Making a Continental Financial System: an American Recipe?

Vítor Gaspar

Policy Lecture at the Conference “Common Challenges in Asia and Europe”, Eltville, 1-2 May 2014, organized by the Deutsche Bundesbank, the Institute for Monetary and Financial Stability, the University of Hamburg and the Bank of Japan.

I thank the organizers and especially Heinz Hermann for the opportunity to deliver the Policy Lecture at this Conference on Common Challenges in Asia and Europe.

I will focus on a specific challenge: continental financial integration. Financial integration is an important driver for trade and political integration. Hence it does fit the overall theme of the Conference: “Common Challenges in Asia and Europe”.

I will use one exemplary story: the building up of the US financial system, in the period 1789 – 1795, when Alexander Hamilton was in office as the first Treasury Secretary.

Alexander Hamilton’s dates are 1755 and 1804. He was born in Charleston, Nevis, in the British West Indies (the Caribean). He died, tragically, after being fatally wounded in a duel with Aaron Burr, then Vice-President. Hamilton was remarkably well read. He knew the work of authors like David Hume and Adam Smith; he was familiar with the financial history of Europe and used the examples of England, France and the Dutch Republic; he knew institutional details with respect to the Bank of Amsterdam, the Bank of England and John Law’s Banque Royale; he quoted relevant facts and figures at great length.

Hamilton is an easy object of analysis. He wrote abundantly. Famously he was the most prolific contributor to the *Federalist Papers.* Even before the *Papers* he set his vision for the US financial system in three well-known letters, written in the beginning of the decade of 1780: two letters (1780 and April 1781) to William Morris and one (September 1780) to James Duane (see Sylla, 2011). As a politician and policy-maker he wrote numerous reports including *On Public Credit* (1790, 1795); *On the Establishment of a National Bank* (1790); *On the Establishment of a Mint* (1791); and *On the Establishment of Manufactures* (1791).

Alexander Hamilton appears as a rare combination of theoretical and practical reason; strategic and tactical thinking; and of audacity and realism. The aim of this Policy Lecture is to learn his recipe to build a Continental Financial System.

Building a Continental Financial System in the aftermath of sovereign debt crises in the euro area is a priority in Europe. Building a Continental Financial System is one of the ambitions of Asian regional integration. Hence it is worth pondering what lessons can be learnt from this experience.

The theme of the Lecture follows on the famous Lecture by Thomas Sargent: the US Then: Europe Now. In his Nobel Lecture, Sargent reflects on US fiscal federalism. He emphasizes early

US history as a learning opportunity for Europe. He focuses on two episodes: the origin of the US fiscal constitution, in the late 1780s, and the State debt crisis of the 1840s. My Lecture focuses instead on a much shorter time period (1789-1795) and looks at broader dimensions of finance. In order to do so I draw extensively on the work by Richard Sylla and co-authors. Harold James (2014) and Russel Kincaid (2014) interpret a much longer period of US financial history.

The Lecture is structured as follows: section 1 looks at Constitutional Politics in the US in the 1780s. Section 2 presents Alexander Hamilton's vision of a modern financial system. Section 3 argues that the initial conditions were, according to standard indicators and analysis, very difficult. Sections 4 and 5 discuss specific actions by Hamilton. We discuss public debt management and crisis management, respectively. In section 6 we conclude.

1. Changing the rules of the political game.

The challenge of building up US Public Finances was daunting. The main problem was to ensure the service of debt accumulated during the War of Independence. At the end of 1789 total debt in the US (federal and state) amounted to about $80 million (about 40% of GDP). Roughly speaking about 1/3 was States' debt and the remainder federal. In his *First Report on Public Credit*, Alexander Hamilton estimates the contractual interest rates as amounting to $4.6 million. Such amount compares with total operating expenditures of federal government estimates at $0.6 million.

