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IN-DEPTH ANALYSIS

An evolutionary path for a European Monetary Fund? A comparative perspective

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Stanford University

Provided at the request of the
Economic and Monetary Affairs Committee

ECON

May 2017
EN

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An evolutionary path for a European Monetary Fund? A comparative perspective

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Scrutiny paper provided in the context of Economic Dialogues with the President of the Eurogroup
in the Economic and Monetary Affairs Committee

Abstract

Eurozone reformers are looking to the United States and other federations as they seek to craft a more sustainable architecture for the Euro. This paper first extracts lessons about mechanisms of intra-regional insurance and redistribution, and then turns attention to related debates about moral hazard and fiscal discipline. In the United States, intra-regional fiscal stabilization is achieved through a progressive income tax. Contrary to common wisdom, federal direct expenditures and grants are targeted neither to states suffering from short-term asymmetric negative shocks nor to relatively poor states in the long term. Fiscal policies of state and local governments are highly pro-cyclical, and partially undermine the stabilizing role of the system of federal taxes and transfers. Thus the U.S. experience suggests a number of design challenges facing any future Eurozone stabilization mechanism. The paper also places proposals for even stronger top-down surveillance and correction mechanisms of Eurozone member states' fiscal policies in comparative perspective, arguing that such powers are not found in unions of sovereigns like the United States, Canada, and Switzerland. Moreover, there are reasons for concern about the credibility of such efforts in the Eurozone as currently structured. Unless political will can be found for extraordinary political and fiscal centralization, reformers should assume that member states will continue as sovereigns, and hence will be disciplined (or not) by voters and credit markets rather than European regulators. Thus it might be useful to consider policies that would make the "no-bail out clause" credible.

May 2017
ECON | EN

PE 602.077

This paper was requested by the European Parliament's Economic and Monetary Affairs Committee.

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LANGUAGE VERSION

Original: EN

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Economic Governance Support Unit provides in-house and external expertise to support EP committees and other parliamentary bodies in playing an effective role within the European Union framework for coordination and surveillance of economic and fiscal policies.
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This document is also available on Economic and Monetary Affairs Committee homepage at:
http://www.europarl.europa.eu/committees/en/ECON/home.html

Manuscript completed in May 2017

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LIST OF ABBREVIATIONS

ECB European Central Bank
EMF European Monetary Fund
EMU European Monetary Union
ESM European Stability Mechanism
EU European Union
IMF International Monetary Fund
SGP Stability and Growth Pact
US United States

LIST OF FIGURES

EXECUTIVE SUMMARY

Institutional reformers in the European Union frequently mobilize the examples of the North American federations—the United States in particular—when explaining the need for reforms that will advance the next stage of European unification. The purpose of this briefing paper is to clarify some aspects of federalism in the United States and elsewhere that have not been emphasized in existing literature and are especially relevant to current reform debates in the European Monetary Union.

Above all, the United States is widely viewed as having achieved a form of fiscal union in which federal taxes and transfers smooth unanticipated revenue shocks of state governments, thus allowing them to respond to events like the Great Recession without experiencing the level of pain borne in EU member states like Spain and Ireland. I document that the reality is more complex than the typical portrayal. All of this vaunted federal insurance comes from reduced federal income taxes, not from increased federal expenditures to state governments. In fact, federal grants to subnational governments are highly pro-cyclical. Thus dramatic and sustained decreases in state revenues can offset much of the federal assistance during recessions. Using case studies from the recent recession, I show that both grants and direct federal expenditures were very poorly targeted to suffering communities, and were in fact much more generous in states that were untouched by the recession.

I argue that the poor targeting of federal assistance to communities affected by the recession was not a fluke, but is a basic feature of U.S. federalism, which tends to distribute resources according to political bargains and the locations of existing federal facilities. Political bargaining over the spatial allocation of funds is quite beneficial to smaller U.S. states with disproportionate political representation. These facts have implications for debates about the potential growth of a system of fiscal stabilization in the European Union.

An underappreciated contrast with European member states is the highly pro-cyclical fiscal behaviour of the U.S. states, which rely on income and sales taxes that are highly sensitive to the business cycle but are unable to smooth shocks through borrowing. State-level fiscal contraction during recessions partially undermines the stabilizing impact of federal taxes and transfers. The adoption of the U.S. model in the Eurozone would imply a reduction in the potential for stabilization via fiscal policies of member states.

Since many European reformers are convinced of the need to dramatically enhance the fiscal capacity of the European Union, and some argue that this is an evolutionary necessity, it is useful to examine the conditions under which the fiscal capacity of the central government has been enhanced in the North American federations. The major moments of fiscal centralization in the United States and Canada were not fiscal crises, but rather large military conflicts. It remains to be seen whether a centralized tax system can be constructed in a union of sovereigns without collectively fighting a war.

Next, I address an additional question of great importance in the European Monetary Union: once the federal government has a large tax base and involves itself in the role of risk-sharing and inter-state redistribution, how is it possible to induce fiscal discipline among member states? For better or worse, the U.S. states are responsible for their own fiscal decisions, and unlike many other sub-national entities around the world, they approach credit markets and voters as miniature sovereigns. In stark contrast to many of the proposals for the future of the European Monetary Union, the U.S. federal government does not regulate or even monitor the budgetary decisions of U.S. states, and has maintained a relatively credible "no bailout" commitment for many decades. The same is true of the Canadian federal government vis-à-vis the provinces. The experiences of the North American federations demonstrate that it is entirely possible for the center to become involved in financing at least some risk-sharing and even redistribution without generating unsustainable moral hazard.

The Eurozone is currently envisioned as a union of sovereigns in which the center can, under some conditions, assert direct control over the budgets of member states. For the most part, such powers are currently only seen in far more centralized unitary systems. Perhaps the EMU can successfully create a new hybrid of sovereignty and centralization—improving on the past failures of the Stability and Growth Pact without undermining national sovereignty—but there are good reasons to be skeptical, based on comparative evidence and Europe's recent history.

Concerns about moral hazard are unavoidable in a monetary union, especially one that has recently created a bailout fund. Strict conditionality associated with ESM lending is an effort to combat moral hazard among borrowers, but does little to reduce the problem of moral hazard among lenders. If comparative experience is instructive and hierarchical control of member-state budgets via the Commission or the ESM is unlikely to succeed, it will be necessary to return to the original notion of a U.S. style no-bailout commitment. Clearly this would require a rethinking of the ESM. Thus next steps in the architecture of the European Stability Mechanism might be to perfect the banking union, attempt to reduce member state debt burdens, and eventually embrace the notion of orderly defaults, building something akin to a European bankruptcy framework.

1. INTRODUCTION

This paper was requested by the European Parliament under the supervision of its Economic Governance Support Unit

From the beginning, architects who envisioned the evolution of the European Monetary Union have applied a notion of history resembling the dialectical materialism of Friedrich Engels. Classic contributions like the Padoa-Schioppa Report (1987) and the Delors Report (1989) argued that it was desirable to develop a union in a series of stages. The successful completion of one stage would reveal internal contradictions that would create demands for a transition to the next stage.

Viewed from this perspective, the recent crisis in Europe was a painful but necessary moment at which the contradictions and costs of monetary union without fiscal union were finally revealed, and the time has come to move on to the next, more advanced evolutionary stage. A consensus is emerging that monetary unions cannot work without banking and fiscal union, and given the moral hazard associated with the latter, greater centralized control over member states' budgets must naturally follow as well (see, e.g. Baldwin and Giavazzi 2016).

A more sobering application of the evolutionary metaphor is natural selection, whereby failure to adapt to one's environment leads to extinction, and only the well-suited adaptations survive. This view calls European institutional designers to take an empirical approach—much like James Madison and Alexander Hamilton in *The Federalist*— and ask which forms of federalism have survived and thrived elsewhere under comparable conditions.

Indeed, this is also a time-honored tradition in the analysis of the European Monetary Union. Institutional reformers in the European Union frequently mobilize the examples of the North American federations—the United States in particular—when explaining the need for reforms that will advance the next stage of European unification. For another overview of the U.S. system, see Kirkegaard (2015). The purpose of this briefing paper is to clarify some aspects of federalism in the United States and elsewhere that have not yet been emphasized in the European literature but are especially relevant to current reform debates.

Above all, the United States is widely viewed as having achieved a form of fiscal union in which federal taxes and transfers smooth unanticipated revenue shocks of state governments, thus allowing them to respond to events like the Great Recession without experiencing the level of pain borne in EU member states like Spain and Ireland. I document that the reality is more complex than the typical portrayal. All of this vaunted federal insurance comes from reduced federal income taxes, not from increased federal expenditures.

I make a broad distinction between forms of federal expenditure that flow through grants to state and local governments—many of which are tied to the co-financing of specific programs like Medicaid—and expenditures that are made directly by the federal government. The latter include expenditures for defense and inter-personal expenditures for income security and old-age pensions, as well as health care.

