

Hamilton's Paradox Revisited

Alternative lessons from US history

Waltraud Schelkle

No. 2017/10, September 2017

Abstract

The lingering crisis of the euro area has made leading observers call for the completion of the economic and monetary union with fiscal federalism. They point to the US federation as the example to emulate. Opponents can point to evidence from US history that strong fiscal capacities at the federal level lead to free-riding at the member state level, with “spectacular debt accumulation and disastrous failures of macroeconomic policy” (Rodden, 2006: 2) in its wake. This paper revisits the historical US evidence with the knowledge of today. It takes lessons from the euro area crisis to see whether they apply to the history of the US dollar area. The first lesson asks whether political-fiscal union should come before monetary union; a second lesson concerns the need for fiscal union; and the final lesson is about the question where fiscal discipline should be located in a monetary union. Lessons from the euro area crisis reveal trade-offs that neither monetary union can evade. This becomes apparent if one looks at the interfaces of a fiscal federation with financial and monetary integration.

Waltraud Schelkle is Associate Professor of Political Economy at the European Institute, London School of Economics and Political Science.

Parts of this paper were presented at the EUI workshop on “Fiscal federalism for the euro area?” in December 2016, at the ADEMU conference at the Bank of Spain in May 2017, and at a workshop at CEPS in Brussels, in July 2017. It draws in turn on chapter 4 of Schelkle (2017). I am grateful for the stimulating discussions and especially for the insightful comments by Johannes Fleck (EUI), Daniel Gros and Gilles Thirion (both CEPS). Special thanks go to Jeffry Frieden (Harvard University), David Moss (Harvard Business School) and Jonathan Rodden (Stanford University) for first planting these ideas in me.

CEPS Working Documents give an indication of work being conducted within CEPS' research programmes and aim to stimulate reactions from other experts in the field. The opinions expressed in this document are the sole responsibility of the author and do not necessarily represent the official position of CEPS.

CONTENTS

1. Hamilton's Paradox and the euro area crisis.....	1
2. Sequencing of political and monetary integration.....	3
3. Negative feedback loops between banks and sovereigns.....	7
4. Fiscal discipline and stabilisation	12
5. Conclusion: Hamilton's Paradox extended.....	14
References	18

Hamilton's Paradox Revisited

Alternative lessons from US history

Waltraud Schelkle

CEPS Working Document No. 2017/10, September 2017

1. Hamilton's paradox and the euro area crisis

The lingering crisis of the euro area (EA) has made even the IMF call for the completion of the economic and monetary union with a minimalist fiscal federation (Cottarelli and Guerguil, 2015). Many economists, for instance Krugman (2011, 2013: 446) and Gaspar (2015), compare the EA unfavourably with the US and call for a transfer union in line with the optimal currency area (OCA) theory. However, these proponents of a fiscal union simply assume that the US conformed to the prescriptions of the theory and that transfers played a key role in dealing with the fiscal problems of states. As we will see, the evidence does not lend much support to these assumptions.¹

Opponents to fiscal completion can point to insights by political economists that draw a rather different lesson from US history: "federalism can lead to spectacular debt accumulation and disastrous failures of macroeconomic policy." (Rodden, 2006: 2; cf Rodden and Wibbels, 2002) Jonathan Rodden summarised his intricate analysis in *Hamilton's Paradox*: the problem of federations may not be so much that the federal level is weak but that it is not credibly weak; if the federal government is credibly weak, it may not be able to provide the common goods for which it was created in the first place.

A federal government that is strong enough to stabilise the union may undermines market discipline and incentivise lower-tier governments to free ride, forcing the federal government's hand to bail them out with central resources. The EA architecture was geared to tackle Hamilton's paradox like no other fiscal federation. This, however, makes the EA crisis an even greater puzzle. After all, the fiscal centre was credibly weak and should therefore have been safe from exploitation by member states. Nor was the central bank underpinned by any joint fiscal capacity that the lender of last resort could freeride on by assuming solvency risks. The solution to this puzzle lies in the neglected role and the incentives of financial market actors. Fiscal federalism is too narrowly focused on fiscal policymaking only and does not, for practical purposes, give an accurate account of the challenges of macro-stabilisation in multi-level governance systems. For that, it needs to consider the interfaces with monetary-financial integration.

¹ A nuanced case for a fiscal union that does not depend on idealised US evidence can be found in Enderlein et al. (2012).

Scholars can obviously draw very different lessons from US history for the EA. This paper suggests an alternative methodology to assess the claims in this debate. It revisits the historical US evidence with the knowledge of today, asking whether and how US policymakers and institutions avoided three recognised pitfalls of the EA. The exercise of applying these lessons to US history provides us with a more nuanced picture. It points to trade-offs that neither monetary union can evade although they have made somewhat different choices.

The next section starts with the most general question, namely the relationship between political-fiscal and monetary integration. A symptom of a possibly problematic sequencing is that the European Central Bank (ECB) issues a non-state money (James, 2012) and is therefore forced to protracted quasi-fiscal operations for lack of a central fiscal authority (Schelkle, 2012; Mabbett and Schelkle, 2017). Did a different sequencing of fiscal and monetary integration save the US from a similar perversion of monetary policy? For a long time, there was simply no monetary policy to pervert. The historical evidence rather suggests that the US federation would not have been the financially most unstable country in the Western hemisphere (Broz, 1997: 5) if it had followed the sequencing of the euro area, namely establishing and maintaining a central bank early on. To make the case, this section looks at the debates around establishing a central bank in the US.

The third section looks at the main rationale for why the EA supposedly needs more fiscal integration: all five member states that needed a bailout or bank restructuring programme were susceptible to a negative feedback loop between weakening bank balance sheets and weakening public finances (De Grauwe, 2011). So was it the federal budget in the US that saved, for instance, Nevada from the plight of Ireland and Cyprus? An affirmative answer is at odds with the fact that the federal government in Washington, D.C., credibly exercises the no-bail-out clause for state budgets since the mid-19th century (Henning and Kessler, 2012). The Savings and Loan crisis of the 1980s and '90s can illustrate how a crisis of systemic proportions, with its latent diabolic loops, was solved. This points to a crucial role of the FDIC (Federal Deposit Insurance Corporation) with its resolution capacity rather than the federal tax-transfer system directly. Until then, US states experienced diabolic loops aplenty, as two detailed examples will illustrate: one with an existing fiscal federation, the other explicitly repudiating state involvement.

The fourth section returns to the original question of Hamilton's Paradox, namely whether more centrally enforced fiscal discipline would help: Greece is the prime example for those who feared fiscal profligacy could bring the EA down. The US equivalent of Greece is Puerto Rico (Lachman, 2017), but its fiscal problems did not lead to a systemic crisis. A more moderate position would argue that there is simply no alternative if fiscal discipline cannot be enforced: protracted austerity is then the price to be paid afterwards (Gros, 2013). Is it the state balanced budget rules and strict enforcement of no federal bailout in the US that makes the US federation less susceptible to a 'Greek problem', that is fiscal profligacy getting out of control and spilling over to the rest of the union? The answer is a qualified yes but the qualification is stark: strictly balanced state budgets come at a cost in terms of stabilisation and the extent of social insurance. The states' pro-cyclical balancing counteracts federal

automatic stabilisers. Strict enforcement of fiscal discipline at the member state level can only be sustained if there is federal fiscal capacity to compensate for too little stabilisation at the state level. This has Hamilton's paradox in its wake, namely free-riding of members on central capacity.