In 1789 the US was, in fact, in bankruptcy. Bonds were perpetual debts (called consols). Therefore, bankruptcy corresponded to the accumulation of interest arrears. Principal debt corresponded to bonds called "continental certificates" while accumulated interest arrears were named "indents". In 1789 these bonds traded at heavy discounts. At the lowest point the market value was about 20% for continental certificates and 12.5% for indents. To have a term for comparison the minimum market value for Greek 10-year bonds, in mid 2012, was about 15%. During the War of Independence, Congress also issued paper currency. Credibility was further undermined by the dramatic depreciation of paper money.

The situation in the 1780s still reflected the experience under the Articles of the Confederation. Congress had the authority to incur debts. And, as explained in *Federalist* 30, the means to service these responsibilities were supposed to be provided by the States. However, the requests from Congress were left unfulfilled by the States. The system in place was not effective. No State met its obligations in full; some did not comply at all or nearly so; and there is even at least one example of explicit refusal to comply (New Jersey). It was also the case that the attempt at reaching agreement for Congress to launch general taxation failed. The specific proposal was to launch a general import duty, whose revenue would be fully devoted to debt service. The proposal to amend the Articles of the Confederation for this effect failed (first in 1781, vetoed by Rhode Island in 1782, and, second, in 1783, vetoed by New York). The proponent of these initiatives, Robert Morris, eventually resigned in 1784.

Hence it was clear at the launch of the Pennsylvania Convention that the framework of the Articles of the Confederation left the debt accumulated during the War of Independence, for all practical purposes, unfunded. Congress did not have the power to tax. The inability to mobilize adequate revenue, to ensure debt service, translated into the deep discounts reported above.

The problem is political *and* financial. As much is clearly stated in *Federalist* 30:

> "Money is with propriety considered a vital principle of the body politic (…) From a deficiency in this particulars, one of two evils must ensue: either the people must be subject to continual plunder (…) or the government must sink into fatal atrophy and in a short course of time must perish (…)
>
> (…) to depend upon a government that must itself depend upon thirteen others for the means of fulfilling its contracts, when once its situation is clearly understood, would require a degree of credulity, not to be often met in the pecuniary transactions of mankind, and little reconcilable with the usual sharp-sightedness of avarice."

The political solution involved having the 1788 Constitution substituting for the Articles of the Confederation. The US Constitution:

(a) Strengthened the ability of federal government to tax; and confirmed the ability of federal government to use Public Credit (Article 1, Section 8, Clauses 1 and 2).

(b) Gave the central government exclusive competence to regulate external trade and interstate commerce (Article 1, Section 8, Clause 3; "the commerce clause").

That was appropriate from the viewpoint of Public Finances as government revenue was – in the late XVIII century – dominated by tariffs. To use an expression of Richard Sylla's the 1788 Constitution created the "Constitutional Theater" where Alexander Hamilton acted as first US Treasury Secretary. The Constitution made available the tools that would later be used by Government (Sargent (2012)). The way this was done is the subject of what follows. Before doing so, next section will characterize his financial program.

2. Alexander Hamilton's Financial Program.

Sylla (2009) and Sylla, Wrigth and Cowen (2009) characterize a modern financial system as having six main elements: first, stable and sustainable public finances and competent public debt management; second, a stable currency; third, a central bank; fourth, a banking system; fifth, securities markets; and sixth, a process for incorporation of financial and non-financial businesses. Sylla (2014) refers that these components were in place in the Dutch Republic early in the XVII century and that England introduce them shortly after the Glorious Revolution of 1688. These examples were known in the US. Alexander Hamilton referred to them with some frequency.