Federal grants make up only 10 percent of all federal expenditures, but they can make up a substantial portion of state revenues, especially among relatively poor states. Federal grants to subnational governments are typically pro-cyclical, and they are not designed to insure against asymmetric shocks. Thus dramatic and sustained decreases in state revenues can offset much of the federal assistance that occurs via direct expenditures during recessions. Using case studies from the recent recession, I show that both grants and direct federal expenditures were very poorly targeted to suffering communities, and were in fact much more generous in states that were untouched by the recession.

I argue that the poor targeting of federal expenditures to communities affected by the recession was not a fluke, but is a basic feature of U.S. federalism, which tends to distribute funds according to political bargains. The vast majority of "automatic" stabilizers in the United States go to senior citizens. Pension and healthcare payments to senior citizens do not have strong stabilizing properties. Unemployment insurance is shared between the federal government and the states, and makes up a very modest share of the federal budget. In the absence of automatic stabilizers, responses to recessions involve a highly politicized ad hoc attempt to implement short-term increases in federal support for unemployment insurance and grants for programs like Medicaid (see Kirkegaard (2015)). This bargaining process is quite beneficial to smaller U.S. states, which are dramatically over-represented in the United States Congress. These facts have implications for debates about the potential growth of a more robust European system of fiscal federalism, where fiscal decisions will also inevitably involve political bargaining.

Since many European reformers are convinced of the need to dramatically enhance the fiscal capacity of the European Union, and some argue that this is an evolutionary necessity, it is useful to examine the conditions under which the fiscal capacity of the central government has been enhanced in the North American federations. An important initial improvement in the fiscal capacity of the U.S. federal government came about as a result of Hamilton's assumption of revolutionary war debts. However, it is clearly the case that the major moments of fiscal centralization in the United States and Canada were not fiscal crises, but rather, large military conflicts. It remains to be seen whether a centralized tax system can be constructed in a union of sovereigns without collectively fighting a war or any other major crises.

Next, I address an additional question of great importance in the European Monetary Union: once the federal government has a large tax base and involves itself in the role of risk-sharing and inter-state redistribution, how is it possible to induce fiscal discipline among member states? Returning once again to the example of the United States in the Great Recession, I show that in spite of extraordinary federal assistance, the U.S. states had to undergo substantial fiscal adjustment, and promulgated deep, politically painful expenditure cuts. Waiting for federal bailouts was not an option.

For better or worse, the U.S. states are responsible for their own fiscal decisions, and unlike many other sub-national entities around the world, they approach credit markets and voters as miniature sovereigns. In stark contrast to many of the proposals for the future of the European Monetary Union, the U.S. federal government does not regulate or even monitor the budgetary decisions of U.S. states, and has maintained a relatively credible "no bailout" commitment for many decades. The same is true of the Canadian federal government vis-à-vis the provinces. The experiences of the North American federations demonstrate that it is entirely possible for the center to become involved in financing at least some risk-sharing and even redistribution without generating unsustainable moral hazard.

In fact, many EU reformers seem to envision the "evolution" of a creature that does not currently exist in reality: a union of sovereigns in which the center can, under some conditions, assert direct control over the budgets of member states. Undeterred by the inability of the Stability and Growth Pact to achieve this, many reform proposals rely on stronger hierarchical controls over the budgets of member states. For the most part, such powers are currently only seen in far more centralized unitary systems, and the political context of the Eurozone creates serious impediments to successful enforcement. Perhaps the EMU can successfully create a new hybrid of sovereignty and centralization, but there are good reasons to be skeptical.

Concerns about moral hazard are quite understandable, of course, since the European Monetary Union has not only provided emergency bailouts in the recent past, but has also created the facility to provide such bailouts in the future. Nevertheless, if hierarchical control is simply not possible in a union of sovereigns, U.S.-style market discipline might be the only viable option. Thus next steps in the architecture of the European Stability Mechanism might attempt to prepare for future crises by perfecting the banking union and embracing the notion not of conditional bailouts, but of orderly and conditional defaults, building something akin to a European bankruptcy framework. Given the problem of unfunded pension liabilities, the United States might also benefit from the construction of such a framework.

Unfortunately history does not provide a road map in this endeavor. But for all their attention to history, Madison and Hamilton also lacked an obvious road map in attempting to improve their troubled 18^{th} century union. It is possible that as then, even imperfect outcomes of contentious bargains can produce institutional innovations that will stand the test of time.

2. FISCAL FLOWS AND FISCAL ADJUSTMENT IN THE U.S. STATES

Drawing on Mundell (1961), the MacDougal Report (Commission of the EC, 1977) suggested that in the absence of the exchange rate mechanism for adjusting to asymmetric shocks, an eventual European Monetary Union would require a centralized system of taxes and transfers aimed at smoothing out such shocks. The Five Presidents' Report (2015) reflects widespread consensus that such a system of centralized "shock absorbers" is long overdue.

The United States receives a good deal of attention in this literature. A common claim is that U.S. states like Florida and Nevada weathered the recent housing crisis much better than Spain and Ireland did, not only because of labor mobility and the presence of a banking union, but because they had access to increased fiscal flows from the rest of the federation while paying less in taxes (Krugman 2012). If architects of institutional reform in the EMU wish to take full advantage of the example of the United States, it is necessary to dig deeper into the details of the U.S. experience. I begin with the econometric literature, and then focus on a case study of the recent recession.

2.1 Taxes, Fiscal Flows, and Grants

Inspired by the claims of Mundell (1961), a large empirical literature has attempted to measure the role of U.S. federal taxes and transfers in absorbing asymmetric economic shocks. Key contributions include Sali-i-Martin & Sachs (1992), Bayoumi & Masson (1995), van Wincoop (1995), Brunila et al (2003), Melitz & Zumer (1998), Sorensen & Yosha (1997), and Obstfeld and Peri (1998). These studies conclude that a decrease of $1 in a state's real per capita personal income is associated with an increase in net fiscal transfers in the range of $0.25 - $0.40.

Two recent papers emphasize an important fact that is frequently overlooked in the earlier literature. Feyrer and Sacerdote (2013) and Malkin and Wilson (2013) point out that none of this insurance effect can be attributed to transfer payments from federal programs and services. Rather, the entirety of the effect comes from differences across states in federal tax payments. While some crucial services are funded by the federal budget and are unaffected by asymmetric shocks, and the federal government sometimes supplements state unemployment insurance in a temporary, discretionary way, the econometric evidence shows that states hit with asymmetric negative shocks cannot expect relative increases in federal funds. Stabilization is achieved by the fact that their unemployed and under-employed citizens can expect to pay less in federal income taxes.

Another important distinction that is not often emphasized in this literature is between federal grants to state and local governments and other forms of federal expenditures that do not flow through the hands of these governments. Although lively discussions are taking place about the possibility of a European unemployment insurance scheme, most realistic scenarios of an enhanced fiscal union in Europe do not involve direct European expenditures, but rather, some form of intergovernmental grants to member state governments. While it is in theory possible to imagine an unemployment insurance scheme, or even a European basic income scheme, that can be implemented via direct electronic payments to individuals, the European Union does not yet have the administrative capacity or geographic reach to make direct expenditures in a wide range of policy areas.

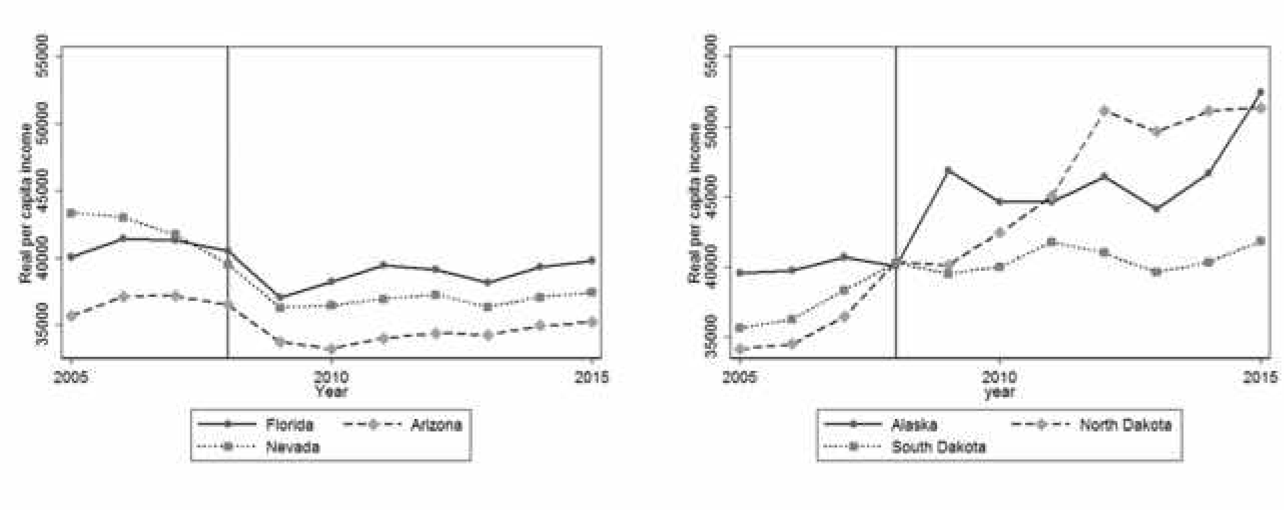
Thus it is useful to examine not only overall expenditures, as in Feyrer and Sacerdote (2013), but also to examine intergovernmental grants. Using data from the United States and several other federations over a period of decades, Rodden and Wibbels (2010) show that intergovernmental grants do not shift to adversely affected states in response to negative shocks, and on the whole, the flow of intergovernmental grants is highly correlated with the business cycle. Evidence of pro-cyclical intergovernmental grants can also be found in Blöchlinger and Egert (2016) as well as Foremny & Solé-Ollé (2016).