The concluding section summarises the trade-offs that each of the previous sections reveals. It also argues that the proponents and opponents of fiscal federalism for the EA tend to overlook one side of these trade-offs, typically because they focus too narrowly on fiscal policy, ignoring the role and incentives of financial market actors and monetary policy capacity. If the latter are taken into account, an extended Hamilton paradox emerges: even if the centre with strong bailout capacity can tie its hands vis-à-vis lower tiers of government, it may still not be credibly weak enough to resist bearing the consequences of excessive risk-taking in the financial system.

2. Sequencing of political and monetary integration

The most general lesson, which is about the sequencing of political and monetary integration, is raised by the following observations: the ECB has been drawn, for almost a decade now, into extraordinary measures that arguably substitute for member states' reluctance to recapitalise domestic banking systems and to stimulate domestic economies. It has attracted much criticism for this quasi-fiscal engagement. Even an arcane institution, the cross-border payments system TARGET2, became the subject of heated debate in Germany (Schelkle 2017: 268-276). It was accused of prolonging a balance of payments crisis of Southern Europe when it was actually operating as a safety valve for frozen wholesale financial markets. Others accused the strictures on the ECB to keep fiscal and monetary policies separate. Paul De Grauwe (2011) wrote in a widely cited paper that governments were in the spotlight of bond markets only because the ECB's role as lender of last resort to governments was not assured, by contrast with the backing enjoyed by the British and US Treasuries from their respective central banks. Tommaso Padoa-Schioppa (2004: 180) had warned presciently that independence based on a strict separation of monetary and fiscal authority may become loneliness, the ECB's hands forced by the inaction of governments (Mabbett and Schelkle, 2017). But while the member states left the ECB lonely, the proud bank also had to defend itself against the accusation of overreach (Whelan, 2014).

The contestation over federal monetary powers has, if anything, been more intense in US history. A legal tender circulating nation-wide was created with the Greenback only in 1863. The Federal Reserve was a creation of the early 20th century and it took until 1951 before the Fed became a monetary policy authority. Does this prove that the EA got the sequencing of political-fiscal integration and monetary integration wrong while the US got it right?

The reverse sequence of the US, namely political-fiscal integration first and monetary integration rather late, was forced upon the emerging polity by member states' resentment of federal power(s). The first finance minister of the US, Alexander Hamilton, proposed a plan that foresaw both a central bank and a joint debt instrument. On the latter, he wrote in 1781,

as the war of independence (1775-1783) was still going on: “A national debt, if it is not excessive, will be to us a national blessing. It will be a powerful cement of our Union.” (quoted in McNamara, 2003: 10n) The joint liability of federal debt could become a visible symbol for the strength of the federation if the whole was more creditworthy than its parts. He relieved the states from their war-related debt and made the nationalised debt a source of states’ revenue for which they in turn agreed to a Constitution that created considerable central powers.

The 1789 Constitution gave the federal government the power to tax as well as the sole right to issue coinage. Because of a lack of minting capacity, Hamilton authorised the circulation of the Spanish dollar as legal tender several times. The Constitution was silent about note issuance by the federal government. There was principled opposition to paper money in the constitutional assembly, which foreshadowed later conflicts between monetary conservatives at the federal level and expansionists in some states (Giannini, 2011: 66; Hall and Sargent, 2014: 155).

The states were expressly prohibited from taxing exports and imports and issuing paper money (Sylla et al., 1987). These provisions took away important sources of state revenue at a time when many states had accumulated more debt during the war of Independence than they could service in peace time. While state representatives were ready to agree to expand the prerogatives of the federal government only if they were relieved of their debt, the federalists, in turn, were willing to concede this demand because they reckoned that the over-indebtedness of some states jeopardised the credit of all (Henning and Kessler, 2012: 6-8).

An integral part of Hamilton’s plan was the foundation of the First Bank of the United States, given a 20-year charter in 1791 (McNamara, 2003: 10). A proto-central bank in a fuller sense than its model, the Bank of England, it issued the US dollar. This was, however, not a modern currency but only legal tender for fiscal purposes, which is for payments by and to the Treasury. A standard means of payment at the time were bank notes: states had got around the constitutional prohibition on creating money by chartering banks to issue money (Sylla et al., 1987: 392). These bank notes had to be redeemable into a reserve medium that the banks could not produce *ad libitum*, so as to prevent the excessive issue of banknotes. Prudential regulation required banks to hold reserve assets in a specified fraction of their banknote issue. The stipulated reserves varied over time, but typically consisted of specie (coins), such as gold or silver, and legal tender: the dollars issued by the First Bank. The First Bank was meant to centralise the reserve holdings of state banks, allowing the financial system to hold fewer reserves in the aggregate without making any individual bank less safe. Given its size and the function of turning banknotes into specie if required, the First Bank soon assumed a much more important role than its power to issue legal tender for fiscal purposes would lead one to expect. By setting the terms on which it would exchange banknotes for specie, it could influence the state banks’ credit supply (Giannini, 2011: 67). This made it enemies in the states.

The Hamilton plan was ingenious but also highly controversial. Many resented the centralisation of public debt management and banking in principle (McNamara, 2003: 11). There was vocal opposition from agrarian states in particular, even when they themselves received debt relief, because they saw relief as disproportionately benefiting financial interests in urban areas and abroad (Ferguson, 1962: 457-459). Handsome profits were made by speculators who had bought some of the wartime junk bonds for next to nothing and now benefited from Hamilton's bailout (Trescott, 1955: 131). Finally, the proto-central bank restricted the supply of credit in order to establish a stable union which is creditworthy to foreign investors. But such prudence was seen in many states as holding back their development.

In the long run, the restricted supply of credit proved the most destructive for Hamilton's reforms. The number of state banks was expanding rapidly. Governments founded or licensed ever more state-chartered banks, giving them the profitable privilege of note issue and in return taxing their capital or holding income-yielding shares in them. At least one-fifth and in most states a third of ordinary revenue came from these state-chartered banks (Sylla et al., 1987: 400). However, the fractional reserve system drove them into using the First Bank which in turn could restrict their expansion by controlling the creation of specie/ coinage. Thus, a powerful constituency against the First Bank formed within the state bank system which prevented the renewal of its charter in 1811 (Giannini, 2011: 68).

The Anglo-American War of 1812 was the final blow to Hamilton's attempt at restoring the creditworthiness of the public sector. Federal and state governments issued unsustainable debt again, at deep discounts which made financing the war effort a vast expense (Myers, 1970, 75-77; Hall and Sargent, 2014: 156-158). After the war, history seemed to repeat itself. A Second Bank of the US was founded to deal with the financial mayhem. It exchanged the inflated banknote issue for specie, writing down debt in the process; as before, it issued a legal tender for fiscal purposes (Broz, 1998: 239). Its 20-year charter (1816-1836) coincided with the 'era of internal improvement' discussed below. The Second Bank under President Biddle financed some of this infrastructure, thus acting as a development bank, not least to build constituencies in the states.

But this proto-central bank also tried to rein in credit expansion with a view to external stability: it accepted bank notes for tax payment, but whenever the dollar exchange rate fell, state banks were requested to convert their banknotes into specie, thus contracting credit and generating demand for the dollar. This quest for stability put President Biddle at loggerheads with President Andrew Jackson, admired still today by populists such as President Trump. The President challenged the bank's policies as an exercise in federal power, and rallied the states behind him in a 'bank war' that the central bank was bound to lose (Giannini, 2011: 68-71). The charter of the Second Bank was not renewed.