Sylla (2011) also documents that all of this information is contained in three letters that Hamilton wrote: two in 1780 (Robert Morris and James Duane) and 1781 (again to Robert Morris). These letters reveal a profound knowledge of financial history and institutions. According to the biography written by Ron Chernow (Chernow, 2004) Hamilton studied numerous authors including William Blackstone, Thomas Hobbes, Hugo Grotius, Samuel Pufendorf, John Locke, Malachy Postlethwaite, David Hume, Richard Price, and Adam Smith. It is clear from those writings that we was as impressed with the successful Dutch and British Financial Revolutions as he was with the demise of John Law's schemes in France. The latter experience may have been decisive for the First Treasury Secretary's acute sense of the importance of trust and stability in finance. From all of this Hamilton concluded that finance was key to state power and economic prosperity. The quote above clearly illustrates the link between Public Finances and State power. The importance of finance is made clear the *Third Letter:*

"Most commercial nations have found it necessary to institute banks; and they have proved to be the happiest engines that ever were invented for advancing trade. Venice, Genoa, Hamburg, Holland, and England are examples of their utility. They owe their riches, commerce, and the figure they have made at different periods, in a great degree to this source."

When Alexander Hamilton started his tenure as Secretary of the Treasury none of the six elements, used by Sylla and co-authors to characterize a modern financial system, was in place. As we have seen in section one the Treasury was bankrupt. When he left the Treasury all six components were in working order.

Rosseau and Sylla (1999) report estimates of average annual growth in *per capita* GDP, in the US, in the period 1790-1806 that of about 1.5%. This result must be put in perspective. First it is important to recall that growth rates in *per capita* income before 1800 were about zero. Second, growth in *per capita* income in the US has been persistently on a positive trend from 1790 onwards. These authors (1999) argue for a causal link between finance and growth in early US history. In Rosseau and Sylla (2001) they widen the analysis to a panel of seventeen countries, in the period from 1850 to 1997. They especially examine the examples of the Dutch Republic, England, France, Germany and Japan. The authors suggest the possibility that both growth and globalization may have been "finance led". That would be in line with Hamilton's claim about: "banks … as the happiest engines ever invented to advance trade."

3. A Challenging beginning.

The Treasury Department was created in September 1789. It immediately got a mandate from Congress to prepare proposals to restore and maintain public credit. The urgency is clear the *First Report on Public Credit* was presented in January 1790. One crucial first question was: why pay for the public debt? why not default?

The answer can be given at various levels. They are all present, in different, forms in the first *Report*.

First, at a very general level, public credit is a cornerstone of public finances and of financial development. Hence it is vital for political government. It is also key for economic activity, that is for trade, manufacturing and farming, and, therefore, for economic prosperity. These points were systemically articulated. The structure of the argument is very close to that followed in recent research by Christoph Trebesch and co-authors.

Second, the debt was accumulated to finance the War of Independence. From the viewpoint of the United States that was clearly a common good. Today we would label it a pure public (or collective) good. Therefore, the case for honoring the debt was strong on grounds of political (collective) cohesion.

Third, Hamilton was persuaded that the political coalition necessary to foster financial development involved the State and moneyed people. The latter were the main creditors of Congress. The viability of political support required an outcome compatible with the interests of creditors.

In section 1 we have already documented that the US Constitution provided Federal Government with the powers necessary to fund public debt. Congress immediately approved a national tax, along the lines of the proposals that were blocked under the Articles of the Confederation. Nevertheless, the starting conditions were dire.

In *The First Report on Public Credit*, the interests due (annually) under contractual arrangements were estimated at $4.6 million. In 1790, the first complete year of operation of the new Constitution, total tax revenues came in at $1.64 million (Sylla, 2011). Total operating expenses of the government amounted to $0.825 million. So it turned out that tax revenues, while about twice operating expenditures, were only about 1/3 of interest payments due. We have already reported that when Hamilton took office the US was in default in its internal and international debt. It was accumulating interest arrears. Sylla (2011) further reports that in March 1790 Alexander Hamilton informed the President that the US Treasury did not have enough funds to honor current expenditures and interest payments on Dutch loans. Authorization for a new $ 100000 loan was sought. Within two days Washington authorized the loan. The Federal Government was, in 1790, operating hand-to-mouth.

