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# Central Banks as Agents of Economic Development

Gerald Epstein

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Gordon Hall  
418 N Pleasant St., Suite A  
Amherst, MA 01002

Telephone: (413) 545-6355  
Facsimile: (413) 545-2921  
E-mail: [peri@econ.umass.edu](mailto:peri@econ.umass.edu)  
Website:  
<http://www.umass.edu/peri/>



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## Central Banks as Agents of Economic Development

Gerald Epstein\*

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\*Professor of Economics and Co-Director, Political Economy Research Institute (PERI), University of Massachusetts, Amherst, MA, USA. [gepstein@econs.umass.edu](mailto:gepstein@econs.umass.edu)  
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## Abstract

In the last two decades, there has been a global sea change in the theory and practice of central banking. The currently dominant “best practice” approach to central banking consists of the following: (1) central bank independence (2) a focus on inflation fighting (including adopting formal “inflation targeting”) and (3) the use of indirect methods of monetary policy (i.e., short-term interest rates as opposed to direct methods such as credit ceilings). This paper argues that this neo-liberal approach to central banking is highly idiosyncratic in that, as a package, it is dramatically different from the historically dominant theory and practice of central banking, not only in the developing world, but, notably, in the now developed countries themselves. Throughout the early and recent history of central banking in the U.S., England, Europe, and elsewhere, financing governments, managing exchange rates, and supporting economic sectors by using “direct methods” of intervention have been among the most important tasks of central banking and, indeed, in many cases, were among the reasons for their existence. The neo-liberal central policy package, then, is drastically out of step with the history and dominant practice of central banking throughout most of its history.

## I. Introduction

In the last two decades, there has been a global sea change in the theory and practice of central banking (Blinder, 1998; 2004). The “best practice” now commonly prescribed by the international financial institutions such as the IMF (IMF), as well as by many prominent economists, is best characterized as the “neo-liberal” approach to central banking (Epstein, 2003). The main components of this recipe are: (1) central bank independence (2) a focus on inflation fighting (including adopting formal “inflation targeting”) and (3) the use of indirect methods of monetary policy (i.e., short-term interest rates as opposed to direct methods such as credit ceilings). (Bernanke, et. al., 1999)

These principles have far reaching implications. Central bank independence implies, first and foremost, that the central bank should not be subject to pressure from the government to finance government activities (deficits). The focus on inflation means that the central bank should not be concerned with other goals such as promoting full employment, supporting industrial policy or allocating credit to sectors of special social need, such as housing. Neither should the central bank attempt to manage exchange rates through monetary policy, and certainly not through using controls on capital flows. The pursuit of indirect tools of monetary policy means that the central bank should not use credit allocation techniques such as subsidized interest rates, credit ceilings, and capital controls to affect either the quantity or the allocation of credit. These tenets are being promoted not only in developed countries, but also with great vigor in the developing world.

As I show below, this recipe –no support for the government expenditure, reluctance to manage exchange rates and opposition to use of capital controls, and a refusal to engage in credit allocation policies to support economic sectors -- is a highly idiosyncratic one in the sense that, as a package, it is dramatically different from the historically dominant theory and practice of central banking, not only in the developing world, but, notably, in the now developed countries themselves.<sup>1</sup> Throughout the early and recent history of central banking in the U.S., England, Europe, and elsewhere, financing governments, managing exchange rates, and supporting economic sectors by using “direct methods” of intervention have been among the most important tasks of central banking and, indeed, in many cases, were among the reasons for their existence. The neo-liberal policy package currently proposed, then, is drastically out of step with the history and dominant practice of central banking throughout most of its history.<sup>2</sup>

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<sup>1</sup> See Chang, 2002, for parallel argument for a range of other policies and institutions.

<sup>2</sup> This is not to deny, of course, the important goal of price stability, and other stabilization objectives, in the history of central banking. See more below.

Indeed, historians of central banking will agree that financing governments and managing exchange rates were key of central banks for decades, if not centuries.<sup>3</sup> But there will be more resistance to the idea that a common feature of central banking has also included the support of economic sectors. Following Gerschenkron's seminal discussion (Gerschenkron, 1962), the standard story draws an important distinction between banking systems in late developers, such as France, and early developers, primarily England. Among the former, banks had to accumulate and allocate large amounts of long term credit so that local firms could catch up with those in England. Less discussed is an associated presumptive difference in the role of central banks in these two types of countries. When told, the story is that the Bank of England focused on *macroeconomic* issues such as maintaining the gold standard, controlling inflation, and acting as a lender of last resort to prevent financial instability, while central banks on the continent also were engaged in sectoral policies to support the medium term and long term financing of industry. The case of Japan is seen as more akin to the European countries, while that of the U.S. is seen as more like that of England.

In this historiography, then, there were the *macro-oriented* central banks, such as the Bank of England and the U.S. Federal Reserve, that have used primarily indirect tools of policy and there are the *credit allocating* central banks, such as the Bank of France and the Bank of Japan, that have supported industrial policy. This story goes on to suggest that achieving modernism in central banking involves transforming one's central bank from the anachronistic European mode into the modern mode of the Bank of England or Federal Reserve by eschewing credit allocation and the use of "direct" controls to support economic sectors. (Fischer, 1994.)

The problem with this story is that it misses an important fact: virtually all central banks, *including* the Bank of England (BOE) and the U.S. Federal Reserve (the Fed) have used direct means to support economic sectors. And this has not simply been a matter of historical aberration, but rather, it has been an essential aspect of their structures and behavior for decades on end. In particular, a crucial role for both the BOE and the Fed has been to promote the *financial sectors* of their economies, and especially, to support the *international role* of their financial services industries. They have done this by using subsidized interest rates, legal restrictions, directed credit and moral suasion to promote particular markets and institutions. Moreover, at times, they have even oriented their overall monetary policy toward promoting the development of this particular economic sector.

The historical role of the Bank of England in promoting the City of London is well known, but the Federal Reserve's similar role with respect to the U.S. financial markets and the international role of the dollar is less discussed. (Broz, 1997; Epstein, 1981; Greider, 1987). Still, when acknowledged, these cases have usually been viewed simply as a way of re-distributing income from one sector (industry and labor) to another (finance). But –and this is the important point here -- they should also be seen as mechanisms of "industrial policy" an attempt by the central bank to build up a "targeted"

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<sup>3</sup> There is a huge and rapidly growing literature on the history of the developments of central banks. For a succinct survey, see Goodhart, et. al, 1994; Sylla, et. al. 1999 stress the role of government.

sector of the economy, not *only* to deliver benefits to their friends and political allies, or to provide “macro stability”, but *also* because they are considered an important, dynamic sector for the economy as a whole.