The monetary union came finally about when the political union had ceased to exist, driven apart by the question of slavery. In 1861, seven Southern states responded to the election of the abolitionist President Lincoln with a declaration of secession, four more joining the

Confederacy soon afterwards. The Northern states and the President refused to acknowledge a secession that was in contempt of a democratic election. The ensuing civil war lasted until 1865. It was during wartime that the core of a monetary and banking union was re-created.

The core was the National Banking Act of 1863 (Bordo and Wheelock, 2011: 5; McNamara, 2003: 13), legislated by Congress without the representatives from the secessionist states. Its main purpose was the creation of a system of nationwide operating banks, parallel to the state banks. The Act installed an independent Treasury as the sole issuer of national bank notes. As part of the Treasury, the Office of the Comptroller of the Currency was founded, both to supervise federally chartered (national) banks and “to replace the circulation of state notes with a single national currency” (Jickling and Murphy, 2010: 15). National banks could issue notes only if these were fully backed by federal government securities; if banks were unable to redeem their notes into legal tender, these bonds would be sold and their proceeds used to acquire dollars. Not only did this ‘backing’ create a larger and more diversified risk pool, the Treasury also guaranteed the notes in full, irrespective of the value of the bonds backing them. The note issues of state banks without a national charter, by contrast, were taxed at a prohibitive rate and fell out of use (FDIC, 1998: 10-12). State banks could survive only as providers of savings deposits

The US dollar area thus began as a Northern monetary union; the national currency was imposed by the victors on the rest of the country when the war was won. In 1869, this was challenged in the Supreme Court, which initially declared the measure unconstitutional but soon reversed itself (with the aid of the appointment of two new justices) and affirmed “that the federal government was empowered to make a paper fiduciary currency a legal tender” (Hall and Sargent, 2014: 149). The divisive political symbolism of the common currency and the underlying economic conflict resurfaced when, after bitter discussions, the United States rejoined the gold standard in 1879, restoring convertibility into gold at the pre-Civil War parity (Broz, 1997: 60-61). The hope was that this would ensure price and exchange rate stability. Yet the regime change gave rise to a ‘free silver’ movement campaigning for a bi-metallic standard so as to ease credit conditions and counter the deflationary tendency imposed by the gold standard (Frieden, 2015: 68-77). Once again, this pitched the mainly agrarian states in the South against the more urbanised and industrialised states of the Northeast. Fights over the monetary regime “were the defining feature of national politics from the 1870s to 1896” (Broz, 1997: 61; Frieden, 2015: 49-50). This ended in 1896 when William Bryant, the leader of the movement supporting a bi-metallic standard, was defeated in the presidential election.

Periodic financial havoc eventually eroded the opposition to a central bank. Between the end of the Civil War and the beginning of the Great Depression in 1929, the US experienced national banking crises in 1873, 1884, 1890, 1893, 1907 and 1914.² The economic damage

² I am grateful to Andrew Walter (University of Melbourne) for making his database on US banking crises available to me. See also Chweroth and Walter (2013) on how public expectations of government’s responsibilities changed, paving the way for the Federal Reserve.

caused by the 1893 and the 1907 panics each amounted to an estimated 10% of real per capita income (Broz, 1997: 166). The President and Congress remained lukewarm regarding the proposal of a third bank of the US, but a group of New York bankers set up a commission to advance the proposal, against opposition from bankers in Chicago, and managed to get a sympathetic hearing in relevant parliamentary committees (Bordo and Wheelock, 2011: 8-13; Broz, 1997: 140-159). The Federal Reserve Bank came into existence in 1913, owing its name to the animosities that the term 'central bank' or 'the third bank of the United States' would have aroused among devolutionists.

The newly established Fed was not yet operational when the panic of 1914 started; this was quelled by the Treasury. There were no provisions for how the Fed should respond to a banking panic, apparently because legislators believed that they had created a safe banking system (Bordo and Wheelock, 2011: 15). The Fed focused on developing the discount market. The dollar rapidly became an internationally accepted currency, a success helped by the First World War which stimulated export markets and increased reliance on national banks (Broz, 1998: 254-56). In domestic affairs, the Fed did not commend itself, but confirmed the worst expectations of the devolutionist camp. Between 1921 and 1929, an average of 600 banks failed per year, 10 times as many as in the years before (FDIC, 1998: 20). Most of them were small rural banks that defaulted together with their clients, farmers, whose businesses were the victims of difficult world market conditions after the war and unusual droughts (White, 2015: 10). The Federal Reserve Board remained complacent, attributing the failure of these provincial banks to bad management even as bank runs spread. When the Great Depression finally erupted in systemic financial collapse, it notoriously failed to provide the liquidity that domestic banks desperately needed (Friedman and Schwartz, 1963: 357-359). The lender of last resort was fiscal, which continued financial instability until the post-World War II era. It stands to reason that financial repression helped as well (Reinhart and Sbrancia, 2011). When the repression regime was lifted in the 1980s, financial instability returned (Babecký et al., 2012: Figure 2).

3. Negative feedback loops between banks and sovereigns

One of the starkest lessons that the EA crisis had to offer was that the absence of a common fiscal bailout capacity leads to negative feedback loops between banks and national sovereigns. For this lesson to be learnt, it is important to stress that the shock causing the EA crisis was not asymmetric but followed the *common* shock of the financial crisis (Schelkle, 2017: 185-196). This shock created problems for banks in all advanced economies since it was largely created by monetary-financial integration between all advanced economies, albeit particularly intensely in the EA. Some banks were prone to insolvency once their dubious assets were properly priced, others were dragged into the abyss because contagion and fire-sales of assets led to a crash in asset prices that were actually priced correctly before the crisis.³ The common shock wiped out loss-absorbing capital of highly leveraged and sound

³ See Brunnermeier et al. (2009: 13-24) for a summary of these propagation and amplification mechanisms.

banks alike. Central banks came to the rescue by providing liquidity against collateral and buying assets, to stabilise the prices of these assets and ultimately to prevent a general melt-down that would have destroyed the savings of households. Governments took a lot of the financial risks on their books, by becoming shareholders and by acting as guarantors of bank liabilities. The commonality of the financial instability became less obvious in the months after the major hit arising from the difficulties of Greece, and this became a problem for collective action. Ireland was next in line, for entirely different reasons from Greece. Market observers came to perceive some EA members, rightly or wrongly, as more fragile than others. Bond investors started to differentiate between high risk member states and the rest (De Grauwe and Ji, 2013).

The US has had its fair share of negative feedback loops in its history, as we now note (Frieden, 2016: 24-28; Schekle, 2017: 99-102). This should surprise us because they evolved both when fiscal bail-out capacities existed and when they were deliberately refused. What brought them to an end was not primarily a central budget, however, but a federally backed insurance mechanism in the guise of an industry-financed deposit guarantee and resolution fund as well as lending of last resort by the Federal Reserve System. Without the latter, there was no safe asset that banks could hold and that could be supplied elastically by the lender of last resort.

We look first at the situation of a developed fiscal federation that has, however, committed itself to no-bailout of state budgets. This constellation is still some way off the ideal of an optimal currency area but as close as it gets: the example is the savings and loan (S&L) crisis of the 1990s. It was not a shock on the scale of the recent financial crisis but one with a similar potential to put some US states into a diabolic loop. A change in the monetary regime after 1971 and the Fed's shift to money supply control in 1979 (the 'Volcker shock') led to increased exchange rate and interest rate volatility. Interest rates on government bonds rose to double-digit levels. This created a major problem for the S&L institutions or 'thrifts'. Their loan business was in residential mortgages, so they were locked into long-term fixed rate assets. To make up for the losses they had already incurred, rendering many thrifts insolvent, capital requirements were lowered and they were allowed to enter riskier market segments with the Depository Institutions Act (Garn-St. Germain) of 1982 under the Reagan administration (Robinson, 2013). Regulators and legislators had an incentive to exercise forbearance because the federal deposit insurance fund for S&Ls (FSLIC) was de facto insolvent and many S&Ls had no access to the Federal Reserve System as the lender of last resort.