It was very difficult to establish trust and credibility. Nevertheless, from September 1789, when he took office, to March 1790, when the Dutch loan was obtained, the second market quote of Continental certificates and indents recovered substantially. The increase was from about 0.25 to 0.40 for the Continental certificates and from about 0.15 to 0.30 for indents. The secondary market discounts quickly diminished after that. How did he do it?

4. Hamilon’s debt management strategy.

Hamilton’s debt management strategy aimed, first and foremost, at expectations’ management. It was based on two main elements: A market-based debt service reduction scheme (see Garber, 1991) and a Sinking Fund.

US debt was dominated, as was frequently the case in the XVIII century, by consolidated perpetual annuities (consols). Consols, as the name indicates, paid a percentage of their face value forever. The government, however, had the option to redeem, at any time, the consol at face value. That allowed the government to benefit from falling interest rates. If success in generating expectations of falling interest rates (increasing bond prices) was obtained he could implement his market based public debt reduction scheme. The idea is that by paying more than expected on existing debt he would generate prospective savings that would more than compensate the costs.

Hamilton proposed to pay foreign debt in full. Surprisingly this was not controversial. However, as Garber reports, even in the case of foreign debt he did not allow for compound interest to apply to interest rate arrears. According to estimates in Garber (1991) the value saved as of January 1, 1790 represented about 2.3% of the total of foreign debt.

For internal debt the proposals and debated options were much richer (see Sylla, 2011 for a summary presentation and Garber, 1991, for the details). In the end the Funding Act, of August 1790, provided that domestic debt could be converted, under prescribed conditions, into new domestic debt instruments. The new bonds were 6% coupon bonds (the 6s); 6% coupon bonds with interest payments deferred 10 years (the deferred) and 3% coupon bonds (3s). The new bonds paid interest quarterly. The conversion offer treated principal and interest differently. For the principal the offer was conversion at par into 2/3 6s and 1/3 deferred. For interest arrears the conversion was at par into 3s. There were specific provisions for the conversion of the debts of the States. The details are of no particular relevance for the line pursued in this paper.

Garber documents that the market value of the offer was significantly below par. Hence there was a substantial reduction in net present value US Treasury liabilities. On the same vein, Sylla shows that interest payments were reduced from about $4.6 million to $3.6 million. This was a substantial reduction.

The operation was very successful. At the end of 1794, when Hamilton was close to depart from the Treasury, 98% of domestic debt had been voluntarily converted. However the take up was gradual over time. By September 1791 only about $30 million in bonds had been converted. The response in bond market prices was much quicker.

A very important element of the plan was the *Sinking Fund*. The Fund would benefit from revenue originating from the operation of the Post Office. In the *First Report on Public Credit* the current revenue generated by the Post Office is estimated at $100000. It is further asserted that the sum is likely to considerably grow over time. Hence the Fund benefited from an important and reliable source of funding. The main ostensive argument for the Sinking Fund was the need to repay (to extinguish) public debt. However, the *Sinking Fund* could also use loans. That provided the Fund with considerable flexibility.

Therefore, the Sinking Fund was able to play three very important (and related) roles: first, to anchor expectations on a regime where Treasuries were properly funded; second, to accelerate the transition (increase) in bond prices to their new fundamental value ("true standard); and, third, to provide the Treasury with an effective instrument for bond market

stabilization in case of disturbances. The latter role was not yet made explicit. It became clear through the actions of the Sinking Fund in stopping the financial panics of 1791 and, more clearly and importantly, 1792.

5. How did Hamilton restore financial stability in the face of financial panic?

The success of the plan and the rapid development of financial markets and financial organizations led, in 1792, to a dangerous threat to financial stability. In a letter to William Seton, in early 1792, Hamilton expresses his grave concern with developments in observes in securities' markets: "these extravagant sallies of speculation do injury to the government and to the whole system of public credit." Given that bond prices peaked in February 1792, a few weeks after the letter was written, the episode testifies how closely and accurately Hamilton observed financial market developments. Already in 1791 there had been a financial disturbance in August-September. The 1791 disturbance was associated with speculation in banks' stock. In that context the *Sinking Fund* was used to stabilize bond markets.