The point, then, is this: virtually all central banks have engaged in “industrial policy” or “selective targeting”. The difference lies in which industries they have promoted. Significantly, the whole tenor of economic development can be fundamentally affected by which of these industries the central bank and associated institutions promoted. Sorting this out is complex, however. Evidence suggests that central banks that are more oriented to industrial and social development are likely to have a more productive role as agents of development than those that build up the financial sectors, but presumably the impacts depend on many complex factors such as the structure of the domestic economies, their place in the global economy and the global economies place in the evolution of world history.

The rest of the paper is organized as follows. In the next section, I discuss the functions and rationales for central banking, as a way of introducing some concepts and distinctions that will be important in the rest of the paper. Section III discusses the evolution of major “OECD” central banks prior to the Second World War. I focus on their roles of financing governments, managing exchange rates, and promoting economic sectors. In section IV, I discuss the issue of sectoral policy in the Post World War II period. Section V extends the argument to central banking in developing countries. Section VI summarizes and concludes.

## **II. The Role of Central Banks in Development**

Most developed country central banks evolved from private banks, not in a bang, but over a long period of time. (Goodhart, 1998; Capie, et. al, 1994). Historians of central banking therefore debate the question: when did each “proto” central bank become a “real” central bank? This debate naturally raises the question: what exactly is the definition of a central bank, and as a related matter, what functions must a bank perform to be properly called a central bank? This question is of historical interest because to understand the role of central banks in development, one must determine when central banks were actually functioning. Because of the slow evolution of “proto” central banks to actual ones, this is not an easy question to answer.

Most historians identify the following functions as being historically essential to the operations of central banks: (1) unifying and issuing the country’s bank notes; (2) acting as the government’s bank; (3) acting as the commercial banks’ bank; (4) serving as a lender of last resort to the banking and even the financial system as a whole; (5) Conducting monetary policy to manage the foreign exchanges and the price level. Other activities have been added to this list: (6) conducting monetary policy to manage the overall level of economic activity and (7) allocating credit to promote national goals. This list is contentious with historians, with many claiming that one or the other of these is the *sine qua non* of central banking, and with most authorities ultimately throwing up their

hands and declaring that maybe they can't agree on how to define a central bank, but they know one when they see it.<sup>4</sup> (Capie, 1999)

There are at least three other roles of central banks that are less considered. One is the *distributive* role of central bank policy. Central banks' policies can have differential impacts on different classes and groups: workers and capitalists, debtors and creditors, finance and industry, those operating in traded and non-traded goods. Linking this to the political economy of central banking, for example, bankers may oppose expansionary monetary policy because it might lower real interest rates and raise inflation, whereas workers and industrialists may prefer looser policy.

A second less-known role is the *political* role of central banks. These days, this role is primarily discussed in the context of whether or not the central bank is *independent* of the government (as opposed to be *integrated* into the government) with a focus, primarily, on the impact of central bank "independence" on inflation. But the political role of central banks is much more multi-faceted than this. During the period of de-colonization following the second world war, it was recognized that by promoting financial unification, central banks can play an important political role in helping to establish national sovereignty and unity. More recently, central banks which are relatively independent from government often represent and promote particular interests, constituencies and ideologies in the public and private spheres and thereby affect the color and tenor of overall political debate over economic policy (Epstein, 1982). In recent times, these have often been aligned with those in financial circles, including external actors like the IMF, in promoting financial liberalization, inflation targeting and the elimination of capital controls. By contrast, central banks that are more integrated into government are more likely to promote policies and procedures that are framed more closely by government priorities and reigning ideologies.<sup>5</sup>

A third underappreciated role is the *allocative role*: central bank policy can deliberately or inadvertently affect the profitability and access to credit of different industries. This developmental role is currently under-emphasized, relatively to the other two.

In short, historically central banks have played many and diverse roles: Central banks have accumulated these roles in fits and starts, some first as private, government connected banks, some as "proper" public institutions. In any event, it is clear that the neo-liberal version of central banking has picked a highly truncated version of this list.

### Central Banks as Agents of Development

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<sup>4</sup> Capie, for example, claims that the lender of last resort function is the true *sine qua non* of central banking. (Capie, 1999). For purposes of this paper, we will try to avoid this problem by focusing on the roles played by banks that either were central banks or eventually evolved into them.

<sup>5</sup> Arguably, the neo-liberal approach to central banking that is now dominant could be said to be excessively focused on these two "lesser known" objectives: distributive (redistributing income to rentiers) and political (promoting the neo-liberal project).

This brings us finally to the question: Where in all of this is the role of the central bank as an *agent of development*? The term ‘agent’ implies that the central bank *sees itself* as trying to promote development. The current fashion is for central banks to take a narrow view of this: the only roles it can play as an agent of development is to create a context of “macroeconomic stability”, including, financial stability through financial regulations. In our histories, however, we will see that for much of central banking history, many central banks have aspired to do much more than that, with a number of them even seeing themselves as “agents of development” in the self-aware meaning of the term.

### **III. The Development of Central Banking in the U.S., U.K., Europe and Japan**

#### Financing the State

Historians of the development of financial institutions in general and central banks in particular increasingly emphasize the role of the state as being critical in the development of banking and central banking. Among the most important aspects is the impact of the state’s need for finance. According to three of the most prominent historians of banking:

“The more one studies the historical origins and development of modern financial systems, the more it becomes apparent that at most of the critical points when financial systems changed, sometimes for the better, sometimes for the worse, the role of the state was of paramount importance...Long before private economic entities...came to require financing on a scale beyond the capabilities of individual proprietors and partners, governments had needs for large scale finance....Among the needs for which states needed financing were: solidifying and extending their authority, unifying the disparate components of their states under a central administration, promoting state-led and state-financed economic development projects as means of increasing state power, and, perhaps most important of all, waging wars against other competing states.” (Sylla, et. al., 1999, p. 1).

Among the ways states found to raise funds for these purposes, the most important included making arrangements with or creating special banks, typically by issuing a bank charter. In exchange for giving these banks monopoly over note issue and other privileges, the bank would promise to finance the state. Among other means, the bank would then generally take the debt issue of the government and distribute it among a decentralized group of lenders. This would facilitate the government’s borrowing, and would also allow the lenders to create a “lender’s cartel” thereby improving their enforcement of debt repayment by the government. (North and Weingast, 1989). It is these banks that often evolved into central banks.