Regional recessions eventually triggered the crisis: the geographical concentration of investments and lending made the risk that hit the S&Ls uninsurable at the state level (Todd, 1994: 9; FDIC, 1998: 49). Real estate prices, especially in Texas, fell massively and left mortgage borrowers 'under water'. Many S&Ls were wiped out because the low value of the houses and condominiums did not even make it worthwhile to incur the transactions costs of marketing them for sale in severely depressed regions. The financial institutions reform – the Recovery and Enforcement Act of 1989 – finally acknowledged the problem. A bad bank cum

resolution fund restructured the sector, the insolvent deposit insurance fund for the sector was closed down and federal insurance was from then on provided by the Federal Deposit Insurance Corporation (FDIC) (FDIC, 1998: 51-53).

Devastating as the S&L crisis was, a feedback loop from the S&L debacle onto state budgets was prevented. Since the 1950s, many states had sponsored the opening of private deposit insurance funds. Many failed in state-specific crises: first in Mississippi in 1976, then in Nebraska and California in 1983, Ohio and Maryland in 1985, Utah and Colorado in 1987, and finally in Rhode Island in 1991 (Todd, 1994: 1).⁴ Three of the biggest calamities, which could have wrecked the state easily, are compared by Todd (1994: 8-13). One way or another, each state got an indirect federal bail-out, not of its regular budget but of its financial system, typically through deposit insurance or, less often, restructuring of the thrifts themselves.⁵

- Rhode Island received a federal loan guarantee for a bond issue to restructure and recapitalise its S&L sector, not unlike the Spanish bank restructuring programme.
- The way out for S&Ls in Ohio was short-term liquidity assistance from the Federal Reserve Bank of Cleveland, aided by the governor's declaration of a bank holiday "that required all institutions insured by the failed private fund to close until they were either assured of receiving federal deposit insurance or sold or merged into a federally insured institution" (Todd, 1994: 10). This is the situation that the ECB finds itself in, with members of the Eurosystem using emergency liquidity assistance (ELA) to tide them over the worst, until further notice.
- In Maryland, the Federal Reserve Bank of Richmond had to step into the breach and provide support to the S&Ls for more than four years. It bought time for the state government to compensate depositors out of the revenue from state-sponsored bond issues (Todd, 1994: 12). Again, it is the central bank system that came to the rescue, not the federal budget directly.

However, Ohio and Maryland relied too openly on offloading their problems unto the federal deposit insurance "without substantial injection of state funds" (Todd, 1994: 3). Congress punished what the legislators perceived as acting in bad faith. Substantial amounts of state funds had to be used to restructure the sector. Texas experienced the biggest crisis, counting for more than half of all S&L losses. It was rescued in the so-called Southwest plan, overseen by the FDIC, which guaranteed losses of up to \$50 billion (GAO, 1990).

Throughout the S&L crisis, the letter of the no-bailout norm for state budgets was honoured in that the federal government did not assume state debt directly (Henning and Kessler, 2012: 12). But there was still a federal safety net that prevented a feedback loop by assuring bond markets of a backstop should the state default. A price was extracted for this support: state governments had to cut public goods provision and raise taxes. Assets of about \$519 billion were restructured and the number of federally insured thrift institutions halved between

⁴ The sector's federal deposit insurance fund stopped accepting new claims by early 1989.

⁵ Over 1,000 or about one-third of all thrifts failed between 1986 and 1995 (Curry and Shibut, 2000: 33).

1986 and 1995. As of 1999, the cost of the S&L crisis was estimated to amount to \$153 billion, over 80% of which was borne by the US taxpayer and the rest by the thrift industry (Curry and Shibut, 2000: 26, 33). This was largely financed by winding down the thrifts equivalent of the FDIC, i.e. a deposit guarantee and resolution fund, as well as a Resolution Trust Corporation that extended the deposit guarantees. Behind this entity stood the Treasury, which had to borrow in order to perform the bail-out of savers, some institutions as well as the default of over 1,000 thrifts.

Contrast this with banking crises in the absence of federal re-insurance of deposit guarantees. When the Anglo-American War ended in 1815, the federal government assumed states' debt (Henning and Kessler, 2012: 10) and the Second (proto-central) Bank of the US was founded to deal with the financial mayhem (see previous section). An 'era of internal improvement' followed, fuelled by state-sponsored financial innovation as well as free (un-chartered) entry of note-issuing banks. States invested massively in physical and financial infrastructure. This raised their (domestic and foreign) debt to levels that were 50% above the debts they had incurred in the previous two wars combined (Wallis et al., 2004: 1). The borrowing spree ended with the sovereign default of eight states and a Territory (Florida) in the early 1840s, while 12 other states got into serious fiscal difficulties, out of a total of 28. Diabolic loops were instrumental in bringing these states down. The default of the Southwestern states in the early 1840s was due to a particular feedback loop that resembles the disastrous experience of Ireland and Spain 170 years later. Bank capital and credit were secured by mortgages. This fed into a self-fulfilling lending boom because as long as lending boomed, land values rose, making banks even more willing to lend against this security.

But inevitably some event would eventually cast doubt on the valuation, in this case a tightening of world market conditions by the Bank of England's interest rate rise (English, 1996: 263; Wallis et al., 2004). As land prices fell, mortgage credit came to exceed the value of the underlying security. This put the borrowers 'under water' (holding negative equity) and led them to default on their mortgages. Their default created difficulties for the banks which needed cash flow to pay interest on their liabilities, the state-issued bonds. Bondholders found that they were secured by mortgages that had defaulted or depreciated. Sovereign credit depended on revenue from property taxes which collapsed with the fall in land prices and defaults on mortgages (Wallis et al., 2004: Table 7). Issuing new public debt became unaffordable. Four out of the five Southwestern states chose to repudiate the state debt by letting the land banks fail, Alabama honoured its debt with great difficulty.⁶ The financial crash and its financial costs were massive, but the federal government stood firm this time (Rodden, 2006: ch.3; Henning and Kessler, 2012: 10-13).

The contemporary example of free banking suggests that financial exuberance contributed at least as much or more to the emergence of diabolic loops than the free riding of lower-tier

⁶ Two states (Arkansas and Louisiana) later repaid most of their debt, presumably in order to resume access to international credit markets at low cost. Florida and Mississippi never repaid, however, but got access as well (English, 1996: 263-265).

governments. The immediate political motivation of the free banking movement and the Free Banking Act of 1838 was a conservative-libertarian backlash against state chartering of banks: government control at state and federal level was resented (Moss and Brennan, 2001: 151, 155-160). The Act allowed banks to enter the market and issue banknotes freely as long as they held loss-absorbing capital of \$100,000 and covered its note issue with high-grade bonds or low risk mortgages to be held with the state's comptroller. The high-grade bonds could initially be federal or any state bond but the list of eligible reserve assets was later narrowed down, disqualifying the bonds of other states. The tight credit conditions that the 100% reserve on bank notes had created made state legislatures keen to get banks privilege their bond issues. A devastating feedback ensued as soon as notes were no longer accepted as a means of payment. When a bank panic started in 1857 because a large life insurance company could not honour its obligations towards New York banks, several of them were unable to redeem the banknotes in specie. Their attempt to sell the high-grade bonds did not help either. The specie price of bonds was bound to fall when everybody rushed to liquidate bonds in order to get specie (Moss and Brennan, 2001: 157). The value of the reserve then dropped below 100%. The fall in bond prices made it less likely that the states could bail out a bank without jeopardizing their own viability, which in turn exacerbated the run on banks.