However, it is the panic of 1792 that provides the paradigmatic example. Sylla, Wright and Cowen (2009) argue that these actions anticipate the classical lender of last resort doctrine.

The classical function of lender of last resort was articulated by Thornton (1802) and Bagehot (1873). An excellent presentation is Humphrey (1992). The lender of last resort function aims at protecting the financial system as a whole. It does not aim to save individual organizations. Only illiquid but solvent corporations are eligible for lender of last resort assistance. Insolvent entities should fail. The balance sheet and financial integrity of the liquidity provided are protected by adequate collateral. According to the doctrine liquidity, through the lender of last resort function, should be available only at penalty rates.

In letters to William Setton, Hamilton defends the provision of very large amounts of liquid funds. Those liquid funds should be made available against the pledging of good collateral. The cost of funding suggested was 7 per cent (that was the ceiling fixed in usury laws). Hence the interpretation of Sylla et al. that Hamilton was an early practitioner of the lender of last resort doctrine.

But there is an interesting question. What assets were identified as sound collateral? In the letter quoted in Sylla et al (2009), Hamilton lists the 6s, the 3s and the deferred as the appropriate assets for the purpose. He suggests that the 6s should be accepted as collateral at par, the 3s should be accepted at 50% of nominal value and the deferred at 60%. These values are below but close to the market prices that were to prevail in April 1792 (but clearly below those that had prevailed in early March). Sylla et al. also quote a remarkably clear message to William Seton where he urges the Bank of New York to ponder "how much more can be done in favor of parties who can pledge *Public Stock* as collateral security. This security of credit you are sure is a good one." It is hard to think how a case for US Treasuries as safe and liquid assets could be made more emphatically. Perceptions of what are safe and liquid assets act as

cornerstones in financial structures. Perceptions and expectations of assets as safe are shaped under financial stress. Hamilton used the 1792 crisis to promote the emergence of US bonds as the ultimate safe and liquidity asset: a safe haven in times of distress.

There is another important point worth repeating. Alexander Hamilton was concerned with the stability of the system: “these extravagant sallies of speculation do injury to the government and to the whole system of public credit.” Financial instability threatened the whole edifice that was being built. The economic consequences of financial instability are so far-reaching that they fundamentally influence the effects of financial systems on economic performance. These effects, in turn, have broader political consequences.

6. Lessons for Building a Continental Financial System in Europe and Asia.

The first lesson to be drawn is that politics, finance and fiscal policy are co-determined and co-evolutionary. The process must be conceived and executed in a systemic way. What can be achieved in one dimension is determined simultaneously with the other two.

The US is a monetary union backed by a well-integrated financial system and federal public finances. The euro area is an international monetary union backed by national (political) responsibility for fiscal sustainability. In the sovereign debt crisis in the euro area, financial fragmentation substituted for financial integration. Since mid-2012 the trend of financial disintegration was inverted. Europe is on its way to creating a banking union and a financial union.

The process of European integration has been driven to a very large extent by economic integration. The Single Market and the Single currency are its most emblematic realizations. The European Union provides a pole of attraction and a role model favoring peace, democracy and human rights. Specifically it shows the possibility of effective application of international law.

The process in Asia is less advanced. Clearly an original question is to determine whether there is political will to launch a finance-led process of political integration and trade integration. In any case the model of integration based on strong national autonomy and the effective application of international law offers the promising way forward (assuming political will). In other words Asia will only build a continental financial system if there is sufficient political capital to back it up. If political capital is lacking, Asia will follow less deep, less demanding forms of international integration.