In short, the econometric evidence from the United States and other federations suggests that it is no simple task to build a system of intergovernmental expenditures that act as shock absorbers for regions hit by asymmetric economic shocks. The best-case scenario might be a situation in which higher-level expenditures continue unabated while tax payments from the affected region are reduced. Needless to say, to achieve something like this, the European Monetary Union would require a rather dramatic centralization in the collection of income-elastic taxes.

2.2 A Case Study of the Great Recession

The studies mentioned thus far are based on time series analyses of federal fiscal flows over long periods of time. In order to better understand the results, it is useful to zoom in on an illustrative case study of the Great Recession. In an illuminating book, Gros and Belke (2015) focus on the experiences of the U.S. states that were hit hardest by the housing crisis, and contrast them with the European member states that were hardest hit by very similar crises at the same time. Their analysis makes it very clear that the shock absorber associated with the U.S. banking and financial market union was substantial, and the housing-induced fiscal crises of Spain and Ireland could have been avoided with a similar type of insurance scheme in Europe.

Figure 1: Inflation-adjusted per capita income in selected states, 2005-2015



Source: United States Bureau of Economic Analysis, Regional Income Division

It is useful to take a similar approach to fiscal flows. I first address the three states that were hit hardest by the great recession: Arizona, Florida, and Nevada. The panel on the left in Figure 1 plots real per capita income over time in these three states. While growth was already stalling in Nevada in 2006, each state suffered a large decline in 2008 and especially 2009, and in Arizona the contraction continued to 2010. By 2015, none of these states had returned to their pre-recession income levels.

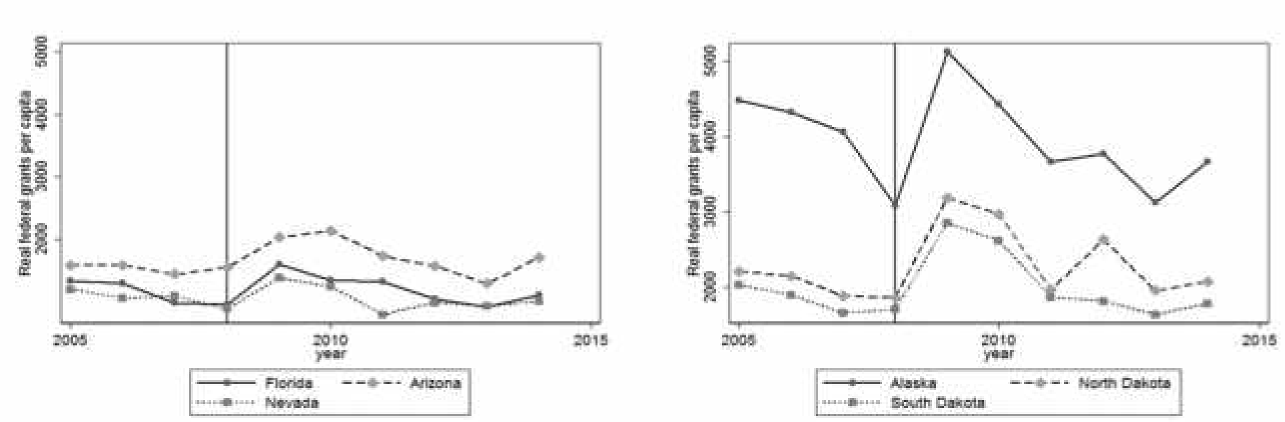
The Great Recession did not affect all U.S. states equally. In fact, much like the natural resource driven growth of countries like Brazil, some U.S. states thrived throughout the entire period. The panel on the right in Figure 1 tracks the experience of the three most successful U.S. states during this period: Alaska, North Dakota, and South Dakota. Each experienced impressive income growth throughout the decade, even if the Dakotas experienced a temporary flattening in 2009.

2.2.1 The Experience of Adversely Affected States

The federal response to the housing and fiscal crises of 2008 was rather extraordinary. As described above, the federal government did not have the option to sit back and wait for a system of automatic stabilizers to do their job. Rather, over the objections of the Republican opposition, the recently elected Democratic president worked with Democratic majorities in both chambers of the legislature to quickly craft a very controversial Keynesian stimulus package called the American Recovery and Reinvestment Act, which was signed into law in February of 2009. A large part of the logic of the legislation was to combat the typical problem of pro-cyclical grants by temporarily increasing support to states for programs like Medicaid, unemployment benefits, and nutritional supplements. The program also featured grants and direct expenditures for infrastructure projects.

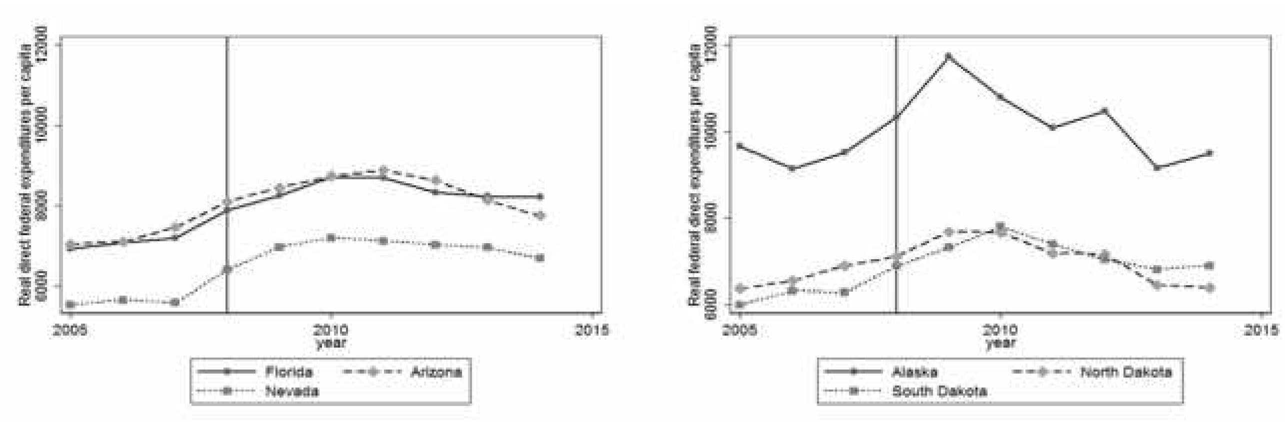
The left panel in Figure 2 shows that as is typical with U.S. recessions, federal grants fell in the first year of the crisis in Florida and Nevada in the absence of special legislation, and were relatively flat in Arizona. This is consistent with the broader findings of Rodden and Wibbels (2010). Only after the promulgation of a rather extraordinary stimulus package in the second year of the crisis did grants temporarily increase, by around $500 per capita. Note that by 2014, however, intergovernmental grants had fallen back *below* their pre-recession levels.

Figure 2: Inflation-adjusted federal grants per capita in selected states, 2005-2014



Source: Pew Charitable Trusts, *Federal Sending in the States* (assembled from Bureau of Economic Analysis, USAspending.gov, U.S. Census Bureau, U.S. Office of Personnel Management, U.S. Department of Defense, and Alaska Department of Revenue).

Figure 3: Inflation-adjusted direct federal expenditures per capita in selected states, 2005-2014

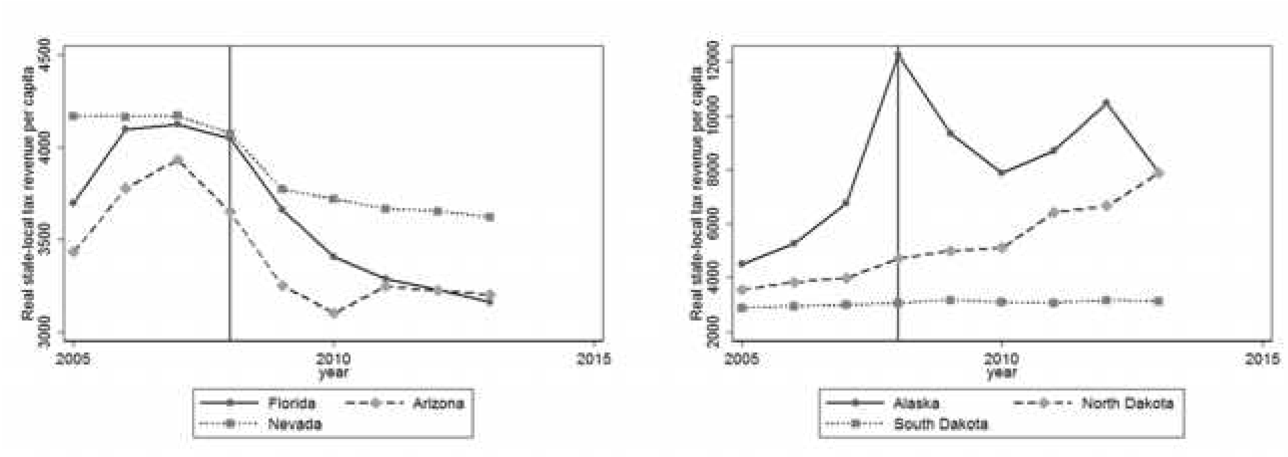


Source : Pew Charitable Trusts, *Federal Sending in the States* (assembled from Bureau of Economic Analysis, USAspending.gov, U.S. Census Bureau, U.S. Office of Personnel Management, U.S. Department of Defense, and Alaska Department of Revenue).

