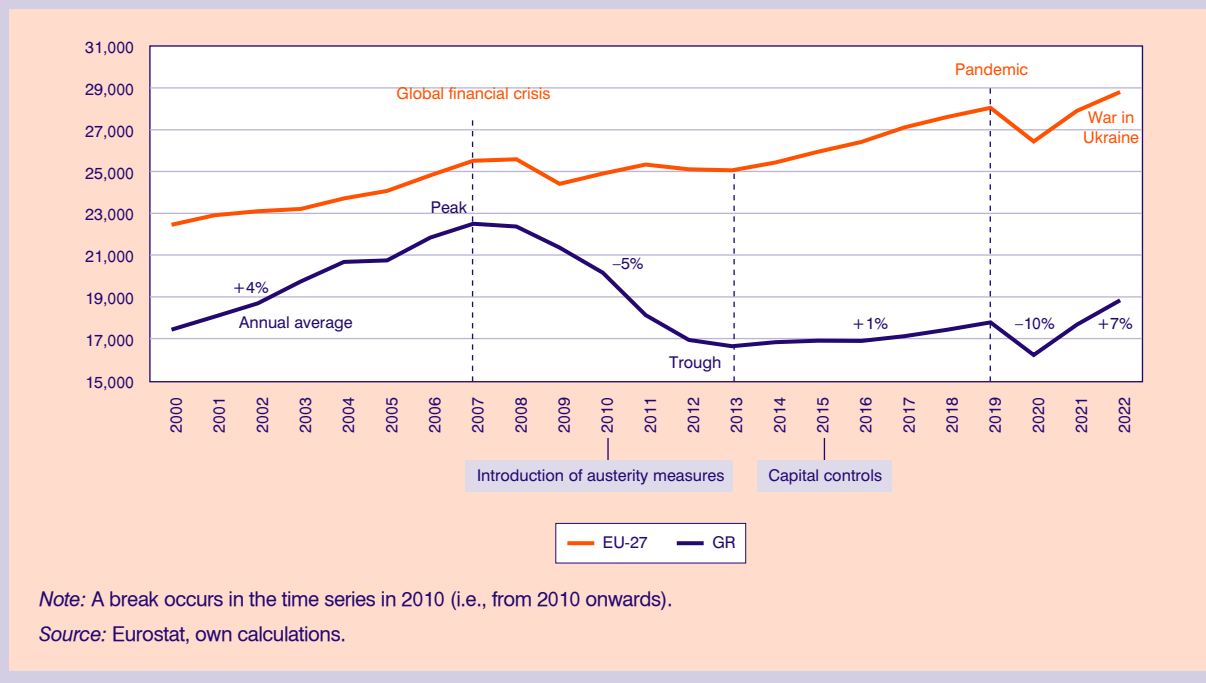
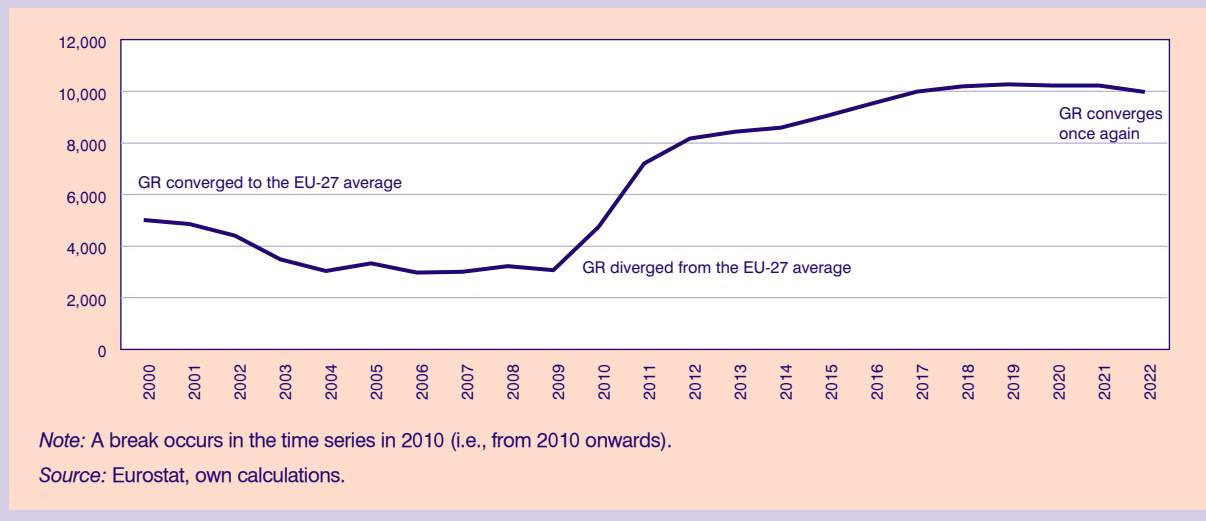


FIGURE 2
The real per capita GDP difference between the EU-27 and Greece, 2000-22, in €



occurred in 2010,³ 2012 and 2009, all in the wake of an external shock: the global financial crisis. By contrast, the largest surge occurred in 2021 and the second largest surge occurred in 2022 (in the second and third year of the pandemic, respectively).

As the EU-27 average generally increased over time, Greece’s initial convergence to the EU-27 average came to a standstill in 2004-09. It was followed by considerable divergence up to 2019, and convergence in 2020-22. See Figure 2.

3. This was the year that the first austerity measures were introduced in Greece, and the first bailout Memorandum of Understanding (MOU) was agreed with the European Commission, the European Central Bank and the International Monetary Fund. It is also the year for which a break in the GDP time series is reported by Eurostat.

TABLE 1 The average rate of overall life satisfaction (0-10) among people aged 16 or older in 2013, 2018, 2021

	2013	2018	2021
EU-27	7.0	7.3	7.2
GR	6.2	6.4	6.8

Source: Eurostat.

An infrequently estimated measure of well-being also suggests that people’s overall life satisfaction generally increased faster in post-recession Greece compared to the rest of the EU. See Table 1.

All in all, Greece appears to be turning a corner in its conversion to the EU-27 real GDP per capita average, after years of economic pain.

The latest (2022) real GDP per capita figure stands at 84% of the figure observed in 2010 (when the first austerity measures were introduced); while the latest distance (gap) from the EU-27 average is about 2.1 times larger than the distance from the respective 2010 EU-27 average.

