

# States and Sovereigns: Eurozone and U.S. State Debt Woes

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## Executive Summary

*States and Sovereigns: Eurozone and U.S. State Debt Woes* is an independent study sponsored by Pershing LLC and produced by Roubini Global Economics (RGE).

In the ancient myth, Sisyphus was condemned by Zeus to an eternity of rolling a large rock up a hill, only to see it roll down before he reached the top. The countries of the eurozone periphery could be forgiven for thinking that they are fated to the Sisyphean task of fiscal adjustment—undertaking spending cuts only to learn that the markets are not satisfied. Then they find that the risk premium in the cost of borrowing has risen again because of their past misbehaviors as they strive to achieve that elusive prize—debt sustainability.

But do the U.S. states find themselves in a similar bind? A quick look at the unfunded pension liabilities and other benefits of state employees makes their sustainability a challenging proposition, as well. Yet, as explained in this study, precedents, institutions and the procyclicality of state finances lower their risk of a systemic crisis.

There are important points of similarity and dissimilarity between the two:

- > The problems of eurozone periphery sovereign debt and U.S. state debt are problems of fiscal incontinence.
- > However, the severity differs greatly, depending on whether unfunded pension and other public employee benefits are included: These costs are included for the U.S. states but not for the eurozone periphery countries because of an absence of consistent data.
- > The U.S. state debt problem is more tractable; as the regulatory and legal framework puts the burden of state fiscal adjustment squarely on expenditure restraint. If political-economic factors are included, debt default and restructuring in the U.S. states seems a distant prospect.
- > The eurozone debt crisis also appears to be presenting the same solution set, but the scale of the problem is larger and confidence levels are lower—the latter because a mix of intergovernmental and supragovernmental bodies are involved and also the absence of a fiscal union. And, more importantly, clear precedents in constitutional structure make arriving at a solution immensely more complicated.
- > RGE looks at a variety of solvency measures for both debtor groups and concludes that debt restructuring—and possibly contagion—remains more likely for some of the eurozone periphery than for U.S. states.

## Roubini Global Economics' Approach

Assessing the relative risk associated with eurozone sovereign debt—specifically periphery sovereign debt—and U.S. state debt requires a mix of quantitative and qualitative reasoning. Ideally, comparable debt sustainability assessments would be sought, using in each case the stock of debt, the operating deficit (receipts less expenditures, including capital investment) as a share of revenue, an interest bill-to-income ratio, liquidity (or funding rollover) profiles and, finally, the present value of unfunded liabilities. Since accounting conventions differ between eurozone sovereigns and U.S. states, apples-to-apples comparisons are elusive. Solvency ratios are used that apply the most reliable data in each case, while striving to achieve some measure of relative risk. Also included are market-implied measures of risk, such as bond yield spreads over risk-free yields and bond volatility, to put RGE's analysis in context. Finally, this study looks at the institutional framework or, more accurately, the institutional backstops. These might be

brought to bear in each case to forestall, inhibit or perhaps even resolve a solvency crisis—the last through policy proposals and action. But in neither case is there any assurance that the backstops will be used or even exist (as discussed later in the study). That makes the final section of this study qualitative and less precise, but no less important.

## Understanding the Two Crises

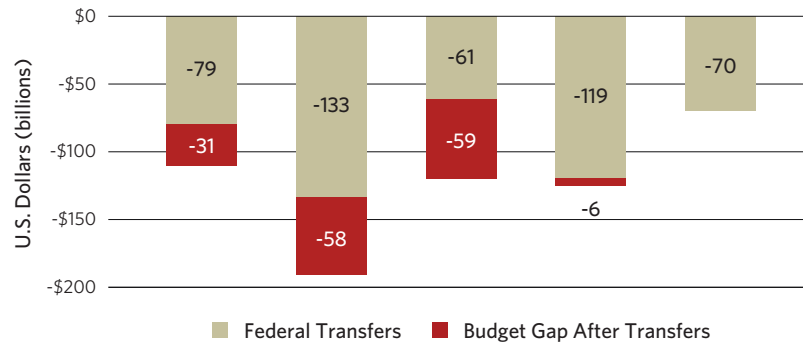
The conceptual frameworks for understanding the two debt problems have several commonalities. At the highest level of abstraction, each type of debt is issued in a currency over whose purchasing power the debtor in question has little or no control. It is therefore a crisis of denomination. The currency is created and controlled by a supraentity. In the case of the U.S. states, it is the federal government and its agencies, notably the U.S. Federal Reserve. In the case of the eurozone periphery, it is the full apparatus of intergovernmental agencies and a supranational monetary authority, the European Central Bank (ECB). For both sides, the debtor's problem cannot be fixed through currency devaluation. That said, there is an additional contrast and comparison. The U.S. can, in principle, improve U.S. competitiveness and reduce the real burden of national debt, including local debt, via monetary policies that weaken the dollar. Such an approach would likely conflict with the pure inflation-targeting mandate of the ECB and would undoubtedly complicate already difficult, internal eurozone political dynamics.