Figure 3 displays data for direct federal expenditures, which include various personal transfers. As one would expect from a category that includes some automatic stabilizers, these increased already in 2008, and continued a steady increase for 2 to 3 more years before levelling off. Though trending downward, by 2014 these expenditures were still well above their pre-recession levels.

In short, these states indeed received an increase in federal support during the recession, especially via the mechanism of direct federal expenditures, while also reducing their tax contributions to the federal budget. However, it is also useful to examine what was happening with the states' own budgets during this period of rapidly contracting economic activity. Figure 4 reveals that state and local tax revenues started to fall in 2008, and then fell much further in subsequent years. By 2013 they had not even begun to recover.

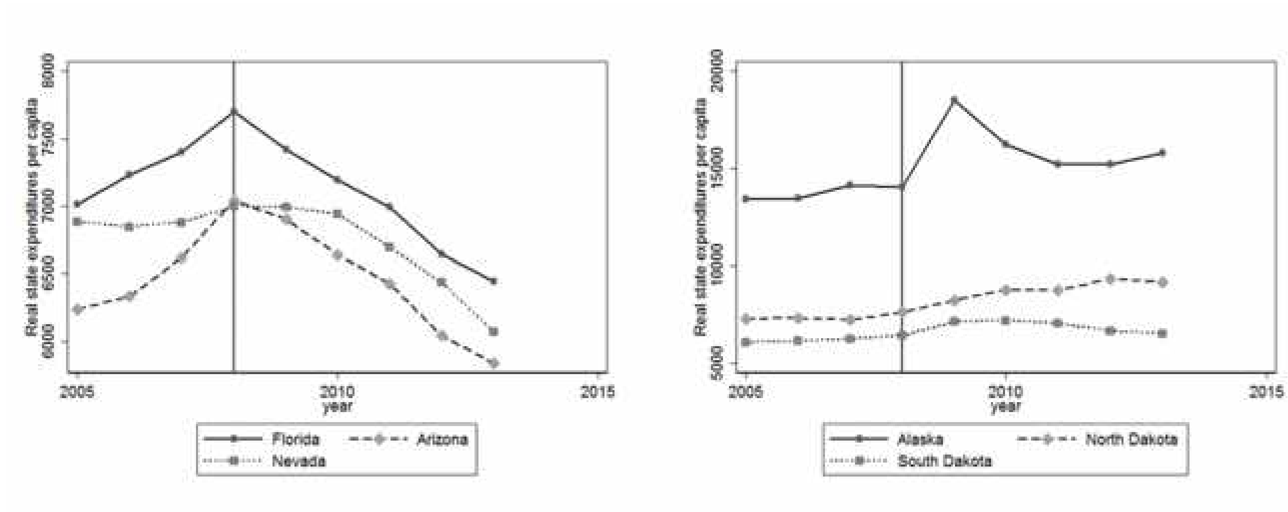
Figure 4: Inflation-adjusted state and local tax revenues per capita in selected states, 2005-2013



Source: Urban Institute/Brookings Institution Tax Policy Center (assembled from U.S. Census Bureau and Census of Governments).

The long-term loss of revenue in Florida and Arizona was quite large—on the order of $1000 and $700 per capita from 2007 to 2010. In Florida this was a 25 percent decrease. Recall from above that the increase in grants was only for two years and on the order of $500 per capita. Thus increases in federal grants were only partial and inadequate efforts to replace revenues from state and local taxes that were in free-fall.

Figure 5: Inflation-adjusted state and local expenditures per capita in selected states, 2005-2013



Source: Urban Institute/Brookings Institution Tax Policy Center (assembled from U.S. Census Bureau and Census of Governments).

Next, let us examine the implications for state and local expenditures. The left panel of Figure 5 demonstrates that although they continued on an upward trajectory in the first year of the crisis, governments quickly started cutting expenditures in 2009, and have continued to do so in rather dramatic fashion each year thereafter. The relatively small short-term spike in grants did not absolve state governments of the need to conduct serious fiscal retrenchment. By 2014, real expenditures per capita were lower than their 2008 levels by at least $1000 per capita. These long-term cuts in state expenditures are almost as large as the long-term increases in direct federal expenditures displayed in Figure 3 above. Recall that Figure 3 includes all direct federal expenditures—including inter-personal transfers—that do not flow through state and local governments. Thus much of the potential stabilizing effect of increased federal support was undone by decreased state and local expenditures.

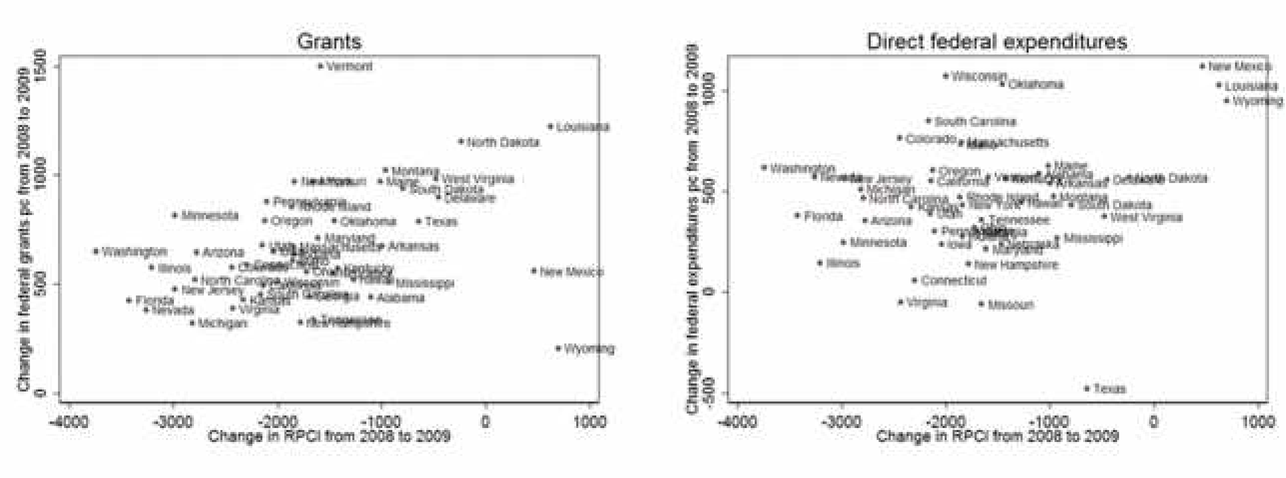
2.2.2 The Experience of Unaffected States

In short, the states that were most severely affected by the housing crisis did experience increases in federal assistance, even if these were largely offset by fiscal retrenchment among state and local governments. In order to understand the *relative* fiscal flows envisioned by optimal currency theory, it is necessary to examine what happened in the states that continued to grow during the same period.

Let us begin with federal grants. Remarkably, the panel on the right in Figure 2 shows that states that were experiencing rapid economic growth and rapid increases in own-source taxes also received a temporary spike in federal grants as a result of the Recovery and Reinvestment Act. In fact, even though federal grants per capita were already far higher in these states than in the struggling states of the Sun Belt, the spikes were twice as large. Real federal grants per capita were well over twice as high during the worst years of the recession in the states experiencing good times than in the states experiencing bad times.

Figure 3 shows something similar for direct federal expenditures. If these behave purely as automatic stabilizers, we should expect them to be flat or even fall during this period in the states experiencing rapid economic growth. On the contrary, the increases in direct federal expenditures in response to the recession were even larger in these states than in the states mired in crisis.

Figure 6: Changes in real federal grants per capita (left panel), real federal direct expenditures (right panel), and changes in state real per capita income from 2008 to 2009



Source: See sources for Figures 1 and 2 above.

One might imagine that these rather stunning increases in federal support for the most fortunate U.S. states during the Great Recession are anomalies related to natural resources. Figure 6 displays data across the U.S. states. In the panel on the left, it plots the change in federal grants from 2008 to

2009—the year of the major spike in federal assistance associated with the stimulus package—against the change in real per capita income, leaving out Alaska and the District of Columbia. The panel on the right plots changes in all other federal expenditures in the states. Figure 6 shows that if anything, the correlation between changes in income and changes in federal grants is slightly positive, and the extent of changes in direct federal expenditures is uncorrelated with changes in income.