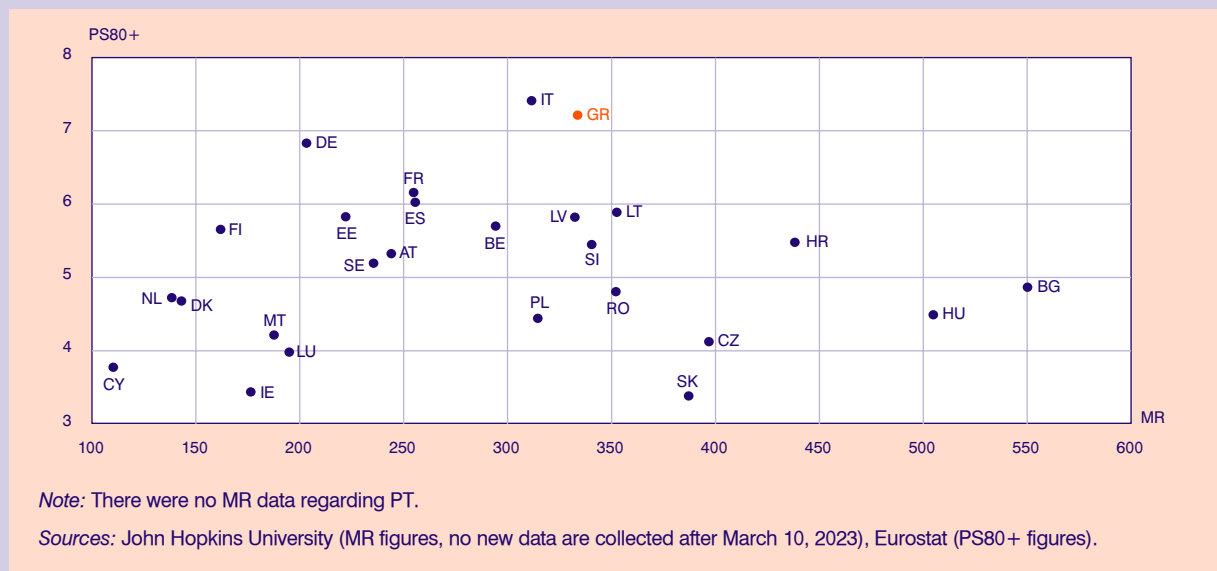
3. COVID-19 mortality

The pandemic affected a dilemma amongst policy-makers across the world to either: (a) maintain economic activity and interaction at the risk of suffering a rapid spread of the coronavirus in the population and considerable losses in terms of human lives, or (b) reduce economic activity and social interactions so as to delay the spread of the coronavirus in the population (and prevent considerable loss of human lives) until vaccines are developed and supplied to a large portion of the public (Prodromidis, 2021).

Figure 3 provides (a) the COVID-19 mortality rates (MR) observed in the EU member states up to the time the article was written (in spring of 2023), and (b) the population shares of the late elderly (aged 80 years or older) in each member state (PS80+), at the time the virus reached Europe.

It seems that Greece achieved the EU’s mid-range mortality rate even with (a) a relatively large population share of late elderly people (the age group that turned out to be the most vulnerable) and (b) the weakened state of the country’s health service (and of other services) due to cutbacks and the long recession, while rushing to make up lost ground and raise output in 2022.⁴

FIGURE 3
The population shares of people aged 80 or over (PS80+) in the EU on January 1, 2020 and the number of deaths per 100,000 population (MR) across the EU up to March 10, 2023



4. By March 2022, over 76% of the population had received at least one dose of the vaccine, and booster doses were available for all who wished; so the smooth operation of economic life was restored.

4. Public investment spending

Shifting attention to the country's post-pandemic prospects in terms of output, we look at its best-known measure, the GDP, Y . One of the standard ways of calculating the GDP is by adding up the values of all goods and services consumed in a year. These goods and services are usually organized in terms of five components:

$$Y = C + I + G + (X - M). \quad (1)$$

Consumption, C , consists of private (household) and nonprofit organization expenditures for durable goods, non-durable goods, and services in the country. It generally increases with output. That is, consumption goes up in the recovery and expansion phases, and down in the contraction phases (recession, depression).

Private investment, I , refers to (a) household spending on new houses in the country, and (b) purchases of buildings, machinery, equipment, software, and other intellectual property that businesses make in the country in order to produce goods and services, minus the disposal of such assets, plus certain additions to the value of non-produced assets realized by the productive activity (such as improvements to land).⁵ The received wisdom is that in the course of the recession, especially from 2009 on, private investment in Greece declined, even collapsed.

Government spending, G , is the sum of government expenditures on final goods and services. It includes salaries of public servants, purchases of weapons for the military, and any investment expenditure by the government on equipment, buildings, and other structures such as roads, bridges, etc.⁶ Much like consumption and private investment, government spending in Greece followed a cyclical path and declined during the recession.

Exports, X , capture the overall value of goods and services that the country produces for other nations' consumption.

Imports, M , capture the overall value of goods and services supplied from other nations and purchased by domestic consumers.

It turns out that the lower bound of certain future values of one of these items, namely, of public investment spending (a part of G), G_1 , is to a considerable extent already known to economic development pol-

icy planners. Indeed, the annual amounts of G_1 for a number of years to come have already been pledged, checked and agreed upon (mostly between the EU and national authorities). As G_1 by and large originates from overseas, it may not crowd out domestic private investment. To the extent its lower bound is expected to massively surpass what was ever available in Greece in the recent past, *ceteris paribus*, the GDP is likely to move in the same direction: up. See Figure 4.

In particular, this G_1 is expected to first shift the economy's aggregate demand (AgD) to the right, and at a later stage – through the manmade or human capital produced (i.e., via the projects funded by this G_1) – to enter the production process and, in all likelihood, shift the economy's aggregate supply (AgS) to the right. If the shift of the AgD dominates the shift of the AgS, then both real output and prices go up, and if the shift of the AgS dominates the shift of the AgD, then real output goes up and prices go down (see Prodromidis, 2022). Consequently, some degree of optimism about Greece's output prospects may be warranted.

At any rate, *ceteris paribus*, the rightward shift in the AgD will have a positive effect on labor demand and, by extension, on employment, bringing about a reduction in both the number of the unemployed and the unemployment rate. Consequently, the unemployment rate will continue to converge towards the EU average. See Figures 5 and 6. However, the impact of G_1 may be tempered by leakages. We discuss these leakages in Section 6.

5. Unemployment

The number of unemployed people peaked in the 1st quarter of 2014 and, as Figure 5 suggests, declined subsequently. In addition, the long-term component (people in unemployment for over 11 months) came down at a faster pace compared to the total number of unemployed. So, in 2022, on average, the former stood at 39% of its 2014 level, and the latter at 46% of its 2014 level.

The availability of a good number of monthly observations before and after the peak (a) helps the reader look at developments in a more detailed manner than

5. NB: In this context, the term *investment* should not be confused with the purchases of financial products. Indeed, buying financial products is considered as *saving*, not as investing.