The interstate mobility of the U.S. labor force has in the past eased this dilemma by giving the national economy a flexible wage-price structure. This relieved pressure on state budgets, though household balance sheet constraints (through wealth tied up in home equity) after the recent crisis have now impeded that mobility. The eurozone enjoys unlimited labor mobility, in principle, though in practice there is inadequate intra-eurozone migration to achieve such a flexible price-wage structure. These rigidities, in combination with supranational monetary policy, put eurozone debtor sovereigns in a position similar to the Great Depression, during which insolvent sovereigns were pinned to a super-sovereign currency (gold). The current eurozone crisis could turn out to be even more damaging than in the 1930s, since exiting the monetary union would leave debts contracted in the old (and now foreign) currency—with large holdings in the hands of foreign creditors. The debt would have to be redenominated to be serviceable, compounding the political problems between debtor and creditor nations, imperiling the entire European Union project, including the customs union, and potentially tearing apart currency union.

Where the supraentity is solvent—which both the U.S. and the eurozone patently are (or perceived to be by the market)—the choice then is either to address the roots of the debt crisis, via the unsustainability of the growth of the stock of debt, or to ease it by providing liquidity and transfers. (The third course of action is to fold the debtor fully into the supraentity with a substantial portion of the debt transferred up or income transferred down to the debtor, but even in a full-fledged fiscal union like the U.S., this is regarded as politically unworkable.)

In each case then, the supraentity has placed greater weight on the latter course—through the European Financial Stability Facility (EFSF), the International Monetary Fund (IMF) and a host of other facilities in the case of the eurozone periphery and federal transfers in the case of U.S. states. But clearly, there is strong resistance to continue both without much stronger conditionality.

Figure 1: Projection of State Budget Shortfalls



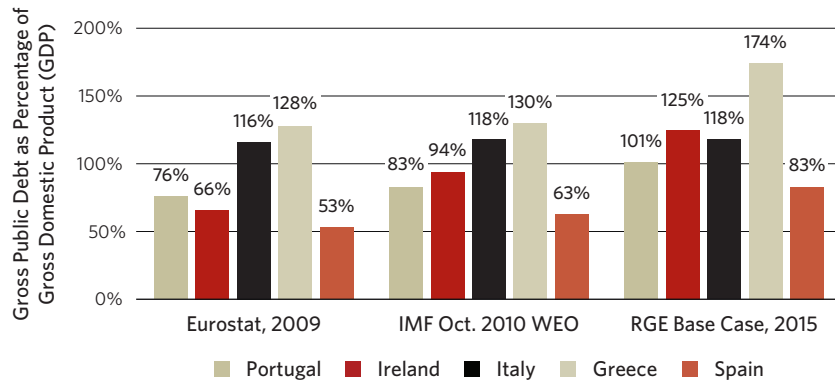
Source: Center on Budget and Policy Priorities

Even with the expanded EFSF currently under consideration, including the funds from Greece’s “troika” (the name given to the multilateral creditors), resources would be insufficient to finance the full general government borrowing requirement of the entire periphery (or the PIIGS, namely Portugal, Ireland, Italy, Greece and Spain and, by some measures, even excluding Italy) between now and 2013, should these countries be denied market access. In the case of the U.S., the enhanced—though temporary—federal payments (“transfers”) under the American Recovery and Reconstruction Act of 2009 will soon cease. In fiscal year (FY) 2010 these amounted to approximately U.S. \$58 billion and U.S. \$69 billion in FY 2011 and are slated to be phased out completely in FY 2012 (Figure 1).

Hence, attention has shifted to addressing the “fundamental” end of the continuum, namely forcing a sharp but sustainable adjustment of public sector deficits in the periphery economies while maintaining market confidence and access where possible—and continuing with limited liquidity infusions where needed. The Growth and Stability Pact that came out of the Maastricht Treaty, as well as the balanced budget laws in 49 of the 50 U.S. states, should have kept debt growth in check, but a combination of cyclical and structural deficits have combined to make the problem potentially intractable. Sustainability has to be achieved through austerity and (in the European case) by deflation. To be fair, the adjustment of public-sector accounts in the eurozone periphery went hand-in-hand with EFSF funding, but the funding was provided with insufficient regard to sustainability.

Failure to achieve sustainability—one could think of it as an equilibrium condition that produces virtual circular effects between changes in primary fiscal balances and the cost of borrowing at market rates and including some component of official assistance—would make debt restructuring inevitable. The political costs of austerity versus debt restructuring will be touched upon briefly later. Much of the rest of this study is an outlook on the solvency for the two sets of debtors and the policy initiatives that might be forthcoming.

Figure 2: European Gross Public Debt Rising – Except for Italy



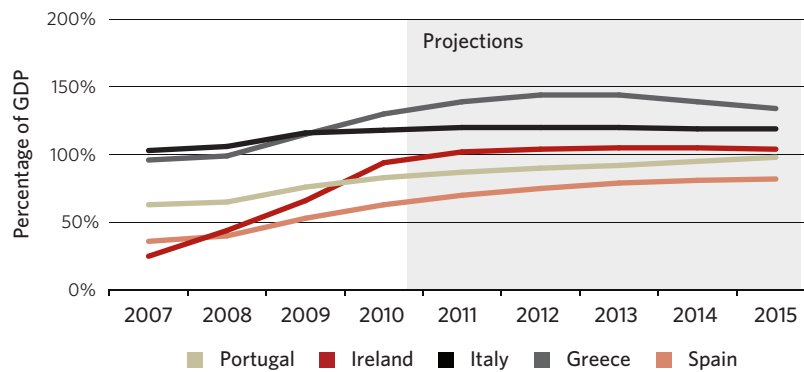
Source: Eurostat, IMF and RGE

### Eurozone Sovereign Debt: A Precarious Path

The largest increases in public sector debt have been in Ireland, Greece, Spain and Portugal. Italy’s debt growth has been much more moderate (Figure 2). Using both the IMF (from the October 2010 World Economic Outlook [WEO]) and RGE projections to the end of 2015, there may be significant fiscal tightening in the periphery countries. The primary fiscal surpluses are expected to improve by approximately eight percentage points in Greece and nearly twice that in Ireland between 2011 and 2015. In Portugal and Spain the expectations are for approximately six percentage points in the same period of time. RGE’s analysis shows a baseline scenario that is somewhat more negative than the IMF’s (Figures 3–5).