This experiment of a fiscal union without a central bank was backed by those who favoured devolution of powers and elastic credit (Helleiner, 2003: 123-139; Frieden, 2016: 20). But free entry and large-scale chartering of banks made the expanding union very crisis-prone. Some states sought their own remedies and introduced obligatory insurance for bank liabilities, New York being the front runner in 1829 (Moss and Brennan, 2001: 148-151). This safety fund system, with some variations introduced in six states, insured mostly the bank note issue but also deposits, and combined therefore lender of last resort and deposit guarantee functions (FDIC, 1998: 3-12). Each fund was paid for by contributions from banks, but the state guaranteed the bond issue to set up the fund. Insurance was the pretext for closer supervision, under which banks notably had to hold specified assets as loss-absorbing capital. This insurance system worked reasonably well until the crisis of the 1840s; in such a situation, a state-funded deposit guarantee became quickly overwhelmed. The Single Resolution Fund of the European banking union is one step ahead of these state resolution funds.

A self-fulfilling panic through 'fire sales' can only be stopped by spreading the risk over a larger pool. This requires centralisation, either by backing banknote issues with federal bonds (provided the federation can withstand the troubles of individual states) or by creating a central bank that can act as market-maker with a non-profit motive and deep pockets, buying the bonds (or more generally the reserve asset) and thus stabilising their price in legal tender. Neither was done, however. Instead, 11 states wrote debt restrictions into their constitutions which became the norm of balanced budget rules for all states (Wallis et al., 2004: 27).

These rules amount to a no-bail-out clause for the financial system and it is hardly surprising that the US economy experienced many more bank panics until the Roosevelt reforms to end the Great Depression created the FDIC and turned the Federal Reserve System into a proper central bank.

4. Fiscal discipline and stabilisation

There is a more contested lesson from the EA crisis that concerns the importance of fiscal discipline. The EU is a union of mostly mature welfare states. Governments are expected to provide comparatively robust safety nets to their citizens and to stabilize the economy, not least for business. This makes for inherently soft budget constraints, especially when local levels help finance national public goods (Rodden, 2006: 65). Monetary union was expected to reduce fiscal discipline further because deeper and more integrated financial markets would reduce the cost of financing government debt; hence, the perceived need for fiscal surveillance.

There was indeed a distinct lack of market discipline on public finances although it is worth distinguishing two patterns: capital flows from Northern Europe to Southern Europe sustained high public and current account deficits in Greece and Portugal, on the one hand, but they also fed housing booms and fiscal *surpluses* in Ireland, Spain and to a lesser extent Cyprus, on the other. Once the crisis hit, the socialisation of private debt materialised as liabilities of governments irrespective of the underlying causes. International accounting standards made actual and contingent public liabilities very transparent and arguably exaggerated them.⁷ Market mechanisms – rising interest rate costs and a depressed economy – added rapidly more debt. The Independent Evaluation Office of the IMF criticised the Fund for missing the highly adverse effects of the recession and pro-cyclical fiscal consolidation ('austerity') on growth and the ensuing debt dynamic (IEO, 2016: para's 65-68). Moreover, EU fiscal surveillance does little to dispel the suspicion that rising debt is always a sign of governments not trying hard enough (Mabbett and Schelkle, 2016: 131-136).

It is hard to draw a lesson from the EA crisis for US history here. There is arguably only a non-lesson: the EA fell, at least initially, into an austerity trap that makes every financial crisis appear as a lack of fiscal discipline that calls for more fiscal discipline. The political driver behind this was the attempt of countries like Germany, the Netherlands and Finland but also Slovakia, to push back against any common fiscal safety nets. The US federation evaded this austerity trap and prevented, at the same time, a Greek scenario, which was after all the biggest sovereign bail-out in history. How?

Federal risk-pooling in the US excludes state debt. Since the 1840s, the federal government refused to assume failing state bonds, after it had done so twice with no lasting signs of gratitude from the states (Henning and Kessler, 2012). The resolve of the centre was helped by the fact that "the vast majority of creditors were foreigners" (Rodden, 2006: 63) and quite a few solvent states were opposed to a bailout. While Hamilton saw the assumption of state debt by the federal government as the 'cement' of political union, it was not used on the construction site of the US federation. But for decades afterwards, the exercise of the no bail-

⁷ Mabbett and Schelkle (2016) go through concrete examples of how the fiscal accounting rules treat bank rescue packages and the public sector in a recession.

out norm came at the price of financial panic, with feedback between bank default and a collapse of state finances.

Once modern central banking and the FDIC were in place to bail out the financial system, the federal budget could focus on income stabilization. Twenty years after the legislation for it had been passed, an income tax was finally implemented in the Great Depression. The legislation in 1894 was a triumph for the Progressive movement, which had lobbied the Democratic Party for a redistributive tax to replace tariffs (Steinmo, 1993: 69-77). But the law was ruled unconstitutional by the Supreme Court and could come into effect only once the 16th Amendment allowed the federal government to levy direct taxes that were not apportioned among the states (Sbragia, 2008: 251). This allowed not only redistribution from rich to poor individuals but also redistribution among states. The first income tax levied a 1% tax on incomes above \$3,000 and 6% on income over \$20,000, both catching only a small minority of rich citizens. In the First World War, the top rate rose in quick steps to 77%. The war effort justified these extraordinarily progressive rates (Scheve and Stasavage, 2015). But overt redistribution also immediately engendered lobbying for exemptions, and the revenue from income taxes remained low. Only towards the later stages of the Second World War did the Roosevelt administration succeed in broadening the tax base and introducing modern income and corporation taxes that were, again, surprisingly progressive if low in volume (Steinmo, 1993: 101-102). This laid the foundation for fiscal federalism; until then, "federal funds bulked large ... [only] ... [to] particular states at particular times" (Trescott, 1955: 245).

Fiscal policy in the US is still not complete (Poghosyan et al., 2015: 78; Alcidi et al., 2017: 7, 12, 18). In fact, Hamilton's paradox implies that it should not be complete. Federal taxes are effective in sharing idiosyncratic shocks that hit states. But the negative effect of states on stabilization is well documented for the US, most recently by Follette et al. (2008) and Svec and Kondo (2012). They find that state and local budgets are "modestly procyclical" which weakens comparatively weak automatic stabilisers at the federal level further. Balanced budget rules play a role in forcing state authorities to reducing expenditure in a recession, and they do not resist the temptation to expand in a boom. But since these rules have to be obeyed in most states with respect to budget forecasts, not actual data, sub-national governments have some leeway and can engage in limited countercyclical measures without projecting imbalances. Many state governments also have rainy day funds they can run down in bad times and fill up in good times. Neither fiscal technique seems to be used sufficiently to prevent the pro-cyclicality of subnational budgets. This suggests that states free ride on the stabilising capacity of the centre.