The initial creation of the Bank of England in 1694, in the midst of a major war with France, is, perhaps, the classic example of this role of central banking. In effect, a deal was struck: the state would get badly needed loans at a preferential rate in exchange



for granting extensive legal privileges to a private banking corporation, a corporation that eventually became the Bank of England. (Broz, p. 215).<sup>6</sup> The role of the Bank of England in financing the crown is commonly cited as an important factor in the war-making prowess of Britain and, particularly, in its success in the Napoleonic Wars.

While the Bank of England is the best-known case of the fiscal role in central bank development, there are many other prominent examples: the first two banks of the United States in the 19<sup>th</sup> century, the Bank of France (1800) the National Bank of Belgium (1850), the Bank of Spain (1874) and the Reichsbank (1876). (Capie, et. al., 1994, pp. 1 -231; Broz, 1997, ch. 6).

Central banks, then, at their inception, were designed to finance the state. How ironic it is, then, that the current fashion in central banking is to severely limit the ability of central banks to carry out this function, especially when state capacity in developing countries have been eviscerated by years of structural adjustment.

### Managing Exchange Rates and the Price Level

Since most of the European countries were on a specie standard in the 19<sup>th</sup> century, a crucial task of these central banks was to maintain the convertibility of the country's currency into specie at the fixed price. In practice, this meant managing the country's money, credit and gold reserves so as to maintain convertibility. (Eichengreen, 1992). Maintaining convertibility at the fixed rate also served to limit increases in price levels and, therefore, the task of these central banks was to target the exchange rate and, in doing so, also implicitly manage the price level.

Yet, in practice, most central banks had additional goals. These included directing credit to specific uses, and limiting economic instabilities associated with inflows and outflows of capital and gold. Some central banks also tried to maintain trade surpluses, rather than automatically adjust according to gold standard rules of the game that were supposed to automatically lead to international trade balance.

To pursue these additional objectives, central banks employed numerous "gold devices". (Eichengreen, 1992; Yeager, 1976). These were employed, among other reasons, to give the central bank some freedom to manage monetary and credit conditions as seemed appropriate for domestic business (Yeager, 1976, p. 307, fn. 25) and other domestic goals. In Germany, for example, interest free loans were given to importers of gold, and exports of gold were impeded. (Yeager, 1976, p. 306). This, of course, amounts to a type of exchange controls. Similar devices were used in France where, for example the central bank sometimes insisted on its legal right to redeem its notes in silver 5-franc pieces rather than gold, a clear tax on the export of gold (ibid.). These devices "put some slight variability into the gold values of monetary units and slightly increased the range of possible exchange rate fluctuations"(ibid.). These and related devices clearly undermine the notion of a rules based and automatic system of central bank policy, as well as one

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<sup>6</sup> Broz notes that "as a concomitant, the plan included a set of mechanisms to limit the government's ability to renege on its loan agreements". (Broz, p. 215).

single-mindedly devoted to price stability. The Bank of England, of course, had the most power to utilize discretion (see below), but other central banks did so to some extent as well. Still, to be sure, these were modest efforts to generate flexibility within the context of the relative straight jacket of the gold standard.

In short, even within the confines of the international gold standard, central banks used exchange and capital controls to buy some freedom of maneuver to pursue domestic objectives. This violates the neo-liberal recipe of today, but was used to good effect in the (old) liberal period of the 19<sup>th</sup> century.

### Sectoral Policies

As discussed earlier, central banks, both on the European continent and off, promoted sectoral goals.

### Continental European Central Banks in the 19<sup>th</sup> Century

Central banks in Europe were not only important lenders to the state. Many of them were also very involved in lending to industry. (Capie, et. al., 1999, p. 69; Cameron and Neal, 2003). For example, the Bank of France, the Bank of the Netherlands, and the Bank of Italy all had widespread branch networks, and had very close relationships with industry. The Reichsbank of Germany also had important industrial customers. (ibid.)

It is important to remember in this discussion that these “central” banks were private banks with special government privileges. Hence, they were profit oriented.<sup>7</sup> But the fact that these were private institutions should not lead us to underestimate the “public” role they played in helping to direct credit. Because these banks had special monopoly privileges from the government, including a monopoly on note issue and, in some cases, the requirement that the government and even other banks place reserves with them, these banks had subsidized access to credit. The fact that they, then, loaned this subsidized credit to industry, likely played an important role in the development of industry in these economies (Cameron and Neal, 2003). Knodell reports that countries that had central banks during this period had, on average, lower nominal and real interest rates, than countries that did not (Knodell, 2004).<sup>8</sup> This resulted presumably from both the efficiencies of these institutions and also the subsidies created by the state in their formation and operations.

The point is that there was a government/central bank financial structure that was able to mobilize credit, both for state activities as we saw earlier, but also for industry. And, in many cases, this was accomplished while countries remained on the gold standard, perhaps with the help of “gold devices” that served to some extent as exchange

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<sup>7</sup> This has been identified as a key problem in their functioning as “real” central banks (ibid; Goodhart, 1988)

<sup>8</sup> Paradoxically, she also reports that this did NOT lead these countries to experience more rapid economic growth. Knodell argues that this may have been due to the commitment of these central banks to staying on the Gold Standard (Knodell, 2004).

controls to give central banks some freedom to pursue domestic goals. And this was all happening during the so-called “laissez-faire” period of European capitalism in the 19<sup>th</sup> century.

One should not over estimate the extent to which these central banks were “agents” of development in the sense of having a developmental “vision” and intent. These central banks were private, not public. As a result, their interest was in making a profit. At times, this concern even conflicted with their activities as central banks. Still, however imperfectly, these central banks helped mobilize and allocate finance to industry and to government in the service of economic development, sometimes directed by a developmental vision from the state.

### Britain and The U.S.

As discussed earlier, the Bank of England and the U.S. Federal Reserve are often seen as lacking in “sectoral” policy during their early years. While these central banks were not as closely connected with “industry” as central banks on the continent, their association was not completely lacking. But the main problem with this argument is that these banks were very much involved in promoting sections of the financial sector in their economies. We first discuss the Federal Reserve and then take on the more familiar story of the Bank of England.

### The Federal Reserve<sup>9</sup>

The common explanation of the founding of the Federal Reserve in 1913 was that it was designed to enhance the country’s lender of last resort function to prevent the cyclical drains of reserves from regional banks and resulting financial panics that had characterized earlier decades. While this is certainly part of the story, another key factor was the desire on the part of New York bankers to enhance their ability to compete with London banks in the global financial market. As Carter Glass, who was instrumental in the creation of the system, told a Washington audience during the first world war:

“The proponents of the Federal Reserve Act had no idea of impairing the rightful prestige of New York as the financial metropolis of this hemisphere. They rather expected to confirm its distinction, and even hoped to assist powerfully in wresting the scepter from London, and eventually making New York the financial center of the world.. (quoted in Kolko, 1963, p. 254).”

