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Article

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Crisis, austerity, and fiscal expenditure in Greece: recent experience and future prospects in the post-COVID-19 era

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This paper provides a discussion of the relationships between austerity, the macroeconomic performance of the Greek economy, debt sustainability, and the provision of healthcare and other social services since 2010. It explains that austerity was imposed in the name of debt sustainability. However, there was a vicious cycle of recession and austerity: each round of austerity measures led to a deeper recession, which increased the debt-to-GDP ratio and therefore undermined the goal of debt sustainability and led to another round of austerity. One of the effects of the austerity policies was the significant reduction of healthcare expenditure, which made Greece more vulnerable to the recent pandemic. Finally, it shows how recent pre-COVID debt sustainability analyses projected that Greek public debt would become unsustainable even under minor deviations from an optimistic baseline. The pandemic shock will thus lead to an explosion of public debt. This brings again to the fore the need for a restructuring of Greek public debt, and other policies that will address the eurozone's structural imbalances.

Keywords: Greece, public debt, austerity, healthcare, debt sustainability

JEL codes: E32, E62, E63, N14

1 INTRODUCTION

A first draft of this paper was written in the fall of 2019 to provide some macroeconomic background for a report by Amnesty International on the effects of austerity on basic economic and social rights in Greece, with an emphasis on healthcare provision (Amnesty International 2020). My plan was to revise the original manuscript and publish it at some point the following spring.

In the meantime, the COVID-19 shock hit economies around the world, including the Greek economy. In fact, according to every estimate, Greece is expected to be one of the hardest-hit economies worldwide. In the recent budget for 2021, the Greek government projects that gross domestic product will decrease by 10.5 percent for 2020. The estimates from various international organizations are similar: the European Commission's *Autumn Forecast* (EC 2020) projects a recession of 9 percent, the International Monetary Fund's October *World Economic Outlook* (IMF 2020a) 9.5 percent, and the Organisation for Economic Co-operation and Development's December *Economic Outlook* (OECD 2020) 10.1 percent.

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The pandemic shock made this paper – and of course the Amnesty International report – even more timely than before. It is now widely acknowledged that a robust public healthcare system is key to fighting the pandemic. The healthcare sector employees who are now hailed as national heroes were, until only very recently, slandered by the architects of the austerity and adjustment programs as one of the main examples of corruption in the Greek public sector.

Therefore, it is important to understand what effects the austerity of the last ten years had on public healthcare in Greece, and how the healthcare expenditure cuts were justified in the name of public debt sustainability.

The present paper makes two main contributions. First, it provides a historical discussion of the last decade's austerity policies and their relationship with the public provision of healthcare. This discussion emphasizes not only the 'logic' of employing austerity as a means to stabilize the public-debt-to-income ratio and thus make public debt sustainable but also the vicious cycle between austerity and growth, which has the exact opposite results. Austerity policies undermine the economy's growth rate and tend to increase public deficit, leading to more austerity and even lower output. As a result, the debt-to-income ratio eventually increases as well. The paper traces this cycle in the various projections of the country's international lenders, starting with the projections of the first memorandum in May 2010. The result of this austerity was that public spending on healthcare and other important functions was cut very rapidly, resulting in a situation where real spending on healthcare was almost halved in the four years between 2010 and 2014.

A second contribution of the paper is to discuss the sustainability of Greek public debt and the dangers for the Greek public healthcare sector in adhering to the future commitments required by the adjustment programs. The first draft of this paper was making the point that, according to the various debt sustainability analyses performed by the European Commission (EC) (for example, 2018), Greek public debt was deemed sustainable under some optimistic baseline assumptions; however, even very small deviations from these assumptions would lead to an explosion of the debt-to-income ratio. Hence, I was concluding, given the experience of the previous period, that this poses great risks for the provision of healthcare and other public services.

In the COVID-19 era, the implications of this conclusion are very important. If even a small shock would make Greek debt unsustainable, the pandemic shock will definitely do so. Therefore, sooner rather than later, Greece and the eurozone will face the same questions that were swept under the rug during the past decade.

There are three important differences compared to 2010. The first obvious one is that after having already lost more than a quarter of its output, the support for austerity policies of a similar magnitude will be considerably weaker this time around. Second, and related to the first difference, the COVID-19 shock itself demonstrates that public functions such as healthcare provision are essential. Hence, it will also be harder to justify further cuts in government expenditure, especially for these functions. Third, the problem this time will not concern Greece alone. Due to the COVID-19 shock, several European economies will face issues with their public – and private – indebtedness when the dust settles.

Hence, the moment of truth – for Greece and for the eurozone more broadly – has come. The effect of the pandemic in every single member country will be an increase in private and public debt-to-GDP ratios. In the most vulnerable economies these ratios will most likely exceed what the markets consider acceptable. So, a likely scenario for the coming years is that several countries will have to resort to funding from the European Stability Mechanism, which is tied to conditionalities and adjustment programs like those imposed on Greece. If the eurozone follows this path, the most likely outcome is a breakup that will follow in the next few years. To avert this, eurozone countries will have to agree to some measures and policies

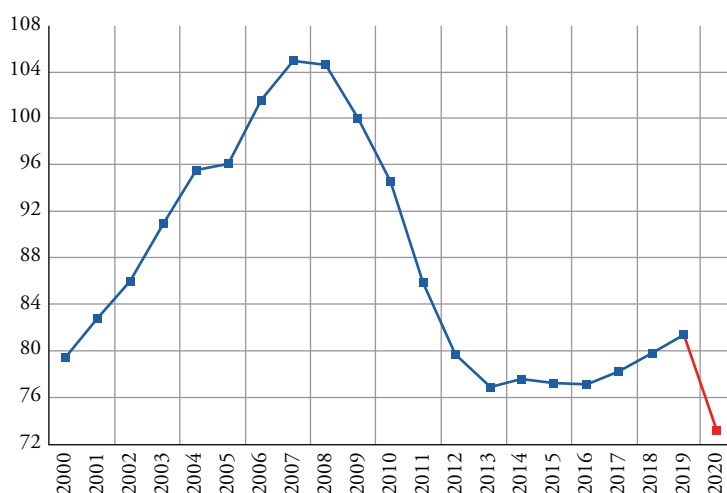
that until now seemed unrealistic. At a minimum, there is a need for a mutualization of the debt related to the pandemic, with the issuance of a common bond. In the medium run, it is also necessary to enhance the fiscal capacity of the Union, and to design regional policies that will address the structural imbalances among countries. In the case of Greece, in addition to these measures, a bold restructuring of the debt will be necessary.

