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Special Commentary

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Greece: How Did It Get Here & Where Does It Go?

Executive Summary

The debt-to-GDP ratio of the Greek government has soared in recent years due, at least in part, to gaping budget deficits in the immediate aftermath of the global recession. However, the Greek government has undertaken an extraordinary amount of fiscal consolidation since 2009, and the level of Greek government debt has remained more or less unchanged over the past two years. The increase in the debt-to-GDP ratio over the past few years largely reflects the continued slump in the country's nominal GDP.

The Greek government and its creditors very well may reach agreement in coming weeks or months about a third bailout package, and market preoccupation with Greece may subside. However, unless Greece enjoys the trifecta of low borrowing costs, austere budgets and strong economic growth on a sustained basis, concerns about the country's debt sustainability will likely arise again. The country's "official" creditors, who hold the vast majority of its debt, may eventually need to take haircuts on their holdings, an action many of them have steadfastly refused to consider thus far.

How Did Greece Get Here?

Greece has been in the headlines for much of the past month or so. Even casual observers likely know now that the debt-to-GDP ratio of the Greek government has risen to stratospheric heights. As shown in Figure 1, the ratio has risen from about 100 percent prior to the global financial crisis to about 180 percent at present. What many observers do not understand, however, is how this situation has developed.

Figure 1

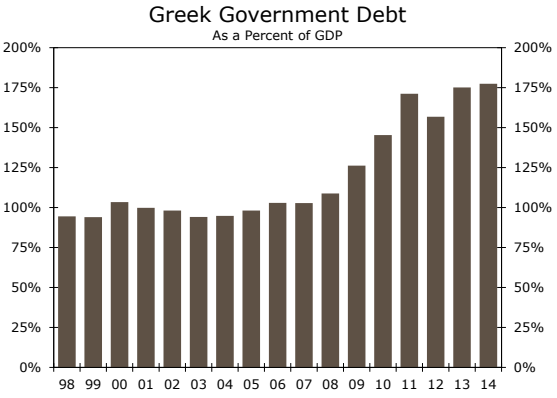
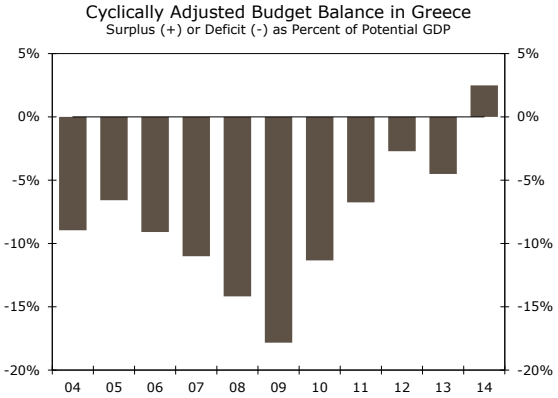


Figure 2



Source: Organisation for Economic Cooperation and Development and Wells Fargo Securities, LLC

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Some observers subscribe to the narrative that Greek authorities have not done enough to rein in government debt. Certainly, the Hellenic Republic came into the debt crisis with hemorrhaging budget deficits, and perhaps the Greek government could have done even more over the past few years to prevent the debt from rising. That said, Figure 2 shows that the fiscal adjustment that the government has undertaken over the past five years is nothing short of herculean. The revenue increases and spending reductions that the government has enacted over the past five years have led to a correction in the cyclically-adjusted budget balance worth an incredible 20 percent of GDP.[1]

So, if the Greek government has arguably done a good job of reducing its budget deficit, then why has the country's debt-to-GDP ratio risen by 80 percentage points since 2007? Figure 3 shows the evolution of the outstanding amount of government debt and nominal GDP in the Hellenic Republic over the past ten years. Both variables are indexed to Q3 2008, when nominal GDP in Greece peaked.

Between 2008 and 2011 the outstanding amount of Greek government rose about 40 percent. Although the Greek government was undergoing some serious fiscal adjustment during those years, it was still incurring sizeable budget deficits (see Figure 2). These deficits added to the outstanding amount of debt. Debt fell sharply in early 2012 when private investors were forced to accept a debt restructuring that included haircuts in excess of 50 percent of the face value of the bonds they held.[2] Government debt rebounded a bit over the next few quarters, but the amount of outstanding debt in Greece has been more or less unchanged on balance over the past two years.