As Broz describes in great detail, relative to the prior National Monetary System the key changes in the Federal Reserve Act concerned creating markets in bankers and trade acceptances that would allow New York Banks to compete with British banks in the highly lucrative financing of international trade. (Broz, 1997, ch. 1). A key factor was creating a central bank that would allow the bank to discount these acceptances. As Paul

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<sup>9</sup> This section draws heavily on the fascinating book by Broz, 1997, as well as the more familiar work of Greider (1987). See also Epstein (1981; 1982). Limited space prevents me from discussing many other issues here, including the role of wildcat banking, and the J.P. Morgan banks’ central banking roles.

Warburg, a New York banker and one of the master-minds behind the Federal Reserve Act put it: American discounting practices prior to the founding of the Fed was “as backward as Europe at the time of the Medicis, and Asia, in all likelihood, at the time of Hammurabi”. (quoted in Broz, 1997, p. 40.)<sup>10</sup>

In determining the choice of eligible paper for open market operations, the authors of the Federal Reserve Act chose instruments that would help develop these markets in order to improve the competitiveness of U.S. banks with their London counterparts. These included bills of exchange, or trade acceptances drawn within the United States, which was not used extensively to finance domestic transactions. (Broz, p. 48).

Key components of the Federal Reserve Act were also designed to enhance the ability of the U.S. financial system to manage the gold standard. Since the resumption of the gold standard in 1879, the U.S. had perhaps the freest market for gold in the world, and did not have a central bank to protect the supply in case of crisis. (Broz, p. 49). In addition, the US did not have a central bank that could employ gold devices to help create policy space to pursue other goals.

Promoting New York banks in their quest to become more competitive with British Banks in global business was also associated with promoting the U.S. dollar as an international currency. Despite the fact that the U.S. had accumulated massive amounts of foreign assets and had been turning into the world’s largest creditor, the U.S. dollar was still not widely used in international finance. The Federal Reserve Act was also intended to rectify that situation. This too was seen by New York bankers as enhancing their profits (Broz, ch. 2). To some extent, this promotion of the international aspects of the Federal Reserve Act in order to help New York bankers compete with London was simply a matter of “rent seeking”: the bankers were well organized and they had the economic and political muscle to push through the Act in Congress, despite opposition from other sectors. Still this act of targeted policy to subsidize and promote a particular financial sector in its quest to become more internationally competitive came at a time of major increase in the U.S. economic and political role in the world economy, and further developed that role.

One could discuss many other examples of ways in which the Fed has supported the financial sector of the US –from LDC debt crisis bailouts, to promoting IMF structural adjustment policies, to underwriting the stock market during the “tech bubble” - but space does not allow. Still, it seems clear that, from its inception, the Fed has engaged in significant amounts of sectoral promotion. To claim otherwise is to ignore history.

### The Bank of England

The case of the Bank of England and its connection to the City of London is well known. London had been the financial center of the world, or had a monopoly of capital

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<sup>10</sup> The issues here are quite technical, but see Broz, 1997, ch.1 for a clear exposition.

exports at least up to 1850. Rivalry with the French heated up around mid-century, but the Franco-Prussian War destroyed French chances. By 1875 London was supreme in both domestic and international money markets. (Kindleberger, 1993, p. 261). By the late 19<sup>th</sup> century, during the heyday of the classical gold standard, British banks and bond houses were dominant in international capital markets and in the financing of trade. For example, during the boom in foreign securities from 1904 to 1913, British bond and banking houses sent abroad close to half of British savings and 5 percent of national income (Kindleberger, 1996, p. 136.)

A major reason for British financial primacy was the structure and stability of the international gold standard, which, at times, the gold standard operated more like a sterling standard (Kindleberger, 1996, p. 136). A French study quoted by Kindleberger comparing the relative competitiveness of finance in London versus Paris highlights the role of the gold standard in conferring advantages on London: “Paris was especially handicapped by the practice of bimetallism, which gave the Bank of France the choice of whether it would pay off its notes in gold or silver – whereas in London one could get all the gold one wanted without hesitation on the part of the authorities or any doubt” (quoted in Kindleberger, 1993, p. 262.) Summing up, Kindleberger notes that London was a world financial center, while Paris was a European one. (ibid., p. 263).

For our purposes, the relevant lesson is this: while other factors were important, such as the efficiency and sophistication of the British financial institutions, the existence and stability of the gold standard, with sterling at its center (along with gold) was enormously important in the success and global competitiveness of the British financial system. *Hence, the efforts and support that the Bank of England made to develop and maintain the gold standard were, in effect, a major subsidy and support of the city of London financial institutions themselves.* For England then, central bank policy to maintain the convertibility of sterling into gold was not only a macroeconomic policy; it was, very importantly, also a sectoral policy, a sectoral policy designed to support the international competitiveness of British financial institutions.<sup>11</sup>

Thus, even during the classical liberal period of the late 19<sup>th</sup> and early 20<sup>th</sup> century, all the central banks considered here have engaged in sectoral policies, including the Bank of England and the U.S. Federal Reserve. After the Great Depression and the Second World War, this use of selective policies became even more integral to central bank policies, and more widespread.

#### **IV. Western Central Bank Policies after the Second World War: Credit Allocation for Social Goals**

It is well known that following the disasters of the Great Depression and the second World War, governments in the UK, Europe, Japan and even the US asserted much greater control over central banks and the banking industries. (Capie, et. al., 1999). Central banks became, once again, important institutions for financing and managing

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<sup>11</sup> There were many other ways in which the Bank of England supported the domestic financial sector. But for reasons of space, I focus here on the gold standard.

government debts accumulated during the war; and after the war, central banks also became important tools for rebuilding and restructuring national economies and providing for social needs, often under government's direction. Central banks utilized a variety of credit allocation techniques to accomplish these goals, and in most cases, these techniques were supported by capital and exchange controls on international capital movements. (see, for example, Epstein and Schor, 1992).

The types of controls central banks used, the goals they were directed to and their degree of success varied from country to country and time to time. No matter how successful, virtually all of these central banks had ended or severely limited their use of these controls by the mid 1980's. Under the neo-liberal play book, these controls, despite their long histories and many successes, were thrown in the dust bin of history.