The widespread adoption of pro-cyclical discretionary measures to balance state budgets can be inferred from the study of Dolls et al, (2010: 31-32). Their estimates for the contribution of states to automatic stabilisation in the US suggest that state income taxes could compensate about 5% of the 32% of an income shock and contribute 4% to the 34% compensation of an unemployment shock. But these in-built contributions do not materialise because states neutralise them under the pretext of balanced-budget rules. The comparable figures for the EA are 38.5% of an income shock absorbed on average and 48.5% of an unemployment

shock. While on average higher than in the US, automatic stabilising capacities vary enormously between member states, however.⁸

In the US, the debt and deficit of states are bound to emerge on the federal government's books, given that state legislatures enforce balanced budget rules with authority. If there is a shortfall in severe recessions, the federal administration initiates discretionary stimulus programs, such as a top-up of unemployment insurance, and operates an income tax system that is progressive, that is highly geared for automatic stabilisation. But it comes at the cost of a fiscal illusion, namely that it is always the government in Washington, D.C. that is fiscally lavish. This gives rise to political phenomena like the Tea Party movement. So far, this has not led to a complete obstruction of counter-cyclical stabilisation but rather standoffs in Congress, with temporary shut-downs of the federal administration.

5. Conclusion: Hamilton's paradox extended

Lessons from the euro area crisis reveal political-economic trade-offs from which monetary union cannot escape. They become apparent if one looks at the interfaces of a fiscal federation with financial and monetary integration, rather than at fiscal policy exclusively.⁹

The first lesson asked whether fiscal union should come before monetary union. By looking at the historical evidence of the US, it becomes obvious that the term 'fiscal union', used as a synonym for political union in much of the economic literature, points to two distinct relationships in the political economy of federalism: a fiscal union is linked to political integration and to financial integration.

As regards political integration, it is not clear from the evidence that fiscal before monetary union makes much of a difference in terms of political identification with the federation. Just like the EA, US history is counter-evidence, not supporting evidence, for the idea that state-building will eventually lay to rest fragmentation and factionalism, lead to political identity and convergence on centralized standards (Helleiner, 2003: 100-120; McNamara, 2003: 6-8). Underlying conflicts remain intense. It seems that the notion of political integration that many economists implicitly assume but rarely study needs reconsideration. EA member states engage continuously in creating a common legal sphere, in coordination of their policies and in comparing their achievements and failures in socio-economic policies. This is different from patriotism and nationalism from the bottom-up. But the solidarity extended during the EA crisis manifests itself in the biggest sovereign bailout ever recorded in history as well as stabilization programs that dwarf IMF lending (Schelkle, 2017: 166-174). Much of this solidarity was the by-product of the primary goal of putting firewalls between the crisis

⁸ Among Northern and Western European members, unemployment schemes absorb between 25% and 60% of a shock to employment; this absorption rate goes down to under 10% for Estonia, Greece, Italy and Slovenia (Dolls et al., 2016: 13).

⁹ The notion of interfaces underpins the analytical framework in Schelkle (2017, chapters 3-5 and 7), with which I characterise economic risk sharing in a monetary union generally, the US system, the Maastricht framework as well as the post-crisis policy architecture in the EA.

countries and the guarantor countries, yet it constitutes political integration nevertheless. This was also what constituted the continuous making of political union in the US, an open-ended project in any union of democratic member states. This is the first half of the first lesson.

As regards financial integration, it is clear that the emerging US fiscal union was co-evolving with the financial union. After the Constitution had been adopted, US states chartered note-issuing banks, for reasons of revenue and for reasons of providing means of payment, without a central bank that issued a national currency. Hence, it was the sequencing of *fiscal-financial* and monetary integration in the US that differed from that of the EA. It is tempting to argue that the US federation would have been less susceptible to permanent financial instability if its political engineers had managed to follow the sequencing of the euro area, namely establishing a common currency issued by a central bank first.

This was Hamilton's plan but it was undone by the claims for the member states' sovereignty. I would put the second half of the first lesson for US history more nuanced and argue that there is no inherently best sequence. Fiscal-financial integration before monetary integration, as in the US, seems to lead to frequent boom-bust cycles whereas monetary before fiscal-financial integration seems to stoke up the potential for large systemic crises, as we learned from the EA crisis. Early-warning indicators like exchange rate pressures and foreign exchange rationing have been removed with monetary integration and it remains a research question how macro-prudential supervision can replace these second-best market signals.

The second lesson from the EA crisis concerning the need for fiscal integration was that diabolic loops need circuit breakers (Allard et al., 2015: 229). We saw that the US federation has also been susceptible to diabolic loops. After the wave of state bankruptcies in the 1840s and the New Deal reforms, banking crises in the US tend to be solved by the Federal Reserve and the FDIC, a supervisor with resolution authority, in the first instance, by the Treasury later if the systemic crisis is big enough. The stock of Treasury bonds rather than fiscal flows provide a back-up for the monetary and financial-supervisory authority.¹⁰ The FDIC is invested in Treasury bonds that can be liquidated at low cost when needed. Treasury bonds also provide indemnification to the Federal Reserve when it buys dubious assets in the course of lending-of-last-resort operations. Default of banks is a good part of the longer-term solution. States thus get bailed out, although they also have to make a co-payment in terms of sharing in the costs of bank bail-outs or defaults.

This feature of US risk-pooling points to an alternative to a federal budget for the EA: a monetary union that wants to keep its stabilising properties, built into the welfare states of its members, could establish more targeted re-insurance mechanism for catastrophic risks rather than go for the scatter-gun effects of an EU budget. Just to give an example: a banking license to the European Stability Mechanism (ESM), preferably to be activated only under exceptional

¹⁰ The FDIC is the more robust version of bilateral guarantees for the ESM in the case of the EA. For more details on the FDIC, see the intricate study by Kierkegaard (2015: 53-59). Alcidi et al. (2017: 12) note that the risk-sharing through federal transfers has almost halved in the US since 1990.

circumstances, is such a targeted re-insurance mechanism. This has been discussed but was not pursued because this reform would require a Treaty change, relaxing the prohibition of monetary financing (since the ESM is allowed to buy bonds in primary markets).

There is a trade-off in this second lesson as well, namely between the moral hazard of member states and incentives for excessive risk-taking by banks. Ironically, both unions seem to have made the same choice as regards this trade-off: in the EA, it is the latent threat of a diabolic loop that acts as ‘market discipline’ on fiscal sovereigns, while in the US it is the strict exercise of the no state bail-out. Instead, both polities have bailed out banks repeatedly and on an ever-bigger scale. The latter indicates that incentives for excessive risk-taking work.

The final lesson is about the question of how important fiscal discipline is for the stability of a union: the EA crisis has arguably revealed a political-economic trade-off between financial and cyclical stabilisation. The EA set-up is extremely weak on financial stabilisation, but soft budgets at the member state level can perform better in terms of cyclical stabilisation for the EA as a whole than strictly balanced state budgets with a sizeable federal fiscal capacity in the US (Dolls et al., 2010). It is the other way round in the US, with its sizeable fiscal capacity at the federal level and balanced budget rules at the state level. The lesson that I would draw from this is that hard budget constraints for member states can be implemented only if the federal level can substitute for the foregone public good of income stabilisation at the state level.

The EA policy architecture has thus enshrined the insight of Hamilton’s paradox. The problem for the EA is that there is a self-fulfilling quality to market panic, punishment can be too harsh for some and too easy for others. The externalities of a national crisis can engulf the union as a whole when financial markets become integrated: I am inclined to see a kind of poetic justice in Hamilton’s paradox here. Private entities, like a failing bank, can be subjected to established insolvency procedures, but such procedures do not exist for sovereign insolvency.¹¹ Discretionary and negotiated conditionality has to be applied which is politically much more contentious, as the protests against troika programmes and even US experience with failing municipalities like New York and Washington, D.C. show.