Both the Asian Crisis of the late 1990s and the sovereign debt crises in the euro area show the interaction between fiscal policy, finance and politics in a less favorable light.

The second lesson is that there is a strong case to give priority to public credit. There is a strong case to pay the public debt. The case is based on political, public finance and also on

broader economic and financial arguments. The arguments put forward by Hamilton are in line with the implications of recent empirical research.

To my mind this lesson is very general. It applies at the national level. It is also a pre-condition for successful financial integration.

The third lesson is that the fundamental foundation of Public Credit requires fiscal sustainability. In the US that required the US Constitution to substitute for the Articles of the Confederation.

In the euro area after the failure of euro area governance to prevent the crisis very significant progress was achieved. First the fiscal governance of the euro area has been strengthened through the adoption of important EU legal acts (the six pack and the two pack). Second, and more importantly, in parallel, member states have also adopted the fiscal compact. Broadly speaking the rules in the Fiscal Compact are in line with the six pack. The important difference is that the Fiscal Compact aims at internalizing the European constraints into national governance frameworks. This aspect is decisive. In Europe politics are dominated by the fundamental principle of the dominance of the national dimension of politics. Hence European rules can only be fully effective once subsumed in the national frameworks.

The European rules prescribe a fiscal position close to balance or in surplus over the medium term. The effective operation of such rule ensures a slowly declining public debt to GDP ratio (assuming positive nominal growth of GDP over the medium term). Fiscal sustainability is guaranteed by compliance with European rules. Nevertheless it is sobering to recall that government bankruptcy in the early years of the US had, at its root, political behavior not in line with the letter of the Articles of the Confederation. At the end of the day the responsibility has to be national: in accordance with the principle of the primacy of the national dimension of politics.

Clearly it is possible to deny the primacy of the national dimension of politics and to advocate centralization. However it seems to me that centralization is neither desirable nor feasible.

In Asia fiscal sustainability is a national issue. In the context of the Global Crisis the comparatively strong performance of advanced Asian economies benefited from the strong macroeconomic fundamentals accumulated before 2007. That provided precious room for macroeconomic stabilization policies to play their role. In particular, significant structural primary surpluses allowed for sufficient fiscal space.

The fourth lesson is that smooth and quick transition requires active and skillful management. This is particularly so given the importance of perceptions and expectations. The transition must be so managed that perverse equilibrium paths are avoided.

In Europe financial support has been made available through the EFSF /ESM. There is the SRF (with the ESM as backstop). These financial support mechanisms have their regulatory and supervisory counterparts in the SSM, the BRRD, and the SRM. The ECB has also signaled that "Within our mandate, the ECB is ready to do whatever it takes to preserve the euro" and Mario Draghi, the President of the ECB added, "and believe me it will be enough." The ECB announcement came in July 2012. One month after, Heads of State or Government reached a

political agreement on deeper Economic and Monetary Union. Since August 2012 quick progress has been achieved. In the autumn of 2013, the catastrophic risk associated with euro area fragmentation was no longer a salient concern for global investors. The acute stage of the euro area crisis seems to be behind us.

Nevertheless a transition is never complete before the new framework is capable to prevent accidents and to minimize their effects in case they occur.

That leads to the **fifth lesson**, given that it is always possible that accidents will happen public finance and the financial system must be robust and resilient. The institutional framework underpinning budgetary discipline and financial stability must be designed so as to be able to stem episodes of financial panic and to exclude perverse self-fulfilling equilibria. Alexander Hamilton proved more than equal to the task during the financial panic of 1792.

In 2009-2010, the euro area was not prepared for sovereign debt crises in the euro area. The euro area was unable to prevent financial fragmentation and negative sovereign – bank credit risk negative feedback loops. Much progress has been made. But the job is not yet done.