### Developed Country Central Banks as Agents of Development during the "Golden Age of Capitalism"<sup>12</sup>

The great depression of the 1930's and then the Second World War was a watershed for central banks in the industrialized world. Virtually all were brought under more government control and were reoriented to facilitate government priorities. In the United States, the Federal Reserve was brought under tighter government control in the late 1930's and then, at the start of World War II was required to help the Treasury finance the war effort at relatively low interest rates.<sup>13</sup> It remained under Treasury control until 1951, but even after that, was subject to significant government pressures to support the market for U.S. government debt that had been accumulated during the war. In addition, the Humphrey-Hawkins full employment bill obligated the Federal Reserve to pursue policies to support high employment while controlling inflation. The era of Keynesian policies was at hand. (Epstein and Schor, 1990).

The U.S. government had a myriad of financial institutions, moreover, that supported national goals, notably housing. (Dymski, 1993; Wolfson, 1993). The Savings and Loan banks, along with other government supported financial institutions, for example, supported housing. During this period, the Federal Reserve policy was quite sensitive to the needs of the housing market concerns and even tailored its monetary policy to avoid significantly harming it. (Maisel, 1973).

In Europe and England, central banks that had been independent before the War found themselves subject to state control after 1945 (Capie, et. al., 1999, p 72). During the War, monetary policy was often implemented through direct controls while interest rates were held low and constant. Direct controls continued in the aftermath of the war with various credit allocation techniques. (Capie, et. al., 1999, p. 25.)

### Credit Allocation Techniques

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<sup>12</sup> I have drawn the material for this section mainly from U.S. House of Representatives, (1972), Zysman (1987), Hodgman (1972), and U.S. Senate (1981). See also Pollin, 1995 and Grabel, 2000.

<sup>13</sup> Though Paul Samuelson, among others remarked that the long term interest rate should have been set even lower (see Epstein and Schor, 1995).

Credit controls are commonly defined as measures by which the authorities seek to modify the pattern and incidence of cost and availability of credit from what markets would generate on their own (Hodgman, 1972, p. 137). Credit controls seek to influence credit allocation and interest rate structures. (ibid.). In Europe credit controls have served a number of purposes: (1) to finance government debt at lower interest rates (2) to reduce the flow of credit to the private sector without raising domestic interest rates (3) to influence the allocation of real resources to priority uses and (4) to block channels of financial intermediation and thus to assist restrictive general monetary policy and (5) to strengthen popular acceptance of wage-price controls by holding down interest income. (Hodgman, ibid.).

European experiences with credit controls varied from country to country. In Germany, controls were used only briefly after the Second World War. In the Netherlands and the United Kingdom, extensive use was made of them, but they were always seen as temporary and short-run expedients. In the Netherlands, credit controls were used to support macroeconomic policy, rather than credit allocation. In the United Kingdom, the principle aim of controls was to facilitate low cost government debt. The government was concerned about the impacts of high interest rates on the bond market, on income distribution and on the balance of payments. A more limited aim of the quantitative ceilings was to guarantee a flow of short term credit at favorable interest rates to high priority activities such as ship building and the finance of exports and productive investment in manufacturing. Credit ceilings were put into place, and exemptions were sometimes made for priority sectors (Hodgman, 1972, p. 144). Moreover, the Bank of England identified sectors for which credit should be limited, such as consumption and the financing of imports. In England, as elsewhere, these credit controls were accompanied by exchange and capital controls.

In France, Italy and Belgium were a different story. There, the principle of controlling credit flows and interest rates to serve national interests was widely accepted. France had, perhaps, among the most extensive and successful sets of controls, that were part of the government's overall approach to industrial policy. The Bank of France was nationalized in 1945, and placed under the National Credit Council, the institution in charge of implementing the financial aspects of the government plan. (Hodgman, p. 147; Zysman, 1987). The broad aim of credit policy in France was to contribute to the modernization of the French economy and its ability to compete in international markets. To influence the volume and allocation of credit, the Bank of France used various methods (see Hodgman, 1972, p. 148 and Zysman, 1987, for descriptions).

Variable "asset based reserve requirements" were widely used. These require banks have to observe minimum reserve requirements based on the assets they hold, but the central bank varies these to promote lending to desired sectors. They do this by allowing lower required reserve rates on privileged assets. A second technique – ceilings on credit extension – have been used as well. The ceilings were used to reduce credit expansion without raising interest rates, and also to allocate credit: priority sectors were exempted from the ceilings. These included short-term export credits, medium-term

loans for construction, and others. These ceilings applied to a large range of financial institutions, and were accompanied, as well, by capital and exchange controls as an important concomitant. (Hodgman, 1972. pp. 148-149; Zysman, 1987). A third tool was the scrutiny of individual credits made by banks. This allowed the Bank of France, for example, to approve loans for privileged purposes. Another approach to affecting the allocation of credit involved the use of rediscounting of bills at lower interest rates for priority purposes (ibid., p. 151).<sup>14</sup>

Zysman (1987) has emphasized the role of these credit allocation techniques in helping to revive the French economy and help it adjust to structural challenges in the post war period. Italy and Belgium also used similar policies. In the case of Italy, a major goal was to help develop the Southern part of the country. (U.S. House of Representatives, 1972, p. 11).

Oddly enough, there has not been a comprehensive statistical analysis of the effectiveness of these controls over a range of industrial countries. The studies that have been done report that the controls were effective (ibid; p. 145). More broadly, the general consensus of analyses of these experiences is that they are most successful when the controls apply to a broad swath of the financial sector, to avoid arbitrage and avoidance, when they are accompanied by capital and exchange controls, to avoid capital flight, and when they are part of a coherent plan of economic promotion and development (Zysman, 1987; Hodgman, 1972; U.S. Senate, 1972; U.S. House of Representatives, 1981). These same lessons apply to developing countries as well, though they were not always applied.

### The Neo-liberal Order

To be sure, not all of these efforts were successful. Yet most accounts suggest that some, if not many of them were in reaching important social goals including rebuilding industry, supporting housing and financing the overhang of government debt acquired during the war while avoiding massive shifts in wealth toward rentiers. Still, by the 1990's many if not most of these programs had been swept away. The increase in inflation, elimination of exchange and capital controls, and the break down of the Bretton Woods system all contributed to the dramatic changes in financial markets and policies. Still, rather than seeing this evolution to liberalized financial markets and central banking policy as a conjunctural change, economists and policy makers have identified the current

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<sup>14</sup> Analysis by Lester Thurow and the U.S. House Banking Committee in the early 1970's identified three main techniques for protecting or promoting priority sectors: (1) asset based reserve requirements<sup>14</sup> (2) government borrowing in the capital market and re-lending to preferred sectors and (3) competition by government financial institutions for primary saving flows and lending captured flows to preferred sectors (for example, through the government postal savings system). In the case of Sweden, asset based reserve requirements were used to aid the housing market. (ibid.) In Japan, government savings institutions were used to capture personal savings flows and these were channeled by the finance ministry (of which the Bank of Japan is a part) to industries that were perceived to most preserve economic growth. (ibid., p. 13).



confluence of policies and structures as somehow “modern”, even optimal, and therefore worthy of emulation throughout the globe.