The US has been historically more susceptible to financial instability arguably because it built a fiscal-financial union before a monetary union. A fiscal lender of last resort is less effective at short-term stabilisation because veto players block each other and parliamentary authorisation of support takes time. The no-bail-out clause was already firmly established when a monetary union finally emerged, between 1863 (with the greenback as first national currency) and 1951 (with the Federal Reserve System and Treasury Accord to end bond-buying at an administered interest rate). After financial repression and active macroeconomic management in the early post-war era was abandoned due to its inflationary tendencies, banking crises made a return, however: in the 40-year time span of 1970-2010, the US spent

¹¹ The conspicuous absence of any default options, even when they would be legally feasible and economically desirable, is the core of Sandbu’s explanation of why the EA crisis became so severe (Sandbu, 2015).

more quarters in national banking crises than any European country, in fact more than any other OECD country except Japan and Mexico (Babecký et al., 2012: Figure 2).

This suggests that Hamilton's paradox applies beyond fiscal federalism to financial-fiscal-monetary unions, where state fiscal authorities have banking systems underpinned by a common monetary standard. The extended version could be formulated as follows: *the problem of federations may not be so much that the federal level is weak but that it cannot be credibly weak without exposing the union to systemic financial instability*. In the US, this tends to involve the federal budget, if primarily in the sense of providing Treasury bonds to back up the FDIC and the Federal Reserve. In the EA, the only available central capacity is the ECB with its deep pockets: it was pushed into quasi-fiscal interventions by the inaction of exactly those member states that insisted on the ECB's independence and a narrow price stability mandate (Schelkle, 2012). Historically, the US states resented a central monetary power, in the EA it was central fiscal power that is still contested although a concession has been made with the European Stability Mechanism.

All existing theories of fiscal federalism are problematic in that they are confined to *fiscal* federalism. Jonathan Rodden (2006) goes beyond the Keynesian income flow analysis by Musgrave (1959) and notices that debt finance involves financial markets and their perceptions of implicit guarantees by the centre. But in the tradition of fiscal federalism, he sees the problem of excessive debt only on the demand side of subnational units, not on the supply side of finance. Yet, the lessons from the EA crisis applied to US history provide ample evidence that financial markets were typically a source and rarely the pure victims of fiscal recklessness at lower levels of government. Hamilton's paradox extends to financial markets: while the fiscal centre may tie its hands credibly with respect to lower tiers of government, financial panic may still force its hands with respect to financial markets. In this respect, the two unions with their very different degrees of completion are surprisingly alike.

References

- Alcidi, C., P. D'Imperio and G. Thirion (2017), "Risk-sharing and Consumption-smoothing Patterns in the US and the Euro Area: A comprehensive comparison", CEPS Working Document No. 2017/04, CEPS, Brussels, May.
- Allard, C., J. Bluedorn, F. Bornhorst and D. Furceri (2015), "Lessons from the crisis: Minimal elements for a fiscal union in the euro area", in C. Cottarelli and M. Guerguil (eds), *Designing a European Fiscal Union. Lessons from the experience of fiscal federations*, London and New York: Routledge, pp. 224-251.
- Babecký, J., T. Havránek, J. Matějů, M. Rusnák, K. Šmídková and B. Vašíček (2012), "Banking, Debt, and Currency Crises. Early Warning Indicators for Developed Countries", ECB Working Paper No. 1485, ECB, Frankfurt a.M.
- Bordo, M.D. and D.C. Wheelock (2011), "The Promise and Performance of the Federal Reserve as Lender of Last Resort 1914-1933", NBER Working Paper No. 16763, NBER, Cambridge, MA.
- Broz, J.L. (1997), *The international origins of the Federal Reserve System*, Ithaca, NY and London: Cornell University Press.
- Broz, J.L. (1998), "The origins of central banking: solutions to the free-rider problem", *International Organization* 52(2), pp. 231-268.
- Brunnermeier, M., A. Crockett, C. Goodhart, A.D. Persaud and H.S. Shin (2009), *The Fundamental Principles of Financial Regulation*, Geneva and London: International Center for Monetary and Banking Studies and Centre for Economic Policy Research.
- Cottarelli, C. and M. Guerguil (eds) (2015), *Designing a European Fiscal Union. Lessons from the experience of fiscal federations*, London and New York: Routledge.
- Curry, T. and L. Shibout (2000), "The Cost of the Savings and Loan Crisis: Truth and Consequences", *FDIC Banking Review*, pp. 26-35.
- De Grauwe, P. (2011), "The Governance of a Fragile Eurozone", CEPS Working Document No. 346, CEPS, Brussels.
- De Grauwe, P. and Y. Ji (2013), "Self-fulfilling Crises in the Eurozone: An Empirical Test", *Journal of International Money and Finance* 34, April, pp. 15-36.
- Dolls, M., C. Fuest and A. Peichl (2010), "Automatic Stabilizers and Economic Crisis: US vs. Europe", NBER Working Paper No. 16275, NBER, Cambridge, MA, August.
- Dolls, M., C. Fuest, F. Heinemann and A. Peichl (2016), "Reconciling insurance with market discipline: a blueprint for a European fiscal union", CESifo Working Paper No. 5767, CESifo, Munich, August.
- Enderlein, H., P. Bofinger, L. Boone, P. De Grauwe, J.-C. Piris, J. Pisani-Ferry, M. João Rodrigues, A. Sapir and A. Vitorino (2012), *Completing the Euro. A road map towards fiscal union in Europe*, report of the Tommaso Padoa-Schioppa Group, Notre Europe-Jacques Delors Institute, Berlin.

- English, W.B. (1996), "Understanding the Costs of Sovereign Default: American State Debts in the 1840's", *American Economic Review* 86(1), pp. 259-275.
- European Council (2011), *European Council 16-17 December 2010, Conclusions*, General Secretariat of the Council (www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/118578.pdf).
- FDIC (1998), "A Brief History of Deposit Insurance in the United States", Federal Deposit Insurance Corporation, Washington, D.C., September.
- Follette, G., A. Kusko and B. Lutz (2008), "State and Local Finances and the Macroeconomy: The High-Employment Budget and Fiscal Impetus", Finance and Economics Discussion Series (FEDS), Board of Governors of the Federal Reserve System, Washington, D.C.
- Frieden, J.A. (2015), *Currency politics: the political economy of exchange rate policy*, Princeton, NJ: Princeton University Press.
- Frieden, J.A. (2016), "Lessons for the Euro from early American monetary and financial history", Bruegel essay and lecture series, Bruegel, Brussels.
- Friedman, M. and A.J. Schwartz (1963), *A monetary history of the United States 1867-1960*, Princeton, NJ: Princeton University Press.
- Gaspar, V. (2015), "The Making of a Continental Financial System: Lessons for Europe from Early American History", *Journal of European Integration* 37(7), pp. 847-859.
- Giannini, C. (2011), *The age of central banks*, Cheltenham, UK: Edward Elgar.
- Gros, D. (2013), "Has Austerity Failed in Europe?", Project Syndicate blog, 14 August (www.project-syndicate.org/commentary/how-austerity-has-helped-the-eurozone-periphery-by-daniel-gros).
- Hall, G. and T. Sargent (2014), "Fiscal discriminations in three wars", *Journal of Monetary Economics* 61, pp. 148-166.
- Helleiner, E. (2003), *The making of national money: Territorial currencies in historical perspective*, Ithaca: Cornell University Press.
- Henning, C.R. and M. Kessler (2012), "Fiscal federalism: US history for architects of Europe's fiscal union", Bruegel essay and lecture series, Bruegel, Brussels.
- IEO (2016), "The IMF and the crises in Greece, Ireland, and Portugal: An evaluation by the Independent Evaluation Office", Independent Evaluation Office of the International Monetary Fund, Washington, D.C.
- IMF (2013), "Dancing together? Spillovers, common shocks, and the role of financial and trade linkages", in IMF (ed.), *World Economic Outlook*, IMF, Washington, D.C., pp. 81-111.
- James, H. (2012), *Making the European Monetary Union*, Cambridge, MA: Harvard University Press.
- Jickling, M. and E.V. Murphy (2010), "Who Regulates Whom? An Overview of U.S. Financial Supervision", CRS Report for Congress, 7-5700, Congressional Research Service, Washington, D.C.