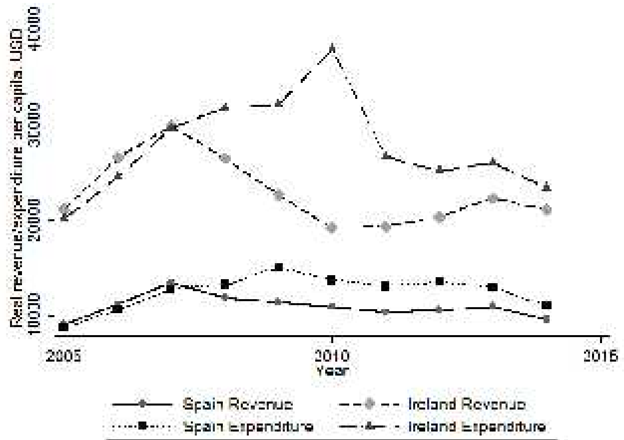
The lack of stabilization associated with federal expenditures implied by Figure 6 can be verified with time-series ecometrics. Using the same data analyzed in Figure 6, Feyrer and Sacerdote (2013) discovered that states experiencing larger negative asymmetric income shocks receive slightly smaller increases in total federal expenditures, though statistical significance was marginal. I have replicated their analysis through 2014, and the result has not changed.

2.2.3 A Comparison with Europe

Let us now contrast the experience of the U.S. states most affected by the housing crisis with Spain and Ireland. Figure 7 plots real per capita public expenditures and revenues for Ireland and Spain over the same period, using U.S. dollars to facilitate comparison with the graphs above.

The graph shows that Ireland and Spain were running nominal budget surpluses up to 2007. As is well known, they experienced a crisis of banking and finance with roots in the housing sector rather than a loss of confidence due to irresponsible fiscal behavior. As in Arizona and Florida, revenues suddenly plunged with the onset of the crisis. However, the difference in expenditures is striking. While expenditures fell immediately and dramatically in the U.S. states, and continued to fall for several years, real per capita expenditures in Ireland and Spain continued to increase after the recession before leveling off. Note that the large spike in Ireland in 2010 captures the bank bailout. While real public expenditures per capita had not yet recovered to their 2005 levels by 2013 in Arizona, Nevada, and Florida, they were well above those levels by 2013 in Spain and Ireland.

Figure 7: Inflation-adjusted public revenues and expenditures per capita, Spain and Ireland, 2005-2014



Source: Eurostat and European Central Bank

By contrasting Figure 7 with Figures 4 and 5 above, one can see that E.U. member states are still able to smooth expenditures over the business cycle by pursuing counter-cyclical fiscal policy. U.S. states do no such thing. Rather, since their revenue losses during downturns are not compensated by increased grants and states face curbs on borrowing, they pursue dramatic expenditure cuts. Thus while direct federal expenditures increase in response to a downturn, state and local fiscal policy pushes in the opposite direction.

This aspect of U.S. fiscal federalism has received relatively little attention in European debates. Net stabilization via the federal government is indeed achieved via the progressivity of federal income taxes, even if federal expenditures do not flow disproportionately to troubled states. Yet much of this stabilization is undone because of the countervailing fiscal contraction that takes place among credit-constrained state and local governments, which are dependent on revenue sources that are highly sensitive to the business cycle. The full-scale adoption of a U.S. model by Europe would imply discarding the possibility of stabilization by fiscal policies of member states, and replacing it with stabilization via a progressive European tax system and a set of politicized direct expenditures and transfers to member states that are largely uncorrelated with income.

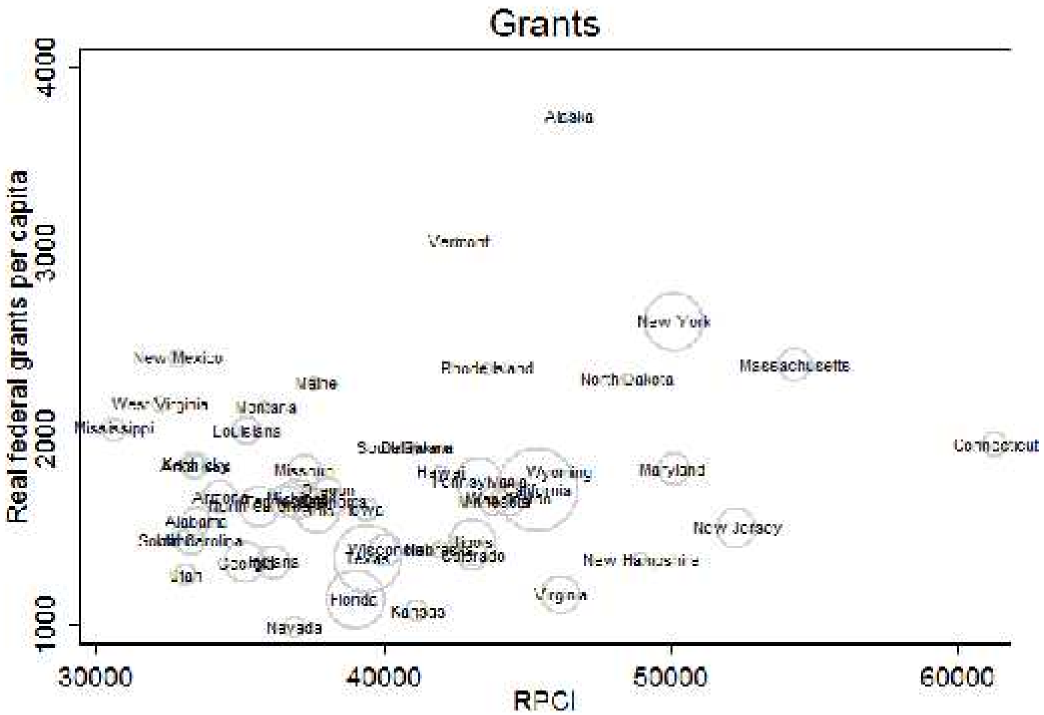
3. REDISTRIBUTION IN FISCAL UNIONS

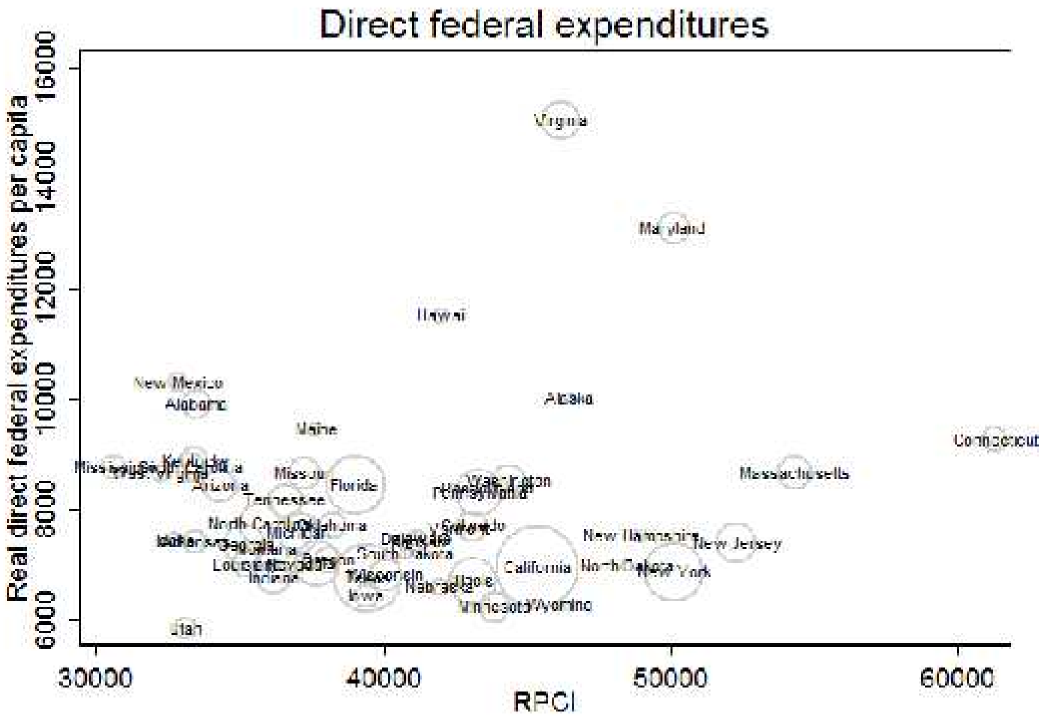
In European discussions on the need for a fiscal union, the presumption is that other fiscal and monetary unions, like the United States, are quite adept at redirecting resources to member states facing asymmetric shocks. Along with this comes a concern among rich member states that fiscal schemes initially envisioned as intra-regional insurance against asymmetric shocks can evolve into long-term redistribution from rich regions to poor regions. Such redistribution has emerged, for instance, in federations like Canada and Germany. Indeed, fear of such a "transfer union" among rich member states like Germany is one of the impediments to building a European fiscal union.

