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**Article**

## What is Next? Public Debt and Economic Growth in Greece

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George Economides and Apostolis Philippopoulos

## What is Next? Public Debt and Economic Growth in Greece\*



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and, at the same time, to take severe fiscal stimulus measures in an attempt to counter the economic implications of the pandemic. As a result, between 2019 and 2020, the GDP fell by 9 percent and the public debt-to-GDP ratio jumped from 180 percent to around 206 percent of GDP (European Commission 2021; Andersen et al. 2021). However, as a member of the European Union (EU) and the eurozone, Greece can benefit from grants and loans provided by the Recovery Fund established by the European Commission (EC), as well as the new asset purchase program, the Pandemic Emergency Purchase Program (PEPP), set up by the European Central Bank (ECB).

What is next? Can Greece manage to grow out its public debt? Or will history repeat itself and the country will experience a new sovereign debt crisis and a new depression similar to the one ten years ago? The million-dollar question here is which are the engines of, or the barriers to, growth in Greece. This is because, if we take the inherited level of public debt as given, growth exerts the so-called denominator effect on the public debt-to-GDP ratio.

To answer these questions, it is necessary to understand how Greece has reached the current situation and what the lessons from the recent past are. The current situation is the natural outcome of four distinct periods in Greece from the 1980s onwards.<sup>1</sup> These four periods correspond to the 1980s and the first part of the 1990s; the years of euphoria during the second part of the 1990s and the 2000s until the eruption of the global financial crisis in 2008; the Greek sovereign debt crisis of 2009–2016; and finally, the ongoing pandemic crisis since 2020.

The Covid-19 pandemic struck Greece in early 2020 when it was just starting to embark on a moderate growth path after years of depression: Greece had already lost more than 25 percent of its GDP during its sovereign debt crisis in 2009–2016. Moreover, the pandemic crisis found the country with limited fiscal space with its public debt already at 180 percent of GDP at the end of 2019 and most of it (around 70 percent) in the hands of non-market European Union institutions as a result of the fiscal bailouts in the 2010s.

In an effort to stem the pandemic, like most governments, the Greek government has been forced to take extended lockdown measures which have reversed the growth dynamics of the Greek economy

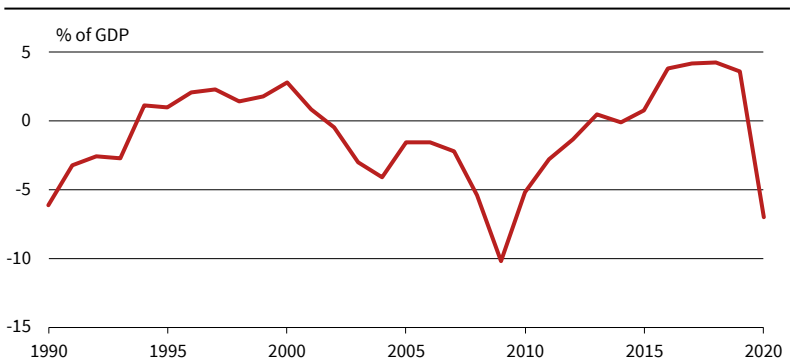
\* We thank Vasiliki Dimakopoulou and Vangelis Vassilatou for discussions and joint work. We also thank Tryphon Christou, Dimitris Malliaropoulos, and Panos Tsakoglou for discussions and comments. Any views and errors are ours.

### THE ORIGINS OF THE CURRENT SITUATION: 1980s AND THE MID-1990s

This period was characterized by a big expansion of the public sector (both in terms of size and role) and the beginning of an explosive rise in public debt. Figures 1, 2, and 3 illustrate respectively the paths of primary fiscal balance as share of GDP, public debt as share of GDP, and the growth rate of real GDP. Notice that, despite the rise in aggregate demand, the macroeconomic performance (like growth) was not

<sup>1</sup> The 1970s were characterized by the restoration of democracy in 1974, the two oil shocks, and accession of Greece to the EU in 1981. For a detailed study of the Greek economy in the post WW2 era, see, e.g., Alogoskoufis (2019).