As is immediately evident, the effect of these fiscal retrenchment efforts on the path of general government debt depends on growth and borrowing rate outcomes on both maturing and new debt—at least until fiscal surpluses are attained. For growth RGE assumes that the output gaps will close somewhat more slowly than the IMF projects; for borrowing costs in the base case RGE has assumed spreads that are implied in the forward sovereign curves but also a (rising) long-term, risk-free (the German bond) yield as implied in forwards pricing. For all non-maturing debt the average is taken of the coupon rates.

Figure 3: IMF Debt Growth Projections for Eurozone Periphery



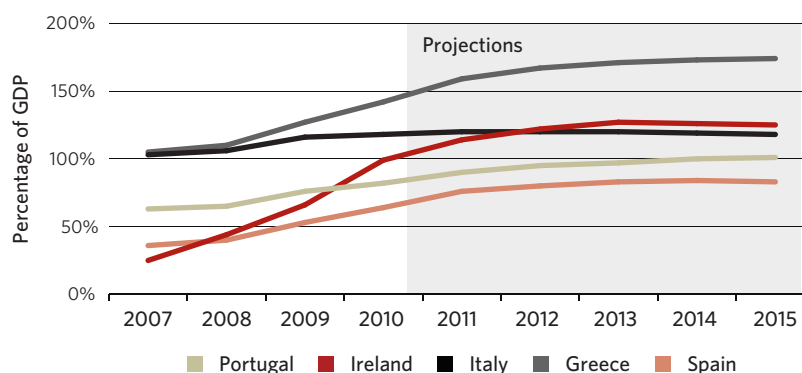
Source: IMF

Also included are adverse scenarios for the borrowing costs. Further assumptions have been made about both the path of fiscal deficits and surpluses (worse than in the base case) and the cost of borrowing (higher than in the base case). Specifically, these are:

- > Gross domestic product (GDP) growth 0.5% lower than base case
- > Primary deficit 1% higher
- > Borrowing costs 100 bps higher
- > Inflation unchanged

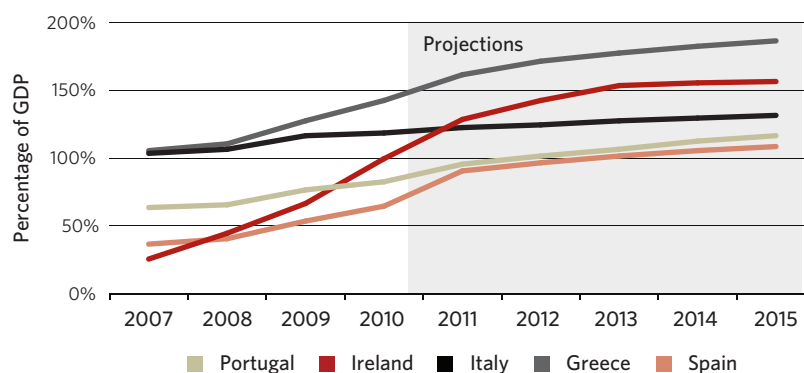
Not surprisingly, these deliver outcomes in which the debt path becomes unsustainable in most cases.

Figure 4: RGE Base Case Debt Projections Growth for Eurozone Periphery



Source: RGE

Figure 5: RGE Adverse Case Debt Projections Growth for Eurozone Periphery



Source: RGE

To further explain the causal mechanism of the debt sustainability exercise in the RGE baseline, this study assumes that consolidation holds back growth and the fiscal drag affects the primary surpluses mainly through lower public revenues. The stabilizing force on the primary accounts comes from non-interest expenditure restraint. Despite the fiscal multiplier effects of reduced primary deficits, hence subtracting from aggregate demand, a positive nominal growth is seen in the baseline scenarios and, from that, eventual stabilization of the debt-to-GDP relationship (though not in every case)—the result of nominal GDP growing faster than nominal public sector debt.

The evolution of general government debt as a percentage of GDP will depend on the rate at which the sovereign can borrow. An important detail in this study's assessment of the fiscal programs is the average rate on the outstanding debt. Even the much lower borrowing costs on outstanding (non-maturing) debt cannot hold down the average much longer, which starts to converge to current market rates (except where the EFSF has been tapped and this, too, applies only until 2013), as the large nominal fiscal deficits start to become an ever-larger share of the debt stock.