6. Transfer payments made by the government are not counted because these payments do not reflect a purchase by the government, but rather a movement of income. They are captured in consumption when the payments are spent.

FIGURE 4

The recent evolution of real GDP per capita and public investment spending in Greece (2013-22), and the spending plans of the public investment secured, 2013=100

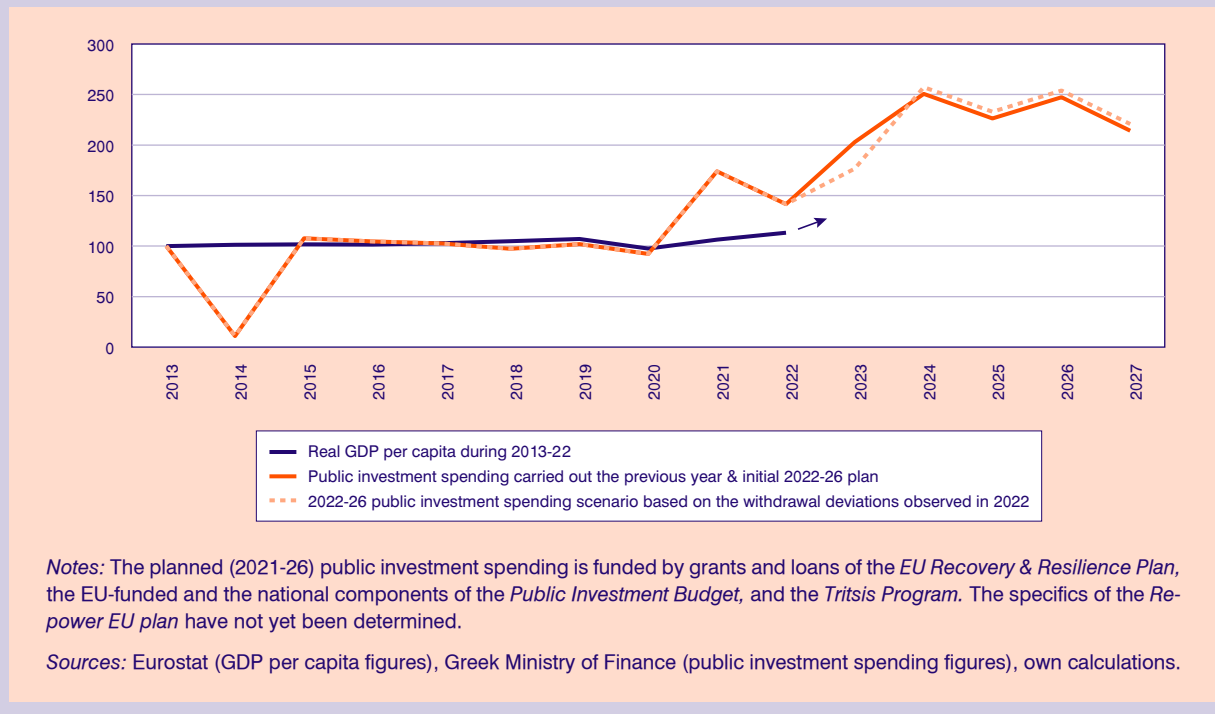


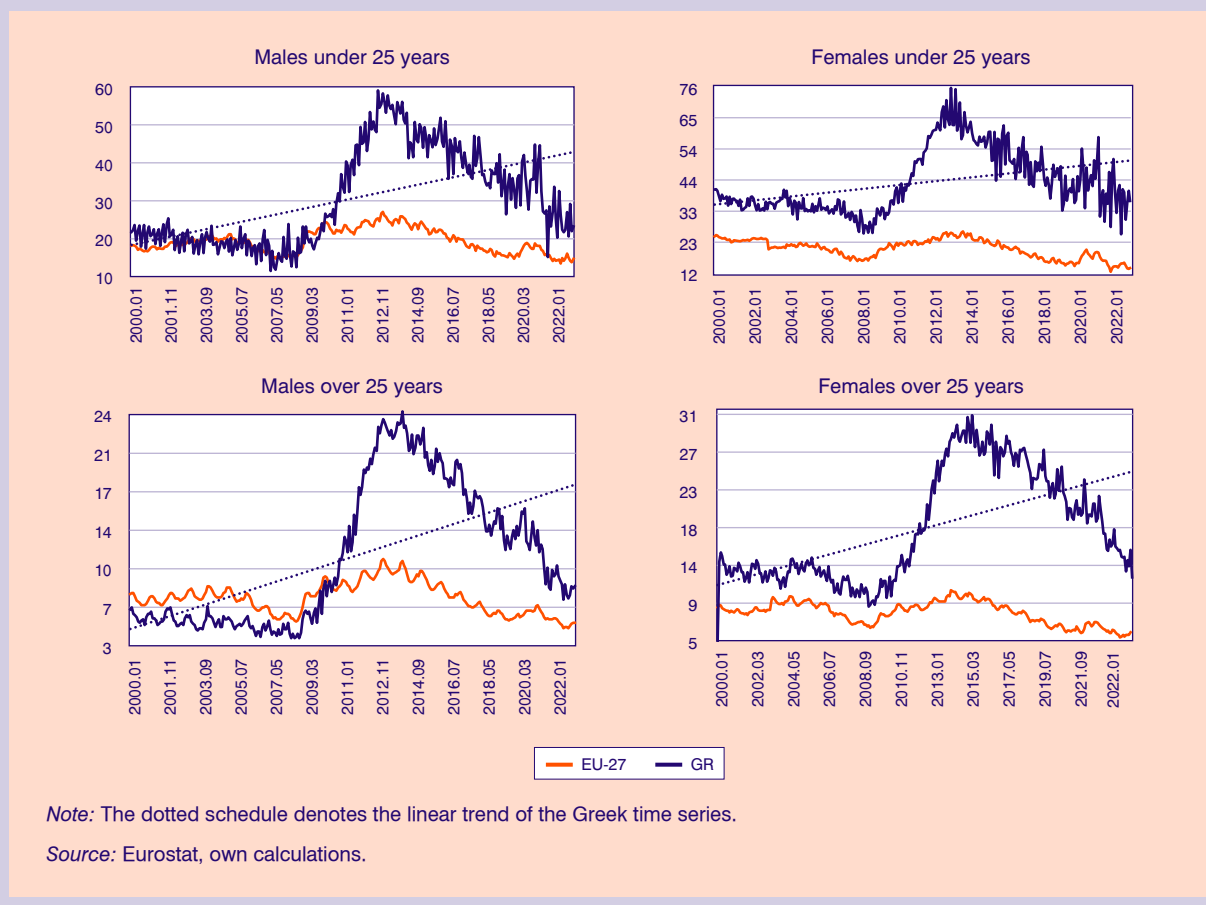
FIGURE 5

The evolution of the LFS number of the unemployed aged 15-74 (in thousand people) and of the declared job vacancies from the 3rd quarter of 2013 to the last quarter of 2022