Figure 1  
Primary Fiscal Balance  
1990–2020



Source: IMF.

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impressive. It is also important to point out that political and social developments in this period shaped the quality of core institutional fundamentals (see below).

### THE YEARS OF EUPHORIA: THE SECOND PART OF THE 1990s AND THE 2000s

From the late 1990s to 2008, Greece, like most periphery countries in the eurozone, enjoyed an exceptional economic boom (see Figure 3). But this was driven by a big rise in private demand and pro-cyclical fiscal policies, both of which were financed by borrowing from optimistic banks in Greece and Northern Europe looking for a higher return. This demand-driven boom led to the accumulation of large private, public, and external debts. It also led to rises in wages (at a rate incompatible with developments in productivity), prices, and unit labor costs, causing a loss in competitiveness. These developments, combined with resource misallocation (which had started in the late 1970s) in the sense that productive resources were directed to non-traded activities protected from competition by natural and political barriers, resulted in a vulnerable economic model. In addition, and perhaps this went unnoticed, Greece displayed a big asymmetry in the quality of core institutional fundamentals relative to its EU partners. Figures 4 and 5 plot Greece's current account (flow variable) and foreign debt (stock variable) as shares of GDP, while Figure 6 shows an index of property rights,<sup>2</sup> which is widely believed to be a key measure of institutional quality and hence an important driver of sustainable economic growth.<sup>3</sup>

These imbalances were already present when the global crisis erupted in 2007–8. It is well known that such imbalances (e.g., persistent current account deficits and a high stock of external debt, persistent fiscal deficits and a high stock of public debt, an overvalued real exchange rate, weak institutional quality, etc.) set the stage for a crisis; what is needed is only a shock to trigger the crisis (see, e.g., Lorenzoni 2014). The shock came in the form of the global financial crisis that arrived in Europe in the summer of 2008.

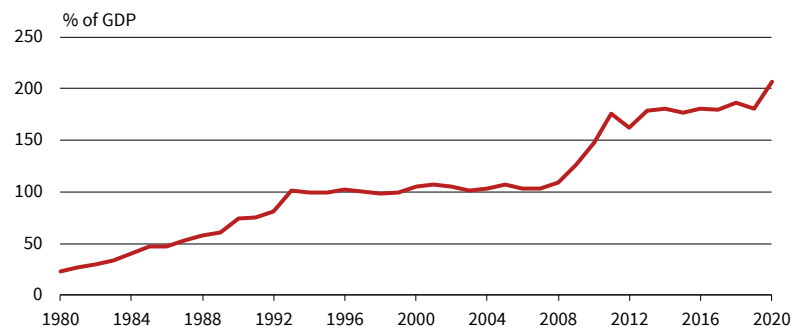
### THE GLOBAL FINANCIAL CRISIS AND THE GREEK GREAT DEPRESSION: 2008 TO 2016

As said, Greece was already in imbalance when the global financial crisis erupted in 2007–8. Then, in

<sup>2</sup> We have constructed this index as the average of three sub-indices: “the rule of law,” “regulatory quality,” and “political stability and absence of violence/terrorism” (the data, which have been rescaled from 0 to 1, are from the World Governance Indicators). Since institutional quality is a relative measure, for comparison, we also include Germany's index.

<sup>3</sup> Property rights shape incentives and are fundamental drivers of sustainable growth (see, e.g., Acemoglu 2009, Chapter 4, in a rich literature). It is also recognized that high public debt, in combination with poor institutional quality, are particularly detrimental to growth prospects (see, e.g., Masuch et al. (2018)). For institutional quality in Greece relative to other EU countries, see, e.g., Masuch et al. (2018) and Christou et al. (2021).