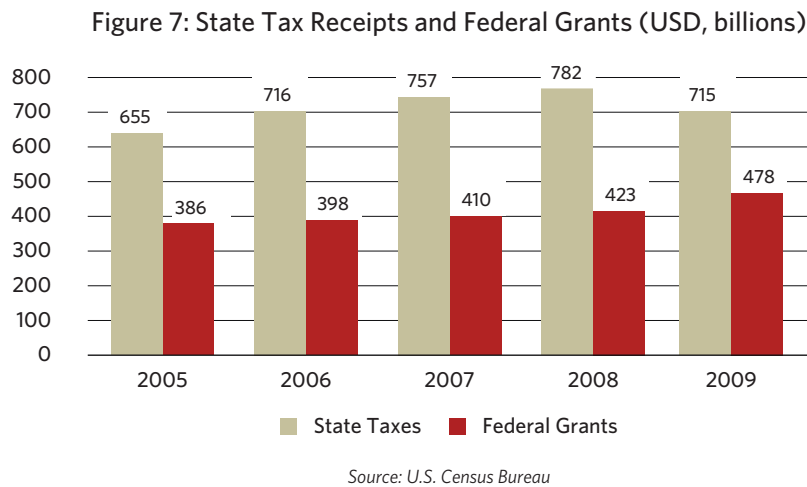
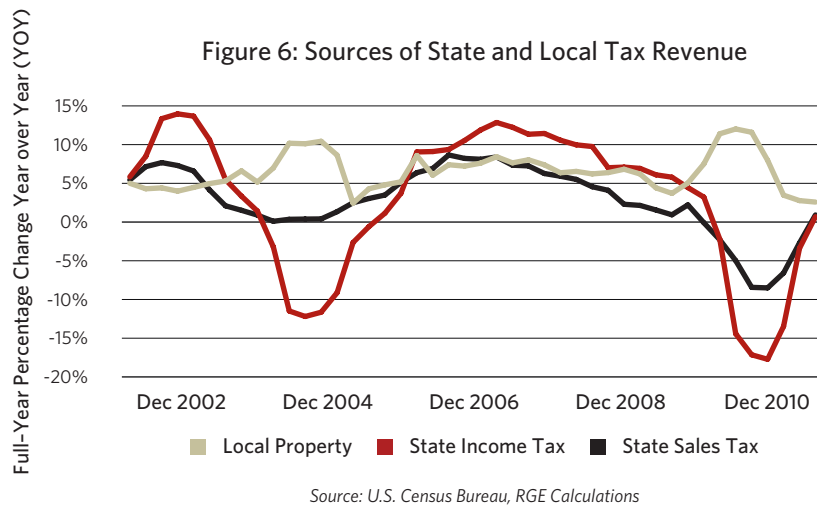
Greece fails to stabilize even in RGE's base case. Debt trajectories for Spain, Portugal and Ireland ascend rapidly in RGE's adverse scenario, but they stabilize in the RGE base case and IMF scenarios—with Ireland at higher levels as a share of its GDP. Portugal and Spain look nearly unsustainable in the adverse case and the odds are greater that in the time period considered for this study (until the end of 2015) their public debt will fail to stabilize. Ireland stabilizes but at a very high level—implying that even a small change in the assumptions put forth in this study will set it off on an unsustainable path.

The gap between the IMF and RGE views is greatest in the case of Greece (though admittedly, the IMF is in the process of updating its projections) where the differences lie in RGE's respective views of Greece's ability to turn around its primary fiscal accounts.

The RGE scenario therefore points to considerable instability in the trajectory of debt of most of these economies. It is clear that in all, except in the most benign of conditions, the cost of borrowing at market rates is a critical variable. This variable, moreover, is subject to a variety of risks that many of the sovereign—or the eurozone, more broadly—cannot control. This study later revisits this topic in its discussion of policy proposals. But the conclusion is that the fragility of debt sustainability outcomes (in RGE's own exercise) would suggest extreme prudence in an investor's exposure to eurozone periphery sovereign debt.

### U.S. State Debt: The Vise Tightens (Slowly)

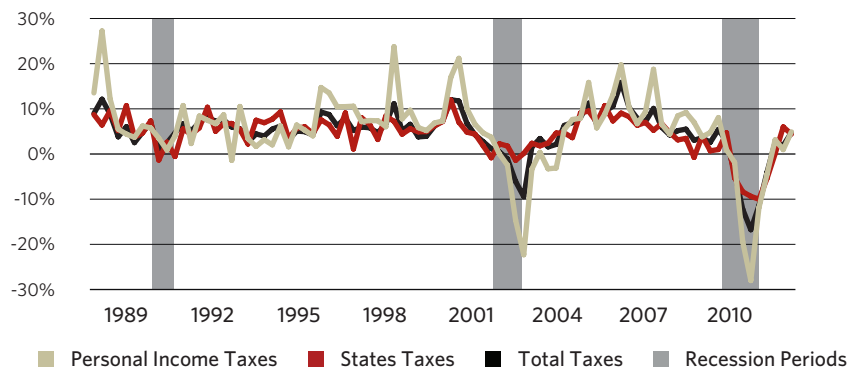
The long recession and anemic recovery have weighed heavily on state government finances. Tax receipts from major sources declined sharply in recent years because of depressed income, profits and retail sales. State tax receipts have only just begun to recover after falling sharply in 2009 (Figures 6, 7). Even the temporary federal assistance that came as part of the 2009 stimulus made only a small dent in state finances.



Meanwhile, state governments—though local governments are on the hook, as well—have felt the other side of the automatic stabilizers by having to keep up expenditures (on schools and police and fire services) and disburse more in jobless benefits and Medicaid.

But the U.S. economic recovery, sputtering though it might be, is beginning to show signs of bolstering tax receipts. The Rockefeller Institute’s latest State Revenue Report, issued in February 2011, provides confirmatory evidence that, “revenues in most states...grew 4.5% in the October–December 2010 quarter... slightly higher than the preliminary 3.9% provided in the Flash Revenue Report.” However, it goes on to say, “despite gains in the last three quarters, collections are still weak by recent historical standards.” The fact remains that state tax revenue is heavily influenced by the underlying economic cycle (Figure 8).