Yet in the previous section, I showed that the United States is actually quite bad at targeting resources to adversely affected regions in response to negative shocks. In order to see why this is the case, it is also useful to examine the larger issue of intra-regional redistribution. In fact, grants from the U.S. federal government to the states are not especially progressive in the long run. While some grants are formulaic and indexed to correlates of income, many are not. Intergovernmental transfers—even those governed by formulae—are subject to intense political bargaining. The same is true of direct federal expenditures, which are also driven by the location of defense installations and other federal facilities. As a result, total grants per capita, as well as total direct expenditures per capita, are either uncorrelated or positively correlated with per capita income across U.S. states (see, e.g. Rodden 2009; Feyrer and Sacerdote 2013).

For instance, see Figure 8 below, which plot average real per capita grants (in the top panel) and average direct federal expenditures per capita (in the bottom panel) against average real per capita income over the years 2005 to 2014. For both intergovernmental grants and the much larger category of direct expenditures, there is no discernable relationship between per capita federal funds and state income.

Figure 8: Real federal grants per capita (top panel), real federal direct expenditures (bottom panel), and state real per capita income, averages from 2009 to 2014





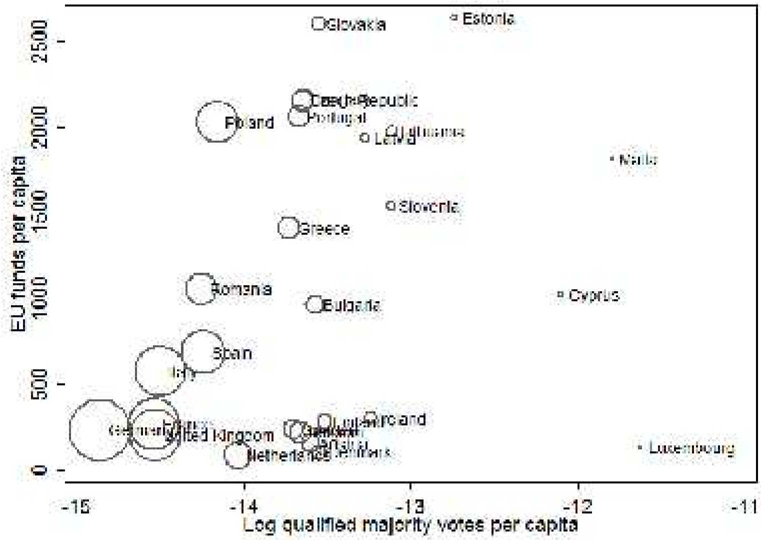
Note: The size of the data marker corresponds to the state's population.
Source: See sources for Figures 1 and 2 above.

Intense bargaining between member states over transfers is a fact of life in federations. In previous research, I have shown that the distribution of resources flowing from these bargains is heavily influenced by asymmetries in the size of member states. In a study of grants received by states and provinces in a group of 9 federations including the United States, Dragu and Rodden (2011) show that in each federation, there is a striking long-term correlation between legislative seats per capita and federal grants per capita. Relatively small member states in federations are typically over-represented—usually in the upper legislative chamber but sometimes in both legislative chambers—and as a result, they receive a disproportionate share of federal transfers.

In some federations, like Canada, Germany, and Australia, the over-represented states were relatively poor, which has facilitated the progressivity of the transfer system. However, in federations like Mexico, Argentina, and the United States, the over-represented member states were relatively wealthy, which has undermined progressivity. Indeed, the bargaining power of small, sparsely populated U.S. states like Alaska and the Dakotas in the legislature helps explain their ability to extract disproportionate benefits from programs like the Recovery and Reinvestment Act.

Those hoping to design a strengthened European fiscal union seem to anticipate a very finely targeted insurance scheme in which political bargaining plays no role. However, it is useful to note that a strong imprint of political bargaining can be discerned in the distribution of transfers not only in the United States and other federations, but also in the existing *fiscal system* of the European Union itself. Rodden (2002) and Aksoy and Rodden (2009) provide evidence of a strong and persistent bias in favor of small, over-represented member states in the distribution of EU funds across all programs. Figure 9 provides an update of their analysis using the most recent data (2005 to 2015). Larger countries with less per-capita representation receive fewer transfers, and smaller, over-represented countries receive larger per-capita transfers. This relationship holds up when controlling for income, and as in other federations, the impact of relative representation assuages the progressivity of the transfers.

Figure 9: Log of qualified majority votes per capita and total EU funds received per capita for EU member states, 2005-2015



Note: The size of the data marker corresponds to the country's population.
Source: European Commission: European Structural and Investment Funds Data

In sum, the evidence from other federations as well as the EU itself suggests that it is no simple matter to design a fund that is targeted exclusively toward insurance or even long-term assistance to poor member states. Such a system would require an atypical level of insulation from political bargaining. Institutional designers in the Eurozone may wish to view the United States as a cautionary tale of discretion and ad hoc political bargaining to be improved upon rather than as a model to be emulated.

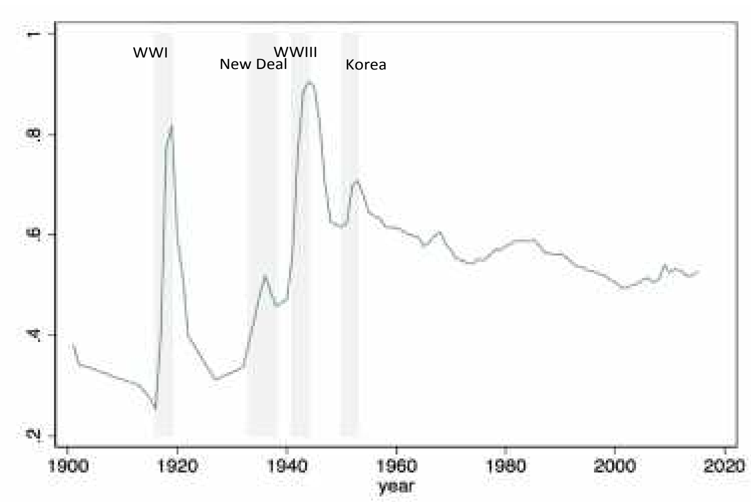
4. ON THE EVOLUTION OF FISCAL UNIONS

A common claim among those who take an evolutionary perspective on the European Monetary Union is that a stable monetary union is not possible without fiscal union, which is defined as a well-developed system of intra-regional insurance orchestrated by the central government. As explained above, such a system requires that the center play a substantial role in taxation. Thus it is useful to ask: when and how did the United States and other modern fiscal unions develop this feature?

It is tempting to give credit to Alexander Hamilton, the centralizing entrepreneur who crafted a plan for federal assumption of revolutionary war debts that also included the first independent source of revenue for the federal government. However, his tariffs on imports and taxes on whiskey had more to do with protecting domestic industry than anything like intra-regional stabilization. The United States federal government relied primarily on tariffs until the introduction of the income tax on the eve of World War I, and thus had no tools for conducting intra-regional stabilization. The income tax was still quite small until World War II. Thus it is fair to say that, with the exception of the Civil War period, the United States had a common currency without fiscal union for around 150 years. The Canadian federal government also had a common currency since the mid 19th century and relied exclusively on tariffs until World War I, and had no tools for conducting intra-regional stabilization until the middle of the 20th century.

In both Canada and the United States, there is a common thread in the development of the central government's fiscal power: war. Figure 10 displays the evolution of federal expenditures as a share of total expenditures in the United States since 1900. The federal government's fiscal presence was small prior to World War I. Federal expenditures jumped dramatically during the War, but quickly returned to almost their pre-war level thereafter. Next, the size of the federal government vis-à-vis the states and municipalities jumped during the New Deal, but the most important and permanent increase came during World War II. A similar story can be told about Canada: the federal government's role in income taxation was in large part a response to the need to raise revenue to fight wars. More generally, in other federations as well, wars seem to produce a ratchet effect in fiscal centralization.

Figure 10: United States federal expenditures as share of total (federal, state, and municipal) expenditures, 1900 to present



Source: usgovernmentspending.com

In both Canada and the United States, the development of the central government's power to tax income, and the ability to conduct intra-regional insurance that came later, were outcomes of long and contentious battles that raged for decades. In the United States, the federal income tax ultimately required a constitutional amendment. Viewed with North American history in mind, the current resistance to centralized taxation and insurance in Europe is not surprising.

William Riker (1975) famously argued that a union of sovereigns cannot generate a centralized system of taxation and risk sharing without an overwhelming, existential military imperative. He argued that no other type of crisis, and no other desired collective good, was sufficient to generate fiscal centralization. Unlike many of the federations that experienced fiscal centralization in the early 20th century, however, the member states of the European Union already have their own militaries. It remains to be seen whether an existential fiscal crisis, or the desire to produce other public goods, can take the place of war as an impetus to overcome the resistance to centralized taxation.

5. FISCAL DISCIPLINE IN FISCAL UNIONS

Advocates of a stronger European fiscal union often stop drawing upon the North American example when they get to the question of fiscal discipline. The United States federal government attempts to affect state and local spending priorities via conditional grants, and states often complain about federal "unfunded mandates," but the U.S. federal government has never attempted to regulate or even monitor the overall revenues and expenditures of the states through tools like those built into the Stability and Growth Pact. Nor is there anything resembling the conditional loans associated with the European Stability Mechanism. The same can be said about Ottawa with respect to provincial governments. Yet a consensus seems to be emerging among architects of future EMU institutions that "in exchange for enhanced risk sharing capabilities, member states would have to accept a more intrusive external interference in national fiscal policy," including "the authority to veto national budgets" (Tabellini 2016).