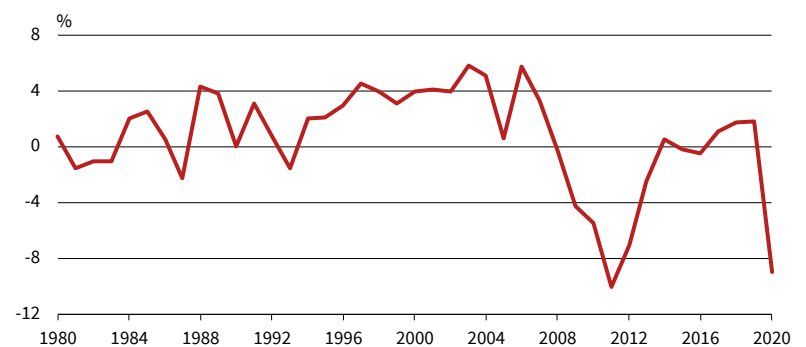
Figure 2  
Public Debt  
1980–2020



Source: IMF and Eurostat.

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Figure 3  
Growth Rate of Real GDP  
1980–2020



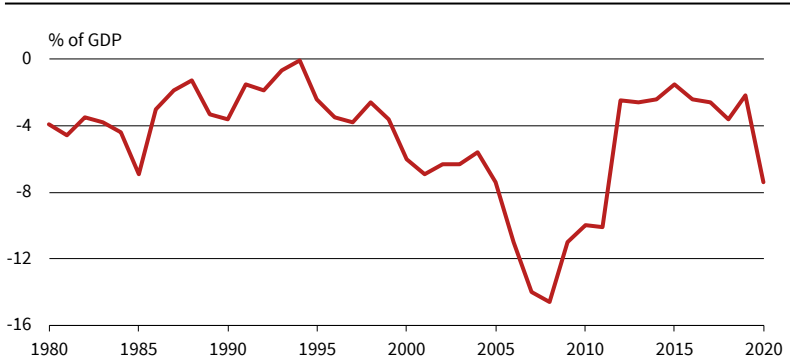
Source: IMF and Eurostat.

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2009, amid new unfavorable developments (unpleasant news about the country's actual public finances, big riots in Athens in December 2008 combined with political polarization in the years after, the release of reports by the EC and rating agencies expressing fears of sovereign insolvency, etc.), confidence was undermined, GDP collapsed, debt-to-GDP ratios exploded, and all this became a vicious cycle. What happened then is well known (see, e.g., Sinn 2010; 2014); De Grauwe 2016 and the annual EEAG Reports on the European Economy by CESifo since 2010<sup>4</sup>): Greece, along with Ireland and Portugal, was shut out from private capital markets and the Greek government had to resort to its first fiscal bailout provided by EU institutions and the IMF in 2010. Nevertheless, the fear of default rose again, and, in 2012, the Greek government defaulted on its bonds held by private creditors and received its second fiscal bailout. But again that was not enough. In the summer of 2015, after protracted negotiations between the newly elected Greek government and EU institutions, the country lived on a razor's edge; capital controls were finally imposed to stop the capital flight and the bank run and the country resorted to its third fiscal bailout.

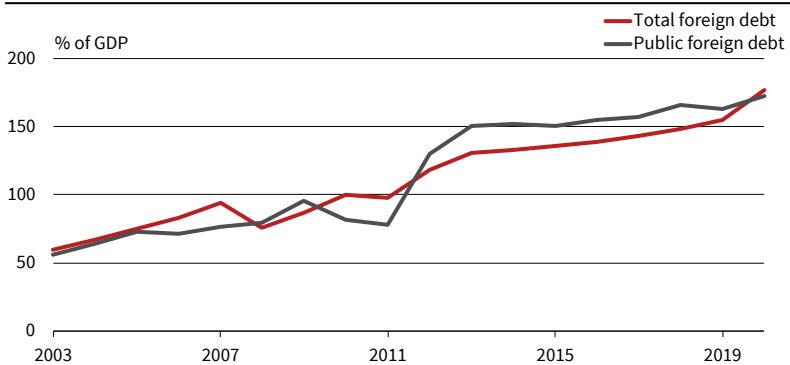
<sup>4</sup> The reports are available at <https://www.cesifo.org/en/eeag-report>.

