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How long did it take the United States to become an Optimal Currency Area?

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I learned a great deal from the discussion of a preliminary draft by Ronald I. McKinnon, Anna J. Schwartz, and other participants in the Conference on Monetary Unions at the City University Business School, London, Friday May 14, 1998. I have also learned a great about these issues from Michael Bordo, Robert Greenfield, and Eugene White. Dongbo Pei provided superb research assistance. The remaining errors are mine.

Abstract

The United States is often taken to be the exemplar of the benefits of a monetary union. Since 1788 Americans, with the exception of the Civil War years, have been able to travel, invest, and buy and sell goods within a vast area without ever having to be concerned about changes in exchange rates. But there was also a recurring cost. A shock, typically in financial or agricultural markets, would hit one region particularly hard. The banking system in that region would lose reserves producing a monetary contraction that would aggravate the effects of the initial disturbance. Often, an interregional debate over monetary institutions would follow. The uncertainty created by the debate would further aggravate the contraction.

During these episodes the United States might well have been better off if each region had had its own currency: changes in exchange rates could have secured equilibrium in interregional payments while monetary policy was directed toward internal stability. The United States, to put it differently, was not an optimal currency area. This pattern held until the 1930s when institutional changes, such as increased federal fiscal transfers and bank deposit insurance, changed the game. Political considerations, of course, ruled out separate regional currencies. But thinking about U.S. monetary history in this way clarifies the nature of the business cycle before World War II, and may suggest some lessons for other monetary unions.

I. The Troubled History of the American Monetary Union

The U.S. monetary union began with the ratification of the Constitution in 1788. It has remained intact, with the exception of the Civil War years, ever since. And the United States has grown and prospered during that time. But it does not follow that the United States has grown and prospered because it has had a monetary union. The benefits of the monetary union – the relative ease with which interregional movements of capital, labor, and final products could take place – are evident. The costs of the monetary union, that I intend to focus upon here, are less evident, but nonetheless important.

Throughout the first 150 years of the U.S. monetary union, at least, the United States was wracked repeatedly by bitter regional disputes over monetary policies and institutions. On more than one occasion, those disputes contributed to uncertainty about the future of policies and institutions that exacerbated economic disturbances, and contributed to mistakes in national monetary policy. Regional disputes over monetary policy arose because of real differences in regional interests: What was good monetary policy from the point of view of one region, was sometimes bad policy from the point of view of another. The most bitter disputes arose when adverse monetary reactions occurred in a region already suffering from a real shock. A decline in the demand for agricultural products, for example, would depress incomes, leading in turn to a round of bank failures and bank runs, and declining regional money supplies, that reinforced the effect of the initial shock. In short, an economic historian who is

looking for illustrations of the cost of relinquishing monetary autonomy can find them in abundance in the monetary history of the United States.

Before turning to the history, however, I want to briefly summarize the theory of optimum currency areas to provide the necessary background for the remainder of the paper.

II. The Theory of Optimal Currency Areas

The optimum currency area hypothesis grew out of the debate over fixed vs. flexible exchange rates. Milton Friedman (1953), Leland Yeager (1959), and others had argued that a country could be better off by allowing its currency to float, and reserving domestic monetary policy for price or employment stability. The advocates of flexible exchange rates had recognized that a country could be too small to profit from flexible rates. But it was Robert Mundell, who first used the term "Optimum Currency Area" in a famous paper published in 1961, who clarified the circumstances under which a region or country would benefit from joining a monetary union.[1] On the one hand, Mundell argued, there were advantages for a region that joined a monetary union derived from minimizing transaction costs. On the other hand there were disadvantages derived from giving up the exchange rate, and changes in the stock of money, as policy tools. Whether a particular region constituted an optimal currency area or whether it would be better off as part of a larger monetary union depended on the net sum of these costs and benefits.

[1] Other important early contributions were McKinnon (1963), Kennen (1969), and Tower and Willet (1976). Kawai (1992) provides a clear summary.

The benefits of a larger monetary union are usually fairly easy to see, although measuring them can be difficult. People can travel to one part of the country to another without having to convert their money; prices of products sold in distant regions can be compared without having to search for information or perform calculations, and interregional investments can be made without the risk of currency fluctuations.

The costs of joining a monetary union are less obvious, and will depend on a number of factors. Consider first, the case in which economic activity is distributed randomly throughout the monetary union. Then the monetary authority need pay little attention to regions. What is optimal for one part of the country will be optimal for another. But suppose that the monetary union is divided into two regions, say East and West, that specialize in producing different goods, say steel and wheat. Now it is possible for there to be significant shifts in demand between the regions. The demand for steel might go up, while the demand for wheat is going down. To use the modern jargon, the country might be subject to asymmetric shocks. The West will run a balance of payments deficit with the East. Reserves will flow from West to East, and the stock of money in the West will fall, aggravating the recession caused by the decline in the demand for wheat. The stock of money in the East will rise, adding to the boom caused by the increase in the demand for steel. It is no longer clear that what is good for one region is good for all. The West might be better off with a national monetary policy that aimed to restore full employment, while the East might want a policy directed toward price stability.

If labor and capital are mobile across regions, then the impact of asymmetric shocks will be limited. Labor, for example, will respond to the shift in demand by moving from West to East, from wheat production and into steel production. The monetary authority will be able to neglect the problem of unemployment and focus on price stability. But now suppose that barriers to labor and capital mobility exist among regions, and assume further that monetary policy can affect real magnitudes in the short-run, say because certain prices or wages are sticky. Then the monetary authority faces a real dilemma. If the monetary authority follows a policy consistent with price stability in the East, it might aggravate the recession in the West; if it tilts full against the recession in the West, it might produce inflation in the East.

The East and West, to put it slightly differently, would be better off with separate currencies, and floating or at least adjustable rates between them. When demand shifted from the West to the East, the western currency would depreciate, mitigating the effects of the decline in demand. Meanwhile the monetary authority in the East could follow a policy aimed at price stability.

This is essentially the theory as originally developed by Mundell. The story depends on imperfections in capital and labor markets, and price and wage stickiness. As we move from the world of Keynesian or classic Monetarist economics, where monetary policy has important short-run effects, to assumptions of perfect labor and capital mobility and ineffective monetary policy, the case for subdividing economic regions into separate currency areas weakens. Nevertheless, as a number of writers have argued, a case for separate currencies may remain (Willett and Wihlborg, 1999). For example, even if all factor markets cleared, a separate currency area could be

justified if non-optimal policies were being followed outside the area. A flexible exchange rate then would prevent the importation of non-optimal price level movements. In any case, I believe, as I will try to show below, that American monetary history offers important examples of regional monetary trends exacerbating the effects of asymmetric real shocks. Before turning to those examples, however, I want to briefly recount the origins of the American monetary union and the regional conflicts that afflicted it during its formative years.

III. Union

Prior to the Revolution the currency of the United States varied from colony to colony. The British pound, and other forms of hard currency such as the Spanish peso were accepted everywhere. But individual colonies also tried to make their own paper currencies legal tenders in order to provide revenues or to aid debtors. Under the Articles of Confederation (during the interregnum between the end of the Revolution and the Constitution) opinion, especially among the politically sophisticated, turned against paper money. The constitution prohibited the states from issuing "bills of credit" (paper money) and gave to Congress the exclusive right to "coin money" and "establish the value thereof," thus creating a monetary union based on specie.

Part of the opposition to paper money was based on the experience of the very high rates of inflation under the fiat paper money regime of the Revolution. Tom Paine, for example, went from being an advocate of paper money to an opponent (Schweitzer 1989, p. 315) after witnessing the Revolutionary inflation. Opposition to paper money was increased by the development of fractional reserve banking, and the

hope that bank notes would provide the convenience of government issued paper without the risk of overissue.

There was also an important regional dimension to the opposition to state issued paper money. Rapid deflation after the Revolution had left farmers with heavy debt burdens. In the western counties of many states, where agriculture predominated, demands for debt and tax relief became insistent. States attempted to handle the problem in various ways. Some, such as Massachusetts, followed a get-tough policy with farmers who refused to pay. In many of these states farmers took up arms. The most serious outbreak of violence was in Massachusetts where Shays' Rebellion was crushed in 1787. Other states, such as Rhode Island, tried to help farmers by issuing legal-tender paper money and insisting that creditors accept it, even if they were residents of other states. While such policies pacified western farmers, they increased tensions among the states. It is conceivable that interstate tensions, such as those that arose between Rhode Island and its neighbors, could have been resolved by a clause in the Constitution requiring states to keep their currencies at par. But this would still leave room for some states to increase their seignorage by expanding their currencies and allowing them to circulate outside their own borders. Thus, a monetary union was viewed as a necessary prerequisite for a political union (Rolnick, Smith, and Weber, 1993).