2 SOME BASIC INDICATORS

In the period after the Great Recession of 2007–2009, the Greek economy experienced the largest drop in real output that any currently advanced economy has experienced in peacetime. Figure 1 shows that by 2013, Greece had lost 23 percent of her output compared to 2009 (when the crisis started, after the October elections of that year). Compared to 2007, which was the peak of the previous cycle, the decline was close to 27 percent. In the same figure we can also see that the period that followed the freefall of 2009–2013 was one of anemic growth. As of 2019, real GDP was only 5.5 percent above its level from six years earlier.

As one would expect, unemployment increased. At its peak in 2013 it reached 27.5 percent, almost 20 percentage points above its 2008 level. Due to the stabilization of the economy, the unemployment rate has decreased and in 2018 fell below 20 percent for the first time since the crisis began. This decline is to a certain extent due to the migration of a significant part of the labor force – the most educated and productive part – abroad, mainly to Northern Europe and the United States.

Moreover, and not unexpectedly, the crisis had severe consequences for social conditions. According to data from the European Union Statistics on Income and Living Conditions (EU-SILC), the number of people at risk of poverty or social exclusion increased rapidly



Note: The number for 2020 assumes a drop in GDP of 10 percent.

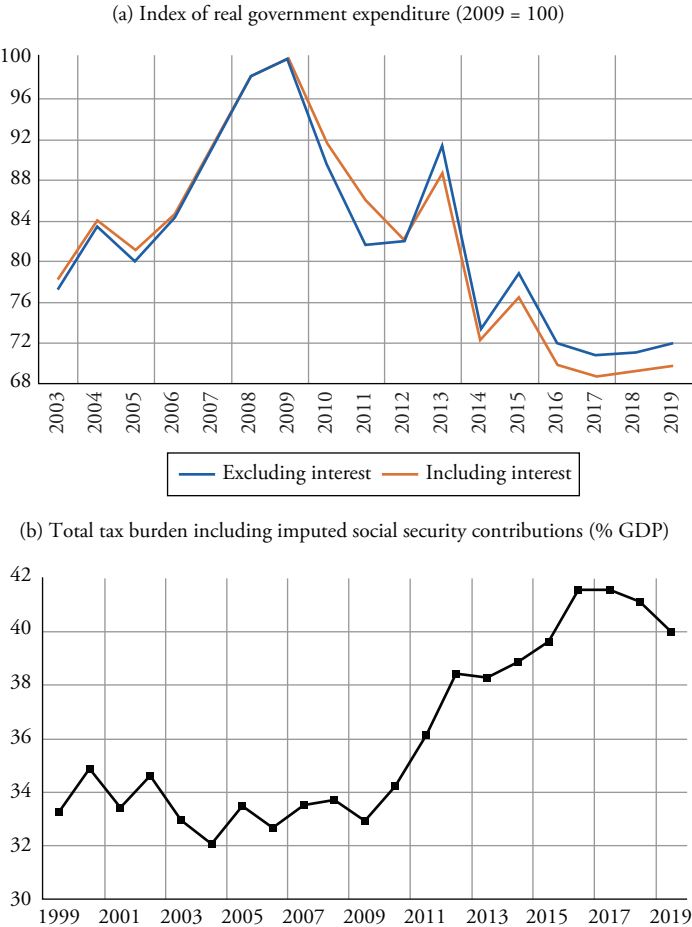
Source: AMECO.

Figure 1 Index of real GDP 2000–2020 (2009 = 100)

between 2010 and 2013 – by more than 900 000 in only three years, out of a total population of around 11 million.

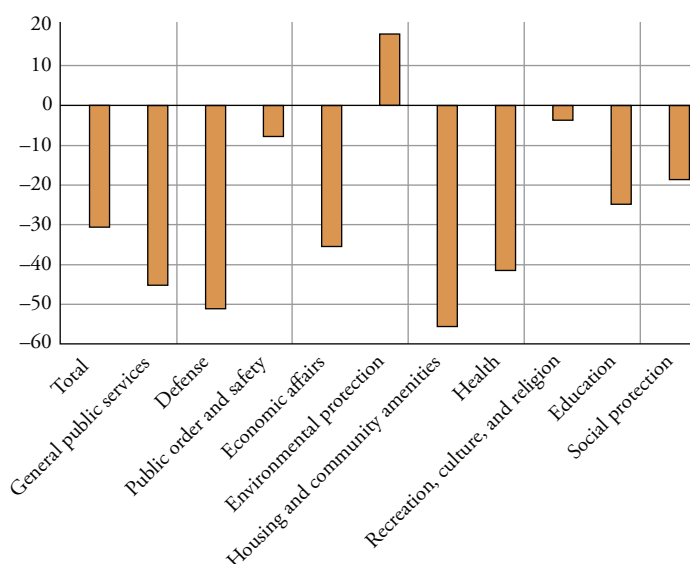
The Greek crisis started as a fiscal crisis when, after the elections in October 2009, it was announced that the fiscal deficit would be roughly double what was previously projected. At the heart of the crisis, then, was an effort to consolidate the budget. The drop in output reported in Figure 1 was accompanied by severe austerity. Figure 2a shows that by 2016, real government expenditure was 30 percent below its 2009 level. Meanwhile, as Figure 2b shows, the implicit average tax rate (including social contributions) increased by 10 percentage points compared to the pre-crisis period.

The expenditure cuts were across the board. Figure 3 shows that among the different categories of public expenditure, only expenditure on environmental protection increased in the 2009–2018 period. The remaining categories have seen sharp decreases; expenditure on social protection, which is proportionally the largest category, decreased by a below-average



Source: AMECO.

Figure 2 Government expenditure and taxes



Source: Eurostat.