**Figure 4**  
**Current Account Balance**  
1980–2020



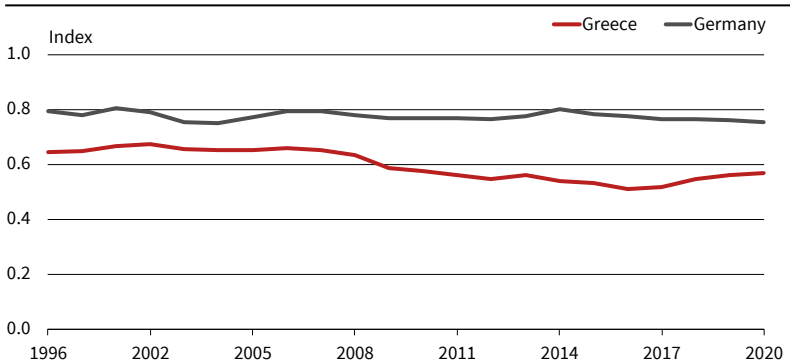
Source: IMF. © ifo Institute

**Figure 5**  
**Foreign Debt**  
2003–2020



Source: Eurostat. © ifo Institute

**Figure 6**  
**Institutional Quality: Index of Property Rights**  
1996–2020



Source: Worldwide Governance Indicators, The World Bank. © ifo Institute

The total amount of these three official fiscal bailouts was around EUR 290 billion, which is one of the largest financial assistance packages in history. These were loans provided by other eurozone countries (via the EFSF, ESM, etc.) and the IMF so they counted as public debt. Most of this money was used for public debt servicing payments, but also for the financing of primary budget deficits (there was no primary market for Greek bonds between 2010 and 2018), the financing of the cost of the haircut in 2012 and the cost of private banks recapitalization. As a

result of these non-market loans, in the end of 2019, close to 70 percent of Greek public debt was owned by EU public institutions (member states of the euro area, EFSF, ESM, etc.).<sup>5</sup>

At the same time, and this has been the case since the very beginning of the global financial crisis as Sinn (2014) has pointed out, the ECB provided a plethora of supportive quantitative, or balance-sheet, policies that included intervention in the secondary market for Greek government bonds via the Securities Market Program (SMP) during 2010–12 and the CBPP 1,2<sup>6</sup> during 2009–11 to support their market price;<sup>7</sup> the support of Greek private banks through a full allotment lending policy, the relaxation of collateral requirements, and the provision of emergency liquidity assistance under the guarantee of the Greek NCB, etc.; and, perhaps more importantly, the issuance of cross-border liquidity that compensated for abrupt private capital inflows and known as TARGET2 liabilities. TARGET2 liabilities were by far the largest item of liabilities, and hence of the monetary base, of the Greek NCB in every year between 2008 and 2017, with sharp rises during the politically turbulent years of 2010, 2011, 2012, and 2015. For instance, TARGET2 liabilities were EUR 105 billion in 2011 which translated to 51 percent of GDP, and EUR 94 billion in 2015 which translated to 53 percent of GDP. During that period and until the imposition of the capital controls in the summer of 2015, this increase in TARGET2 liabilities mainly financed a flight to safety (see, Sinn 2014 and Whelan 2017).