It is also important to bear in mind that financial transitions are dangerous moments. Liberalization and opening of financial systems is often associated with exuberance and excess. The local connection between politics and finance adds up complexity. Financial crises, especially when associated with balance sheet vulnerability, have very long lasting consequences, spanning generations. Therefore the ability to maintain financial stability is key for the long run consequences of financial architectures. Transition risks have also to be pondered. This is particularly important when building continental financial systems.

In the end, it is clear there is no recipe for baking a Continental Financial System. Institution building requires deep understanding of the specifics of the particular case.

To conclude: For Europeans, the most inspiring message may well be:

"Whoever considers the nature of our government with discernment will see that though obstacles and delays will frequently stand in the way of the adoption of good measures, yet when once adopted, they are likely to be stable and permanent. It will be far more difficult to *undo* than *to do.*"*Gazette of the United States,* September 1, 1790.

Paraphrasing Thomas Sargent: That may well have been true of the US then and it is certainly true for Europe now.

REFERENCES

Bagehot, W., 1873, *Lombard Street*, London: H.S. King in *The Collected Works of Walter Bagehot,* volume nine, edited N. St. John-Stevas, London: The Economist.

Chernow, Ron, 2004, *Alexander Hamilton,* Penguin Books.

Cruces, Juan J. and Christoph Trebesch, 2013, Sovereign Defaults: The Price of Haircuts, *American Economic Journal: Macroeconomics*, 5 (3), pp 85-117.

Garber, Peter, 1991, Alexander Hamilton's Market Based Debt Reduction Plan, *NBER Working Paper* 3597, January.

Hamilton, Alexander, 1780, Letter to Robert Morris, *First Letter,* Available from Alexander Hamilton, 1904, *The Works of Alexander Hamilton,* volume III, ed.Henry Cabot Lodge (Federal Edition), New York: G.P. Putnam's Sons.

Hamilton, Alexander, 1780, Letter to James Duane, dated September 3, *Second Letter,* Available from Alexander Hamilton, 1904, *The Works of Alexander Hamilton,* volume I, ed.Henry Cabot Lodge (Federal Edition), New York: G.P. Putnam's Sons.

Hamilton, Alexander, 1781, Letter to Robert Morris dated April 30, *Third Letter,* Available from Alexander Hamilton, 1904, *The Works of Alexander Hamilton,* volume III, ed.Henry Cabot Lodge (Federal Edition), New York: G.P. Putnam's Sons.

Humphrey, T., 1992, Lender of Last Resort, in P.Newman, M. Milgate and J. Eatwell (eds.), *The New Palgrave Dictionary of Money & Finance,* London: Macmillan.

Kincaid, Russel, 2014, Comments on Vitor Gaspar's paper, "The Making of a Continental Financial System: Lessons For Europe from Early American History"

James, Harold, 2014, U.S. Precedents for Europe, mimeo, to appear in a Federal Reserve of Cleveland Conference Volume edited by Owen Humpage.

Sargent, Thomas, 2012, United States Then, Europe Now, *Nobel Lecture,* Chapter 10 in Thomas Sargent, 2013, *Rational Expectations and Inflation,* Third Edition, Princeton: Princeton University Press.

Sylla, Richard, 2011, Financial Foundations: Public Credit, the National Bank, and Securities Markets, in Douglas Irwin and Richard Sylla (eds.), *Founding Choices: American Economic Policy in the 1790s,* Chicago: University of Chicago Press.

Sylla, Richard, 2014, Early US Struggles with Fiscal Federalism: Lessons for Europe?, *Comparative Economic Studies,* pp. 1-19.

Sylla, Richard, Robert Wrigth and David Cowen, 2009, Central Banker: Crisis Management during the Financial Panic of 1792, *Business History Review,* Spring, pp. 61-86.

Thornton, H., 1802, *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain,* F. von Hayek, (ed.) London: George Allen & Unwin, 1939.

Trebesch, Christoph, 2011, Sovereign Default and Crisis Resolution, Ph.D. Dissertation, Free University of Berlin.