Figure 3 Percentage change in government expenditure by function, 2009–2018

18.5 percent. This is normal, given the high unemployment rates of the period.¹ On the other hand, the next two biggest categories – general public services and health – have seen above-average cuts of 45 percent and 42 percent, respectively.²

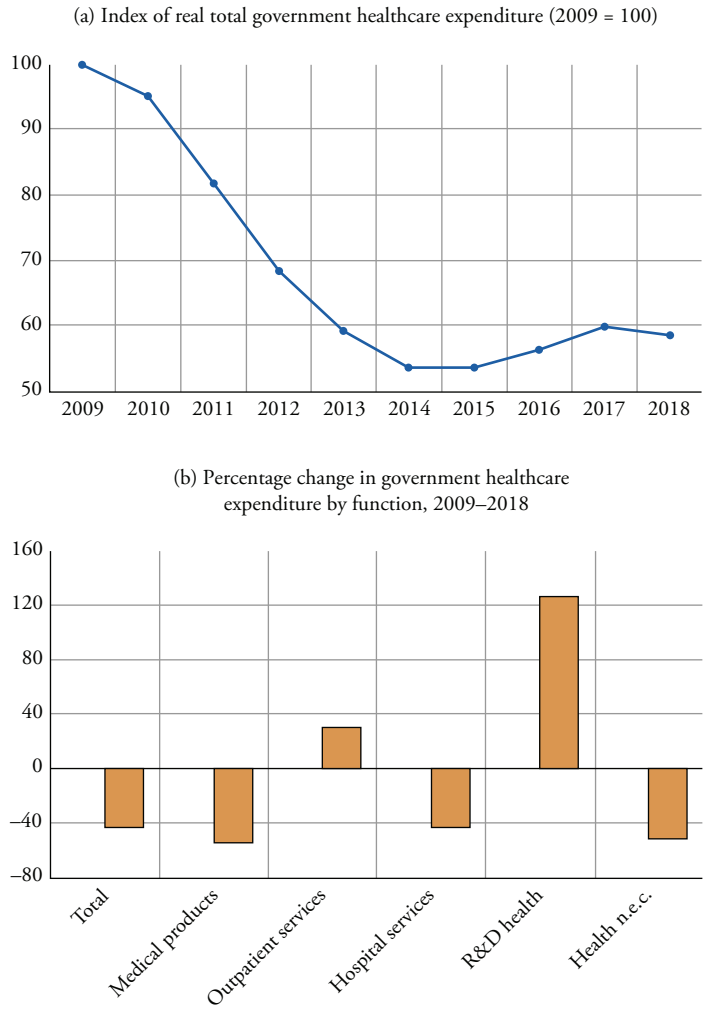
3 PUBLIC HEALTHCARE

Sharp decreases in healthcare expenditure are a staple of austerity programs where the IMF is involved, because it is a sector where cuts can be applied quickly. In fact, Figure 3 presents only one aspect of the story. As Figure 4a shows, the cuts in real government expenditure on healthcare approached 47 percent by 2014, and then slowly recovered in the following years. In other words, real government expenditure on healthcare almost halved within a five-year period.

The burden of the cuts in healthcare naturally fell on the biggest categories of healthcare expenditure: ‘hospital services’ and ‘medical products, appliances, and equipment.’ In 2009, they comprised 62 percent and 32 percent of total healthcare expenditure, respectively. Figure 4b shows that the former has been cut by 43 percent and the latter by 55 percent. On the other hand, minor categories such as ‘outpatient services’ and ‘R&D health’ (around 4 percent and 0.2 percent of total healthcare expenditure in 2009) have seen an increase.

1. In 2009, social protection accounted for 34.5 percent of total expenditure. By 2018, its share had increased to 40.5 percent.

2. In 2009, general public services and healthcare accounted for 22.3 percent and 12.6 percent, respectively. By 2018, they had fallen to 17.7 percent and 10.6 percent.

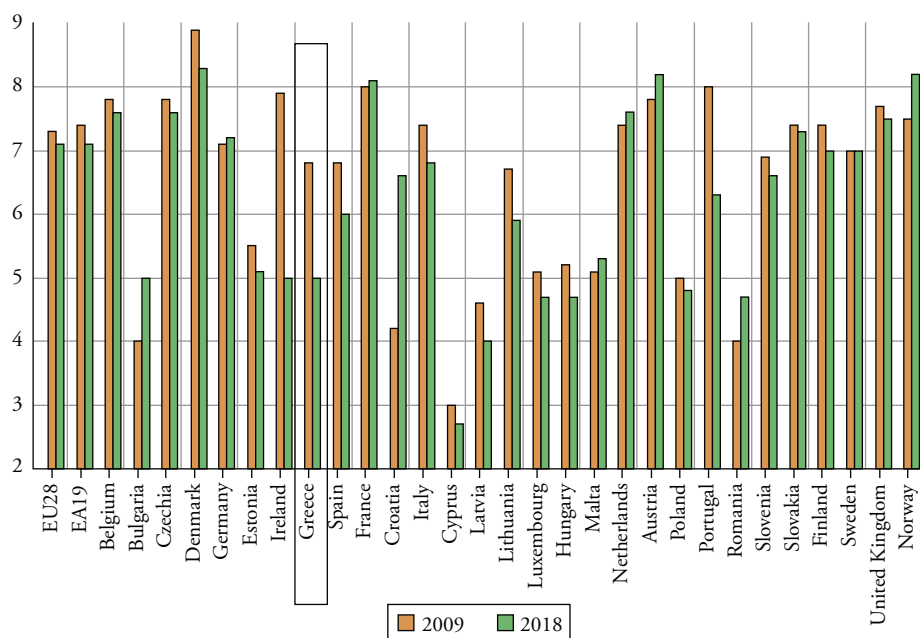


Source: Eurostat.

Figure 4 Government healthcare expenditure

Figure 5 presents a comparison of government healthcare expenditure in Greece and other European Union (EU) countries. Before the crisis, Greece was already below the EU average. Because of the cuts of the previous years, government healthcare expenditure is now around 5 percent of GDP – on the same level as other EU countries that were subjected to austerity programs and applied the cuts (like Ireland), or Eastern European countries where healthcare expenditure was quite low to begin with (such as Bulgaria, Romania, and Estonia).