All the above complex financial (fiscal and monetary) assistance was offered at more favorable terms than those justified by the fundamentals of the Greek economy. On the other hand, it was conditioned on a severe fiscal austerity plan monitored by the EC, the ECB, and the IMF. Although the real motives behind the financial assistance, as well as the rationale of a severe fiscal austerity in the middle of a deep recession, have been lively debated (see, e.g., Alesina et al. 2019, Chapter 8), this so-called Economic Adjustment Program, combining carrot (assistance) and stick (austerity), enabled Greece to avoid a disorderly default, which could have had dramatic social consequences, and remain in the eurozone. However, fiscal austerity and economic depression, fueled by political polarization and populism, led to a further worsening of institutional quality. The latter is reflected in the index measuring the protection of property rights in Figure 6; institutional quality shows a sharp deterioration between 2008 and 2016.

A formal type of work is needed if one wants to evaluate the role of each of the above complex de-

<sup>5</sup> See Economides et al. (2021a) and Dimakopoulou et al. (2021a) for the holders of Greek public debt.

<sup>6</sup> CBPP stands for Covered bond purchase program.

<sup>7</sup> Note, however, that Greek government bonds have not been part of the PSPP, which is the most important part of the large-scale APP of the ECB that started in early 2015. See, e.g., Havlik and Heine-mann (2020).

velopments in the sharp rise of public debt-to-GDP (see Figure 2) and the big loss in GDP (see Figure 3) between 2009 and 2016. It is thus useful to report the main findings of Economides et al. (2021a).<sup>8</sup> The GDP loss and the public debt-to-GDP rise could have been significantly smaller if some things had been done slightly differently. In particular, the output loss during 2009 and 2016, instead of 25 percent, could have been around only 9 percent (always relative to the pre-crisis 2008 level), if the country had followed an alternative fiscal policy mix (for example, a cut in income taxes, or an increase in public investment, both financed by a cut in government consumption spending), if reforms in the product market had been adopted and implemented at a faster pace and/or more effective way so as to get the degree of product market liberalization closer to that found in the core eurozone countries, and, more importantly, if institutional quality had not deteriorated since 2008 but had simply remained at its pre-crisis level (see Figure 6). The latter could have happened if, for instance, the political system had cooperated to take the necessary steps for overcoming the crisis—as it was the case in Portugal or Ireland—and if the extreme political polarization had been avoided. That is, relatively small changes could have made things much better. We believe these are useful lessons for the new pandemic crisis.

### THE COVID-19 PANDEMIC CRISIS AND THE CURRENT SITUATION

Greece exited its Economic Adjustment Program in August 2018 but, as stated above, its moderate recovery path that started in 2017 has been abruptly disrupted by the pandemic shock in early 2020. As a result of the various measures taken, the public debt-to-GDP ratio was around 206 percent at the end of 2020 and is expected by the EC to be around 209 percent in the current year, while the growth rate was –9 percent in 2020 and the real economy is expected to recover only partially in 2021 (at the time of writing this article the growth rate for 2021 is expected to be around 5.9 percent).

To counter the economic consequences of the pandemic, the Greek government has taken a number of fiscal measures in the form of spending rises and tax cuts. In addition, the country can benefit from resources from the EU Recovery Fund and the new measures taken by the ECB. Assistance from the Recovery Fund amounts to EUR 32 billion (in the form of loans, which will be part of Greek public debt, and