Figure 3

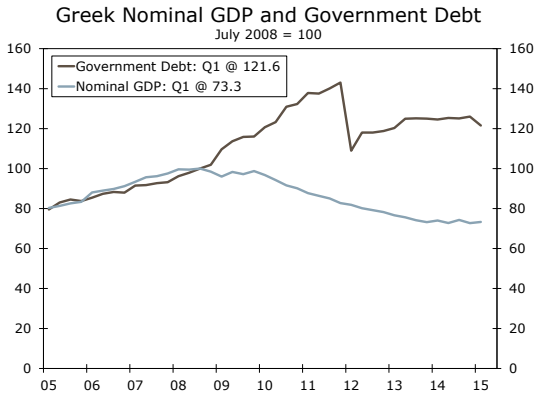

Figure 4

Source: IHS Global Insight and Wells Fargo Securities, LLC

Figure 3 also shows that nominal GDP in Greece has dropped about 27 percent since peaking in Q3 2008. Indeed, real GDP in Greece is currently down 27 percent from its Q2-2007 peak, and it will probably fall further in the near term due to the freezing of commerce that has occurred with banks shuttered over the past three weeks.[3] To put that number into perspective, consider that real GDP in the United States plunged 26 percent between 1929 and 1933. However, positive economic growth in the United States resumed in 1934, and by 1936 the level of U.S. real GDP had reclaimed its 1929 peak. Greece has endured an American-like Great Depression, but after eight years the economy has not even begun to recover (Figure 4).

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[1] **Because revenues and, to a lesser extent, spending can be affected by the economic cycle, analysts often look at the cyclically-adjusted budget balance to measure the underlying change in fiscal policy.**

[2] **"Official" creditors, such as governments of euro area countries, the IMF and the ECB, hold about 80 percent of Greek government debt today.**

[3] **The GDP deflator, which measures the overall level of prices in the economy, is essentially unchanged on balance since 2008.**

In short, the economic depression in Greece has helped push up the government debt-to-GDP ratio. Not only has the denominator in the ratio become smaller, but the significant fiscal consolidation that the government has undertaken over the past five years has arguably pushed the economy deeper into the hole. As noted above, banks in Greece have been closed over the past three weeks, and the economy will contract further, at least in the near term, due to lack of financing. It will likely be years, if not decades, before the level of real GDP in Greece returns to its 2007 peak.

The economic depression in Greece has helped to push up the government debt-to-GDP ratio.

Where is Greece Going from Here?

As we describe in a recent report, Greece and its creditors recently reached conditional agreement to start talks regarding a third bailout that could total more than €80 billion.[4] The International Monetary Fund (IMF) recently made waves when it announced that Greece's debt dynamics were "unsustainable," and that "Greece's debt can now only be made sustainable through debt relief measures that go far beyond what Europe has been willing to consider so far."[5]

The evolution of a country's debt-to-GDP ratio depends upon the current level of the ratio, the interest rate at which the country can borrow, its nominal GDP growth rate, and its primary budget balance (i.e., the budget balance net of interest payments.) Everything else equal, an increase in interest rates causes the debt-to-GDP ratio to be higher than otherwise, while an increase in the nominal GDP growth rate causes the ratio to fall from its previous baseline. Likewise, an improvement in the primary budget balance leads to a decline in the debt-to-GDP ratio from baseline. We performed a number of calculations that plot Greece's debt-to-GDP ratio over the next 15 years under different assumptions, and we refer interested readers to the appendix where we list the explicit paths of these variables over the next 15 years.

In the first set of calculations that are shown in Figure 5, we use IMF assumptions regarding interest rates and primary fiscal surpluses and look at four different scenarios for nominal GDP growth.[6] Under the IMF "baseline" scenario, debt recedes from 180 percent of GDP today to 110 percent in 2030. Under this "baseline" scenario nominal GDP grows at an assumed steady state rate of 3.5 percent per annum beginning in 2022. But could this assumed steady state rate of 3.5 percent be too low? If Greece could achieve real GDP growth on the order of 2.5 percent per annum, which would put it in the league of Ireland, among the fastest growing economies in the Eurozone, then the Hellenic Republic may be able to realize 4.5 percent nominal GDP growth on a sustained basis. Under this "optimistic" scenario, the country's debt-to-GDP ratio falls to less than 100 percent by the end of the next decade.