Figure 5 also reveals that, at least in the European context, public expenditure on healthcare increases with a country's per capita income and level of development. Seen from that point of view, one of the results of the austerity policies was to push



Source: Eurostat.

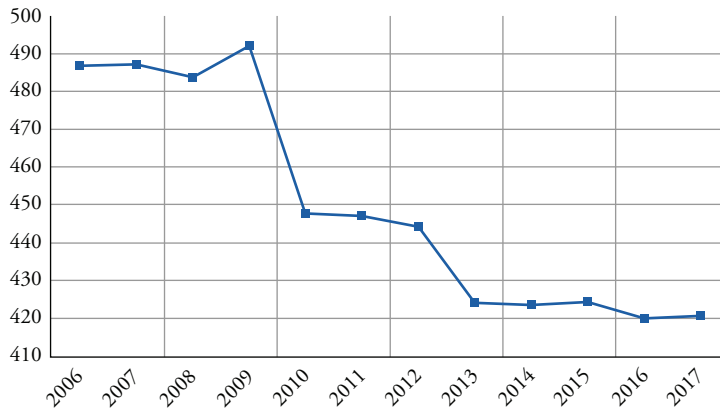
Figure 5 Government expenditure on healthcare for various EU countries (percent of GDP)

the countries where it was implemented backwards toward earlier stages of economic development.

In recent work, Temin (2017) and Storm (2017) use the distinction between ‘dual’ and ‘mature’ economies that was originally proposed by Lewis (1954). They argue that the political and economic developments since the early 1980s have led to the reversion of the US economy to a ‘dual’ economy, with only a fraction of the population having access to education and healthcare and enjoying the benefits of economic growth. The austerity policies in the European periphery have also led to a fast-track dualization of its respective economies and societies – thus achieving in only a few years what took four decades of slow change in the United States. Figure 5 also gives a glimpse of this process.

A detailed discussion of the effects of this precipitous cut in expenditure on healthcare is beyond the scope of this paper (the aforementioned report by Amnesty International 2020 provides such a discussion, and the interested reader can refer to that). Two comments are sufficient here. First, as one can easily imagine, halving government expenditure on healthcare in only five years led to an equally dramatic decrease in the quality and quantity of healthcare coverage. Second, these cuts had an obvious effect on the ability of the Greek healthcare system to cope with the recent COVID-19 pandemic.

One metric of this ability, to which many commentators have recently referred, is hospital bed capacity. As Figure 6 shows, the austerity and the decrease in expenditure on ‘hospital services’ led – unsurprisingly – to a rapid decrease in the number of hospital beds. The figure shows that the Greek healthcare system lost roughly 14 percent of its bed capacity within five years. Almost half of the decrease took place in the very first



Source: Eurostat.

Figure 6 Hospital beds per 100 000 inhabitants

round of austerity in 2010. Over the same period (2009–2017) the average reduction in the euro area was 7 percent.³

4 THE ‘LOGIC’ OF AUSTERITY

The political economy of fiscal austerity is a very interesting topic; it is, however, beyond the scope of this paper. One aspect is important for our purposes. When a country finds itself in the position to ask for external financial assistance – from the IMF or from European institutions – austerity is justified in the name of the sustainability of public finances.

If a country’s debt burden is unsustainable, then the government will not be able to repay whatever funds it borrows. For that reason, the IMF has an explicit policy not to lend to a government with unsustainable debt, unless there are additional measures (such as debt restructuring) that bring about this sustainability. The European institutions do not have such an explicit clause, but it would be political suicide to admit that they are lending funds that will never get repaid.

In turn, assessing debt sustainability is a difficult issue, and different measures have been proposed (for a recent discussion, see Corsetti 2018). The most common one, especially for medium- and long-run analyses, is the public-debt-to-GDP ratio. A country’s debt is considered sustainable if the ratio tends to stabilize or decrease in the medium run; it is considered unsustainable if the ratio keeps increasing (or ‘explodes’ in economic jargon).

There are five main factors that determine the debt-to-income ratio’s trajectory: (i) the primary surplus; (ii) the growth rate; (iii) the interest rate; (iv) the inflation rate; and

3. It is important however to note that the number of beds is not an accurate index of healthcare provision and hospital services (Rechel et al. 2010). In many developed countries there has been a trend of decreasing capacity over recent decades, as more emphasis has been put on outpatient diagnosis and treatment and other alternatives to long-term hospital care, with a mixed record in terms of success in providing better quality healthcare. In Greece, the reduction in hospital beds was not part of such a long-term strategy but was just a result of the horizontal cuts in healthcare spending. As mentioned above, a detailed discussion is provided in the recent report by Amnesty International (2020).

(v) the level of the debt-to-income ratio itself. All other things equal, an increase in the primary surplus, the growth rate, or the inflation rate would tend to decrease the debt-to-income ratio. Conversely, an increase in the interest rate and a high level of the ratio itself tend to increase and destabilize it.

In mathematical terms, the trajectory of public debt as a percentage of GDP can be described by the following equation:

$$\Delta(D/PY)_t = [d_t^p + (j_t - g_t - \pi_t - \pi_t g_t)D_{t-1}]/P_t Y_t, \quad (1)$$

where Δ is the difference operator, D stands for government debt, Y for the real GDP, P for the price level, d_t^p for the primary deficit, j for the interest rate, g for the real GDP growth rate, π for the inflation rate, and the subscript t for the time period to which each variable refers.

Equation (1) was first used by Domar (1944) in an analysis of ‘the burden of debt’ and national income of the US economy after the war. It is a simple stock–flow accounting identity, and therefore it is true by definition, and applies to the analysis of the debt–income ratio of any sector or agent.⁴ Hall/Sargent (2011: 193) have called it the ‘least controversial equation of macroeconomics.’ A discussion on Greek public debt’s trajectory in the decades before the crisis that is based on this identity can be found in Nikiforos et al. (2015a).