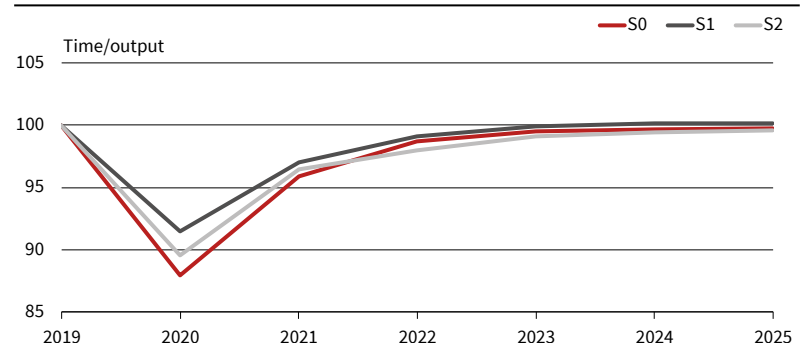
grants) which translate to 17.5 percent of Greek GDP in 2019. This amount can be spent between 2022 and 2026 mainly for investments and reforms, and, if used efficiently, can contribute significantly to the restructuring of the Greek economy. New assistance from the ECB includes, in addition to negative interest rates for credit to private banks, purchase of Greek government bonds in the secondary market under PEPP,<sup>9</sup> and a new increase in TARGET2 liabilities; the latter jumped from EUR 26 billion in 2019 to EUR 80 billion in 2020 (most of it seems to be financing the purchase of securities from investors who have bank accounts in another eurozone country).

Borrowing results from Dimakopoulou et al. (2021b),<sup>10</sup> Figures 7 and 8 report the simulated paths of GDP and the public debt-to-GDP ratio respectively under three scenarios: First, what would have happened with pandemic-type shocks without any policy reaction (labeled S0), a “real-world” scenario with policy reaction at both the national and EU level as described above (labeled S1), and finally what would

<sup>9</sup> See, e.g., Havlik and Heinemann (2020).

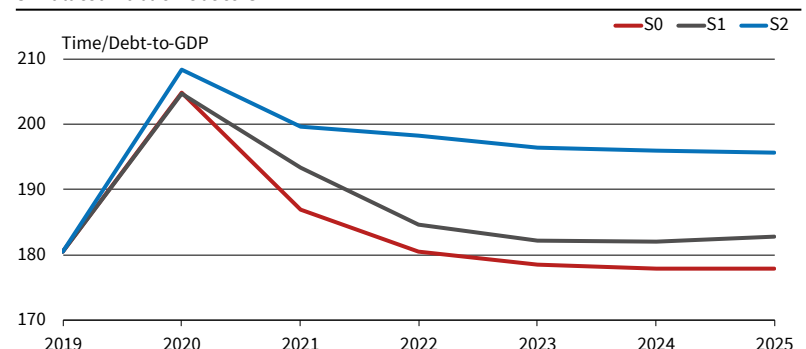
<sup>10</sup> In this paper, building on the calibrated DSGE models of Economides et al. (2021a and 2021b), we have added pandemic-type shocks and a detailed policy reaction to them, where the latter includes measures at both the national and EU level (Recovery Fund and ECB policy as discussed above). The aim is again to quantify the role of each exogenous variable (adverse pandemic shocks and policy measures) in macroeconomic developments over time.

Figure 7  
Simulated GDP<sup>a</sup>



<sup>a</sup> S0 is a scenario with pandemic-type shocks without any policy reaction; S1 is a “real-world” scenario with policy reaction at both national and EU level; S2 is a scenario with no assistance by the Recovery Fund and the ECB. Source: Dimakopoulou et al. (2021b). © ifo Institute

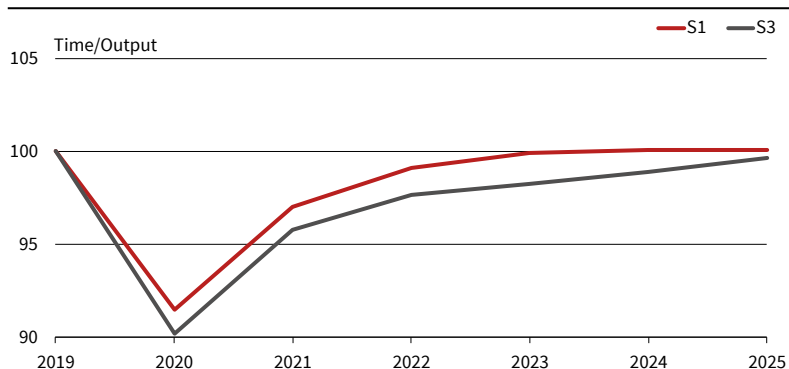
Figure 8  
Simulated Public Debt to GDP<sup>a</sup>