The Constitution appeared to settle the debate between those states that would have used monetary policy to help western farmers and those that would not. But the issue reemerged in the debates over the First and Second Banks of the United States. The First Bank of the United States was chartered in 1791. It was part of Alexander

Hamilton's plan for reorganizing the finances of the new government. Modeled to some extent on the Bank of England, it was intended to be a large bank, with a national branching system, that would help manage the new government's finances, and issue a paper money of uniform value (in part because it would be a legal tender) in all parts of the country. The term of the charter was limited to twenty years. When the charter came up for renewal in 1811 there was substantial opposition. Most of the opposition to the Bank, at least measured by the formal arguments against it, centered on the constitutionality of the Bank. The upshot was that the attempt to renew the charter failed, and the Bank was forced to wind up its affairs.

The monetary disturbances associated with the War of 1812 revived interest in a national bank. Such a bank, it was hoped, would pressure state banks into contracting their note issues and resuming specie payments. The Second Bank of the United States was established in 1816, again with a charter limited to twenty years. The Second Bank was similar to the First, but its capital was larger.

Although financial historians have often written favorably about the Second Bank, its career ended disastrously in the famous "Bank War." The Bank War pitted the Second Bank, led by its President, the aristocratic Philadelphian Nicholas Biddle, against an opposition led by the first President from West of the Alleghenies, Andrew Jackson. Not all eastern politicians sided with Biddle and the Bank. In New York, in particular, it was hoped that the Second Bank of the United States would be replaced by a Third Bank of the United States with headquarters in New York City rather than Philadelphia. And not all western politicians supported Jackson. Davy Crockett, a Congressman who represented poor farmers from western Tennessee, supported the

Bank. In general, however, the Bank's opponents were from the West and its supporters from the East.

The exact reasons for Jackson's opposition to the Bank are still a matter of dispute. Jackson was first elected in 1828. His outspoken criticism of the Bank began soon after, and led to an attempt to renew the Bank's charter before Jackson came up for his second election in 1832. The bill to renew the charter passed both houses of Congress, but was vetoed by Jackson. The veto message has been the subject of intense scrutiny and debate by historians. Jackson cited a number of reasons for vetoing the bill to recharter the Bank: foreigners held a considerable amount of stock (although they could not vote, a fact he failed to notice), a competition for the charter would produce more revenues for the Treasury, and so on.

But the interesting point from our perspective is that Jackson stressed that the Bank was controlled by Eastern moneyed interests, and had followed policies harmful to western farming interests. Jackson's reasoning on this issue has been faulted. (Temin 1969). Nevertheless, it is clear that what Jackson perceived to be a conflict between eastern and western monetary interests inspired his opposition to the Bank, and galvanized the country. Jackson won an overwhelming reelection, sealing the fate of the Bank. Although there would be further battles, the war was lost. The charter of the Bank expired in 1836 and it wound up its affairs. In the end the antagonism toward the Bank, rooted in Western antagonism toward moneyed interests, had produced a momentous change in the monetary institutions of the United States. The United States would not have any institution resembling a central bank until the Federal Reserve was established in 1913.

In 1837 the United States experienced a severe banking panic; numerous banks failed, and the banks were forced to suspend specie payments. In 1838 specie payments were resumed, and things began to look up. But a second panic in 1839 inaugurated a long recession marked by falling prices and a contraction in real output, although the degree of contraction in real output has been debated. To what extent did the Bank War contribute to the Crises of 1837 and 1839 and the subsequent recession? Peter Temin (1969) has argued that international forces, largely independent of the Bank War, explain the Jacksonian inflation, and the Crises of 1837 and 1839. Marie Sushka (1976), however, has argued that the Bank War did have an impact by increasing uncertainty about the soundness of the monetary system. Undoubtedly, independent international shocks are part of the story, perhaps the major part. But it seems probable that the uncertainty about the future of monetary arrangements created by the Bank War made holders of bank liabilities more fearful about the soundness of the banking system than they otherwise would have been, at least in some measure, and contributed through this channel to the banking crises and the recession that followed.

IV. Disunion

The Civil War was the result, of course, of the great national division over slavery. Nevertheless, financial factors did play a small role, influencing, perhaps, the timing of the War. Before the War the South had a relatively well developed banking system, and there is a good deal of evidence for capital market integration (Bodenhorn and Rockoff, 1992). Indeed, Southerners were proud of their banking system, and

their economic system based on "King Cotton." The Crisis of 1857 was an eye-opener in both the South and the North. As southerners saw it, the crisis was largely of Yankee making. It started in New York, with the failure of a branch of the Ohio Life Insurance and Trust Company, and spread through the rest of the country. In the end the South suffered relatively less than did the North. Many radical Southern secessionists seized on the evidence provided by the crisis of 1857 to push their case that the South would be better off as an independent country with its own economic and monetary policies. In the North the newly formed Republican Party tried, with some success, to pin the blame for the Crisis on the Democrats. Thus the Crisis had the ironic result of strengthening the two factions least willing to compromise on the issue of slavery. (Huston, 1987).

The war divided the nation into three monetary regions. In the East and Middle West a fiat money standard prevailed based on the greenback. In the south, another fiat standard held sway based on the Confederate dollar. The Pacific coast, however, remained on gold. The southern monetary system, of course, gradually collapsed with the Confederacy, and came to an end in 1865. Returning to gold, and thus reuniting the two currencies of the United States took until 1879.

V. Reunion

After 1865 the South and Northeast were on the same (greenback) monetary system. There was no central bank. The supply of high-powered money was largely determined by the policies of congress and the secretaries of the treasury. Republicans dominated. The goal of monetary policy was returning to the prewar price level and

gold convertibility. These long-cherished goals were achieved on January 1, 1879 when the United States returned to the gold standard at the prewar parity. Throughout this period the policy of resumption faced determined regional opposition. Republicans in the Northeast favored resumption; Democrats and their allies in the Greenback Party, based in the Middle West and the South opposed resumption and favored monetary expansion.

Southern and Western Opposition to Resumption.

In 1866 Congress passed the Contraction Act, which called for the reduction in the amount of greenbacks in circulation, with a view to early resumption of specie payments. When a recession ensued, considerable opposition to this policy developed. In the 1868 election the currency was a major issue. Western democrats, following a now familiar refrain, demanded that Civil War bonds be paid in greenbacks unless the law specifically required payment in specie. Ulysses Grant, a financial conservative, however, was elected president. In March 1869 Congress voted to pay the Civil War debt in coin. Nevertheless, a more gradual approach toward resumption, referred to as "growing up to the currency," was adopted. Roughly speaking, the policy was to freeze the stock of high-powered money so that economic growth would produce a gradual decline in the price level.

Even this policy faced a severe political test. After the Panic of 1873, Congress voted for an increase in the stock of greenbacks. Grant vetoed the measure, triggering formation of the Greenback party – "a combination of middle western farmers, small businessmen, and labor intellectuals." (Merk 1978, p. 445) In 1875 a lame duck

Republican Congress adopted the Resumption Act which called for specie payments to be resumed on January 1, 1879.

Opposition to resumption coming from Greenbackers in the South and West, and Democrats with Greenback sympathies was fierce. In 1876 the House voted 106-86 to repeal the Resumption Act, but repeal died in the Senate. In 1877 the House again voted for repeal and for measures that would have expanded the stock of money. But in the Senate in 1878 a compromise was worked out. The advocates of soft money were persuaded to support a limited expansion of the stock of silver money provided for in the Bland-Allison Act, and the policy of resumption was kept on track. Resumption, as I noted above, was achieved in 1879. But it had been a near thing.

The opponents of resumption could hardly have been expected to give up their cause simply because it produced uncertainty about the final outcome. Nevertheless, by repeatedly placing resumption in doubt, the soft money faction created uncertainty about future exchange rates, that affected nominal interest rates, and that probably created an additional hindrance to international capital flows. (Calomiris 1994).

During this period, it should be noted, the West remained on the gold standard. Indeed, in 1873 the National Banking Act was amended to permit banks in California to issue currency redeemable in gold (yellowbacks[2]). Thus from 1865 to 1879, when the greenback currency became convertible into gold we have a monetary rarity: a strong political union, untouched by war, with two currencies, greenbacks and yellowbacks, circulating at a floating exchange rate. Interest rates on the Pacific Coast were high, perhaps reflecting some of the exchange rate uncertainty. Rates, however,

had been high before the war and would remain high after resumption. In any case, the "need" to reunite the currency, as contemporary observers saw it, strengthened the case for resumption.