Figure 8: 4Q Sensitivity of State Revenues to Broader Economic Conditions



Source: U.S. Census Bureau, RGE Calculations

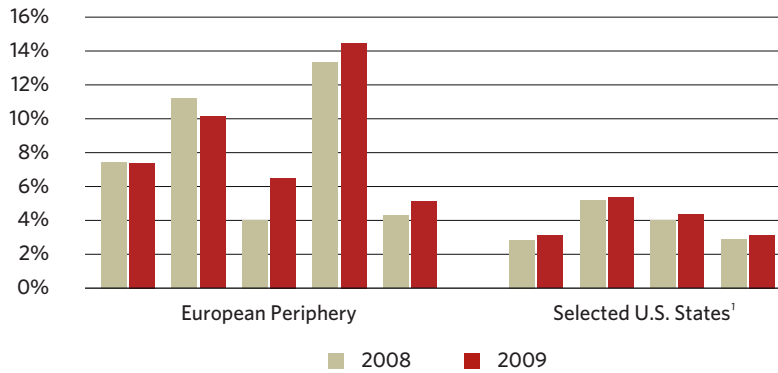
The full third quarter 2010 figures showed that, excluding capital expenditure from current spending, the state government sector was in balance. If one includes capital spending, the states' total borrowing requirement was 0.2% of GDP. Of course, one should remember that these overruns would have looked worse if not for the help from the federal government.

Nevertheless, this “balance” on the current, or non-capital account of the budgets of the states, would not have been possible without a combination of tax increases and spending cuts. (In fact, these voluntary budget adjustments were as large as the federal transfers and played a major role in moving these budgets towards balance.) State governments have raised taxes and fees, most notably in the case of Illinois, and total state employment is running below levels of a year ago. Moreover, gains in the hourly pay of state workers have slowed to below 2% year over year, lower than for private sector workers.

In fact, figures on expenditure, not just at the state but also local levels, give us additional information on its heightened cyclicality. State and local payments on social benefits were increasing at close to 10% annually in the eight quarters up to Q3 2010 due to high unemployment. So, if one adjusts for these cyclically-induced expenses, other current spending is running at levels (nominal) below where they were before the Great Recession. This would apply even to the capital component of total expenditures, pulled down by sharp cutbacks in fixed assets, in other words structures and equipment.

Interest payments as a percentage of total revenue represent one area where a comparison of the most severely afflicted U.S. states with the eurozone periphery economy can be made. This measure is much preferred to the interest-to-GDP ratios that are used by certain analysts and the reasons should be self-evident. The rate of taxation on the underlying gross income earned by its resident (its GDP so to speak) varies from state to state and the fact that this pool is also taxed by the federal government—a primary claimant—means that a fair comparison requires us to compare the share of interest paid out of income actually earned, which in this case would be the state's revenues (Figure 9). On this measure, the U.S. states are in a less dire position than the eurozone periphery economies.