FIGURE 6

The evolution of the unemployment rate in Greece and the EU from Jan. 2000 to Jan. 2023



output data,⁷ and (b) permits an econometric description of the evolution of the total number of unemployed people, in terms of seasonal and cyclical fluctuations and components.⁸ See Table 2. The findings reveal that, from a cyclical perspective, the number of the unemployed

- increased from April 2004⁹ (as the preparations for the Athens Summer Olympics came to a close) to June 2008,
- dropped in July-November 2008,¹⁰
- increased in December 2008-July 2011, increased further during August 2011-January 2012, even more during February-July 2012, and again in August 2012-February 2014,
- dropped somewhat in March 2014, dropped further in July 2014, and again in April 2015,
- increased again in May 2015-November 2016, at a slower pace, spiked briefly in June-July 2015, at the time of imposition of capital controls in Greece, and
- decreased from December 2016 on.

7. Indeed, output is available in more aggregated (i.e., quarterly or annual) form. As a result, the number of available observations may be insufficient for regression analysis. The association between unemployment and output is made with Okun's Law in mind. Okun's Law is an empirically observed relationship between changes in the unemployment rate and changes in the real GDP: An increase in the one is associated with a decrease in the other, and vice versa.

8. The rest is, to a considerable extent, frictional and structural. In Figure 5, the declared job vacancies schedule provides a lower bound for the structural component. The Manpower Group (2023) reports that eight in ten employers in Greece find it difficult to fill open roles, and according to SEVE (2023), nine in ten exporting businesses in Greece cannot find specialized and unspecialized staff.

9. In accordance with the extremes of the expression estimated in Table 2 with respect to time (see bottom line of Table 2).

10. The development was short-lived as in November 2008, the Eurozone entered into recession; in Greece, December was marred by extreme social unrest and considerable deterioration in the cost of financing the government.

TABLE 2 The evolution of the total number of unemployed people aged 15 or over in Greece, from Jan. 2000 to Jan. 2023 in thousand people

Regressors	Coefficients
Autonomous component (initial level)	677.1895
Seasonal component (November-May: reference)	
• June-October	-41.4256
• May of 2008 and 2009	-216.483
Cyclical components	
• Time *	-11.0587
• Time square *	0.1348
• Time cube *	-0.0004
Other notable fluctuations	
Jul.-Nov. 2008	-189.1844
Aug. 2011-Jan. 2012, and Jun.-Jul. 2015	207.1473
Feb.-Jul. 2012, and Mar.-Jun. 2014	331.7629
Aug. 2012-Feb. 2014	431.3235
Jul. 2014-Mar. 2015	277.1893

Observations: 277. Model fitness (R^2): 93.68%

Notes: The regression is estimated with robust standard errors so as to address issues of heterogeneity and lack of normality. All p-values are equal to 0. They are not reported as they are useful only in analyses carried out in samples. (When p-values are very close or equal to zero, one may deduce that the positive or negative effects observed in the sample also exist in the larger population.) Here the analysis is carried out in the population.

* The three coefficients suggest that the slope was initially negative, turned positive in Apr. 2004, and again negative in Dec. 2016.

Source: Eurostat, own calculations.

The latest (most recent, January 2023) unemployment rates of males and females, both under and over 25 years old, are at about the respective January 2010 rates (i.e., the rates observed prior to the passing of austerity measures and the first bailout MOU). See Figure 6 above. In particular, the latest unemployment rate is

- slightly above the EU-27 rate (by 3 percentage points), in the case of males over the age of 25;
- moderately above the EU-27 rate (by 6 percentage points), in the case of females over the age of 25;
- considerably above the EU-27 rate (by 9 percentage points), in the case of males under the age of 25;
- very much above the EU-27 rate (by 23 percentage points), in the case of females under the age of 25.

To deal with the situation, the Greek Government (2021) set out to upskill and reskill the workforce by financing,

with considerable *Recovery and Resilience Fund* resources, the training and lifelong education of the workforce. In addition, in 2022, the public body for the promotion of employment was revamped in terms of both operations and interventions. The expectation is that in the future (a) the workforce will fill more job vacancies more quickly (see Figure 7; most vacancies are in accommodation, food services, and construction), and pursue additional employment opportunities and higher wages; (b) the domestic labor market may become more efficient; and (c) with more people employed, earning incomes, and being taxed, future state revenues may go up.

In addition, from 2019 on, the government

- Succeeded in attracting some private foreign investment –considerable by Greek standards as, historically, the country has not been able to systematically do so (see Enterprise Greece, 2022; Zisisimou, 2023). *Ceteris paribus*, with more private in-