## **V. Central Banks as Agents of Development in Developing Countries**

### Introduction

After the Second World War, there was a major transformation of central banking in the developing world. In many respects, these changes paralleled those in the developed world just described. But in developing countries, central banks were much more emphatically *agents of economic development* than in many richer countries. As described by renowned monetary historian of the New York Federal Reserve, Arthur I. Bloomfield reported in 1957:

“During the past decade there has been a marked proliferation and development of central banking facilities in the underdeveloped countries of the world, along with an increasing resort to the use of monetary policy as an instrument of economic control. Since 1945, central banks have been newly established and pre-existing ones thoroughly reorganized, in no less than some twenty-five underdeveloped countries. In other cases the powers of pre-existing central banks have been broadened ..in large part the recent growth of central banking in the economically backward areas has also reflected a desire on the part of the governments concerned to be able to pursue a monetary policy designed to promote more rapid economic development and to mitigate undue swings in national money incomes.” (Bloomfield, 1957, p. 190.)

Bloomfield goes on to describe the functions, powers, and goals of these central banks.

“Many of the central banks, especially those established since 1945 *with the help of Federal Reserve advisers* (emphasis added) are characterized by unusually wide and flexible powers. A large number of instruments of general and selective credit control, some of a novel character, are provided for. Powers are given to the central bank to engage in a wide range of credit operations with commercial banks and in some cases with other financial institutions.....These and other powers were specifically provided in the hope of enabling the central banks...to pursue a more *purposive* (emphasis added) and effective monetary possible than had been possible for most...that had been set up ...during the twenties and thirties...(that) for the most part (had) been equipped with exceeding orthodox statutes and limited powers which permitted little scope for a monetary policy *designed to promote economic development and internal stability* (emphasis added)...” (ibid., p. 191).

Somewhat surprisingly from the perspective of today’s financial orthodoxy, the Federal Reserve Bank of New York helped to establish developing country central banks and encouraged them to have a broad range of monetary and credit powers, especially in contrast to the orthodoxy of the 1920’s and ‘30’s. Of course, the Federal Reserve continued to be concerned about the importance of stabilization, controlling excessive credit creation and maintaining moderate inflation.

“But (the central bank’s) efforts need not, and in fact should not, stop here. The majority of central banks in underdeveloped countries have in actual practice adopted a variety of measures designed more effectively to promote the over-all development of their economies. Some of these measures are admittedly outside the traditional scope of central banking, but central banking in these countries should not necessarily be evaluated in terms of the standards and criteria applied in the more developed ones....the central bank can seek to influence the flow of bank credit and indeed of savings in directions more in keeping with development ends.” (ibid., p. 197).

Bloomfield describes the same tools of credit manipulation described earlier with respect to Europe, Japan and even the United States: “..selective credit controls applied to the banking system, through help in establishing and supporting special credit institutions catering to specialized credit needs, and through influence over the lending policies of such institutions, it can help to some degree to re-channel real resources in desired directions, both between the public and private sector and within the private sector itself.” (ibid., p. 198).<sup>15</sup>

Writing about the same issue almost fifteen years later (in 1971), another prominent Federal Reserve official, Andrew F. Brimmer, a member of the Federal Reserve Board of Governors, looks back on the experience with “developmental” central banking in the developing world. “...during the last ten years, a number of central banks concerned themselves with problems of economic development almost as much as they did with the traditional functions of central banking. (Brimmer, 1971, p. 780.) By 1971, monetary officials, as represented even by a pro-Keynesian economist like Brimmer, had become more skeptical of the developmental role of central banks in developing countries.

Brimmer and his associates describe a variety of techniques that central banks pursued in the 1960’s: these included: providing capital to development institutions, such as industrial and agricultural development banks; extending credit to development banks; purchasing their securities; buying a small part of the equity of development banks; establishing a “securities regulation fund” to create a market for the securities of various development finance institutions, by using the profits from the ordinary operations of the central bank (ibid., p. 785); using differential discount rates to allocate credit to capital development projects<sup>16</sup>; the establishment of portfolio ceilings on activities having a low priority; various types of reserve requirements, including differential reserve

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<sup>15</sup> Of course, Bloomfield cautions that; “Such measures would for the most part be justified, however, only to the extent that they do not conflict with the overriding requirement of financial stability or involve the central bank in details of a sort that might distract its attention and energies from the effective implementation of a policy aimed at stability” (ibid; p. 197)

<sup>16</sup> These have been used in many countries: Argentina, Bolivia, Brazil, Colombia, Costa Rica, the Dominican Republic, Ecuador, Peru and Venezuela, Israel, India, Indonesia, Korea, Pakistan, the Philippines, Republic of China, and Thailand. The central bank charges a preferential rate on discounts or advances against favored types of paper to induce commercial banks to increase their lending. (Brimmer, 1971, p. 786).

requirements to influence the allocation of credit<sup>17</sup>; using import deposit requirements, (primarily intended to deal with balance of payments difficulties) to also influence the allocation of bank credit<sup>18</sup>. (Brimmer, 1971).

Brimmer on the whole is somewhat negative about the effectiveness of many of these techniques, with the evidence from Brimmer's study providing mixed results about the effectiveness of these policies. The possible trade-off between developmental central bank and the maintenance of financial and macroeconomic stability is also a continuing concern.

Yet, despite these concerns, one sees in retrospect that support by the central bank of the government's policy for industrial development made a key contribution to the rise of many of the more successful developing countries in the late 20<sup>th</sup> century. Alice Amsden reports, the role of medium and long-term financing, often supported by central banking mechanisms as just described, were key to the "Rise of the Rest".<sup>19</sup> (Amsden, 2000). The countries of the rest, according to Amsden, acquired a manufacturing base in the years prior to World War II and then, after the war, industrialized rapidly, moving, eventually into mid-level and even high-technology production. (ibid., pp. 1 -2). Among many other factors, Amsden stresses the important role of finance in the success of these countries, and especially the mobilization and allocation of medium term and long-term finance for industrialization.