VII Misunion?

Middle Western opposition to the gold standard continued to smolder after Resumption. In the late 1880s opposition burst into flame once more. The main problem was farmer unrest aggravated by low farm prices. Table 1 shows prices for the crops that were key in the regions where discontent was at a maximum. The real price of wheat had fallen from 100 at the time of resumption to 86 in 1890. Farmer Alliances were formed, and showed surprising strength in the 1890 congressional elections. Eight Middle Western and one Southern Populists were elected.

Congress took note of the growing pressure for inflation and passed the Sherman Silver Purchase Act in 1890 which required the Treasury to purchase 4.5 million ounces of silver per month, virtually the entire U.S. output, paying with new legal tender currency redeemable in gold or silver at the discretion of the Treasury. The Silver Purchase Act was a compromise, designed to appease southern and western inflationists, and western silver interests, without going all the way to the free coinage of silver-backed currency. Fear of silver, however, produced a reduction in the Treasury's stock of gold, further increasing fears that the United States might abandon the gold standard.

Although Farm prices rose briefly in 1891, they tumbled again in 1892, and demands for monetary expansion were renewed. In 1892 the Northern Alliances entered the presidential race as the Populist party. Their platform, the Omaha platform, was a wish list of radical reforms, monetary reforms prominent among them.

The stage was now set for the Great Depression of the 1890s, and the accompanying "Battle of the Standards" (gold vs. silver), the famous debate over monetary policy fought along regional lines. Before describing those events, however, I want to digress briefly and consider the extent to which those regions matched the criteria for optimal currency areas.

A Digression on the Optimal Currency Area Criteria

Were the regions that opposed resumption in the 1870s, and that supported greenbacks and bimetallism in subsequent decades, separately optimal currency areas?

Optimal-currency-area theorists have described several factors that identify an area as a candidate for its own currency: (1) it must be a large area, (2) it must be specialized in the production of certain goods and subject to asymmetric shocks, (3) labor mobility between the candidate region and other regions is limited, (4) capital mobility between the candidate region and other regions is limited, and (5) fiscal transfers between the candidate region and other regions are limited. If the regional economies of the United States were relatively small, then the case for viewing them as candidates for separate currencies would be off to a bad start. It would be hard to make a case, for example, for a single state as an optimal currency area. The costs of currency conversion mount for a small open economy. But, in fact, the major census

divisions of the United States were, by world standards, large economies. By 1900, for example, U.S. national income was about twice that of Britain. (Friedman and Schwartz, 1982, pp. 122, 130). Estimates of the distribution of personal incomes in the United States place the share of the Middle Atlantic region (economically the largest) at about 31 percent. So a back-of-the-envelope calculation might put the income of this region at 62 percent of Britain's.

These regions were subject, moreover, to asymmetric shocks. Regional agricultural specialization had begun in the colonial era. The famous "North Thesis" (North 1961) maintains that the specialization of the South in plantation agriculture, especially cotton, was the driving force behind American economic growth before the Civil War. After the Civil War the South remained a land specialized in the production of cash crops: sugar, tobacco, rice, and cotton. Indeed, because of the changes in the structure of Southern agriculture, the South produced more cotton after the Civil War, and devoted a larger share of its resources to the production of cotton, than it had before the war. The prices of cash crops rose and fell with the business cycle, but seemed to be especially hard hit in certain periods.

In terms of labor mobility the South was clearly a world apart until World War II. Gavin Wright (1996) in Old South, New South, has shown that while considerable integration was achieved across labor markets within the South (wages for unskilled white and black workers were almost the same) the southern labor market remained a separate low-wage market. Racism limited mobility. Black southerners, of course, suffered the most; but even white southerners had to overcome stereotypes and ill will, especially after the Civil War. Once migration patterns were established,

moreover, it was hard to change them in response to changing economic conditions, because earlier migrants provided information and support for later migrants. Mobility among other regions was much higher. But moving in response to regional shocks was even into the 1930s a process accomplished with considerable difficulties. The Joads were doing the right thing from an economic point of view – moving from a depressed region to an expanding region during the 1930s – but the *Grapes of Wrath* is an appropriate title.

The extent of capital mobility is more debatable. The standard view is that integration of regional capital markets was not achieved until the turn of the century because of a simple reluctance of capital to migrate, or because of institutional factors such as differences in banking and usury laws. Indeed, Bodenhorn's (1995) data shows that substantial interregional interest rate differentials persisted through the 1930s, although Bodenhorn attributes these differences to risk. One can say that after 1900, if not before, capital market integration served to ameliorate the affects of regional shocks.

In the United States today fiscal transfers tend to offset asymmetric shocks. Unemployment benefits, for example, will rise in regions suffering from high unemployment. In the nineteenth century, however, the federal government was simply too small a share of GDP to offset regional shocks through fiscal transfers. The largest federal transfer program by far was the Civil War pension program. And this program was somewhat responsive to economic conditions. The depression of the 1890s contributed in some measure to the expansion of benefits under the program that occurred at that time. But southerners, immigrants, men who were too old or too

young to have served, or who hired substitutes were not eligible. Women had to marry to become eligible. It was not until the adoption of programs such as unemployment compensation and agricultural price supports in the 1930s that one can point to fiscal transfers as a legitimate mechanism for overcoming asymmetric shocks.

The apriori case for believing that prices and wages in the separate regions were relatively sticky (thus strengthening the case for an independent monetary policy) appears to be relatively weak. The labor unions or oligopolistic industries that economists often point to as sources of stickiness were unimportant. There was considerable political agitation about the danger of the Trusts, but how much they contributed to price rigidity is debatable. In the South, even a significant portion of agricultural rental contracts was indexed: the famous sharecropping contracts.

Nevertheless, there were elements of institutional rigidity: taxes, mortgages, cash rentals, and so on. And beyond purely institutional sources of rigidity, there were the usual coordination problems. Adjusting to lower world prices for agricultural products meant a coordinated fall in wages, prices, and rents. Along most dimensions (labor and capital mobility, and fiscal transfers) the monetary union was strengthened during the 1930s. But along this dimension, the union was weakened.

Certain regions of the United States clearly exhibited many of the signs of good candidates for separate currencies, at least until the 1930s. But can one identify episodes in which substantial costs were imposed on these regions because they were part of a monetary union? Classic cases of optimal-currency-area dilemmas, a boom in one region combined with a recession in other regions, were probably rare. More

common were differences among regions in the magnitude of cyclical fluctuations, and in the timing of contractions and recoveries.

The Great Depression of the 1890s

The Great Depression of the 1890s, like the Depression of the 1930s, involved two severe recessions in close order. The economy declined for 17 months from January of 1893 to June 1894, and then after a comparatively weak recovery, declined again for 18 months from December 1895 to June 1897. Unemployment figures are necessarily somewhat problematic, but the figures we do have show the rate of unemployment at double-digit levels from 1893 through 1898, with a peak of 18.4 percent in 1894. (U.S. Bureau of the Census 1975, p. 135)

As we noted above, the early 1890s were characterized by concern over the maintenance of the gold standard stemming from the Sherman Silver Purchase Act, the decline in the stock of Treasury gold, and the rise of the Populists. In May 1893 a banking panic was touched off by commercial failures in New York. In June 1893, the administration revealed that it would press for the repeal of the Sherman Silver Purchase Act, and this seemed to ease pressures in financial markets. In July, however, further commercial and bank failures, led to a renewal of the panic. Bank runs and failures occurred in all regions. Starting in New York, banks throughout the country restricted the convertibility of notes and deposits into gold. The restriction on convertibility somewhat eased the situation. High interest rates drew gold into the United States and specie payments were resumed in September.

But the next three years were characterized by continued difficulties. Populists in the West and South continued to agitate for free and unlimited coinage of silver at a bimetallic ratio of 16:1. It was widely believed that adoption of bimetallism at that rate would have created substantial inflation and driven the United States off the gold standard. Uncertainty about the standard was reflected in higher interest rates. The Republicans favored continued commitment to the gold standard, although some Republicans, typically from the western states, called for an international conference aimed at restoring bimetallism, but at a bimetallic ratio that would permit continued circulation of both metals, and that would not produce inflation. The Democrats were badly split. The eastern wing of the party, led by former President Grover Cleveland, favored maintaining the commitment to gold; the western and southern wings favored bimetallism at 16:1. At the Democratic National Convention held in Chicago in 1896, the Westerners overthrew the Easterners. William Jennings Bryan, a Democratic Congressman from Nebraska with strong Populist sympathies, was nominated after a stirring speech, one of the most famous in American history, in which he declared that the Republicans would not be allowed to "Crucify Mankind upon a Cross of Gold."