<sup>a</sup> S0 is a scenario with pandemic-type shocks without any policy reaction; S1 is a “real-world” scenario with policy reaction at both national and EU level; S2 is a scenario with no assistance by the Recovery Fund and the ECB. Source: Dimakopoulou et al. (2021b). © ifo Institute

<sup>8</sup> The way we worked in that paper is as follows. First, we constructed a medium-scale micro-founded macroeconomic (DSGE) model that embedded the main features of the Greek economy during the euro period until 2019. This model was calibrated to Greek annual data. Then, departing from the 2008 solution, we fed the model with the time paths of exogenous variables (like policy variables, the index of property rights, etc.) as they are in the data, so as to quantify the contribution of each one of them to the output loss during the sovereign debt crisis.

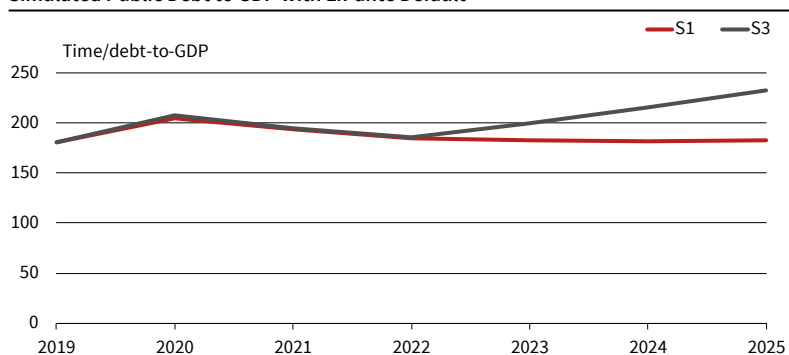
Figure 9  
Simulated GDP with Ex-ante Default<sup>a</sup>



<sup>a</sup> S1 is the “real-world” scenario; S3 is the scenario with risk-premium.  
Source: Dimakopoulou et al. (2021b) and authors.

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Figure 10  
Simulated Public Debt to GDP with Ex-ante Default<sup>a</sup>



<sup>a</sup> S1 is the “real-world” scenario; S3 is the scenario with risk-premium.  
Source: Dimakopoulou et al. (2021b) and authors.

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have happened in the counter-factual case without the assistance provided by the Recovery Fund and the ECB since the eruption of the pandemic (labeled S2). These results show how necessary the policy reaction has been and also confirm the importance of financial assistance from EU institutions. Actually, the role of EU institutions (European Commission and ECB) is more important than what Figures 7 and 8 imply at first sight. This is because one of the benefits that Greece receives from membership in these supra-national institutions is “the import of credibility” and, in particular, the anticipation of markets that these institutions will step in, in one way or another, if something goes wrong in the future (this has been implicitly taken as given in Figures 7 and 8 and its role is studied next). The results also imply that the above-mentioned policy measures should not be hastily withdrawn, in any case, not before the Greek economy but also the eurozone as a whole, enter in an era of growth.

### THE IMPORTANCE OF TRUST

It is remarkable that, despite the fall in economic activity and the big rise in public debt-to-GDP ratios, since 2019 even countries with heavy public debt burdens, like Greece, have been enjoying very small

bond spreads (excess yields) over the German Bund, at least so far. For instance, at the time of writing this article, the Greek government is issuing bonds with a 1.2 percent interest rate. We believe this happens for several complementary reasons. One reason is that Greece, after the disastrous crisis years of 2009–2016, has started to take steps in the right direction (see, e.g., the improvement in institutional quality since 2017 in Figure 6). Another reason is that in the current situation, there is good coordination between EU leaders and the Greek government. And an obvious reason, as stated above, is the financial assistance from the ECB (see, e.g., PEPP) and the EC (see, e.g., the Recovery Fund) and, perhaps more importantly, the signals of support sent by these EU institutions if something goes wrong. All this has calmed down markets’ anxiety about the ability of the country to repay its debts, at least for the present time.