- Kierkegaard, J.F. (2015), “Economic governance structures in the United States”, Study for the European Parliament. Directorate-General for International Affairs, PE 542.668, European Parliament, Brussels, October.
- Krugman, P. (2011), “Can Europe be saved?”, Op-ed, *New York Times*, 12 January (www.nytimes.com/2011/01/16/magazine/16Europe-t.html).
- Krugman, P.R. (2013), “Revenge of the Optimum Currency Area”, in D. Acemoglu, J. Parker and M. Woodford (eds), *NBER Macroeconomics Annual 2012*, Vol. 27, pp. 439-448, Chicago, IL: University of Chicago Press.
- Lachman, D. (2017), “Puerto Rico requires IMF-style help”, *The OMFIF Bulletin* (www.omfif.org/analysis/commentary/2017/may/puerto-rico-requires-imf-style-help/?utm_source=OMFIFupdate).
- Mabbett, D. and W. Schelkle (2016), “Searching under the lamp-post: the evolution of fiscal surveillance”, in J. Caporaso and M. Rhodes (eds), *The political and economic dynamics of the Eurozone*, Oxford: Oxford University Press, pp. 122-144.
- Mabbett, D. and W. Schelkle (2017), “Independent or lonely? Central banking with multiple veto-players”, unpublished script, London.
- McNamara, K. (2003), “Making Money: Political Development, the Greenback, and the Euro”, Working Paper PEIF-15, University of California at Berkeley.
- Moss, D.A. and S. Brennan (2001), “Managing Money Risk in Antebellum New York: From Chartered Banking to Free Banking and Beyond”, *Studies in American Political Development* 15, Fall, pp. 138-162.
- Myers, M.G. (1970), *A financial history of the United States*, New York, NY: Columbia University Press.
- Musgrave, R. (1959), *The Theory of Public Finance: A Study in Public Economy*, New York, NY: McGraw-Hill.
- Padoa-Schioppa, T. (2004), *The Euro and its Central Bank: Getting United after the Union*, Cambridge, MA: The MIT Press.
- Poghosyan, T., A. Senhaji and C. Cottarelli (2015), “The role of fiscal transfers in smoothing regional shocks”, in C. Cottarelli and M. Guerguil (eds), *Designing a European Fiscal Union. Lessons from the experience of fiscal federations*, London and New York: Routledge, pp. 60-89.
- Reinhart, C.M. and M.B. Sbrancia (2011), “The liquidation of government debt”, NBER Working Paper No. 16893, NBER, Cambridge, MA.
- Rodden, J. (2006), *Hamilton's Paradox: The Promise and Peril of Fiscal Federalism*, Cambridge: Cambridge University Press.
- Rodden, J. and E. Wibbels (2002), “Beyond the fiction of federalism: macroeconomic management in multi-tiered systems”, *World Politics* 54(4), pp. 494-531.

- Sandbu, M. (2015), *Europe's Orphan: the future of the euro and the politics of debt*, Princeton, NJ: Princeton University Press.
- Sbragia, A. (2008), "American Federalism and Intergovernmental Relations", in S.A. Binder, R.A.W. Rhodes and B.A. Rockman (eds), *The Oxford Handbook of Political Institutions*, Oxford: Oxford University Press, pp. 240-257.
- Schelkle, W. (2012), "European Fiscal Union: From Monetary Back Door to Parliamentary Main Entrance", *CESifo Forum* 1, pp. 28-34.
- Schelkle, W. (2017), *The political economy of monetary solidarity: understanding the euro experiment*, Oxford: Oxford University Press.
- Scheve, K. and D. Stasavage (2015), *Taxing the Rich: A History of Fiscal Fairness in the United States and Europe*, Princeton, NJ: Princeton University Press.
- Steinmo, S. (1993), *Taxation and democracy: Swedish, British, and American approaches to financing the modern state*, New Haven, Ct and London: Yale University Press.
- Svec, J. and A. Kondo (2012), "Fiscal policy cyclicalities and growth within the US States", *B.E. Journal of Macroeconomics* 12(2).
- Sylla, R., J.B. Legler and J.J. Wallis (1987), "Banks and State Public Finance in the New Republic: The United States, 1790-1860", *Journal of Economic History* 47(2), pp. 391-403.
- Todd, W.F. (1994), "Similarities and Dissimilarities in the Collapses of Three State-Chartered Private Deposit Insurance Funds", Federal Reserve Bank of Cleveland Working Paper No. 9411, October.
- Trescott, P.B. (1955), "Federal-State Financial Relations, 1790-1860", *Journal of Economic History* 15(3), pp. 227-245.
- Wallis, J.J., R.E. Sylla and A. Grinath III (2004), "Sovereign Debt and Repudiation: The Emerging-Market Debt Crisis in the U.S. States, 1839-1843", National Bureau of Economic Research Working Paper Series No. 10753, NBER, Cambridge, MA.
- Whelan, K. (2014), "The ECB's Collateral Policy and Its Future as Lender of Last Resort", Note, IP/A/ECON/NT/XXX, Policy Department A: Economic and Scientific Policy, European Parliament, November.
- White, E.N. (2015), "Protecting Financial Stability in the Aftermath of World War I: The Federal Reserve Bank of Atlanta's Dissenting Policy", National Bureau of Economic Research Working Paper Series No. 21341, NBER, Cambridge, MA.



ABOUT CEPS

Founded in Brussels in 1983, CEPS is widely recognised as the most experienced and authoritative think tank operating in the European Union today. CEPS acts as a leading forum for debate on EU affairs, distinguished by its strong in-house research capacity and complemented by an extensive network of partner institutes throughout the world.

Goals

- Carry out state-of-the-art policy research leading to innovative solutions to the challenges facing Europe today
- Maintain the highest standards of academic excellence and unqualified independence
- Act as a forum for discussion among all stakeholders in the European policy process
- Provide a regular flow of authoritative publications offering policy analysis and recommendations

Assets

- Multidisciplinary, multinational & multicultural research team of knowledgeable analysts
- Participation in several research networks, comprising other highly reputable research institutes from throughout Europe, to complement and consolidate CEPS' research expertise and to extend its outreach
- An extensive membership base of some 132 Corporate Members and 118 Institutional Members, which provide expertise and practical experience and act as a sounding board for the feasibility of CEPS policy proposals

Programme Structure

In-house Research Programmes

Economic and Finance
Regulation
Rights
Europe in the World
Energy and Climate Change
Institutions

Independent Research Institutes managed by CEPS

European Capital Markets Institute (ECMI)
European Credit Research Institute (ECRI)
Energy Climate House (ECH)

Research Networks organised by CEPS

European Network of Economic Policy Research Institutes (ENEPRI)
European Policy Institutes Network (EPIN)