Despite his oratorical skills, Bryan lost the election to William McKinley, who favored the Republican brand of international bimetallism. Bryan carried only a few states in the West and South. Ironically, new flows of gold soon began to reverse the deflation that had persisted since the end of the Civil War. Demands for inflation through bimetallism or fiat paper became superfluous. The United States formalized its commitment to the gold standard with the Gold Standard Act of 1900.

Why was the United States so badly split along regional lines over monetary policy? Historians, traditionally, have seen the issue as one of creditors (eastern bankers) against debtor (western farmers). One problem with this view, as was recognized by Bryan and others at the time, is that any help from inflation would likely be partial and temporary, because interest rates would rise to reflect expected inflation. Frieden's (1997) recent argument that the support for 16:1 came primarily from exporters who looked to devaluation to improve earnings seems more persuasive.

As we saw above, however, the regions at odds with each other were, in many ways, separable currency areas. It makes sense to look at regional stocks of money, or what in fact are available, regional deposits. Figure 1 shows deposits by region from 1875 through 1896. Deposits in each region were set to 100 in 1875 to make it easier to compare regional trends.[3] Granted, regional deposits reflected as well as caused changes in regional economic activity. Nevertheless, to the extent that these deposit movements reflected interregional transfers of reserves (balance of payments problems) or bank failures that might have been prevented by lender of last resort operations, they represent an independent influence on economic activity.

In any case, the picture is rather dramatic. The Great Depression of the 1890s left only a small imprint on deposits in New England or the Middle Atlantic region (dominated by New York and Pennsylvania). In New England deposits fell 2.4 percent from 1892 to 1893, but then more than regained their loss, rising 7.2 percent from 1893 to 1894. In the Middle Atlantic region, deposits fell 4.7 percent, and then rose 7.7 percent. On the other hand, the impact on deposits in the West and South, the

centers of the Populist revolt, were dramatic. Deposits in the South fell 18.6 percent from 1892 to 1893 and regained only 8.2 percent between 1893 and 1894; in the West deposits fell 16.4 percent, and only recovered .4 percent. Deposits in both regions were lower in 1896 than they had been in 1892. Is it any wonder that politicians in the West and South were calling for measures to increase the stock of money (remonetization of silver, or more radically, agricultural price supports financed by issues of fiat money) and that politicians in New England and the Middle Atlantic States called for a stand pat policy?

Data for all banks (both national and non-national) is available during this period only for four regions. The Middle Western and Pacific regions were aggregated in the source for non-national banks. This is worrisome because the Pacific Coast (which is dominated by California) was growing rapidly. Deposits in this region might have followed a somewhat different path than in other western states. In addition, the figures on non-national banks may be subject to reporting errors that vary in magnitude across regions and over time, despite the painstaking work undertaken by David Fand (1954) in putting these figures together. I have, however, computed National Bank deposits, which are likely to be more accurate, for five regions, separating the Middle West and the Far West.

These estimates are plotted in figure 2. Again, the deposits in each region have been set to 100 in 1875. As expected, national bank deposits grew extremely rapidly on the Pacific Coast, rising by a factor of 18 between 1875 and 1900. The most important point, however, is that the crisis of the 1893 is most evident in three regions:

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[3] The appendix describes how these numbers were computed.

the Pacific Coast and Territories, the West, and the South. Again, the Middle Atlantic region and New England record only small impacts from the Crisis of 1893.

Who was right, the East or the West? I find it hard not to believe that the falling stocks of deposits and bank credit in the South and West did not contribute in some measure to the economic distress those regions were suffering, and would not have been relieved by monetary expansion. Taking a longer-term view, Milton Friedman (Fall 1990, and December 1990) has argued that adoption of bimetallism earlier in the postbellum period would have produced a more satisfactory behavior of the price level. He concludes, however, that by 1896 the time for adopting bimetallism had passed.

In any case, one thing seems clear. An unequivocal commitment to either gold or bimetallism would have avoided the uncertainty which itself was part of the problem. Milton Friedman and Anna J. Schwartz put it this way, in *A Monetary History* (1963, p. 134)

> In retrospect, it seems clear that either acceptance of a silver standard at an early stage, or an early commitment to gold would have been preferable to the uneasy compromise that was maintained, with the uncertainty about the final outcome and the consequent wide fluctuations to which the currency was subjected.

Politicians, as Figures 1 and 2 show, were advocating the real interests of their own regions. Deposit growth in the East, although affected by the panic of 1893, was sufficiently close to trend to justify sticking with the current monetary policy; deposit growth in the South and West was depressed and justified a change in policy.

The optimal solution, were it politically feasible, might have been separate currencies, say for the East, the West, the South, and the Pacific Coast. The West and

the South would have adopted a silver standard in the 1890s, while the East and the Pacific Coast, given its historical attachments, would have stayed on gold. Money stocks would not have fallen in the West and the South as much as they did. Their currencies, moreover, would have depreciated against gold, making it easier to dispose of wheat, cotton, and other agricultural products on domestic and word markets. The debate over monetary policy, and the resulting uncertainty, which affected banks in all regions would not have happened.

The Panic of 1903 (the Rich Man's Panic) and the Panic of 1907

Figure 3 plots national bank deposits by region for the period 1900 to 1914.[4] Deposits in each region have been set equal to 100 in 1900. The major events during this period were the panic of 1903 (the Rich Man's Panic) and the Panic of 1907. Here the regional pattern is very different from the 1890s.

New York financial markets came under severe stress in late 1902. Short-term interest rates shot up, the stock market crashed, and a number of financial houses went bankrupt. The associated cyclical contraction was relatively long (23 months), from September 1902 to August 1904. In the Rich Man's panic the biggest impact was on the Middle Atlantic (New York) region. Deposits in the West and South, by way of contrast, were not affected much at all. New England also seems to have escaped. The only regions to move in concert with the Middle Atlantic States were the Pacific Coast and Territories.

[4] Qualitative information suggests that a plot of deposits that included non-national banks would not look very different, in terms of the locus of distress, from the plot of the national bank data.

Although a severe jolt, the Rich Man's panic did not produce a banking panic or a severe economic contraction. The Panic of 1907 was much broader and deeper. Pressure began to build in the New York money market in the summer and fall of 1907. A major shock occurred in October 1907 when a run on the Knickerbocker Trust Company forced it to suspend payments.[5] Other Trust companies soon were in difficulty as well. A banking panic soon gripped the nation, and the banks were forced to restrict the convertibility of bank notes and deposits into gold.

Nearly all regions of the country were affected. Only the plot of deposits for New England fails to show an imprint from the crisis. But as in 1903, the interesting feature of the data is the impact on the Middle Atlantic States, and the contrast between those states and the West. Deposits in the Middle Atlantic States fell 5.2 percent between 1906 and 1907. Deposits in the Southern region fell 7.8 percent between 1907 and 1908. But deposits in the West did not fall at all, although they failed to grow between 1907 and 1908. The regional impact of the panic of 1907 was clearly very different from the impact of the panic of 1893.

As might be expected the political response to the crises in 1903 and 1907 was also very different than it was in the 1890s. During the 1890s, the eastern establishment was convinced that monetary reform was a foolish idea pushed by dangerous western radicals; now the East was convinced that monetary reform was a wise idea advocated by the best scientific minds. In the wake of the panic of 1907 the Aldrich-Vreeland Act (May 1908) was passed which created an emergency currency

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[5] The Trust companies were banks that had grown up as ways of getting around the strict asset regulations imposed by the Comptroller of the Currency and the New York

that could be issued during panics, and created the National Monetary Commission to investigate the monetary system, and recommend reforms. Senator Nelson W. Aldrich of Rhode Island, a long time Republican leader, and determined opponent of the Populists, headed the Commission. The main recommendation was the creation of a type of central bank. The United States would be divided into districts, and the banks in each district would keep their reserves in a district bank that was owned and controlled by the member banks. There would be a central board, controlled by the district banks, with the power to issue a gold-backed currency. Aldrich introduced a bill in Congress embodying this plan.

By the time that the bill came up for debate, however, the Democrats controlled the Congress and the Presidency. Goaded by the populists among them, the Democrats insisted on changes in the bill. Indeed, William Jennings Bryan, who carried Populist hopes for free silver in 1896, was then Secretary of State, and is said to have played an important role in the negotiations. The final result was legislation that differed from the Republican model in two ways, one that would remain important, and one that would not. First, the new institution was to be run by people appointed by the Federal Government, and not by the banks. Second, the right to issue currency would be the responsibility of the district banks, rather than the central board. The ability of the District banks to issue their own currencies would not prove to be a major feature of the system, it reflected a Populist hankering for a monetary system that would respond to the differing needs of differing regions.