5.1 Prospects for successful hierarchical oversight in Europe

Such powers are difficult to imagine in the United States or Canada. The power to tax and spend are at the heart of sovereignty, and any such effort at centralized control over fiscal decisions of U.S. states, even if only in emergencies, would likely be deemed unconstitutional (McConnell 2016). Some reform architects in Europe seem to envision something more like the relationship between U.S. state governments and their municipalities, or between the German *Bund* and *Laender*. For instance, the state of Michigan has the ability to appoint a relatively powerful emergency manager in the event of a municipal fiscal emergency.

There are large differences between the relationship connecting the city of Flint and the state of Michigan, however, and that between Italy and the EMU. The status of Flint in the Michigan constitutional structure is not that of a sovereign. Flint also cannot threaten to secede from Michigan and issue its own currency. Nor does Flint have an anti-Michigan political movement. Michigan also has significant leverage over Flint because of the latter's dependence on the state for transfers that fund many of the city's operations.

If we limit our attention to existing unions of sovereign or at least quasi-sovereign member states, it is difficult to come up with examples of the strong central fiscal intervention powers envisioned by some European reformers who wish to strengthen and add credibility to the current EU economic governance framework, such asthe Excessive Deficit Procedure. One possibility is the Brazilian Fiscal Responsibility Law, which was implemented as part of negotiations associated with federal assumption of state debts in the 1990s.

The Brazilian Fiscal Responsibility Law requires states and municipalities to publish information on a variety of budget items, and allows not only for the prosecution of so-called "fiscal crimes" via the judiciary, but the withholding of crucial federal transfers if fiscal targets are not met. An important warning from the Brazilian case, however, is that such schemes depend heavily on the incentives and credibility of the enforcers. In the face of federal efforts to withhold transfers, Brazilian states can sue in federal court, and the courts have ruled overwhelmingly in favor of the states. The states, in turn, have failed to meet targets for debt reduction, and as part of the current fiscal crisis in Brazil, they are once again seeking a renegotiation of debt burdens and further federal bailouts.

Closer to home, after being forced by courts to provide bailouts to Bremen and Saarland in 1992, the German Federal Government attempted to enforce tight conditionality on the bailouts. After 25 years, these *Laender* continue to struggle with a large debt overhang, and continue to receive special federal transfers. Recent reforms have offered the *Laender* additional transfers in exchange for additional federal controls via the Stability Council.

Both the Brazilian and German examples are similar to the EMU in that they were post-hoc efforts to manage the moral hazard problem that took center stage after a high-profile bailout undermined the credibility of the center's "no bailout" pledge going forward. Both cases have involved a mix of bilateral conditional bailout deals and a more general effort to enhance the center's oversight authority going forward. In both cases, the credibility of the central government and the judiciary as overseers of subnational fiscal discipline has been in doubt at times. Yet even in these cases, the center is in a far more powerful position than the European Commission or the ESM. While the Brazilian states and German Laender are highly dependent on intergovernmental transfers raised from federal or shared taxes, European authorities have no such carrots to withdraw.

Rather, in the midst of a bilateral bailout deal, the ESM can merely threaten to withhold the next tranche of funding from countries that have not met targets. However, such threats lack credibility when the express purpose of the ESM is to avoid the panic associated with fears of default. A political logic might unfold such that what start out as highly conditional low-interest loans from the ESM could evolve into long-term entitlements that are up for occasional renegotiation, much like the special transfers that still flow to Bremen and Saarland. If debt restructuring is understood to be off the table and future tranfsers cannot be withheld, it is difficult to see how conditions might be enforced.

Perhaps the largest problem of credibility lies with the politics of exit threats. Many European member states now have serious political parties that are actively calling for exit from the Euro. Even if the enforcers are highly technocratic appointees with the best intentions, it is difficult to imagine harsh penalties being applied to a struggling member state in the run-up to an election where anti-Europe parties are in a position to win (see Leino and Saarenheimo 2016). Lenience may become necessary to save the entire Euro project. Any sign of this calculation will in turn create incentives for louder exit threats. This dynamic simply does not exist in other monetary unions—certainly not in those that attempt to impose top-down fiscal discipline.

In another paper solicited by the European Parliament's Economic and Monetary Affairs Committee, Wyplosz (2017) points out that conditionality is an effort at solving the problem of moral hazard among member state borrowers. It sweeps under the rug, however, the problem of moral hazard among lenders, for whom the ESM can be viewed as a bailout guarantee when making decisions about loans.

Not only does this undermine market discipline, but it could enhance a basic political economy problem facing the ESM. A crucial moment in the history of U.S. federalism was the debt crisis of the 1840s, when a group of states was on the precipice of default, and a pro-bailout lobby fell short in Congress. An important reason for the failure of the bailout movement was the fact that holders of state debts, many of them foreigners, were not politically powerful. Given the importance of home bias in state bond purchases owing to the U.S. tax system, it may still be the case that the credibility of the central government's "no bailout" commitment is enhanced by the lack of concentration of state debt in the hands of large and powerful financial institutions. However, the European context is quite different, and a danger is that questionable loans with strict conditionality will be made to insolvent member states in order to protect the interests of important banks. Even if this is not the case, it is likely to be the perception among citizens of the struggling member state. Attempts to enforce stringent conditions under these circumstances could further erode solidarity among member states. All of the conflicts of interest and inefficiencies associated with politicization in intergovernmental transfer systems discussed above will also be present in a body like the ESM. For this reason, Wyplosz (2017) raises the possibility that task of enforcing conditional loans be given to the IMF rather than the ESM.

5.2 Prospects for market discipline in the Eurozone and the United States

In sum, few would argue that the preventive role (targeting a structurally balanced budget) and the corrective role (the Excessive Deficit Procedure) of the SGP have been fully credible in the past. If anything, the potential credibility of hierarchical mechanisms as a way to enforce fiscal discipline in the European Monetary Union has only eroded in the wake of emergency loans, ECB bond purchases, and Brexit. Moreover, there appears to be no historical precedent for a hierarchical system of fiscal regulation or intervention in a union of sovereigns where the center lacks substantial tax authority.

If there are strong reasons to doubt that hierarchical discipline will work, or that the consensus to achieve the requisite fiscal and political centralization can be mustered, it may be necessary to consider other options.

The notion of so-called "market discipline" has become anathema in the Eurozone because it has become synonymous with the sudden and dramatic restrictions of market access that plagued weaker European member states during the crisis, even those that had been running surpluses. Indeed one might interpret the mission of the ESM as an elaborate scheme to put and end to deleterious market discipline once and for all, by reassuring creditors that default will not be tolerated.

The European consensus on market discipline seems to be that it works either with too much irrational ferocity—as during the crisis—or not at all, as during the pre-crises years when member state risk premiums were too tightly clustered.

It is worthwhile to reconsider this consensus in light of the possibility that the failure of market discipline in the Eurozone was primarily a function of deficiencies in the European financial system rather than the fiscal system. First let us consider the weakness of market discipline prior to the crisis. Large European banks, especially in Germany and France, invested not only in ill-fated real estate developments, but also in bonds of other member state governments. Banks were not required to set aside additional reserves when buying government debt, which was viewed as essentially risk free by banking regulators and policy makers. This lowered the price of government debt and distorted bankers' incentives. It became clear that large banks in both Northern and Southern Europe had significant exposure to debts of member states. Investors understood that the center was unlikely to tolerate a wave of major bank failures, which chipped away at the credibility of the "no bailout" commitment.

Sudden loss of confidence and panic then came with the realization that member state governments might suddenly become responsible for failing banks, and the realization that the member states would face a serious political challenge in orchestrating a coordinated bailout mechanism.

It is entirely possible that markets would have been more discerning before the crisis in the presence of different banking regulations, and that panic would have been avoided if the Eurozone had constructed a U.S.-style banking and financial market union (Gros and Belke 2015). We will never know. An important question now facing the Eurozone is whether it might be possible—after reforming banking regulations and completing the construction of a full and robust banking union—to resurrect the possibility that prudent fiscal policy of member states can be achieved without hierarchical oversight.

This idea may seem fanciful, given that the Eurozone has now constructed an intergovernmental financial institution with the explicit goal of assuaging market fears of default. However, even with the successful construction of the ESM and the continuation of the ECB's bond-buying program, sovereign spreads have not converged in the post-crisis environment, and spreads appear to be responsive to fiscal and political developments in member states (see, e.g. De Santis 2017).

The *conditio sine qua non* of market discipline is not evidence that markets punish increases in the deficit, but that governments conduct sustainable fiscal policy due to the desire to obtain credit at favorable rates. The mere existence of a monetary union generates moral hazard, but the problem may be augmented if member states, along with their voters and creditors, are sufficiently comforted by the prospect of eventual assistance. Yet it is plausible that calling upon the ESM can cause sufficient pain, political embarrassment, and loss of sovereignty that member states will make hard decisions in order to avoid it. Indeed, the ESM is structured around the notion of loans involving strict conditionality.