FIGURE 7
Job vacancies across sectors in Greece, 2017.Q1 – 2022.Q4

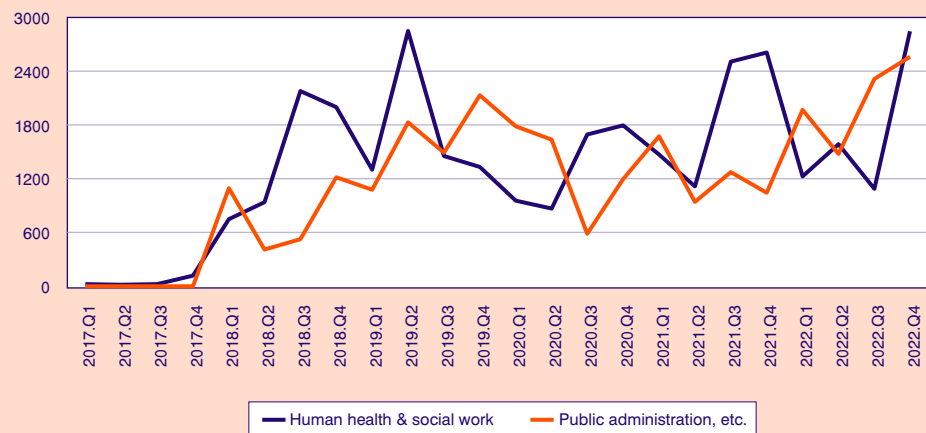
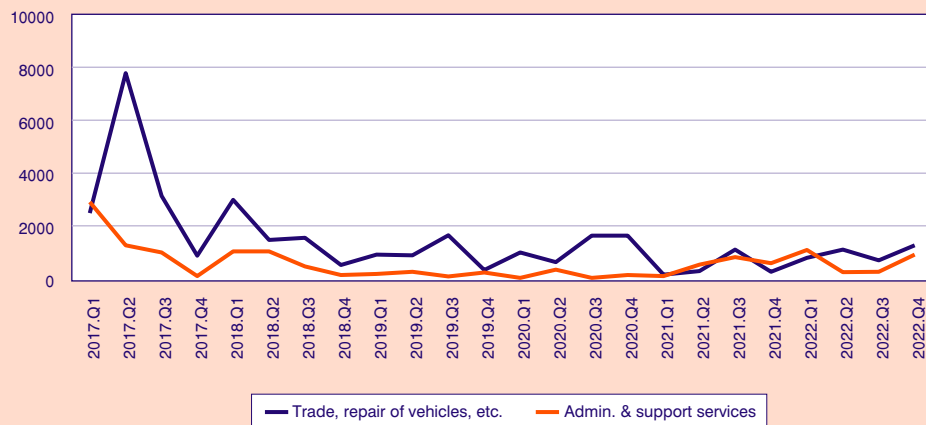
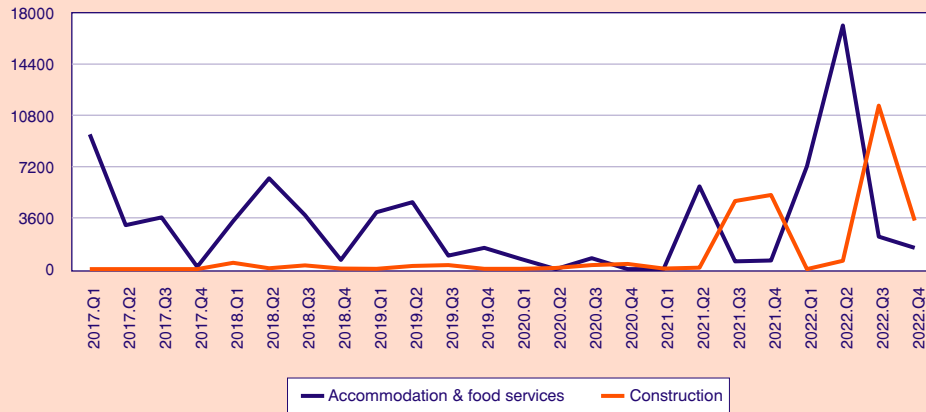


FIGURE 7 (continued)

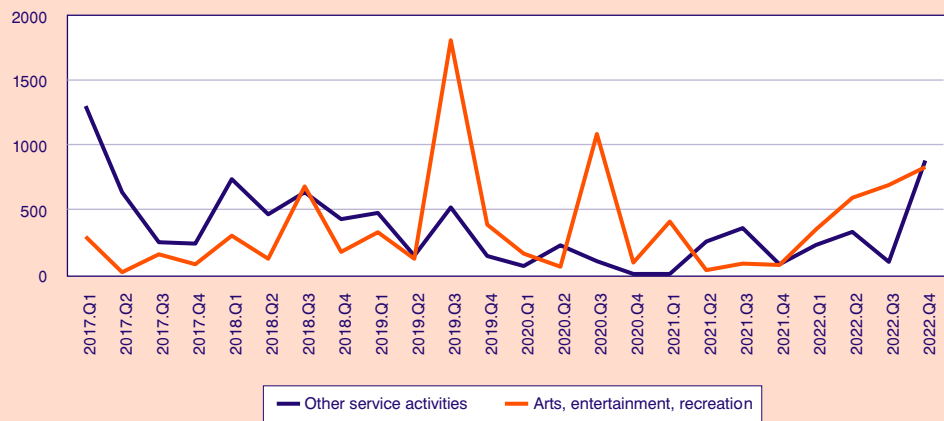
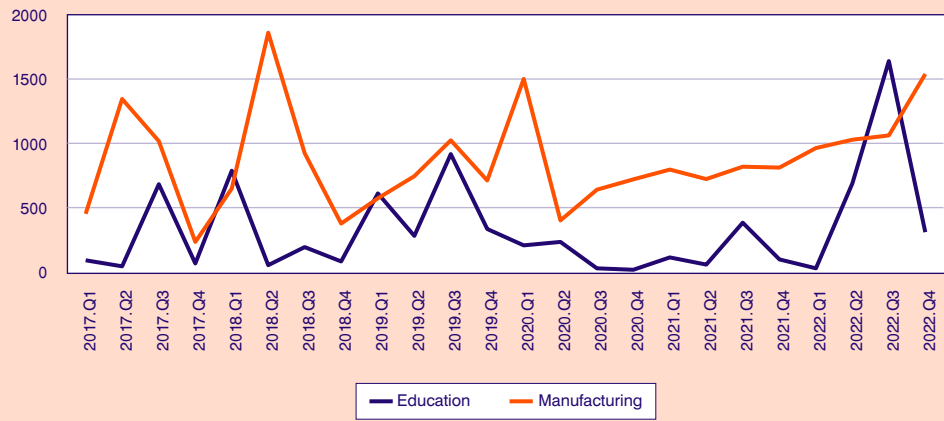
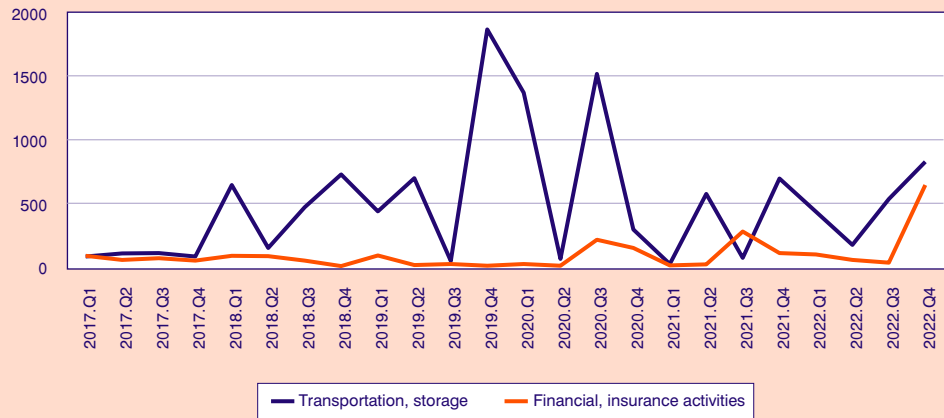
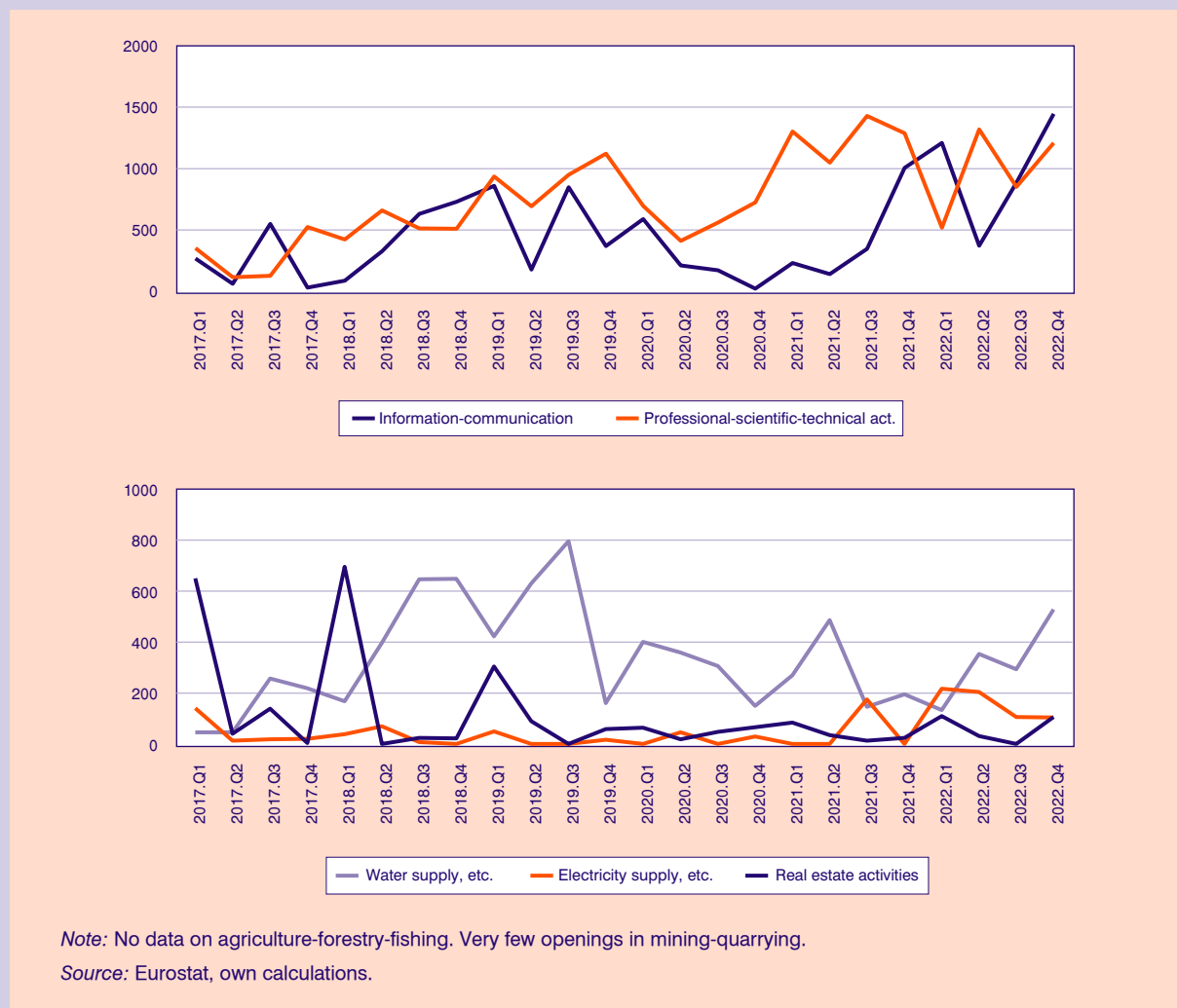