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banking authority.

The Great Depression of the 1930s

The Great Depression of the 1930s was the most severe in American economic history. Ever since the publication of *A Monetary History of the United States*, Friedman and Schwartz (1963), changes in the stock of money, and mistakes in monetary policy, have been granted an important role in the economic historian's account of the Depression. The extraordinary impact of the Depression can be seen in Figure 4, which plots all bank deposits by Federal Reserve District from 1922 to 1941. I have switched from broader regions to Federal Reserve districts, primarily because data for the Federal Reserve districts is readily available. Nevertheless, the Federal Reserve districts correspond, roughly, to economic regions, so little is lost in switching from broader regions to Federal Reserve districts. To make the figure easier to read, deposits in each region have been set to 100 in 1929.[6]

No region was immune to the crisis, but there were significant regional differences. Within the whole period I have highlighted two subperiods, 1929-1931 and 1934 to 1936, when there were marked regional differences in the rate of change of deposits, and when important mistakes were made in monetary policy.

The most famous, and probably the most important, error in American monetary history was the failure of the Federal Reserve to act as lender of last resort for the banking system during the contraction from 1929 to 1933. A great deal has been written about the reasons for the failure of the Federal Reserve to take appropriate actions during this period. The personal and institutional rivalries stressed by Milton Friedman and Anna J. Schwartz (1963); the adherence to misleading

doctrines about how policy actions worked, Calomiris and Wheelock (1998), Meltzer (1998); and the weight placed on adherence to the gold standard, Eichengreen (1992) undoubtedly were important in producing the lack of response to the crisis exhibited by the Federal Reserve. Regional loyalties had declined, in part because World War I had boosted nationalism over sectionalism.

Nevertheless, Figure 5, which focuses on 1929 to 1931, suggests that regional differences need to be woven into the traditional story.[7] The deviations among regions are striking. In June 1931, almost two years into the Great Depression, the stocks of deposits in the San Francisco, Boston, and Philadelphia districts, and in the weighty New York district, were still above the June 1929 levels.

Economists and policymakers from those regions, who tended to look toward events in their own region, whether consciously or not, would have been less likely to stress the need for drastic countermeasures. As evidence that the need for action was recognized by some observers, Friedman and Schwartz (1963, p. 409) cite representative Sabbath of Illinois writing to Federal Reserve Board chairman Eugene Meyer in January 1931: "Does the board maintain there is no emergency at this time? To my mind if ever there was an emergency it is now, and this I feel, no one can successfully deny." Can it be entirely irrelevant that at the time Sabbath was writing deposits had already fallen drastically in the Chicago district and the St. Louis district (which covers southern Illinois)?

Residence in a district hard hit by deposit losses, it must be admitted, was no guaranty of sensitivity to the crisis. James McDougal, President of the Federal Reserve

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[6] All figures are for June dates, usually close to June 30.

Bank of Chicago, consistently opposed open market security purchases in part because he thought it would be useless for the Federal Reserve to try to offset a natural market process: liquidating bad loans. Marriner Eccles, who became chairman of the Federal Reserve Board in 1935, might have been expected to be a consistent advocate of monetary expansion. He was a banker from the West (Utah), a region with a long tradition of monetary radicalism, and one that had been hard hit by the Depression as shown in figure 4. He had been appointed, moreover, because of his sympathy for the New Deal. But his own study of the Depression, and his reading of the heretical under-consumptionist William T. Foster, had pushed him toward the view that monetary policy was a relatively impotent tool for controlling the economy. The real action was on the side of fiscal policy

Roy A. Young, President of the Boston Bank, however, at one point based his opposition to open market purchases on a regional argument: open market purchases would lead to a piling up of reserves in the money centers, with little effect on the regions of the country that really needed reserves. Thus, although policy positions in the 1930s do not divide as neatly along regional lines as they did in the 1890s, there is some evidence that differences in regional perspectives contributed, at least in a small measure, to the paralysis that gripped monetary policy making in the early 1930s.

The second major policy error during the Depression was the decision by the Federal Reserve to raise bank reserve ratios in three steps -- in August 1936, March 1937, and May 1937. Friedman and Schwartz (1963), and more recently Meltzer (1998), have explored many of the intellectual and personal currents that produced the

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[7] The figures are for June 1929, June 1930, and June 1931; the cyclical peak was in August 1929.

decision. Nevertheless, the diversity in regional experiences shown in Figure 6 is suggestive. By June of 1935 the stocks of deposits in the New York, Richmond, and San Francisco districts, had all recovered their June 1929 levels. Rapid expansion in the ensuing year carried the stocks of deposits in these districts to levels between 20 and 30 percent above the levels of June 1929. Moreover, employment in these regions had also recovered well.[8] A Federal Reserve President in one of these districts, who based his conclusions solely on conditions in his own district, might well conclude that it was time to adopt a more restrictive monetary policy before things got out of hand and inflation threatened.

In the "heartland" districts, however, conditions were very different. In the Cleveland district deposits in June 1935 were little more than 80 percent of what they had been in June 1929, and although growth was rapid, deposits were still below the June 1929 level in 1936. Unemployment was still high. The president of a district bank in the heartland might well conclude that further monetary expansion was required. To put it differently, the Federal Reserve, at least to judge by deposit grwoth, faced an optimal-currency-area dilemma in 1936. Some regions needed stimulation; others needed restraint.

It is interesting to ask what would have happened had the United States been divided into separate currency areas – separate currencies for, say, the East, the South, the Middle West, and the Pacific – during the 1930s. Separate currencies, of course, were ruled out by political considerations. A currency is a symbol of sovereignty, like the flag, and it is as hard to imagine any country deliberately choosing to divide its

[8] It may seem surprising that the Richmond region followed the path of New York and San Francisco.

currency. But thinking about separate currencies can throw light on the economics of the Depression. Even with separate currencies, monetary policies might well have been similar in the East, the South and on the Pacific coast to what they actually were. The central bank of the East, for example, would not have acted a lender of last resort in the early 1930s, but there would have been no need for it to do so. It would have slowed monetary expansion in the mid-1930s, but it would have been logical for it to do so.

The central bank in the Middle West, however, might have acted differently. With hundreds of banks failing in the region, with politicians calling for action, a central bank that had full responsibility for the region might well have acted as lender of last resort in the early 1930s. Moreover, a Middle Western central bank, under intense pressure from local interests, might well have followed a more inflationary policy. Silver interests were potent in the Middle West and might well have demanded additional purchases of silver financed through an increase in the monetary base. The Middle Western currency might well have depreciated relative to other regional currencies. But this would have helped employment in the manufacturing sectors of the Middle West, which were among the hardest hit in the nation, because they suffered from increasing labor costs due to unionization, as well as from the decrease in demand for consumer durables.

To be sure, if someone like James McDougal, who advocated deflationary measures as President of the Chicago district bank during the 1930s, had been president of the Midwestern Central bank that I am imagining, he might have

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succeeded in imposing deflationary policies despite political pressures to do otherwise. But not necessarily; the argument that open market purchases were actions taken by bankers in faraway places that influenced banks in faraway places would no longer apply. Long experience with the conduct of monetary policy might have made central bankers in the Midwest more adroit than central bank board members. In short, the monetary union, which in more stable times was a source of strength for the United States, appears to have been a liability during the 1930s.

VII. Communion?

It is generally assumed that the United States became a smoothly functioning monetary union, at least for the purpose of comparison with the European Monetary Union, in the postwar era. (For example, Feldstein 1997; Wyplosz 1997). The comparison may tend to exaggerate how well the U.S. monetary union functions. Certainly, there have been asymmetric real shocks, such as the oil price fluctuations that hit Texas particularly hard, or the changes in manufacturing that hit the "rust belt." Perhaps there were regional banking problems that exacerbated these disturbances that we have not paid sufficient attention to because we are accustomed to think in aggregate terms.