The state's main agent for financing investment was the development bank. Sometimes, the whole banking sector in these countries was mobilized to direct long-term credit to targeted industries, thereby "acting as a surrogate development bank". (ibid., p. 129). Lending terms of development banks were almost always concessionary (ibid., p. 132). The public finance behind the rest's development banking was often "off-budget" and related to non-tax revenues. It derived from foreign sources, deposits in government-owned banks post office savings accounts, and pension funds. As we just saw, many central banks played a key role here as well.

More specifically, central banks played an important role in accommodating the development oriented policies of these governments. Most kept effective real interest rates were often low, even negative.<sup>20</sup> They also used capital controls to insulate domestic markets from hot money flows that could lead to over-valued exchange rates and crises. Furthermore, central banks also played an important role in the "off-budget"

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<sup>17</sup> These have been used in : Mexico, Argentina, Brazil, Chile, Columbia, the Dominican Republic, Israel and Peru among other countries. (Brimmer, 1971, p. 788).

<sup>18</sup> Imports of developmentally important goods are subject to lower deposit requirements and hence are favored. This has been used in Argentina, Brazil, Chile, Colombia, Ecuador, Indonesia, Israel, Pakistan, Paraguay, the Philippines, Uruguay and Vietnam. (Brimmer, 1971 p. 789).

<sup>19</sup> Amsden's "rest" consist of China, India, Indonesia, South Korea, Malaysia, Taiwan and Thailand in Asia; Argentina, Brazil, Chile and Mexico in Latin America; and Turkey in the Middle East. (Amsden, 2000, p. 1). Here we briefly discuss six of these countries: China, India, South Korea, Thailand, Brazil and Mexico.

<sup>20</sup> Of course, these policies in some cases eventually had negative consequences; this comes back to the issue of the delicate balance between the developmental and stabilization roles of central banks.

financing of a number of these countries using the techniques described by Bloomfield and Brimmer as described above. These experiences were not all unqualified successes, of course. Still, in many cases, as part of a government policy, they helped underwrite significant economic development in many countries.<sup>21</sup>

## **VI. Conclusion**

This paper has argued that virtually throughout their history, central banks have financed governments, used allocation methods and subsidies to engage in “sectoral policy” and have attempted to manage the foreign exchanges, often with capital and exchange controls of various kinds. The current “best practice recipe”, then, goes against the history and tradition of central banking in the countries now most strongly promoting it. (Note the obvious parallels with Ha-Joon Chang’s argument with respect to trade and other policies, 2002.)

The question, then, is NOT whether central banks have or should pursue developmental policy, but rather: what *kind* of developmental policy should they conduct? Here history also gives some guidance. Central banks have been most effective in helping to foster development, especially in “late developers”, where they have been part of the governmental apparatus of industrial policy.

Throughout this history, a continuing tension has existed between the developmental roles of central banks and the stabilizing roles. Yet there is little evidence that the optimal solution to this tension is to abandon the developmental role entirely. Worse yet is to do - as many central banks under IMF tutelage have done – follow the lead of England and the U.S. as described earlier, and focus its developmental role entirely on promoting the financial sector, especially the fashionable “stock market based” financial sectors. There is little evidence that the stock-market based financial sectors promoted these days in many developing countries leads to faster economic growth or more development (Zhu, Ash and Pollin, 2004). Worse yet, promoting the financial sector through internal and external financial liberalization can make developing countries highly vulnerable to financial panics and crises, as we saw with the Asian financial crisis. (eg. see, Epstein, 2005b). Thus, rather than resolving the tension between the developmental and stabilization central bank roles, this financial sector promotion approach associated with financial liberalization and neo-liberal central banking poses the danger of making the tension even worse.

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<sup>21</sup> Severe space constraints prevent me from giving extensive documentation of these cases here.

## References

- Amsden, Alice H. 2001. *The Rise of "The Rest"; Challenges to the West from Late-Industrializing Economies*. Oxford: Oxford University Press.
- Bernanke, Ben S., Thomas Laubach, Adam S. Posen and Frederic S. Mishkin. 1999. *Inflation Targeting: Lessons from the International Experience*. Princeton, NJ: Princeton University Press.
- Bhattacharyya, P.C. 1971. *Central Banking in a Developing Economy*. Bombay, India: Vora & Co. Publishers, PVT. LTD.
- Blinder, Alan S. 1998. *Central Banking in Theory and Practice*. Cambridge, MA: MIT Press.
- Blinder, Alan.. 2004. *The Quiet Revolution; Central Banking Goes Modern*. New Haven: Yale University Press.
- Bloomfield, Arthur I. 1957. "Some Problems of Central Banking in Underdeveloped Countries", *The Journal Of Finance*, Vol. 12, No. 2. May, pp. 190-204.
- Brimmer, Andrew F. 1971. "Central banking and Economic Development: The Record of Innovation", *Journal of Money, Credit and Banking*, Vol. 3., No. 4, November, pp. 780-792.
- Broz, J. Lawrence. 1997. *The International Origins of the Federal Reserve System*. Ithaca: Cornell University Press.
- Cameron, Rondo and Larry Neal. 2003. *Concise Economic History of the World; From Paleolithic Times to the Present*. Oxford: Oxford University Press.
- Capie, Forrest, Charles Goodhart, Stanley Fischer and Norbert Schnadt. 1994. *The Future of Central Banking; The Tercentenary Symposium of the Bank of England*. Cambridge: Cambridge University Press.
- \_\_\_\_\_. 1994. "The Development of Central Banking" in Capie, et. al., pp. 1-232.
- Capie, Forrest. 1999. "Banking in Europe in the 19<sup>th</sup> Century: the role of the central bank", in Sylla, et. al., *The State, the Financial System and Economic Modernization*, pp. 118-133.
- Caprio, Gerard Jr. and Patrick Honohan. 2001. *Monetary Policy Instruments for Developing Countries; A World Bank Symposium*. Washington, DC.