But these two scenarios could easily be too optimistic. For starters, both scenarios assume continued economic growth over the next 15 years. Greece could easily fall into another recession over that period, which would pull down nominal GDP growth, at least for a while. The scenario labeled "recession" in Figure 5 assumes that nominal GDP does not grow in the first two years of the next decade before rebounding to a steady state rate of 3.5 percent per annum. Finally, the scenario labeled "recession/pessimistic" incorporates this recession as well as the assumption that nominal GDP grows only 2.4 percent per annum in the next decade, which has been the country's average rate of nominal GDP growth thus far in the Eurozone era (*e.g.*, 1999-2014). The

Unless optimistic scenarios occur, the debt-to-GDP ratio likely will remain elevated.

[4] **See "Yet Another Act to the Greek Drama" (July 13, 2015), which is available upon request. Subsequent to that report, the Greek parliament passed legislation that will reform the country's value-added tax and pension system, preconditions demanded by creditor countries before they would even enter into bailout negotiations.**

[5] **"Preliminary Draft Debt Sustainability Analysis," *IMF Country Report # 15/165*, International Monetary Fund, June 26, 2015 and "An Update of IMF Staff's Preliminary Public Debt Sustainability Analysis," *IMF Country Report # 15/186*, International Monetary Fund, July 14, 2015.**

[6] **The IMF project that Greece's borrowing cost will rise from 2.2 percent this year to 3.0 percent by 2022. We then hold borrowing costs constant at 3.0 percent through 2030. The IMF also forecasts that the primary surplus will rise from 2.0 percent in 2016 to 3.0 percent in 2017 to 3.5 percent in 2018. We then keep the primary surplus unchanged at 3.5 percent through 2030. See "Preliminary Draft Debt Sustainability Analysis," *op cit*.**

takeaway from Figure 5 is that Greece's debt-to-GDP ratio will likely exceed 100 percent of GDP at the end of the next decade, except under some fairly optimistic scenarios.

Figure 5

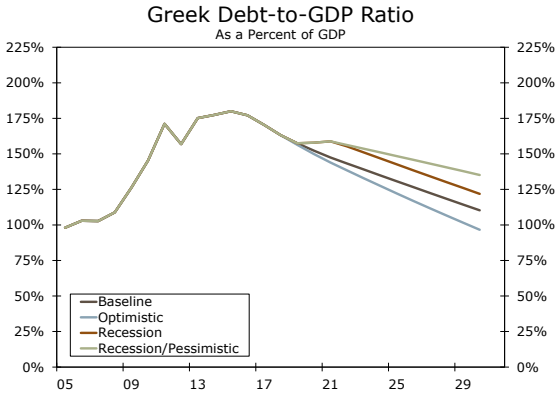
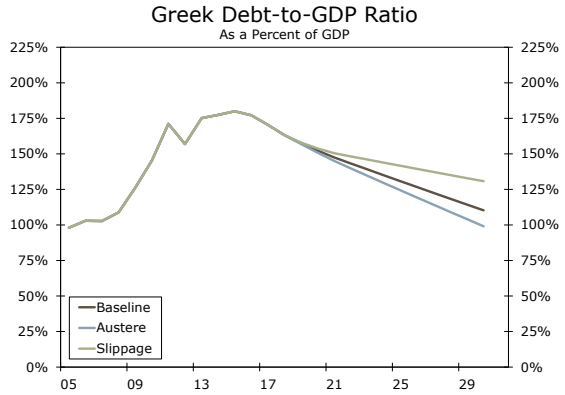


Figure 6



Source: International Monetary Fund and Wells Fargo Securities, LLC

Figure 6 shows what happens to Greece's debt-to-GDP ratio when we vary the assumptions regarding the path of the primary budget balance. The line labeled "baseline" in Figure 6 simply incorporates IMF forecasts for nominal GDP growth, interest rates and the primary budget balance. The "baseline" projection assumes that the Greek government runs a primary budget surplus of 2 percent of GDP in 2016, 3 percent in 2017 and 3.5 percent from 2018 through 2030.

If the government undertakes even more fiscal consolidation—it achieves a primary surplus of 4 percent of GDP in 2019 and an "austere" 4.5 percent in each year in the next decade—then the government debt-to-GDP ratio recedes to less than 100 percent in 2030. As the IMF points out, however, "few countries have managed" to maintain primary budget surpluses of 3.5 percent of GDP for decades.[7] If the primary budget surplus slips back to 1.5 percent of GDP in the next decade, then the debt-to-GDP ratio will remain elevated.

