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MONEY MATTERS: THE LAW, ECONOMICS, AND POLITICS OF
CURRENCY

A Comment on Richard Sylla's Political Economy of Supplying Money to a Growing Economy

A Comment on: "Political Economy of Supplying Money to a Growing Economy: Monetary
Regimes and the Search for an Anchor to Stabilize the Value of Money" by Richard Sylla.

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A Comment on Richard Sylla's *Political Economy of Supplying Money to a Growing Economy*

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Professor Sylla's article¹ notes the complete debasement of currency worldwide during the second millennium. One might call it the Millennium of Debasement (the "Great Debasement" is already reserved to Henry VIII's activity). Virtually all the money in the world consisted of commodities in the year 1000 CE, but today essentially all the money in the world does *not* consist of commodities. It exists as paper, token coins, or computer entries. Why did it happen? The author's answer is economic growth. That is the theme of his 1982 papers,² where the effect of growth on the form of money was demonstrated with the American story. The current article expands on that in both time and space, considering the entire second millennium and adding countries such as Italy and France. It also considers new aspects of the problem.

I. CONTRIBUTIONS

The general contribution of the 1982 papers, and even more so of the current article, is the substantive and methodological integration of monetary history with other fields.

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1 Richard Sylla, *Political Economy of Supplying Money to a Growing Economy: Monetary Regimes and the Search for an Anchor to Stabilize the Value of Money*, 11 THEORETICAL INQUIRIES L. 1 (2010).

2 Richard Sylla, *Monetary Innovation in America*, 42 J. ECON. HIST. 21 (1982); Richard Sylla, *Monetary Innovation and Crises in American Economic History*, in *CRISES IN THE ECONOMIC AND FINANCIAL STRUCTURE* 23 (Paul Wachtel ed., 1982).

A. Monetary History and Growth History

In his 1982 papers the author discussed how growth changed money. Later the author emphasized the reverse causality, namely the fact that money causes growth.³ Money is just one component in the theory of finance-led growth, which goes back at least to Rondo Cameron's work.⁴ That theory argues that the existence and proper functioning of money, commercial banks, a central bank, insurance companies, public debt and a stock market, are essential for modern economic growth. Note, however, that commercial banks and a central bank are intimately related to money, while insurance contracts, public debt, and stocks pay money. Money is the foundation on which the entire financial system stands. In the current article the author offers a synthesis of the two-way causality between money and economic growth.

Table 1 in Professor Sylla's article shows the exponential growth in production and population during the last millennium. The monetary facts provided throughout the article imply a similar exponential curve, showing the percentage of non-commodity money in the worldwide money supply throughout the millennium. Figure 1 shows a rough artist's impression of how such a curve might look like if someone did the exact calculation. It shows the increasingly frequent experiments with money that was neither a commodity nor fully backed by one: the Chinese paper money, the Italian banks and their spread throughout Europe, and Henry VIII's Great Debasement. Skyrocketing proliferation came later, following the introduction of paper money in America and its worldwide diffusion. Dramatic steps in 1933 and 1971 led us to the upper bound, in which 100 percent of the money supply is *not* commodity-based.

The article not only documents this process, but also relates it in a two-way causality to the exponential growth in production and population. It is no coincidence that both figures share an exponential shape. The article claims further that the causality runs both ways, not only in the trend, but also in the fluctuations. For example, an excessive printing of paper money can cause an economic boom. When it all collapses the paper money becomes valueless (leading to a lower point in Figure 1), and a recession soon follows.

3 Richard Sylla, *Financial Systems and Economic Modernization*, 62 J. ECON. HIST. 277 (2002).

4 RONDO E. CAMERON, OLGA CRISP, HUGH T. PATRICK & RICHARD TILLY, *BANKING IN THE EARLY STAGES OF INDUSTRIALIZATION: A STUDY OF COMPARATIVE ECONOMIC HISTORY* (1967).

B. Long Run and Short Run in Monetary History

Macroeconomics distinguishes between the long-term trend of production (economic growth) and its short-term fluctuations (business cycles). The author does something similar here in distinguishing between the long-term trend and the short-term fluctuations in the percentage of non-commodity money. The long-term trend is one of debasement. The short-term fluctuations are occasional debasements by kings, establishments and collapses of various fractional reserve banks, suspensions and resumptions of paper money's convertibility, hyperinflations and stabilizations, and bubbles and crashes such as that of John Law's system.

Moreover, macroeconomists distinguish between the causes of the long-term trend and the causes of the short-term fluctuations in production. The trend is attributed to factors like technological innovation and capital accumulation, while the fluctuations are attributed to completely different factors: natural disasters (mostly in the distant past) and financial crises (mostly in modern times). In fact, the analyses of growth and business cycles are considered two different subfields within the field of macroeconomics. Professor Sylla makes a similar distinction regarding money. The trend in money is attributed to economics (growth), while the short-term fluctuations are attributed mostly to politics. The latter applies not only to deviations above the trend, as in the emergency issue of unbacked paper money or debased coin during war, but also to deviations below the trend, as in the closure of the Banks of the United States.