The intuition behind this equation is straightforward. An increase in the growth rate of income and the inflation rate tends to increase the denominator of the debt–income ratio (and thus decrease the ratio itself). An increase in the primary surplus means more savings and therefore a decrease in the stock of debt in the ratio’s numerator. Finally, an increase in the interest rate and a high level of debt burden imply a high level of interest payments, which tend to decrease savings and increase the debt–income ratio.

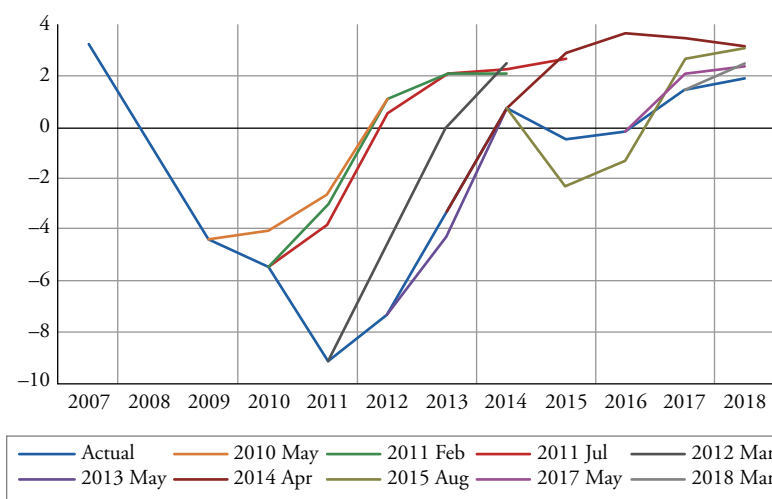
This discussion makes clear the ‘logic’ of austerity, as it was stated in the various memoranda and reviews of the three adjustment programs. Austerity – the cuts in government expenditure and the increase in tax rates (see Figures 2 and 3) – will lead to a decrease in the government deficit (or an increase in the surplus) and therefore will have a direct positive effect on debt sustainability. Additionally, the various ‘structural reforms’ will boost the growth rate and also contribute to debt sustainability. It was recognized that inflation might fall, but this would have a positive effect on competitiveness and growth that would be larger than the negative direct effect. Finally, by providing loans with interest rates below the market rate, the adjustment programs would also contribute to the sustainability of public finances.

For example, the first memorandum, signed in May 2010, predicted a very fast fiscal consolidation: namely, a 12-percentage-point improvement in the primary deficit by 2013. This fiscal adjustment was projected to be accompanied by a relatively shallow recession and a fast return to growth in 2012. Together with the proceeds of privatization of public assets, the forecasted trajectories of these basic macroeconomic variables (deficit, growth, inflation rate) were supposed to lead to a containment of the debt–income ratio, which would, according to the projection, reach 150 percent in 2013 and decrease thereafter.

5 THE VICIOUS CYCLE OF RECESSION AND AUSTERITY

Things turned out differently. The original projections – and the projections after them – proved to be wildly optimistic. Figure 7 presents the projections made in the three

4. The derivation of equation (1) is straightforward. By definition $\Delta(D/PY)_t = D_t/(P_t Y_t) - D_{t-1}/(P_{t-1} Y_{t-1})$. Also by definition $Y_{t-1} = Y_t/(1 + g_t)$ and $P_{t-1} = P_t/(1 + \pi_t)$, as well as $D_t = D_{t-1} + d_t^p + j_t D_{t-1}$. By substituting the last three identities into the first one and rearranging we arrive at equation (1).



Source: AMECO; EC; author's calculations.

Figure 7 Actual and projected growth rate, 2007–2018

memoranda and intermittent reviews, contrasted with the Greek economy's actual GDP growth rate, for the years 2010 to 2018.⁵ It becomes immediately clear that the actual growth rate has been consistently below what the international lenders were forecasting. The growth rate reached –9.13 percent in 2011 (as opposed to the –2.6 percent rate forecasted in May 2010 or the –3.8 percent rate forecasted in July 2011).⁶

Another interesting observation one can make in relation to Figure 7 is that, despite the successive forecasting errors, the medium-term projections remained unchanged for a long period of time. In all these projections, the economy is bound to return to an 'equilibrium' growth rate of between 2 percent and 3 percent in the medium run, which is independent of what is happening in the short term.

The same sort of overoptimism – albeit with a smaller margin of error – has been common in the forecasts made by the IMF, the EC, and other official agencies (like the US Congressional Budget Office) for most developed economies in the period after the recession.⁷ In other words, the conventional wisdom for many years after the crisis was that the economies would bounce back and return to their pre-crisis rates of growth.⁸

5. The various documents from which the data were collected can be found on the EC website's page 'Financial assistance to Greece,' at URL: https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-financial-assistance/which-eu-countries-have-received-assistance/financial-assistance-greece_en#first-programme-for-greece.

6. The exception to this overoptimism was the August 2015 projection that accompanied the third adjustment program, which turned to be overly pessimistic for the short run (although in the medium term it also overestimated the growth rate).

7. A graph similar to Figure 7, presenting the actual and forecasted growth rate of world GDP, even appeared in the 2016 Economic Report of the President of the United States.

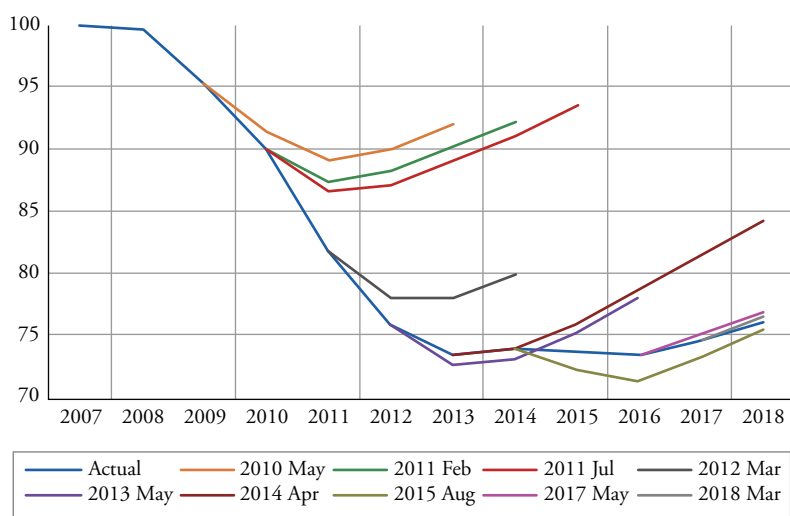
8. For a related discussion with reference to the United States, see Nikiforos/Zezza (2017b).