But it is true that a number of institutional changes took place during the Depression and World War II that weakened older divisions. One was the development of federally funded transfer programs, such as unemployment insurance, social security, and agricultural price supports, which cushioned regional shocks, and redistributed reserves lost through interregional payments deficits. Penelope Hartland

(1949), using data from the Federal Reserve's Interdistrict Settlement Fund, showed that the regions which had been hit by terms of trade shocks during the 1930s lost reserves to other regions. But government transfers substantially offset these losses. Between 1929 and 1933, for example, the Minneapolis Federal Reserve district lost $247 million in reserves on private transactions. This was offset, however, by a gain of $229 million on federal government transactions. On the other hand, the Boston Federal Reserve district gained $644 million in reserves on private transactions, while losing $575 million on federal government transactions. (Hartland, 1949, p. 397)

A second institutional change was the breakdown of long-term isolation of the southern labor market. During the war a strong northern labor market and the absence of immigrants pulled workers, white as well as black, from the South, and established networks that provided information and support for later migrants. In addition, federal labor legislation in the form of minimum wages and regulation of hours and conditions of work, and federal incentives to mechanize agriculture, established during the 1930s added to the postwar flow of migrants from the South.[9]

A third factor that improved the functioning of the U.S. monetary union after the war was the absence of major banking and financial crises emanating from regional shocks. Deposit insurance, and monetary policies that reacted quickly to economic downturns, tended to minimize the regional banking problems that characterized recessions in the prewar era:

[9] Fiscal federalism and the improvements in the functioning of the labor market are discussed in Eichengreen (1998), chapters 2 and 3. Wright (1996) discusses the breakdown of barriers to labor migration. Libecap (1998) discusses the origins of agricultural price supports.

VIII. Lessons from the Troubled History of the U.S. Monetary Union

Weighing the costs and benefits of monetary unification is a thankless task. On the one hand, monetary unification means reduced transaction costs, easier comparison of prices in different regions, and so on. On the other hand, it means relinquishing the capacity to use monetary policy or exchange rate changes to ameliorate local distress. Frequently, the United States is taken to be the exemplar of the benefits of a monetary union. Savers in older regions, for example, could invest capital on the other side of the continent for extended periods of time without having to worry about changes in exchange rates.

But the U.S. experience also shows that fears about the loss of monetary autonomy are far from baseless. American monetary history provides numerous examples of regional shocks that were exacerbated by adverse monetary reactions. During those episodes the United States might well have been better off, from a purely economic point of view, had it been divided into separate currency areas. Regions hit by severe asymmetric shocks, for example by declines in agricultural terms of trade, would have been able to devalue their currencies, which would have reduced interregional losses of reserves. Within the region, expansionary monetary policies would have shored up the banking system, preventing runs or severe contractions of credit. Other regions would have been free to follow more conservative monetary policies, nipping in the bud political battles over monetary institutions. Separate currencies for separate regions could not have prevented the losses in real income imposed by changes in financial or agricultural markets, but they could have prevented

the secondary reactions in the banking system that exacerbated the effects of real shocks.

Separate regional currencies were never a serious political option in the United States. But thinking about this counterfactual may help us draw some lessons for countries contemplating joining a monetary union. The U.S. example cannot be taken as proof of the unadulterated benefits of monetary union; at best the evidence is ambiguous. For countries already firmly committed to a monetary union, the lesson is that providing a system of fiscal transfers for distressed regions and lender-of-last resort facilities, or perhaps some form of deposit insurance, for those regions so that real shocks are not multiplied by banking crises, is of the utmost importance.

How long did it take the United States to become an Optimal Currency Area? A reasonable minimum might be one hundred and fifty years! Hopefully, it will not take the European Monetary Union quite so long.

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Table 1. Agricultural Prices and the NNP Deflator, 1879-1900 (1879 = 100)

	Net National Product Deflator	Real Price of Wheat	Real Price of Cotton
1879	100	100	100
1880	110	93	105
1881	108	103	100
1882	112	104	105
1883	110	91	92
1884	105	85	97
1885	98	86	103
1886	96	80	94
1887	97	77	102
1888	99	87	100
1889	100	87	103
1890	98	86	113
1891	97	93	89
1892	93	80	83
1893	95	67	87
1894	89	59	78
1895	88	64	83
1896	85	70	92
1897	86	87	84
1898	88	94	68
1899	91	74	73
1900	95	69	100

Sources: NNP deflator: (Friedman and Schwartz, 1982), pp. 122-123. Table 4.8, col. 4. Price of wheat and price of cotton: (U.S. Bureau of the Census, 1975): pp. 208-209, series E123 and E126.

A Chronology of the U.S. Monetary Union	
1788	The Constitution is ratified. States are prohibited from issuing paper money. The U.S. monetary union is launched.
1791	The First Bank of the United States is chartered.
1811	The First Bank of the United States comes to an end.
1816	The Second Bank of the United States is chartered.
1832	President Andrew Jackson vetoes the bill to recharter the Second Bank, stressing the oppression of the West in his veto message.
1836	The Second Bank of the United States comes to an end.
1837	The nation is hit by a severe banking panic, inaugurating a period of hard times.
1857	The nation is hit by a severe banking panic. Southern firebrands and Northern Republicans both make political capital from the crisis.
1861	The Civil War begins. The United States is divided into three currency areas: Greenbacks in the Northeast, Confederate dollars in the South, and Gold in California.
1865	Lee surrenders. The Confederate dollar ceases to function.
1866	Congress passes the Contraction Act looking to a rapid return to the gold standard.
1873	The silver dollar is omitted from the list of official coins (The Crime of 1873). National Banks in California are permitted to issue notes backed by gold (yellowbacks.)
1879	Resumption of specie payments. The yellowback and greenback are reunited.
1896	William Jennings Bryan, an advocate of free silver, is nominated by the Populists and Democrats; William McKinley, an advocate of international bimetallism, is nominated by the Republicans. Bryan carries only a few states in the West and South
1900	The Gold Standard Act firmly commits the United States to the Gold Standard and symbolizes the end of the "Battle of the Standards."
1907	A Banking Panic leads to the establishment of the National Monetary Commission.
1913	The Federal Reserve System is established. Republican proposals for a currency issued by a privately controlled central bank are defeated. Instead a federation of regional banks, each issuing their own currency, is created. William Jennings Bryan, now secretary of State, plays an active role in fashioning the legislation.
1929-1931	Beginning of The Great Contraction. The Stock market crashes and a severe monetary contraction begins in the nation's heartland.
1936-1937	The Federal Reserve raises required reserve ratios contributing to a sharp recession that prolongs the depression.