This distinction between the long run and short run is of the utmost importance. Looking just at the isolated wartime episodes of debasement or inflation, one could easily conclude that politics alone is to blame. But if wars and other such temporary crises were the whole story, why is there a *trend* of long-term debasement? Why aren't we always back to the prewar monetary standard? The author provides a very appealing answer.

C. Monetary History and Innovation History

Economists no longer treat technological innovation as an exogenous process. Rather, they treat it as just another economic activity, driven by profit maximization. In his 1982 papers, Professor Sylla was the first to show that this is true not just for innovation in consumer goods and producer goods, but also for innovation in money. He asked questions typical of the economic literature on the history of technological innovations: Why was a new type of money invented? Why at that time? Why in that place? Why

not elsewhere? How did it diffuse to other places? In the current article he continues using the methodology of technological innovations and provides improved answers to these questions.

II. NATURE OF THE TRANSITION

There are two troubling facts about the nature of the transition from commodity money to fiat money: it was not smooth and it was not honest. Might this cast doubt on the author's hypothesis? First, one can imagine a gradual, smooth debasement in which the economy moves according to the metal pecking order following increases in production and population. Suppose we start with gold coins. When the increase in the supply of gold does not keep up with economic growth and increasing population, the result is deflation. Coins become too valuable to be used on a daily basis. Their fractions are physically too small to be used (think of diamonds today). Then the government can create gold coins mixed with, say, silver, and again there will be coins of the right size with the right value. Over time, the content will change further towards copper and even iron. While some debasements clearly followed such a pattern, the Chinese government jumped all the way from gold to paper money and Italian banks "debased" their coin by fractional reserve banking. One could argue that paper had the advantage of low transport costs, but I can still imagine an economy with circulating paper money which is fully backed by coins while the content of the coins in the vault smoothly shifts from gold to iron as time goes by. So why wasn't the change always gradual and smooth?

The second problem is that the long-term debasement proceeded by cheating most of the time. Debasing kings returned less precious metal than they took from their subjects; bank depositors did not know at first that their coins were lent to others (fractional reserve banking); note holders did not always expect suspensions of convertibility and were clearly cheated in hyperinflations, and the same goes for the final breaths of gold in 1933 and 1971. Was that inevitable?

These two unfortunate aspects of the millennium-long transition do *not* contradict Professor Sylla's theory. They can be attributed to short-term emergencies, such as wars and the Great Depression. As the author already noted in 1982, such emergencies forced potential money inventors to innovate in a way that would maximize their profits. This typically required drastic changes in the intrinsic value of money and keeping much of the money's value in the hands of the innovators. The long-term growth in

production and population tended to make such debasements beneficial for monetary exchange and thus made them irreversible.

III. MONETARY INNOVATION IN EARLY AMERICA

My own research has been very much inspired by the author's 1982 papers. I would like to note here some of the substantive and methodological ways in which I have profited from, and elaborated on, that work in the hope that more researchers will follow. In the process, I will also enrich the picture that the author gives here of early America.

First, I have tried to push further the use of innovation methodology. I have tracked the invention and diffusion of the revolutionary and risky idea of issuing public paper money which lacks sound backing *at the moment of issue*. Note that this includes not only fiat moneys, but also some moneys which carry a questionable promise of convertibility. I found that this idea followed the most generic story of technological innovations: a first invention in China; later independent inventions in Europe which did not catch on; a French invention which did catch on; a quick critical revision by Englishmen, which gained more fame than the French invention; and, finally, diffusion to the rest of the world. Many other issues in the analysis profited from the methods and ideas of the innovation literature: macro-inventions vs. micro-inventions, the nature of prototypes, the role of war in promoting innovation, etc.⁵

The only important difference from the generic story is that those Frenchmen and Englishmen — those whose inventions persisted and spread — lived in American colonies. Quebec improvised paper money from playing cards in 1685. That money involved a questionable promise of convertibility and was used on and off until the British occupation eight decades later.⁶ In 1690, Massachusetts modified that idea to circumstances

⁵ The generic story can be found in ABBOTT P. USHER, *A HISTORY OF MECHANICAL INVENTIONS* (1954), and JOEL MOKYR, *THE LEVER OF RICHES: TECHNOLOGICAL CREATIVITY AND ECONOMIC PROGRESS* (1990). The monetary story is told in Dror Goldberg, *The Inventions and Diffusion of Hyperinflatable Currency* (Bar Ilan Univ. Dep't of Econ., Working Paper No. 2009-06, 2009), available at <http://www.biu.ac.il/soc/ec/wp/2009-06.pdf>.