But, as the experience of the European debt crisis of the previous decade has shown, and as already said above, a mix of weak economic fundamentals and negative shocks can very easily change the situation for the worse. If a negative shock hits a country with weak fundamentals, sentiments can suddenly change, investors will start selling domestic assets, risk premia will emerge, debt burdens will rise as interest rates rise, and the country will be again on the razor’s edge as in 2015. Various shocks can work as triggers of the crisis like unrealistic policy promises that violate inter-temporal budget constraints; a denial to address pressing problems; an institutional deterioration, fueled by political polarization and populism, that signals poor growth prospects; a sudden loss of trust between national policymakers and EU institutions; a report by an international organization expressing doubts about debt sustainability, etc.

To provide a numerical example of the detrimental consequences of risk premia reflecting the fear of default (or, symmetrically opposite, of the benefits from trust), in Dimakopoulou et al. (2021b), we have added to the above-described model an ex ante default rate of, say, 20 percent during 2022–2025 on Greek government bonds which is within the range experienced by Greece during its sovereign debt crisis. The simulated paths of output and public debt-to-GDP under this hypothetical scenario (labeled S3) are shown in Figures 9 and 10, respectively, which, for comparison, also include the above-described “real-world” scenario (S1) which was without risk premia other things equal. As can be seen, the emergence of risk premia makes the recession sharper and longer (see Figure 9) and, at the same time, the debt-to-GDP ratio skyrockets (see Figure 10).

### CONCLUSIONS

Greece had just started to recover from its severe sovereign debt crisis when, like most countries, it was hit

by the pandemic shock in early 2020. The policy measures promptly taken by the Greek government, the EU (e.g., Recovery Fund) and the ECB (e.g., PEPP), as well as the good degree of cooperation between them, have helped the country to reduce the economic downturn, however, coming at the cost of public finances. With a public debt above 200 percent of GDP (the implications of which have been masked so far mainly by the financial assistance and imported credibility provided by EU institutions), the country is vulnerable to economic and political shocks. Although exogenous factors cannot be controlled for, the country should at least not repeat the same mistakes made during the sovereign debt crisis of the previous decade (especially political polarization that fueled social conflict, hurt institutions, created uncertainty, raised risk premia—all of which led to a vicious cycle of recession and debt). One cannot rely on the assumption of low-risk premia.

When economic life is normalized, Greece needs to start growing out its public debt on a systematic basis so growth developments will be the essential focus. The engines of growth are well known (see, e.g., Sala-i-Martin 2010). In the case of Greece and in the current situation, robust development requires the following: (a) the productive use of the financial assistance from the EU Recovery Fund until 2026; (b) a growth-enhancing and credible over time tax-spending policy mix combined with social policy targeted to those in need; and (c) structural reforms. The latter should aim at increasing competition in product markets, at improving the efficiency of public administration which includes the public education system, and at credibly enhancing the quality of core institutions (the rule of law, property rights, judicial system, deterring tax evasion, rent seeking, etc.) thereby improving the level of social trust.

This cluster of conditions can help the Greek economy to grow out its public debt. This is the good and, if the above conditions are met, feasible scenario, especially if we take into account that the recent fiscal bailout programs have significantly extended the time horizon of Greece's fiscal obligations and this, although public debt remains high as a fraction of GDP, provides the Greek authorities with the necessary time to deal with it effectively. But there is also a bad and undesirable scenario if the above conditions are not met. In addition to avoiding a self-defeating political polarization, the political and economic partners need to agree on a minimum reform agenda, and send the right signals to citizens, markets, and institutions if they want to minimize the probability of a new crisis.

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