Figure 1
All Bank Deposits by Region 1875-1896
1875 = 100

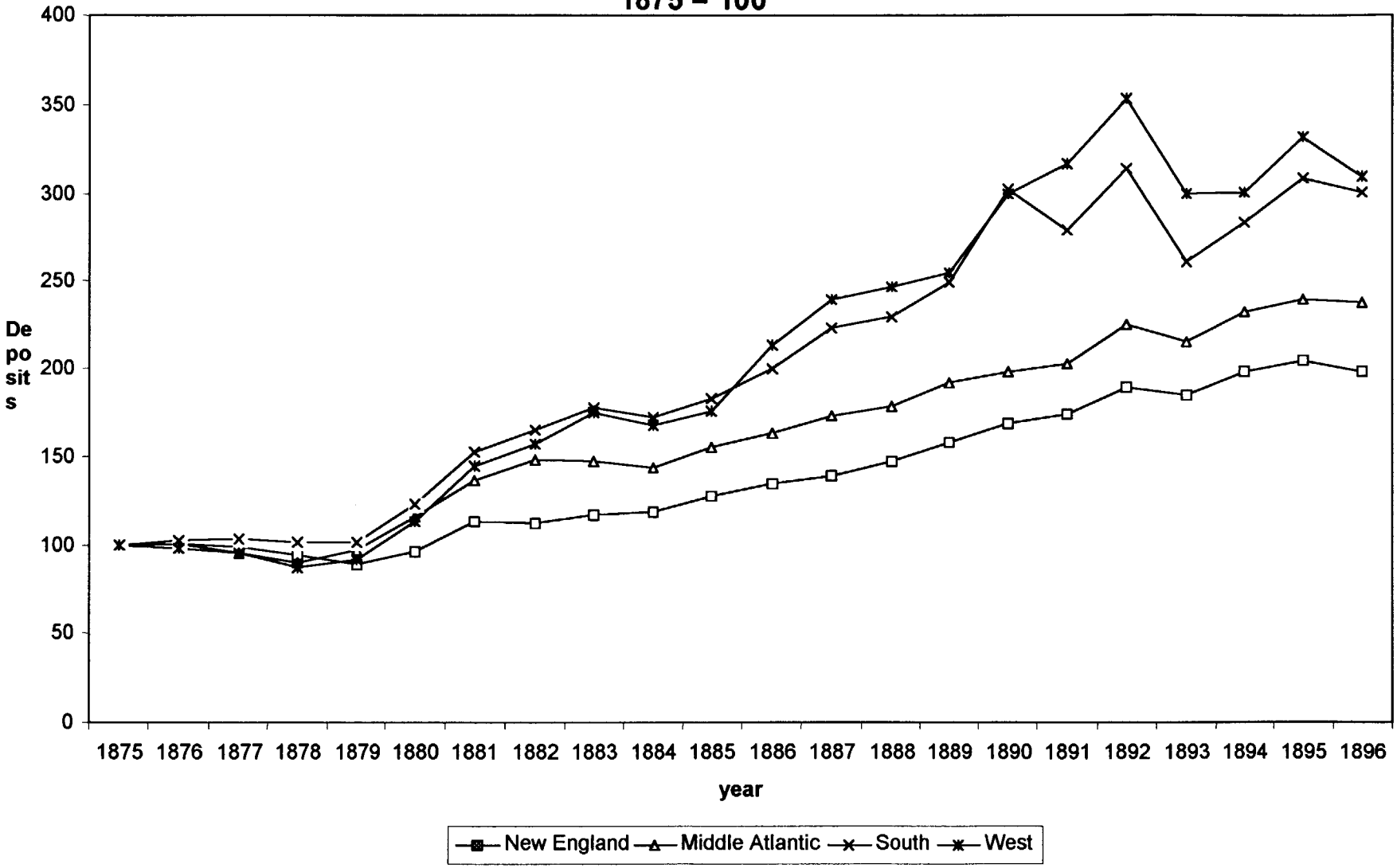


Figure 2
National Banks Deposits by Region, 1875-1900
1875 = 100

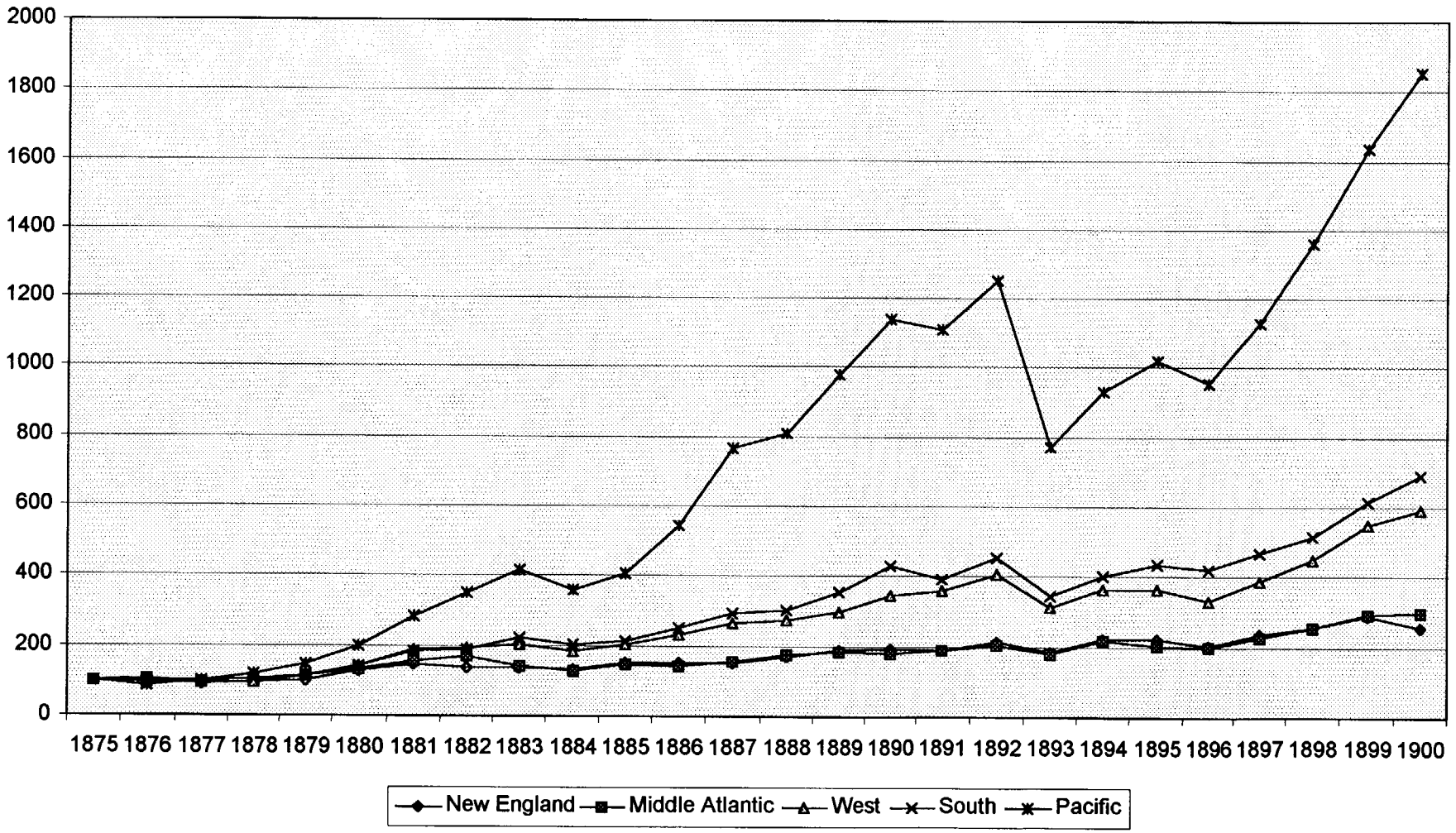


Figure 3
Deposits of National Banks by Region, 1900-1914
1900 = 100