FIGURE 7 (continued)



vestment, and therefore more private capital in the production process, output ought to increase.¹¹

- Took steps to fill some vacancies (jobs that natives did not want to do) via other arrangements so that both production and the domestic value chain are maintained. A case in point is the plan to bring 5,000 temporary seasonal agricultural workers from Egypt (Koutantou, 2022; Greek Government, 2023).

6. External trade deficit

Understandably, the impact of government spending is stronger when the amount spent does not flow (leak) overseas or when existing leakages are re-

duced, and the economy becomes less dependent on imports.

As Figure 8 suggests, Greece’s external deficit was modest during 2011-21 compared to 2003-10, but spiked in 2022. The spike is by and large attributed to imports that were not cheap or easy to substitute, like crude petroleum and natural gas, i.e., intermediate inputs purchased at high prices (inordinately high prices as a result of the international sanctions on Russia) primarily from the USA, and, to a lesser extent, from Italy and Bulgaria. At the time, both Greece and the rest of the EU responded to the violation of international peace and security in Ukraine by turning away from cheap Russian supplies, and scrambled to internation-

11. It is a reasonable assumption, unless the investment was directed to projects in which the marginal product of capital was (or was close to turning) negative.

FIGURE 8

The evolution of Greece's external trade (deficit), Jan. 1999-Jan. 2023 in million €, €