These errors are telling. The implicit assumption being made is that fiscal policy or monetary and financial factors can have an impact on the real economy only in the short run. In the medium run, the economy tends to return to what economists call its ‘natural growth rate,’ which is equal to the rates of labor force growth and technical change. These two factors are assumed to be structural and independent from short-run shocks. Hence, according to this approach, the best way to boost an economy’s long-run prospects is through ‘structural reforms’ that will increase the growth rate. A lot of the ‘reforms’ in Greece were justified along these lines.

A corollary to the failure of these growth rate projections is that real GDP fell much more than forecasted. Figure 8 presents the trajectory of real GDP together with the forecasts at the various stages of the three programs. It shows that – as mentioned – the original May 2010 projection envisaged a shallow recession. Assuming that the economy would keep growing at a rate of 2.1 percent, which was the medium-term growth rate estimated at the time, the Greek economy would have surpassed its pre-crisis (2007) peak in 2017. This would still be a ‘lost decade.’ However, as we also saw in Figure 1, as of 2019, real GDP was still nearly a quarter below its 2007 level and heading even lower due to the pandemic shock.

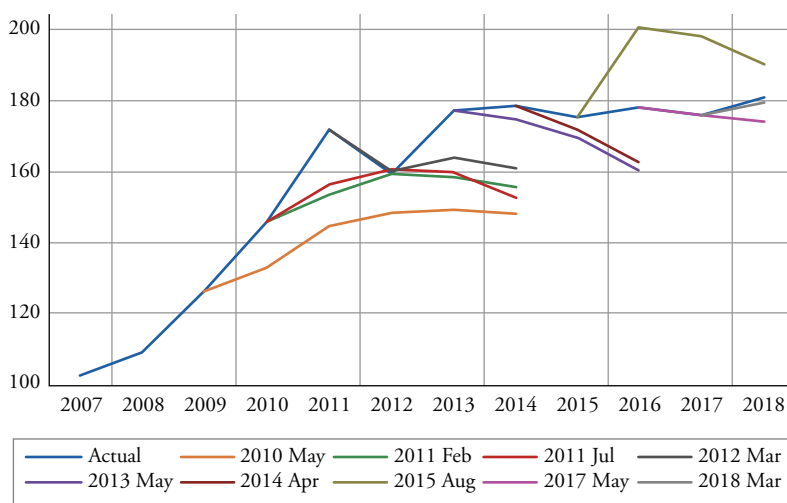
Seen from another perspective, the differences between the Troika’s projections and the realized outcomes are related to the fiscal multiplier’s underestimation. Neoclassical theory posits a relatively small value for the multiplier, which diminishes and becomes zero or even negative in the medium run as the supply side of the economy sets the tone. This is one of the main predictions of the ‘expansionary austerity’ theory (for example, Alesina et al. 2020). It turned out that the fiscal multiplier in the case of Greece was close to 2.5 (Papadimitriou et al. 2013b). The IMF, in a 2013 ‘*ex post* evaluation’ of the Greek program, recognized that the ‘fiscal multipliers [used in their projections] were too low’ (IMF 2013: 21).

Another consequence of the lower-than-expected economic performance was that the public-debt-to-GDP ratio projections also proved to be overly optimistic. Figure 9 presents



Source: AMECO; EC; author’s calculations.

Figure 8 Actual and projected real GDP, 2007–2018



Source: AMECO; European Commission; author's calculations

Figure 9 Actual and projected government debt-to-GDP ratio, 2007–2018 (percent of GDP)

the actual and projected trajectories of this ratio. It shows that, as in the case of the growth rate and the level of real GDP, the public-debt-to-GDP ratio is way above what it was expected to be, despite the debt restructuring that took place in 2012 (hence the drop in the ratio that year).⁹

The most accurate of the adjustment programs' forecasts has been the primary balance. According to the original May 2010 agreement, the primary balance was supposed to have improved by around 12 percentage points until 2013.¹⁰ This adjustment had to take place during a recession in Greece and Europe and amidst a fragile global economic recovery after the 2007–2009 crisis. The actual consolidation approached these projected levels. If we exclude the expenditure on bank recapitalization, the difference between the primary deficits of 2009 and 2013 was 12 percentage points.

Fiscal deficits are usually counter-cyclical: they tend to increase in recessions and decrease in upswings. The reason for that is that certain kinds of public expenditures – such as unemployment benefits – increase during recessions, while tax revenues decrease since taxable income decreases. Therefore, given the drop in output that took place over the same period, the fiscal consolidation that took place in Greece is extraordinary.

The prioritization of fiscal consolidation over other policy targets is crucial to understanding the evolution of the Greek crisis (and has important implications for the future, which will be discussed in the next section). A basic characteristic of the Greek programs is that the fiscal targets are incompatible with the growth targets. The austerity put forward in the first program had much more severe effects on GDP than those officially projected.¹¹ At the same

9. For a detailed discussion of the trajectory of the public debt during the crisis, see Nikiforos et al. (2015b).

10. According to the number in the agreement, the 2009 primary deficit was 8.63 percent (this was later revised upwards) and the 2013 deficit would be 3.2 percent.

11. We have provided detailed discussions of several aspects of this process in various Levy Institute policy reports on Greece (see for example Papadimitriou et al. 2013a; 2013b; 2014).

time, these effects also had a negative impact on the government's fiscal position through the automatic stabilizers (higher unemployment benefits, lower tax collection, etc.). The prioritization of fiscal targets meant that new fiscal measures had to be adopted (lower government expenditures, higher taxes) to compensate for the worsening fiscal position. In turn, these new measures led to a further decline in economic activity, further undermined the targeted fiscal balance, and eventually necessitated the adoption of even more fiscal measures. In addition, the depressed economic activity had a very adverse effect on the banking sector. As a result, Greek banks – which had been otherwise quite conservative before the 2007 crisis – needed two rounds of recapitalization; they remain very fragile.