- Chang, Ha-Joon. 2002. *Kicking Away the Ladder; Development Strategy in Historical Perspective*. London: Anthem Press.
- Chang, Ha-Joon and Ilene Grabel. 2004. *Reclaiming Development*. London: Zed Press.
- De Cecco, Marcello. 1974. *Money and Empire; The International Gold Standard, 1890-1914*. Oxford: Basil Blackwell.
- Dymski, Gary A., Gerald Epstein and Robert Pollin, eds. 1993. *Transforming the U.S. Financial System; Equity and Efficiency for the 21<sup>st</sup> Century*. Washington: Economic Policy Institute.
- Dymski, Gary A. 1993. "How To Rebuild the U.S. Financial System: Level the Playing Field and Renew the social Contract" in Dymski, et. al., pp. 101 – 131.
- Eichengreen, Barry. 1992. *Golden Fetters: The Gold Standard and the Great Depression*. Oxford, UK: Oxford University Press.
- Epstein, Gerald. 1981. Domestic Stagflation and Monetary Policy: The Federal Reserve and the Hidden Election, in Thomas Ferguson and Joel Rogers, eds., *The Hidden Election*, New York: Pantheon Press.
- Epstein, Gerald. 1982. Federal Reserve Politics and Monetary Instability, in Alan Stone and Edward J. Harpham, eds., *The Political Economy of Public Policy*, Beverly Hills: Sage Publications.
- Epstein, Gerald. 2003. "Alternatives to Inflation Targeting Monetary Policy For Stable and Egalitarian Growth: A Brief Research Summary", [www.umass.edu/peri](http://www.umass.edu/peri).
- Epstein, Gerald, ed. 2005a. *Capital Flight and Capital Controls in Developing Countries*. Northampton, MA: Edward Elgar Press.
- Epstein, Gerald, ed. 2005b. *Financialization and the World Economy*. Northampton, MA: Edward Elgar Press.
- Epstein, Gerald and Juliet Schor. 1990. Macropolicy in the Rise and Fall of the Golden Age, in Stephen Marglin and Juliet Schor, eds., *The Golden Age of Capitalism: Reinterpreting the Postwar Experience*. New York: Oxford University Press.
- \_\_\_\_\_. 1992. "Structural Determinants and Economic Effects of Capital Controls in OECD Countries". in Tariq Banuri and Juliet Schor, *Financial Openness and National Autonomy*. Oxford: Clarendon Press, 1992, pp. 136-161.
- \_\_\_\_\_ 1995. "The Federal Reserve-Treasury Accord and the Construction of the Postwar Monetary Regime", *Social Concept*, Vol. 7. No. 1, July, pp. 7-48.

Epstein, Gerald, Ilene Grabel and Jomo, K.S. 2005. "Capital Management Techniques In Developing Countries," in Gerald Epstein, ed. *Capital Flight and Capital Controls in Developing Countries*.

Fischer, Stanley. 1994. "Modern Central Banking" in Capie, et. al., pp. 262-304.

Gerschenkron, Alexander. 1962. *Economic Backwardness in Historical Perspective*. Cambridge, MA: Harvard University Press, Belknap Press.

Ghosh, Jayati. and C.P. Chanrasekhar. 2002. *Crisis As Conquest: Learning From East Asia* . New Delhi, India: Orient Longman Publisher, 2001.

Goodhart, Charles. 1988. *The Evolution of Central Banks*. Cambridge, U.K.: MIT Press.

Grabel, Ilene. 2000. "Savings, Investment and Functional Efficiency: A Comparative Examination of National Financial Complexes", in Pollin, ed. 2000, pp. 251-298.

Greider, William, 1987. *The Secrets of the Temple*. New York: Simon and Schuster.

Hodgman, Donald R. 1973. "Credit Controls in Western Europe: An Evaluative Review", in The Federal Reserve Bank of Boston, *Credit Allocation Techniques and Monetary Policy*. Boston: Federal Reserve Bank, pp. 137-161.

Holtfrerich, Carl-L., Jaime Reis and Gianni Toniolo, eds.1999. *The Emergence of Modern Central Banking from 1918 to the Present*. Aldershot: Ashgate.

Kindleberger, Charles. 1993. *A Financial History of Western Europe*. Oxford: Oxford University Press, 2<sup>nd</sup> Edition.

Kindleberger, Charles. 1996. *World Economic Primacy, 1500-1990*. Oxford: Oxford University Press.

Knodell, Jane. 2004. "Central Banking in Early Industrialization", in Marc Lavoie and Mario Seccareccia, *Central Banking in the Modern World; Alternative Perspectives*. Edward Elgar, pp. 262-281.

Kolko, Gabriel. 1963. *The Triumph of Conservatism*. New York: Free Press.

Maisel, Sherman. 1973. *Managing the Dollar*. New York: Norton.

Maxfield, Sylvia. 1994. "Financial Incentives and Central Bank Authority in Industrializing Nations", *World Politics*, Vol. 46, No. 4. July, pp. 556-588.

Maxfield, Sylvia. 1997. *Gatekeepers of Growth; The International Political Economy of Central Banking in Developing Countries*. Princeton: Princeton University Press.

Nembhard, Jessica Gordon. 1996. *Capital Control, Financial Regulation, and Industrial Policy In South Korea and Brazil*. Westport, Ct: Praeger Publishers.

North, Douglass C. and Barry R. Weingast, 1989. "Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England", *Journal of Economic History* 49, December, pp. 803-32.

Pollin, Robert. 1995. "Financial Structures and Egalitarian Economic Policy", in *New Left Review*, 214, pp. 26-61.

Sylla, Richard, Richard Tilly and Gabriel Tortella, 1999. *The State, the Financial System and Economic Modernization*. Cambridge, UK; Cambridge University Press.

Sylla, Richard. et. al. 1999. Introduction in Sylla, Tilla and Tortella, pp. 1 – 19.

Toniolo, Gianni, ed. 1988. *Central Banks' Independence in Historical Perspective*. New York: Walter De Gruyter.

U.S. Congress, House of Representatives, 92<sup>nd</sup> Congress, 2<sup>nd</sup> Session. 1972. *Foreign Experiences with Monetary Policies to Promote Economic and Social Priority Programs*.

U.S. Congress, Joint Economic Committee. 1981. *Monetary Policy, Selective Credit Policy and Industrial Policy in France, Britain, West Germany and Sweden*. Washington: Government Printing Office.

Woflson, Martin. 1993. "The Evolution of the Financial System and the Possibilities of Reform", in Dymski, et. al. pp. 133-155.

Yeager, Leland B. 1976. *International Monetary Relations; Theory, History and Policy*, 2<sup>nd</sup> Edition. New York: Harper and Row.

Zhu, Andong, Michael Ash, and Robert Pollin, 2002. Stock Market Activity and Economic Growth: A Critical Appraisal of the Levine/Zervos Model", PERI Working Paper, No. 47. [www.umass.edu/peri](http://www.umass.edu/peri)

Zysman, John. 1983. *Governments, Markets and Growth*. Ithaca: Cornell University Press.