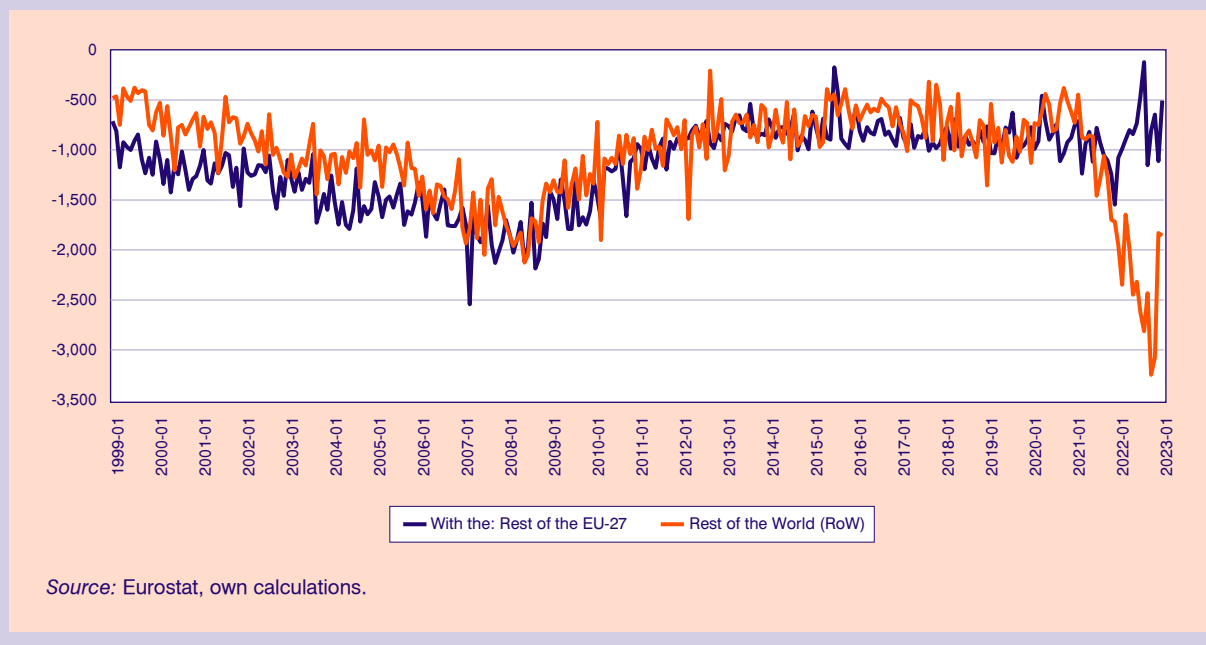
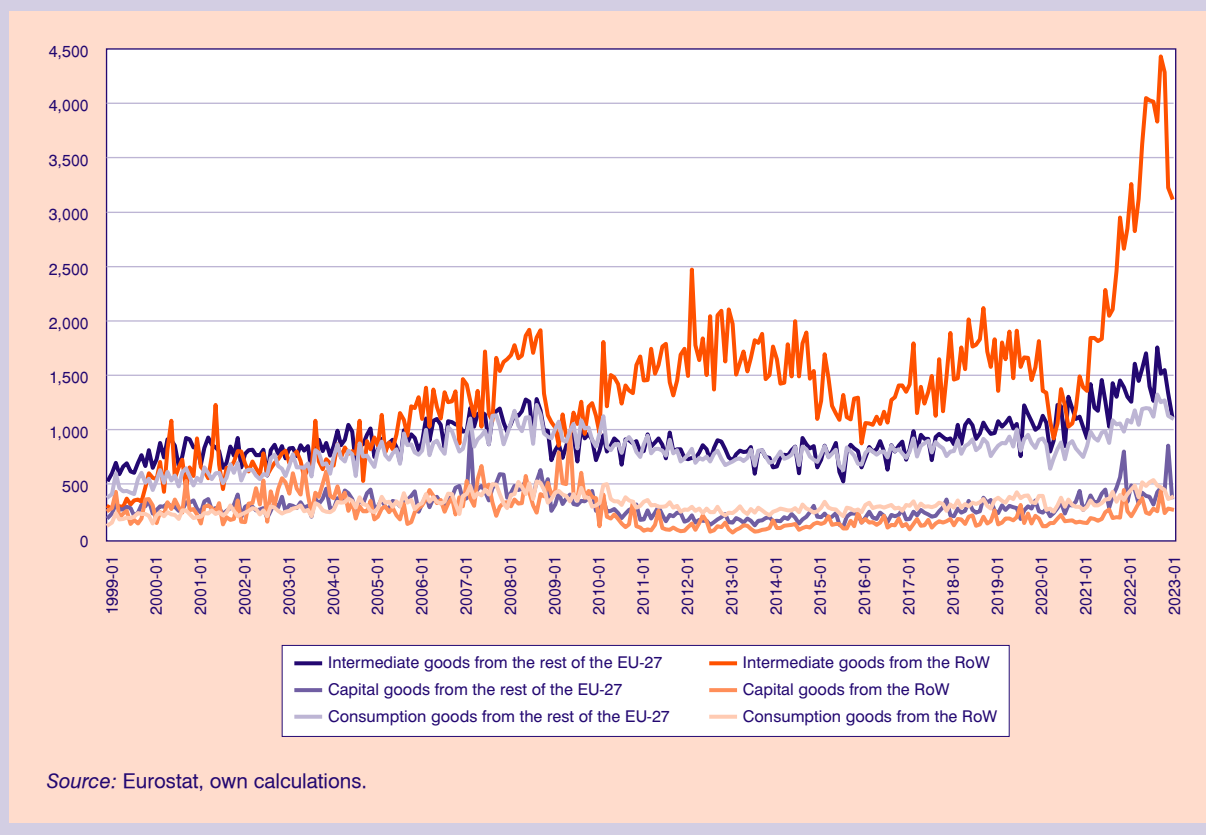


FIGURE 9

The evolution of Greece's imports, Jan. 1999-Jan. 2023 in million €, €



al markets so as to prepare their storage for the winter of 2022-23. See Figure 9 above.

These were exceptional circumstances. However, other long-term EU policies –based on moral grounds and undertaken with good intentions– may have comparable effects.

Indeed, additional leakages in the form of increased imports will almost certainly be affected by the EU-wide effort to phase out coal in the energy sector and achieve climate neutrality, as a considerable number

of electric cars, solar panels, wind turbines and blades, relevant components, energy efficient and eco-friendly appliances, etc. will be needed, and will be imported to Greece from overseas.

Obviously, if a comparative advantage were developed in Greece so as to domestically produce –even export– some of the above, then the transition might be facilitated. Generally speaking, the satisfaction of a greater proportion of the country’s total demand of goods and services by domestically produced goods and services will keep the external deficit in check.

FIGURE 10
The harmonized consumer prices indices (2015 = 100) across the EU from the 5th day of the war in Ukraine, Mar. 2022 - Mar. 2023



Another cause of concern arises from the EU Commission's attempt to protect/raise its budget by (a) calculating losses from customs duties based on a method which was originally developed for risk profiling,¹² and (b) pressuring customs services to raise the values of many imports to the level estimated by the said method or pay the difference.

However, if the Commission's method is flawed, and the customs service raises the value of many imports so as to avoid clashing with the Commission, then the GDP measure may be artificially, and wrongly, reduced. This will adversely affect a whole range of things in Greece, running from maintaining a low government debt-to-GDP ratio to improving social welfare. From a broader perspective, with the EU-27 as a whole narrowly avoiding a recession in 2022 and possibly in 2023 (Davies, 2023; Rankin, 2023), any artificial rise in the level of imports –i.e., any move that will bring about an equal reduction in the EU's GDP– may be untimely and counter-intuitive.

7. Price inflation

The war in Ukraine added heavily to the inflationary pressures that were building up across the EU during the pandemic, and pushed up consumer prices, especially for energy and food (Caldara et al., 2022; Maurya et al., 2023).

As the above Figure 10 suggests, from year 2015 and up to the time of the Russian invasion in Ukraine, generally, prices rose (a) considerably in the eastern member states that joined the EU last, (b) less in a cluster west of the aforesaid belt of eastern member-states, (c) much less in two Scandinavian and a number of central and western Mediterranean states,¹³ and (d) the least in the southeastern- and the western-most edges of the EU,¹⁴ Greece included.