This was the vicious cycle between austerity and recession that led to the collapse in output (Figures 1 and 8), which was accompanied by a similar collapse in government expenditure – as demonstrated in the discussion around Figure 2 – and an increase in the tax burden (Figure 3).

6 IMPLICATIONS FOR THE FUTURE

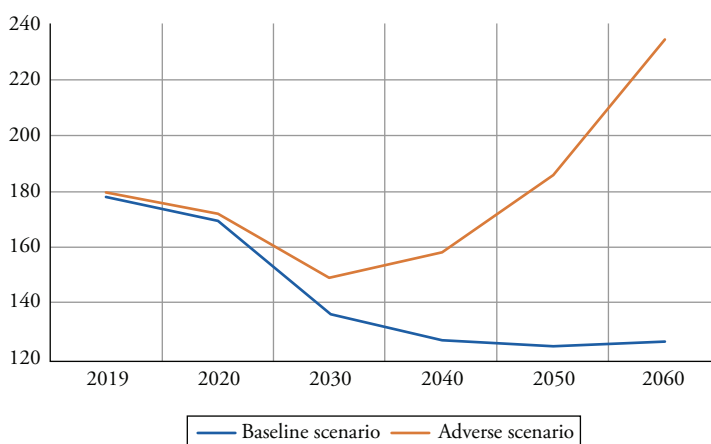
The preceding discussion has some important implications for the future. At the end of 2019, the public-debt-to-GDP ratio was around 180 percent. Given these high levels of debt relative to GDP, even small macroeconomic shocks could have caused its trajectory to explode. The pandemic shock, and the ensuing crisis, will definitely do that. Hence, Greece faces the danger of yet another round of austerity that will lead to another downward spiral and further undermine economic and social rights in the country – and healthcare provision in particular.

To understand this, we can refer to the Debt Sustainability Analysis (DSA) in the July 2018 Compliance Report, which was the last report of the third adjustment program that ended in August 2018 (EC 2018: 41–43). Since the end of the third adjustment program, Greece has been under 'enhanced surveillance' status and Enhanced Surveillance Reports have been regularly published. The July 2018 DSA forms the basis of the DSA in the more recent reports and their results are broadly similar.¹²

The underlying assumptions of the July 2018 DSA are the following:

1. Short-term real GDP growth follows the Commission's (then) latest forecast (around 2 percent until 2020).
2. Long-term real GDP growth is 1 percent after 2022.
3. Inflation gradually rises from 0.9 percent in 2018 to 2 percent in 2023 and maintains that level thereafter (hence, nominal growth is 3 percent over the long run).
4. Total privatization revenues are around €14 billion between 2018 and 2060.
5. The government's primary surplus is 3.5 percent of GDP until 2022, and then decreases 0.5 percentage points per year, reaching 2.2 percent of GDP in 2025 and remaining there afterward.
6. Market interest rates follow the expected risk-free rate plus a risk premium; they are expected to reach 4.1 percent in 2019, and then gradually increase to 5.4 percent by 2030, ending up at 5.1 percent in 2060.

12. Five of these Enhanced Surveillance Reports have been published: in November 2018, February 2019, June 2019, November 2019, and February 2020. They can all be found on the EC's 'Financial assistance to Greece' website (see footnote 3). The only noteworthy difference in the reports' DSAs is that the one published in February 2020 does not have an adverse scenario.



Source: EC (2018).

Figure 10 EC's July 2018 main debt sustainability analysis results (percent of GDP)

7. Part of the Greek government's available cash reserves will be used to cover its debt (bringing its cash balance down to €12 billion by 2022).

Under these assumptions, the debt-to-GDP ratio was projected to decrease to 136.6 percent in 2030, to 125 percent in 2050, and then eventually to converge to 127 percent by the end of the projection period in 2060 (see Figure 10). This is still a high level of debt, but represents a declining trajectory.

Another commonly used measure of debt sustainability is gross financing needs (GFN), defined as the sum of budget deficits and funds required to roll over debt that matures in the course of the year. GFN is a *flow* measure of debt sustainability as opposed to debt, which is a *stock* measure. A high level of GFN – in relation to GDP – could signify vulnerability to changing financial conditions.¹³ Debt sustainability requires GFN to remain below 20 percent of GDP. Under the baseline projections, this is also the case. Hence, under both measures, the debt is considered sustainable.

Besides the baseline scenario, the report simulates an 'adverse scenario,' which is particularly interesting. Under this scenario:

1. Between 2023 and 2060, nominal GDP growth is reduced by 0.2 percentage points per year compared to the baseline scenario (that is, long-run nominal growth of 2.8 percent as opposed to 3 percent in the baseline).

13. Think, for example, of two countries with the same level of fiscal deficits, public debt, and GDP. In country A, public debt is in the form of long-term bonds whose maturity is evenly distributed over time. In country B, all public debt is short term and needs to be rolled over every year. In this hypothetical scenario both countries have the same debt-to-GDP ratio, but the GFN of the second country is much higher. Obviously, country B's public finances are more vulnerable, as even small short-term changes in market conditions can have a large impact on its ability to borrow from the market and ultimately on its level of debt and GFN of the following period. In other words, a higher GFN – all other things equal – makes it more likely that even small changes to market conditions can make public debt unsustainable.

2. The primary surplus follows the baseline path until 2022 and then decreases to 1.5 percent in 2023 and afterward.
3. *The rest of the assumptions remain unchanged.*
4. In this adverse scenario, debt explodes after 2032 and reaches 235 percent of GDP in 2060. Similarly, GFN exceeds the threshold of 20 percent after 2033 and exceeds 50 percent by 2060.

The results of the ‘adverse’ scenario are important because the scenario is not that adverse: long-run nominal growth is only 0.2 percent below the baseline and the primary surplus is only 1 percent below the baseline. Nevertheless, even with these minor changes the debt trajectory is radically different compared to the baseline, and debt explodes.