Figure 9: Interest Payments as a Percentage of Total Revenue

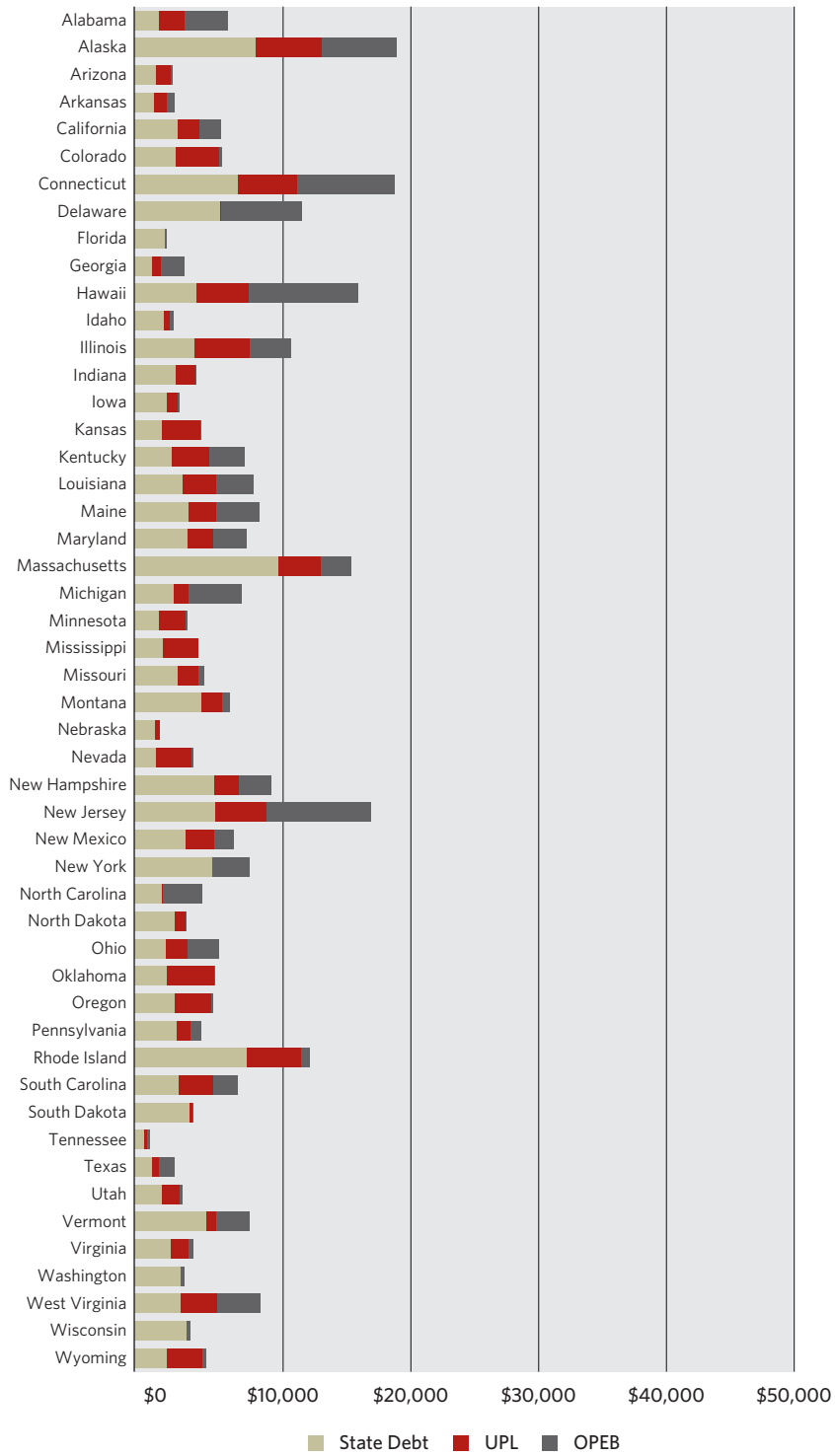


Source: Economic Commission, U.S. Census Bureau and RGE Calculations

One can, of course, become too complacent about this, especially when keeping in mind that state revenues have a high “beta” against the growth rate of the national economy as indicated earlier in Figure 8. But as also stated earlier, the temporary financial assistance from the federal government is set to expire. Far more serious—though not yet imminent in a cash-flow sense—is the substantial underfunded position of state government pension funds and other public employee benefits (OPEB) (Figure 10). Common with all defined benefit schemes, their actuarial solvency depends both on the value of the assets in their portfolios and the underfunding of their future liabilities. RGE’s recent client report *States of Despair Part 1: Muni Stress—Past, Present and Future* (<http://www.roubini.com/strategy/view/149445>) discussed this in considerable detail, but a quick summary of its main findings follows.

<sup>1</sup> As defined in *States of Despair Part 1: Muni Stress—Past, Present and Future*, these selected states include: CA, IL, NJ, TX, NY, MN, NC, CT, OH, WA, FL, PA, VA, MA, OR, WI, LA, GA and MD

Figure 10: State Debt Per Capita: On Balance Sheet Debt, Unfunded Pension Liabilities (UPL) and OPEB



Source: Pew Center, U.S. Census Bureau and RGE Calculations

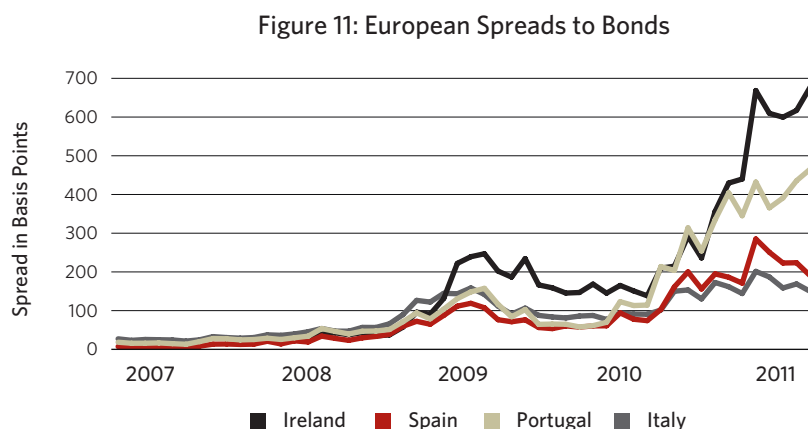
- > According to a Pew report, states have underfunded their pension plans to the tune of U.S. \$0.5 trillion in 2008, but this has likely risen to over U.S. \$900 billion by the end of 2009.
- > However, accounting treatment for pensions has lagged reforms in the private sector, and the discount rate use of 8–8.5% per annum is unrealistic; when discounted by zero-coupon Treasury yields and using gross liabilities (including the OPEB) at present value of almost U.S. \$7 trillion, there is a funding gap of almost U.S. \$4.5 trillion, assuming constant asset values.

If these assumptions are correct, an unfunded deficit in today’s dollars of as much as 30% of GDP is a possibility. None of this includes sub-state, in other words, local government obligations. What can be stated safely, therefore, is that state government contributions would need to be substantially larger than the U.S. \$65 billion per annum of recent years. Recent academic work on this subject (cited in detail in RGE’s aforementioned muni report) has indicated that these contributions would need to at least double—from the current 4% to 7–9% of total spending. Such an adjustment can, of course, happen through a combination of concessions from future pension beneficiaries or higher taxes. That takes us into the political minefield of state finances.

The conclusions from RGE’s detailed and recently-issued report on munis are clear: The risk of default and restructuring of U.S. state debt is slight, not because the problems of escalating unfunded pensions and OPEB are irrelevant, but because both the legal seniority of these obligations and the political will to adjust state budget accounts through expenditure restraint (rather than tax increases) are strong enough to make it compellingly likely that debt service will not be interrupted.