In addition, Greece featured one of the lowest price inflation rates in the months that followed, i.e., from the Russian invasion onwards. Indeed, Greece exhibited the fifth lowest average monthly increase from March 2022 to March 2023 (5.4%), behind the Benelux countries and Spain, and ahead of Cyprus, Finland, the other EU-member states, and the EU-27 average (8.3%).

If any of the policies tried out by the other states turns out to be successful, it may be sensible to consider and potentially employ these successful policies in Greece as well.

8. Inferences and conclusions

Greece handled the pandemic crisis competently. The initial fall in real per capita GDP was followed by a recovery, unemployment fell, and the country achieved a mid-range mortality rate in the EU despite the relatively high population share of late elderly people. In addition, Greece had one of the lowest price inflation rates in the EU despite the inflationary pressures in the EU both before and during the war in Ukraine and is turning a corner as real per capita output starts to converge to the EU-27 average.

The overhaul of the employment promotion agency, the amount of resources directed to upskilling and re-skilling the workforce, the amount of public investment spending and foreign private investment carried out in Greece (both of which are considerably higher compared to what was available in the recent past), along with initiatives taken to fill job vacancies via other arrangements, are all likely to raise output and provide a source of optimism regarding future output.

Though in better shape compared to 2011, and moving in the right direction in several respects, Greece continues to face a number of challenges. The analysis draws attention to (a) the unemployment rate of young people (especially women), which remains much higher than the EU average, and (b) the rising value of imports, which may adversely affect output.

We recognize that there are many more challenges, including national, energy, environmental and cyber security; domestic inequality, marginalization, and exclusion; and meeting the country's debt repayment obligations. The level of economic growth that will be achieved depends on many aspects and events, such as the priorities of the government that will form after the coming elections, the new fiscal rules of the EU, as well as the quality of development planning and of its implementation.

12. I.e., intended to identify shipments of imported goods that may present a significant risk of undervaluation across the EU, so that the particular shipments may be inspected while entering the EU. Oddly, the method treats time-series data as cross-sectional and at times relies on regressions of very few observations (say, 4-36) (Arsenis et al., 2015; EU Court of Justice, 2022).

13. Namely, Croatia, Slovenia, Italy, France, Spain, Denmark, and Finland.

14. Namely, Cyprus, Greece, Malta, Portugal, and the Rep. of Ireland.

References

- Arsenis S., Perrotta D., and Torti F. (2015). *The estimation of fair prices of traded goods from outlier-free trade data*. European Commission, Joint Research Centre Technical Report # 100018. Ispra.
- Bank of Greece (2023). *Governor's Annual Report 2022*. Press release of April 7th, 2023. Athens.
- Caldara D., Conlisk S., Iacoviello M., and Penn M. (2022). "The Effect of the War in Ukraine on Global Activity and Inflation," *FEDS Notes* of May 27th, 2022.
- Davies P. (2023). "The new year is going to be 'tougher than the year we leave behind,' says IMF Managing Director Kristalina Georgieva." *Reuters*. Report dated January 2nd, 2023. Accessed via <https://www.euronews.com/next/2023/01/02/half-of-the-european-union-and-one-third-of-the-world-face-recession-in-2023-imf-warns1>.
- Enterprise Greece (2022). Greece sets new record in attracting Foreign Direct Investment. *Newsletter* of March 22. Accessed via <https://www.enterprisegreece.gov.gr/newsletters/newsletter-articles/greece-sets-new-record-in-attracting-foreign-direct-investment/>.
- EU Court of Justice (2022). *Judgment in Case C-213/19 Commission v United Kingdom*. Press release # 42/22 of March 8, 2022. Luxembourg.
- European Commission (2022). *State of Health in the EU: Companion Report 2021*. Luxembourg: Publications Office of the European Union.
- Greek Government (2021). *Next Generation EU - Greece 2.0: National Recovery and Resilience Plan* (dated 2.4.2021). Athens.
- Greek Government (2023). *Alternate Foreign Minister Miltiadis Varvitsiotis' speech on the ratification of the Agreement on the Employment of Seasonal Workers in the Agricultural Sector between Greece and Egypt*. Press Release of January 10th, 2023. Accessed via <https://www.mfa.gr/en/current-affairs/statements-speeches/alternate-fm-miltiadis-varvitsiotis-speech-on-the-ratification-of-the-agreement-on-the-employment-of-seasonal-workers-in-the-agricultural-sector-between-greece-and-egypt--main-points-1012023.html>.
- Koutantou A. (2022). "Egypt to provide 5,000 farm workers to Greece in seasonal scheme." *Reuters*. Report dated November 23rd, 2022. Accessed via <https://www.reuters.com/world/egypt-provide-5000-farm-workers-greece-seasonal-scheme-2022-11-22>.
- Manpower Group (2023). *Global Talent Shortage*. Milwaukee, WI. Accessed via https://go.manpowergroup.com/hubfs/MPG_TS_2023_Infographic_FINAL.pdf.
- Maurya P.K., Bansal R., and Mishra A.K. (2023). "Russia-Ukraine conflict and its impact on global inflation: an event study-based approach." *Journal of Economic Studies* (in press).
- OECD (2023). *OECD Economic Surveys: Greece 2023*. Paris: Organisation for Economic Co-operation and Development.
- OECD and EU (2021). *State of Health in the EU · Greece: Health Profile 2021*. Paris and Brussels: Organisation for Economic Co-operation and Development, European Observatory on Health Systems and Policies. (In Greek.)
- Prodromidis P. (2021). "Economic output and human losses in Greece during the pandemic." *Greek Economic Outlook*, 45: 74-79.
- Prodromidis P. (2022). "The quest for economic development and growth through the aggregate supply." *Greek Economic Outlook*, 49: 56-70.
- Rankin J. (2023). "EU tipped to avoid recession after gas crisis eases." *The Guardian*. Issue of February 13th, 2023. Accessed via <https://www.theguardian.com/world/2023/feb/13/eu-tipped-to-avoid-recession-after-gas-crisis-eases-cost-of-living>.
- SEVE (2023). *SEVE survey results regarding the needs of companies in human resources in the context of boosting employment*. Athens: Greek Exporters' Association. (In Greek.)
- Zisimou S. (2023). "The map of foreign investments in Greece." *Naftemporiki*. Issue of January 31st, 2023. Accessed via <https://www.naftemporiki.gr/finance/economy/1433563/o-chartis-ton-xenon-ependyseon-stin-ellada/>. (In Greek.)