Other long-lasting unions of sovereigns, like the United States and Canada, have not erected such institutions. As demonstrated in the case studies of Arizona, Florida, and Nevada above, the U.S. states typically behave as if the prospects of an eventual federal bailout are low. They eschew the counter-cyclical fiscal policies pursued by European member state governments, and adjust expenditures rapidly in response to negative fiscal shocks.

Many of the self-imposed balanced budget requirements in U.S. states originated as attempts to bolster states' creditworthiness in the wake of the wave of 19th century defaults mentioned earlier. The federal government had no involvement in the emergence of these rules. The American system of balanced budget rules has a dark side, however. These rules have encouraged elected politicians to promise future benefits to public workers without funding them. State governments often balance budgets during recessions by, among other tricks, failing to make payments to pension funds. While balanced budget rules can make it difficult to increase salaries for workers, it is much easier to make unfunded promises of future benefits. In some cases, these promises are protected by the state constitution. In the U.S. state of Illinois, this class of issues threatens the sustainability of the state's debt path.

As a result, some have called into question the long-term credibility of the central government's "no bailout" commitment, arguing that rather than waiting for states like Illinois to reach the final stage of fiscal crisis when default is imminent, the federal government should offer assistance shoring up state pension funds in exchange for politically painful reforms (Rauh and Novy-Marx 2010).

Because of the pension crisis, the U.S. system of market discipline is under stress. Although the system has avoided both formal bailouts and defaults of state governments for many decades, the United States may still have to grapple with a dynamic, not unlike the ESM, where conditional loans or other subsidies are exchanged for reforms. As with the case of the Brazilian states in recent decades, this would generate concerns about moral hazard for state governments going forward. In both the United States and the Eurozone, it may be useful to consider innovative approaches to this problem.

5.3 From bailouts to bankruptcy?

A concern in the United States is that a state like Illinois might eventually reach a moment like that experienced with Greece in the Euro crisis, where disorderly default is on the horizon and there is no clear resolution in sight. This would lead to a chaotic rash of lawsuits from pensioners and various classes of creditors attempting to assert their rights. It is possible that this would create externalities for other troubled states, who might suddenly find themselves unable to obtain credit. As in the Eurozone on the eve of the crisis, the United States federal government has no pre-established mechanism for mobilizing a bailout. The executive and the legislature would be forced to craft an ad hoc response as the crisis unfolded.

If the United States federal government follows the path of the Eurozone and orchestrates a bailout at that moment, perhaps even formalizing the process for the future, its long history of market discipline among the states would be undermined.

Is there a way for the United States to avoid this fate, and is there a way for Europe to unravel it? One possibility is to replace the logic of bailouts with that of bankruptcy. A bailout regime, even if governed by the logic of loans for reforms, sends the message to creditors that defaults will not be tolerated and creditors will be paid whole, even if this requires the imposition of tremendous pain for vulnerable populations in the member state. An alternative is to clarify that member state debt issues do not carry an implicit higher-level guarantee, and in the event that a member state is truly insolvent, the pain will be borne not only by pensioners and social workers in the affected member state and taxpayers in the contributing member states, but also by creditors.

Such a policy regime might still involve conditional loans and a strong oversight role for the ESM, but it might also include a set of rules that clarify the responsibilities of creditors ex ante. Indeed, it is difficult to see how conditions or threats to stop making loans can be credible if there is no real alternative to keeping a crisis-struck country liquid. The threat of disorderly defaults produces a high degree of uncertainty that can lead to sudden, herd-like credit stoppage. One rather extreme way to prevent this is to reassure creditors that there is ultimately a higher-level bailout guarantee. Another way to reduce uncertainty is more consistent with market discipline: crafting a set of clear rules for orderly partial defaults, specifying the rights of all parties involved, and the legal process through which inevitable disputes will be resolved.

For an overview of potential approaches to such a system, see Fuest, Heinemann, and Schröder (2014). The presence of such a mechanism would not absolve the ESM of the need to make very difficult decisions. On the contrary, the ESM would need to set up a procedure for determining whether a member state is insolvent. This is a very difficult task, and the answer will never be clear. Presumably the ESM must find a way to make this difficult determination in any case, however. As with bankruptcy procedures that rely on courts, this is a challenging task—one that would be fraught with conflicts of interest, and would require considerable insulation from political influence, possibly via the judiciary.

As Wypolsz (2017) argues, even without a bankruptcy-type procedure, it will be necessary for the ESM (or a future European Monetary Fund) to devise a way to determine the point at which officials loans are excessive and a debt restructuring might be required—a task that is best left to some type of independent but transparent body.

Needless to say, the time to craft such rules and procedures is not in the midst of a crisis. Markets reacted very negatively whenever the words “orderly default” were uttered by German officials during the Greek crisis, and officials quickly learned to excise them from public vocabulary. In the recent case of the U.S. territory of Puerto Rico, the United States Congress had to cobble together an 11th hour legislative deal to add some structure to the Puerto Rico’s default—a one-off quasi-bankruptcy arrangement—that was highly influenced by intense lobbying by various creditors.

A sovereign debt restructuring would have major political and economic consequences for the EMU—most likely larger than that of a state for the U.S. federation. Unlike the U.S. Federal Reserve Bank, the European Central Bank holds debt instruments of member states on its balance sheet, which adds considerable complexity to the notion of a sovereign debt restructuring. Moreover, the role of the public sector is much larger in EU member states than in U.S. states, as is their public debt.

Of course the goal of laying out the details of the process through which debts might be restructured if they become truly unsustainable is not to bring about a restructuring of existing debts. Rather, it is to be prepared for a crisis that one hopes never to experience while also improving the incentives of future lenders. Unfortunately, however, there is a danger that even the serious discussion of a formal insolvency procedure could be interpreted as a signal of impending default, and would push the EMU back into crisis. Thus it would be necessary to pursue something like the lagged implementation strategy recommended by Fuest, Heinemann, and Schröder (2014).

It is possible that a strong banking union can eventually restore the prospect of a credible no-bailout commitment, but of course this is not possible if the ESM cannot credibly promise not to lend to insolvent member states. It is difficult to see how any such promise can be credible without specifying what will happen in the event of an insolvency and preparing for such a moment. Perhaps the United States has been able to get by without an orderly default procedure for states in part because it never developed an explicit bailout fund. Once such a fund has been created, without some prospect of debt restructuring, it is in danger of becoming a long-term transfer payment along the lines of the *Sanierungshilfe* for Bremen and Saarland. The clarification of an orderly default process might even find political support at a time when austerity and intervention are fostering anti-European sentiment in weaker member states and bailouts are fostering similar reactions in stronger member states.

6. CONCLUSION

The European Union has always been a union of sovereign states. A strong system of hierarchical control over the budgets of member states is not consistent with such a union, and federations like the United States and Canada have never attempted to assert such powers. While more centralized federations like Germany and Brazil have attempted to do so in response to fiscal and financial crises, all of these federations have far more central tax power—gained in large part by through the necessity of fighting costly wars—than the European Monetary Union.

Without centralized taxation and a political consensus to partially give up fiscal sovereignty to the center, a system of member-states with primary responsibility for taxing, spending, and borrowing with a credible no-bailout commitment from the union was the only realistic option for the Euro.

It is difficult to argue with the retrospective assessment that it would have been advantageous for the weaker member states to have been part of a fiscal union with a strong central role in income taxation, like the United States, that provided shock absorbers to the member states most effected by the crisis by continuing to fund certain sensitive expenditures while collecting less in taxes.

However, this paper has pointed out that the system of intra-regional fiscal insurance in the United States is less well targeted than often portrayed in European discussions, and is offset to a large extent by extremely pro-cyclical fiscal policies of state and municipal governments. If the Eurozone embarks on the construction of a system of intra-regional fiscal insurance, it should endeavour not to replicate, but to improve on the U.S. experience.

The most proximate cause of the demise of market discipline in the Eurozone was not the lack of fiscal union, but rather, the lack of banking union. In response to a market panic, it became necessary to bail out member states for whom default would have led to the collapse of large banks in both Northern and Southern Europe. The new "bail in" rule of the Bank Resolution and Recovery Directive requires that investors and certain creditors take the first losses in the event that a bank needs to be rescued because of risky private loans. This is an important development. A further step would be to extend this logic to public lending.

The political will for dramatic centralization of taxation and regulation in the Eurozone does not seem to have increased in the aftermath of the crisis. And if anything, the credibility of the center in dictating fiscal policies to troubled member states may be weaker than ever. Thus as argued by Eichengreen and Wyplosz (2016), the best course of action might be to recognize that member states will maintain themselves as fiscal sovereigns, and work to complete the banking union and reduce member states' debt overhang in order to pave the way for a better-functioning system of market discipline in the future. If this path is taken, it may be necessary for the ESM to slowly transition from a pure bailout or backstop mechanism to a forum through which an orderly restructuring of debt can take place in the event of insolvency.

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PE 602.077

ISBN 978-92-846-0830-0 (paper)
ISBN 978-92-846-0831-7 (pdf)

doi:10.2861/878160 (paper)
doi:10.2861/167588 (pdf)