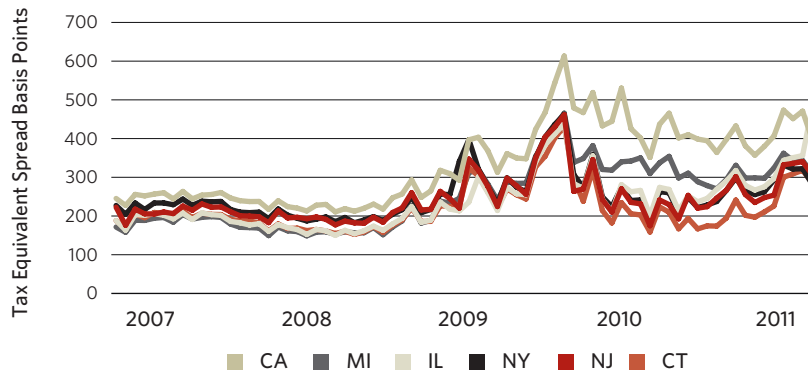
### The Market’s Restlessness

The market for state (and more broadly municipal) debt now seems to be displaying the classic symptoms of nervousness that typically precedes distress. This was seen in the eurozone periphery sovereign debt markets and now the municipal markets’ spreads and bond volatility have clearly moved up (Figures 11, 12, 13 and 14).



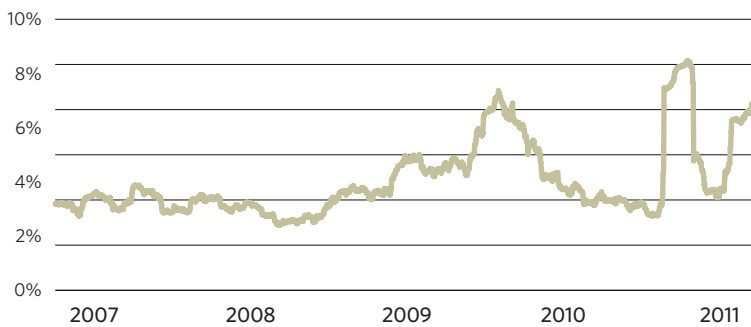
*Source: Bloomberg and RGE Calculations*

Figure 12: Muni Tax Equivalent Bond Spread



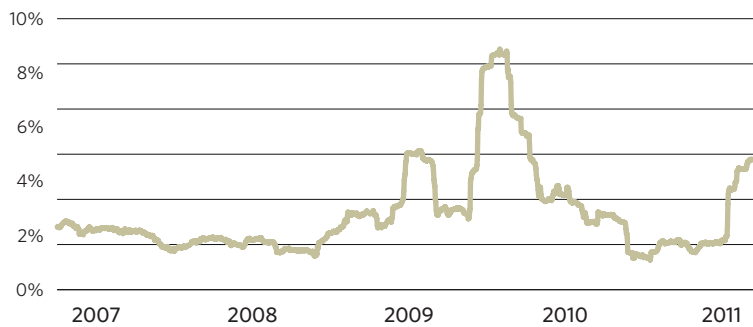
Source: Bloomberg and RGE Calculations

Figure 13: European Periphery Government Bond Historical 13-week Volatility



Source: Bloomberg, Bank of America Merrill Lynch and RGE Calculations

Figure 14: State General Obligation Bonds Historical 13-week Volatility



Source: Bloomberg, Bank of America Merrill Lynch and RGE Calculations

A perspective on the stresses on the state debt market should be kept. The end of the (taxable) Build America Bonds program took an important buyer segment out of the market. Less talked about was the Obama administration’s decision not to increase stock dividend tax rates, which is seen as reducing the attractiveness of the tax-exempt sector. The spike in negative sentiment, whipped up in some cases by the popular press, produced a further outflow from municipal funds and widening spreads, though nowhere near the scale that approaches the severe sell-offs seen spasmodically in the eurozone markets.

## Policy Proposals and Political-Economic Considerations

In both the eurozone periphery and U.S. states, there are different constituencies whose interests in the final outcome conflict with each other. In the broadest sense these are debt holders, taxpayers and public sector workers forming coalitions or acting independently to put pressure on the obligor (the government in question) to follow a certain course of action: solvency through austerity, tax increases or debt restructuring and, in a pinch, inflation. The supraentity may or may not be drawn into it, though it clearly has in the case of the eurozone—however in such a discordant way that it has frequently added to spread volatility.

The policy initiatives coming out of the eurozone and the U.S. states are important enough for us to list them. In the eurozone, the emphasis has shifted to the post-2013 landscape with the creation of the European Stability Mechanism (ESM), paying particular attention to:

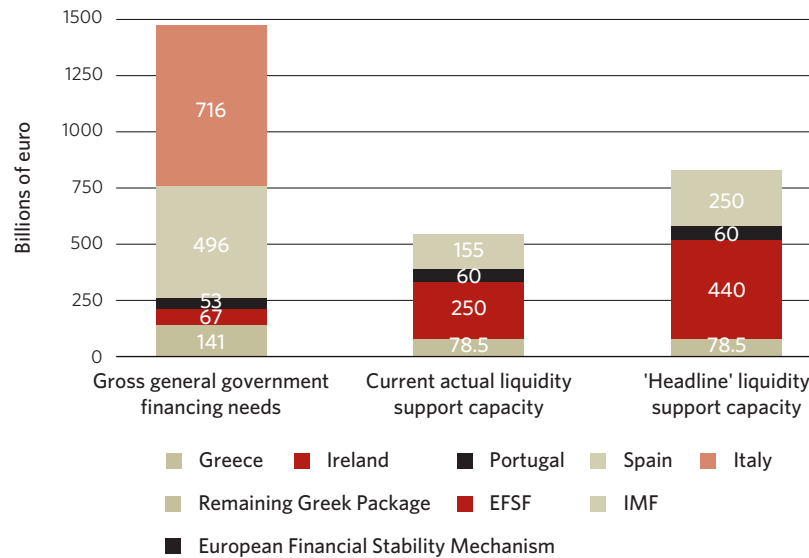
- (a) Creating a governance framework to reduce the occurrence of future crises, including a “pact for competitiveness” (though that seems to have met with fierce resistance from the periphery governments)
- (b) Establishing a permanent crisis resolution framework to address any crisis that might occur
- (c) Inserting collective action clauses in government bond contracts
- (d) Addressing the issue of further bank stress tests so as to recapitalize weak financial institutions

These subjects were on the agenda for a series of meetings held in March 2011. The first was the Eurogroup head-of-state (Eurocouncil) meetings on March 11, then a meeting on March 15 to establish agreement on governance reforms, the meeting of the finance ministers in the Council on European Union and the Eurocouncil again on March 24–25. Tackling the debt crisis in the region was the central topic at all of these meetings, but the discussions occurred in the haphazard fashion that has now come to be expected of European decision-making. As the Portuguese government was collapsing in late March amid accusations of skullduggery, all three major credit ratings agencies were downgrading either the sovereign’s ratings or outlook, making it all but certain that it would soon lose market access. This would likely lead to further downgrades and subsequently cutting Portuguese banks out of the private repo markets. The discussants agreed in principle to increase the funding capacity to €440 billion from €250 billion, while still keeping the facility’s Aaa rating, but did not disclose how this would be done.

Figure 15 shows how small the policymakers’ firepower is compared to the broader periphery’s financing needs between now and the time the near-term liquidity facility expires in 2013. Although RGE’s modestly adverse scenario holds out some hope that Ireland, Spain and Portugal might narrowly avoid an unsustainable debt trajectory, they would do so only if financing conditions become much more benign, an unlikely prospect.

The on-again, off-again talk about the issue of concessional borrowing rates for countries other than Greece—and the recurring reports on the use of EFSF funding for debt buybacks, which at the time of this writing seemed apocryphal—shrouds the exercise of debt sustainability in a thick fog of uncertainty. Once again, this study highlights the fragility of debt sustainability outcomes in RGE’s analysis to conclude that unless the EFSF is able to lend at close to its own Aaa borrowing rate—or slightly above—the risks of debt restructuring in some of the more severely constrained credits (Greece and Ireland, principally) will be inevitable.

Figure 15: Government Financing Needs to 2013 and Eurozone Liquidity Facilities



Source: RGE

The legislative or policy measures that could bear on the state debt market have been covered in considerable detail in RGE's muni report. But to summarize, these are:

- > Bankruptcy options for states by the U.S. Federal Reserve and Treasury
- > Fuller pension disclosure
- > Bailout prevention

The constitutional impediments in light of the 10th Amendment protecting rights of the states are a major negative for the first of the above measures, but the splintered legal organization within states (having made their commitments through thousands of state authorities) is equally daunting. The full disclosure of pension liabilities (under the Public Employee Pension Transparency Act) would ultimately be a net positive—though accompanied by considerable volatility over short horizons. However, it is unlikely to get much traction with an Obama administration that would wish to limit acute pressure on public unions that are already under the gun. Finally, the State Bailout Prevention Act has legislative problems because it carries the unwanted baggage of restricting federal grants to those states that receive federal help. So, none of these policy proposals appears to have wide-ranging support.

This study ends with the larger issue of political economy. However this study does not refer to the term in its modern sense of how political action distorts incentives (and through that, market-determined outcomes), but in the classical meaning by which social groups wielding greater political power force economic concessions from other interests and, thus, determine a final outcome.

The inflicting of pain on debt holders through debt restructuring has been (ambiguously) ruled out in the pre-2013 eurozone, and for the reasons discussed above it is not an option for U.S. state debt. The choice then comes down to tax hikes and public expenditure cuts. Debt restructuring is, however, very much on the table for the post-2013 eurozone landscape.

Yet, it is the coalition of interests in the U.S. states—between the taxpayer and the bondholder (and state debt holders do tend to be preponderantly state residents and tax-payers)—that provides the best example of political-economic forces at work. This coalition is asserting its political influence more strongly in U.S. state capitals than before, and the force arrayed against the public sector employee is now greater than at any time in recent U.S. history. The argument for continued austerity in U.S. states remains as powerful as ever.

## Conclusions

- > The quality of U.S. state finances presents a mixed picture, especially after including unfunded pension and other public employee liabilities. Nevertheless, RGE assigns a low probability of state debt default and restructuring and none whatsoever of a systemic crisis.
- > The eurozone presents a vastly different tableau. The scale of the problem is larger and institutional responses are being cobbled together largely because coordination problems are severe. Nowhere was this clearer than in the discussions that were underway as this study was being written, and the architecture of a long-term financial stability plan for the single currency area is likely to remain elusive.
- > The risk of debt defaults (whether orderly or disorderly) and restructuring among the periphery—notably, Greece—between now and the end of 2012 remains high.

## Ideas Without Limits

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