Even before the pandemic shock, the sensitivity of these debt sustainability projections to even minor deviations from the optimistic baseline assumption was worrisome. To a certain extent, it looked like the baseline assumptions were calibrated in such a way as to make the debt appear sustainable. These considerations led the IMF to abstain from the third set of adjustment programs, as according to their own DSA Greek public debt was not sustainable, even in their baseline calculations (see for example IMF 2016).

There are several reasons why the baseline assumptions in the EC’s DSA are unrealistic. A permanent primary surplus of 2.5 percent is far above the Greek historical experience. It also implies a permanent improvement in the trade balance, and at the moment it is unclear how this would come about.¹⁴ Similarly, it is also unclear how the inflation rate would converge to 2 percent so quickly. This is in line with the EC’s modeling assumptions (where everything converges to some sort of ‘natural’ level in the medium run), but it is very questionable as to whether it would materialize. Inflation in the eurozone over the last decade has consistently undershot official projections.¹⁵ Finally, economic growth in Europe and all around the world had slowed down and a global recession was becoming more and more likely (even without the pandemic shock). Such a global slowdown would certainly impact the Greek economy as well.

The pandemic shock, besides its immediate effect on GDP growth, will clearly push the debt-to-GDP ratio off track. If we assume that, due to the pandemic, Greece’s 2020 GDP will fall by 10 percent and the primary deficit will be another 10 percent of GDP (as the Greek government is projecting in its 2021 budget), the overall debt-to-GDP ratio will approach 210 percent.¹⁶

On the positive side, close to 80 percent of Greece’s public debt is currently held by the official sector (mostly European institutions and the IMF), and has a favorable maturity profile and interest-rate structure.¹⁷ Also, the European Central Bank’s (ECB)

14. A basic macroeconomic accounting identity is that the financial balances of the three institutional sectors of the economy need to sum to zero. Assuming the balance of the private sector does not change, this identity implies that an improvement in the government balance has to be matched by an improvement in the foreign sector balance and vice versa (for a discussion, see Nikiforos/Zezza 2017a: sec. 4).

15. Such an increase in inflation implies a significant increase in nominal wages. Given the current state of the Greek economy and the still-high level of unemployment, this does not seem plausible.

16. According to the Greek government’s 2021 budget, the debt-to-GDP ratio in 2020 will be 208.9 percent. According to the EC’s latest projections – available in the AMECO database – the debt-to-GDP ratio in 2020 will be 207.1 percent, while in its October 2020 *Fiscal Monitor*, the IMF is projecting 205.2 percent (IMF 2020b).

17. The maturity structure of Greek public debt can be retrieved from the Greek Public Debt Management Agency’s website, at URL: www.pdma.gr.

expansionary monetary policy makes the issuance of new debt and the rollover of old debt easier. Nevertheless, for the reasons explained in the previous paragraphs (the pre-existing instability, the magnitude of the pandemic shock, and the large downside risks that this shock entails for the future), the situation is very likely to deteriorate in the future.

Thus, Greece and the eurozone will soon face the same questions they faced in 2010. When the dust settles it will become clear that Greek debt is not sustainable. What will be the answer to these questions? If meeting the fiscal targets remains the priority for Greece's international lenders, it is very likely that there will be a repetition of the aforementioned vicious cycle of recession and austerity: further fiscal contraction, which will trigger further drops in the level of economic activity and employment. In such a scenario, fiscal expenditure on healthcare will most likely be on the menu of cuts, as it has been in the recent past. More broadly, another round of austerity will increase poverty and undermine social and economic rights, much as it has done since 2010.

For that reason – and as was explained in Nikiforos et al. (2015b) – a restructuring of the Greek debt will be necessary one way or another. A continuation of austerity cannot be justified on either moral or practical grounds. Moreover, the recovery from the current pandemic depression in Greece and most other European countries will require some form of debt mutualization, so that the debt burden due to the depression does not push these countries into another vicious cycle of recession and austerity. Finally, in the medium run the eurozone will also need to take steps to address its structural imbalances.

Many would counter that these measures seem politically unrealistic at this point. This might be true, but at the same time they are necessary preconditions for the long-term survival of the eurozone.

At the time of writing this paper, the EU has reached an agreement on the adoption of a plan called 'Next Generation EU,' which would allow the EC to borrow €750 billion in the financial markets and then provide €390 billion in grants and €360 billion in loans for economic recovery in the eurozone from the pandemic crisis. According to initial reports, Greece would receive roughly €19 billion in grants and €13 billion in loans. This plan is a significant step in the right direction. It is also an example of a policy initiative that would have seemed unthinkable until very recently. Nevertheless, as previously emphasized, these kinds of measures need to be further expanded and made permanent.

7 CONCLUDING REMARKS

The present paper discussed Greece's recent experience with austerity and the likely future implications of the policy framework that is currently being implemented. It was shown that the years after the beginning of the first adjustment program saw a dramatic decrease in government spending on healthcare expenditure. This decrease – which reached 50 percent in 2014 – was part of the wider fiscal consolidation that occurred over the same period.

It was explained that fiscal austerity has been justified as the means to achieve debt sustainability. The underlying assumption has been that austerity does not have significant effects on economic activity. Hence, the decreases in fiscal deficits will eventually lead to the stabilization and eventual decrease in the public-debt-to-GDP ratio.

Things turned out differently. The fiscal targets were incompatible with the programs' growth targets. The attempted decreases in fiscal deficits led to a sharp decrease in demand and increases in unemployment; this, in turn, tended to increase fiscal deficits. Over the course of the programs' implementation, the target that was most closely met was the

achievement of the primary surpluses. This prioritization of fiscal targets led to a vicious cycle of recession and austerity.

At the same time, the insistence on meeting fiscal targets has important implications for the future. Because of Greece's high level of public debt, the sustainability of that debt is very sensitive to even minor macroeconomic shocks. The current pandemic shock and its impact on the government deficit and growth will make it obvious that Greek debt is unsustainable. If international lenders persist in chasing fiscal targets, the likelihood of further cuts to fiscal expenditure in general, and to expenditure on healthcare and social provisions in particular, is high.

Thus, the pandemic shock brings the necessity of a bold restructuring of Greek public debt back to the fore, as well as policies that will tackle the eurozone's structural imbalances.

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