Conclusion

The debt-to-GDP ratio in Greece has soared in recent years. Gaping budget deficits in the immediate aftermath of the global recession contributed to the increase in Greek government debt in those years. However, the Greek government has undertaken an extraordinary amount of fiscal consolidation since 2009, and the level of Greek government debt has remained more or less unchanged over the past two years. The increase in the debt-to-GDP ratio over the past few years largely reflects the continued slump in the country's nominal GDP.

The conditions that are required to bring about a sharp reduction in the country's debt-to-GDP ratio in coming years could be characterized as "optimistic." The government would need to undertake even more fiscal consolidation and maintain austere budgets into next decade. In addition, the country would need to experience strong economic growth. A recession or inability to maintain austere budgets would slow, if not completely arrest, the decline in the debt-to-GDP ratio, which could then raise renewed concerns about the sustainability of the country's debt.

The Greek government and its creditors very well may reach agreement in coming weeks or months about a third bailout package and market preoccupation with Greece may then subside. However, unless Greece enjoys the trifecta of low borrowing costs, austere budgets and strong economic growth on a sustained basis, concerns about the country's debt sustainability likely will arise again. The country's "official" creditors, who hold the vast majority of its debt, may eventually need to take haircuts on their holdings, an action many of them have steadfastly refused to consider thus far.

[7] **"An Update of IMF Staff's Preliminary Public Debt Sustainability Analysis",** ***op cit*****.**

APPENDIX

	Assumptions Used in Figure 5					
	Growth Assumptions					
Year	**Baseline**	**Optimistic**	**Recession**	**Recession/Pessismistic**	**Interest Rate**	**Budget Surplus**
2016	2.7%	2.7%	2.7%	2.7%	2.2%	2.0%
2017	4.4%	4.4%	4.4%	4.4%	2.2%	3.0%
2018	4.5%	4.5%	4.5%	4.5%	2.2%	3.5%
2019	3.8%	4.5%	3.8%	3.8%	2.4%	3.5%
2020	3.6%	4.5%	0.0%	0.0%	2.5%	3.5%
2021	3.7%	4.5%	0.0%	0.0%	2.8%	3.5%
2022	3.5%	4.5%	3.0%	2.4%	3.0%	3.5%
2023	3.5%	4.5%	3.5%	2.4%	3.0%	3.5%
2024	3.5%	4.5%	3.5%	2.4%	3.0%	3.5%
2025	3.5%	4.5%	3.5%	2.4%	3.0%	3.5%
2026	3.5%	4.5%	3.5%	2.4%	3.0%	3.5%
2027	3.5%	4.5%	3.5%	2.4%	3.0%	3.5%
2028	3.5%	4.5%	3.5%	2.4%	3.0%	3.5%
2029	3.5%	4.5%	3.5%	2.4%	3.0%	3.5%
2030	3.5%	4.5%	3.5%	2.4%	3.0%	3.5%

	Assumptions Used in Figure 6				
	Budget Assumptions				
Year	**Baseline**	**Austere**	**Slippage**	**Interest Rate**	**GDP Growth**
2016	2.0%	2.0%	2.0%	2.2%	2.7%
2017	3.0%	3.0%	3.0%	2.2%	4.4%
2018	3.5%	3.5%	3.5%	2.2%	4.5%
2019	3.5%	4.0%	3.0%	2.4%	3.8%
2020	3.5%	4.5%	2.5%	2.5%	3.6%
2021	3.5%	4.5%	2.0%	2.8%	3.7%
2022	3.5%	4.5%	1.5%	3.0%	3.5%
2023	3.5%	4.5%	1.5%	3.0%	3.5%
2024	3.5%	4.5%	1.5%	3.0%	3.5%
2025	3.5%	4.5%	1.5%	3.0%	3.5%
2026	3.5%	4.5%	1.5%	3.0%	3.5%
2027	3.5%	4.5%	1.5%	3.0%	3.5%
2028	3.5%	4.5%	1.5%	3.0%	3.5%
2029	3.5%	4.5%	1.5%	3.0%	3.5%
2030	3.5%	4.5%	1.5%	3.0%	3.5%

Source: International Monetary Fund and Wells Fargo Securities, LLC

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