⁶ There are unexploited research opportunities with Canadian data, compared with the English colonies whose data may already have been thoroughly utilized by economic historians. Canada is interesting also because it has always been a bridge between Europe and the colonies which became the United States. All the relevant official documents were translated into English in ADAM SHORTT, *DOCUMENTS RELATING*

that made a promise of convertibility entirely not credible. That money also lasted for decades, and spread to the other English colonies in America.

Why did America — both English and French — excel so much in paper money? Professor Sylla argues that the coin shortage was very severe. To this I would like to add, first, the distance from the mint-envy of kings, who were too busy to really pay attention and effectively supervise new moneys in their less important colonies (the Caribbean islands were far more important than North America in the seventeenth century). Second, paper money is a highly risky business, and only people not very averse to risk immigrated to the wilderness of the New World in the seventeenth century. Compared with the other risks they faced, replacing real money with paper money was not such a big deal as it was for the Europeans who stayed behind.

The author noted in 1982 how quickly colonial Massachusetts moved from commodity money to Native "coinage" to English coinage to fiat money. It all happened between 1630 and 1690. One could say that the monetary history of Massachusetts squeezed 6000 years of humanity's monetary development into 60 years. I would like to add that the colony did not even skip banking in this speedy progress towards modern currency. A scheme for a private land bank was launched in 1686, shortly after England shut down the Boston mint. People were supposed to deposit their title to land and get a loan of small denomination paper money in return. The scheme involved the colony's leaders in their private capacity, which explains why the notes were even given legal tender status. It collapsed in 1688, but only because a new royal governor invalidated all the land titles — the same titles which were supposed to be the foundation of the bank.⁷ This was a decade before England itself saw its first operational land banks.

The colonists, it turns out, really exhausted all options and arrived at fiat money only as a last resort, after England shut down both their mint and their bank. Even when issuing fiat money, the colonists had to disguise it from England as a standard, convertible IOU. The local elite thus maximized its probability of remaining in power.⁸ Although it was issued as a wartime

TO CANADIAN CURRENCY, EXCHANGE AND FINANCE DURING THE FRENCH PERIOD (1925).

7 Dror Goldberg, *Property Rights: The Rise and Fall of America's First Bank* (Bar Ilan Univ. Dep't of Econ., Working Paper No. 2009-07, 2009), available at <http://www.biu.ac.il/soc/ec/wp/2009-07.pdf>.

8 Dror Goldberg, *The Massachusetts Paper Money of 1690*, 69 J. ECON. HIST. 1092 (2009).

emergency, the preamble to the fiat money order recognized the long standing coin shortage:

Whereas (for the maintaining and defending of their Majesties interests against the hostile invasions of their French and Indian enemies, who have begun, and are combined in the prosecution of a Bloody war upon the English of their Majesties Colonys and plantations of New England) this Colony hath necessarily contracted sundry considerable debts . . . withal considering the present poverty and calamities of the country And (through scarcity of money) *the want of an adequate measure of Commerce*, whereby they are disadvantaged in making present payment as desired.⁹

IV. LAW AND ECONOMICS OF MONEY

The author, an economic historian, notes that it is surprising how long it took for humanity to proceed towards the right monetary standard. This reminds me of the work of the legal historian James W. Hurst on American money.¹⁰ His main theme was that the government amazingly failed to understand its role in the monetary system time and again. Its role was not to ensure the fulfillment of individual, contractual convertibility promises, but rather to provide a general medium of exchange. While monetary policymakers promote low inflation and monetary theorists promote low deflation (the Friedman rule), Professor Sylla reminds us that the basic, overriding goal of a monetary standard is the commonsensical notion of zero inflation. It seems there is some common ground between the legal historian and the economic historian regarding the big picture of money.

This volume and the conference it is based on are a great opportunity to help bring economics and law back together in the analysis of money. It used to be entirely standard in the German tradition for scholars of money to study both law and economics. The dismal performance of German monetary theory in the hyperinflation of the 1920s, the weakening of German academia after 1933, and the increased mathematization of economics since 1970 are perhaps some of the reasons why this is no

9 1 ANDREW MCFARLAND DAVIS, CURRENCY AND BANKING IN THE PROVINCE OF THE MASSACHUSETTS BAY 10-11 (1901) (reprinting Mass. Court Records VI, at 170-71, Mass. Archives) (emphasis added).

10 JAMES W. HURST, A LEGAL HISTORY OF MONEY IN THE UNITED STATES, 1774-1970 (1973).

longer common practice. The gains from such interdisciplinary work can be especially important regarding Professor Sylla's final recommendation: fortifying the status of the independent central bank by putting it in the constitution. The move towards greater central bank independence from politicians invokes arguments which are not too different from those used in justifying judicial independence. Collaboration between legal scholars and economics scholars can be critical in making the central bank the supreme court of money matters.

Figure 1: Changes in the Commodity Value of Money