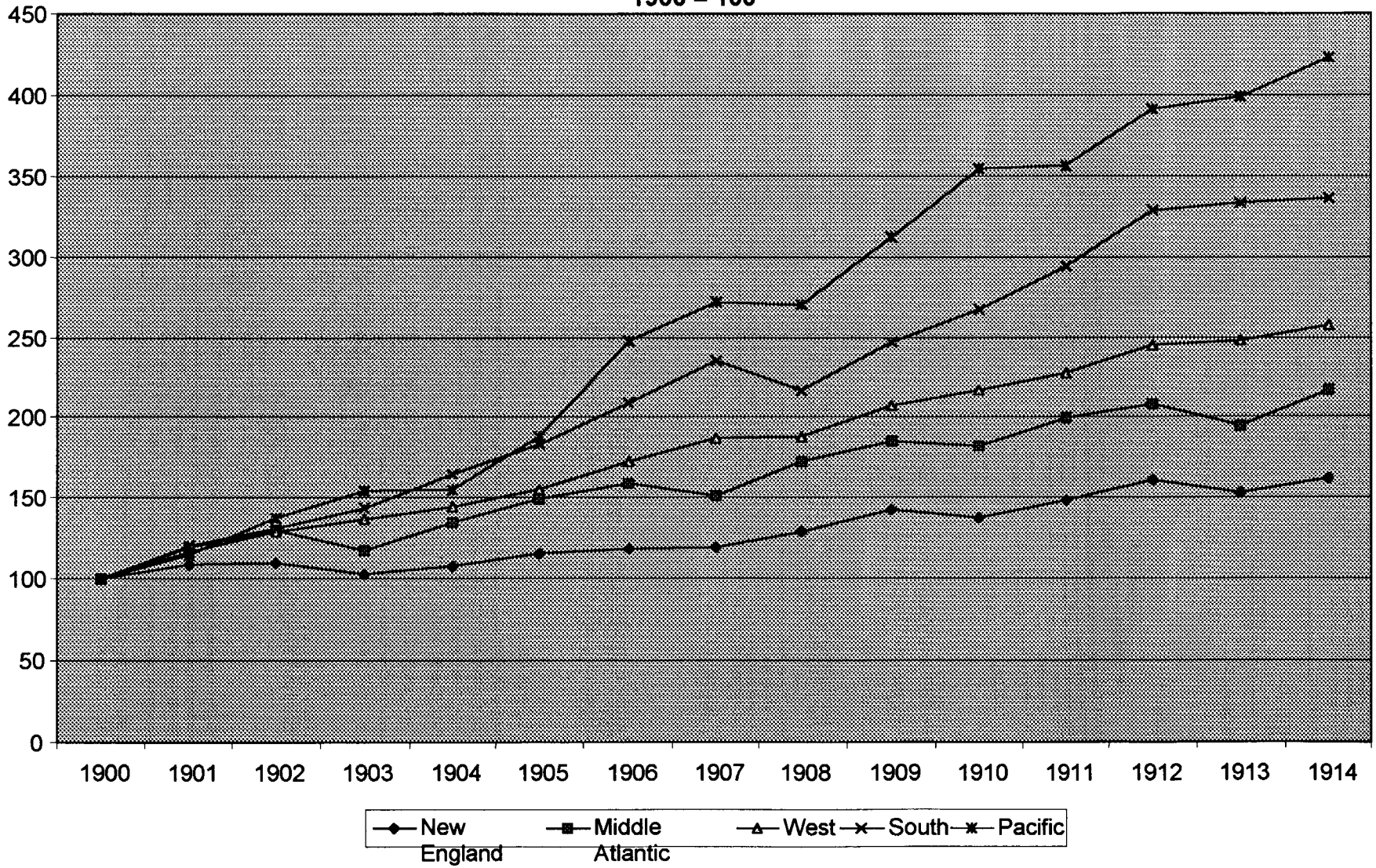


Figure 4
Deposits by Federal Reserve District 1922-1941
1929 = 100

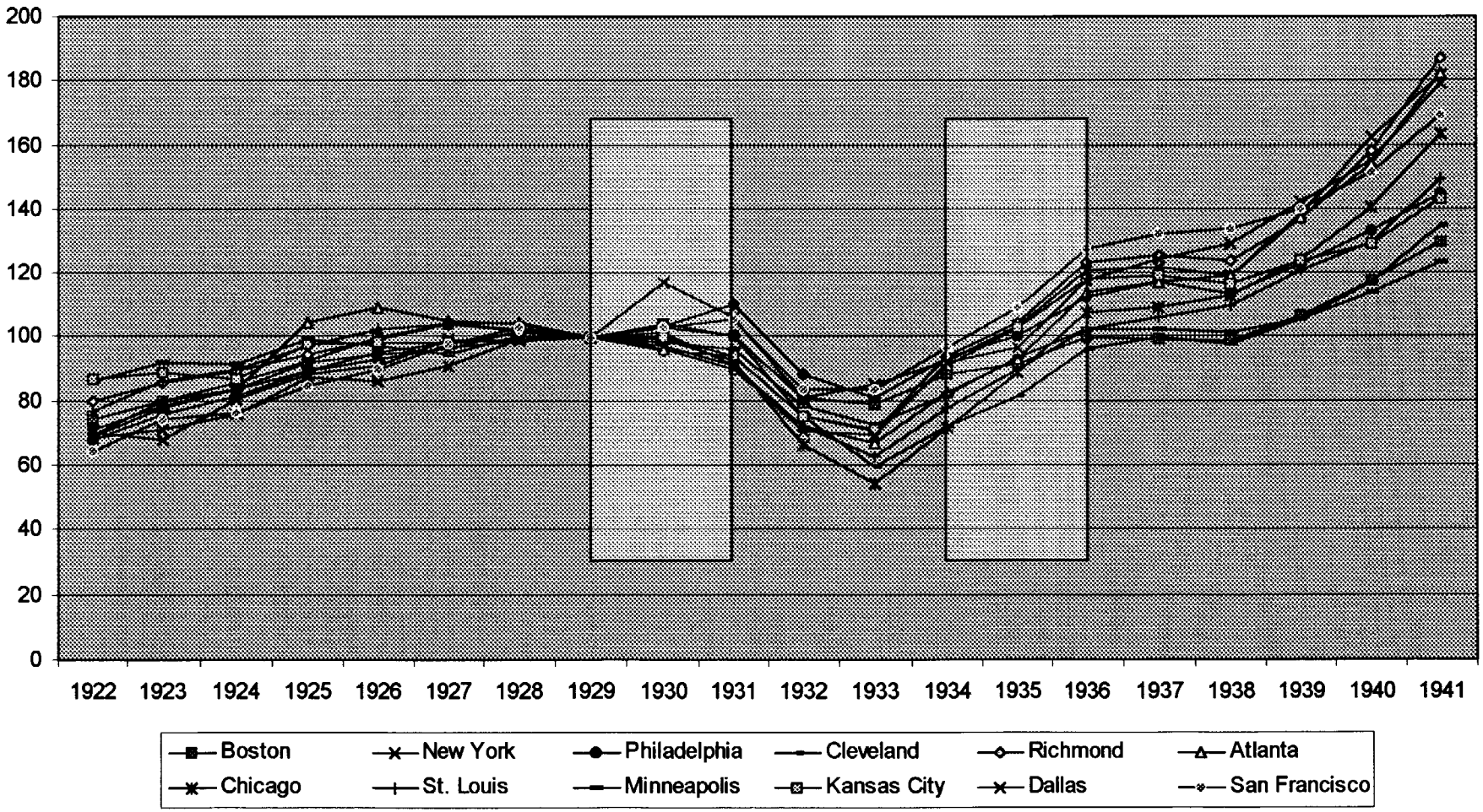


Figure 5
Deposits by Federal Reserve District
The First Two Years of the Depression: 1929-31
1929 = 100

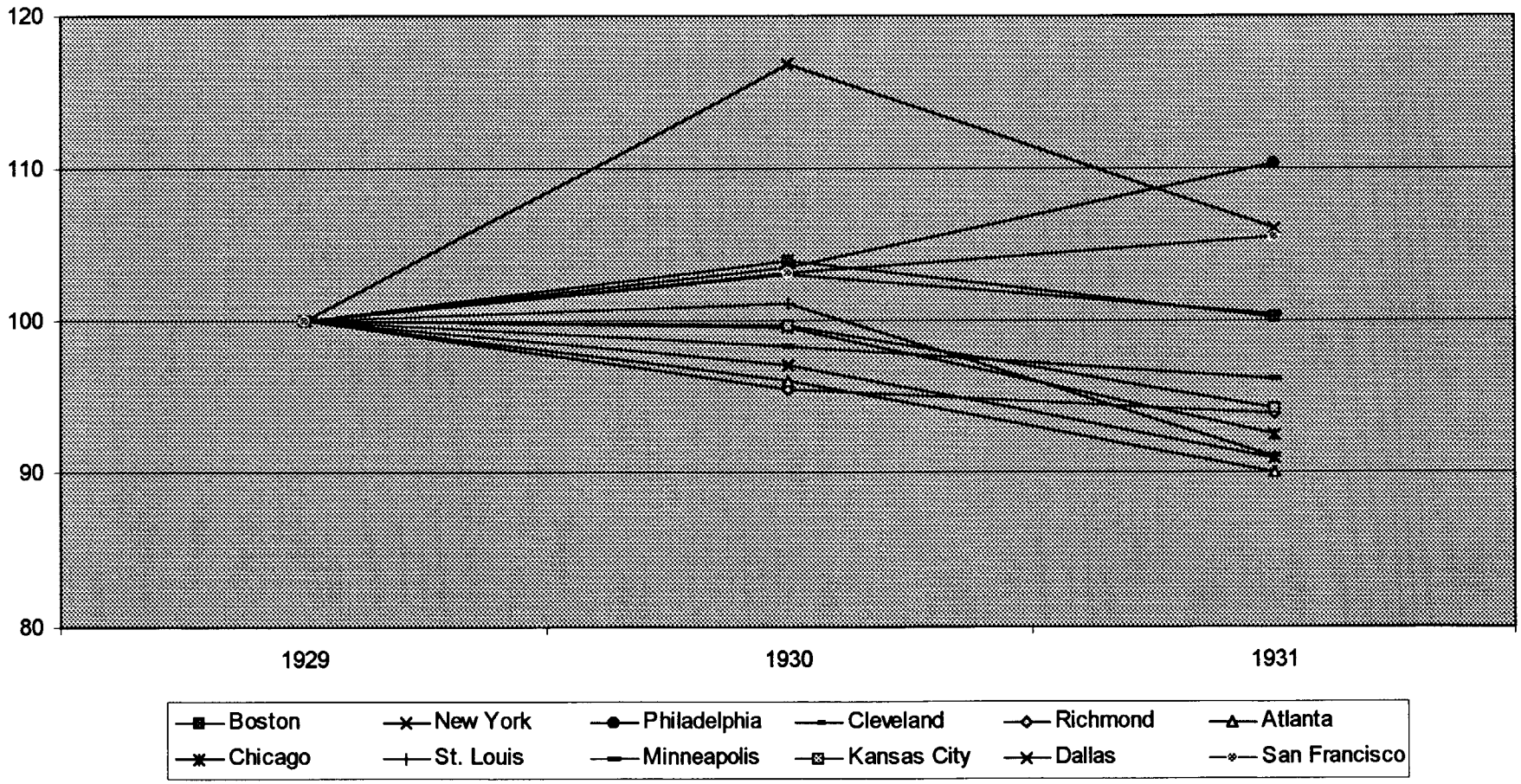
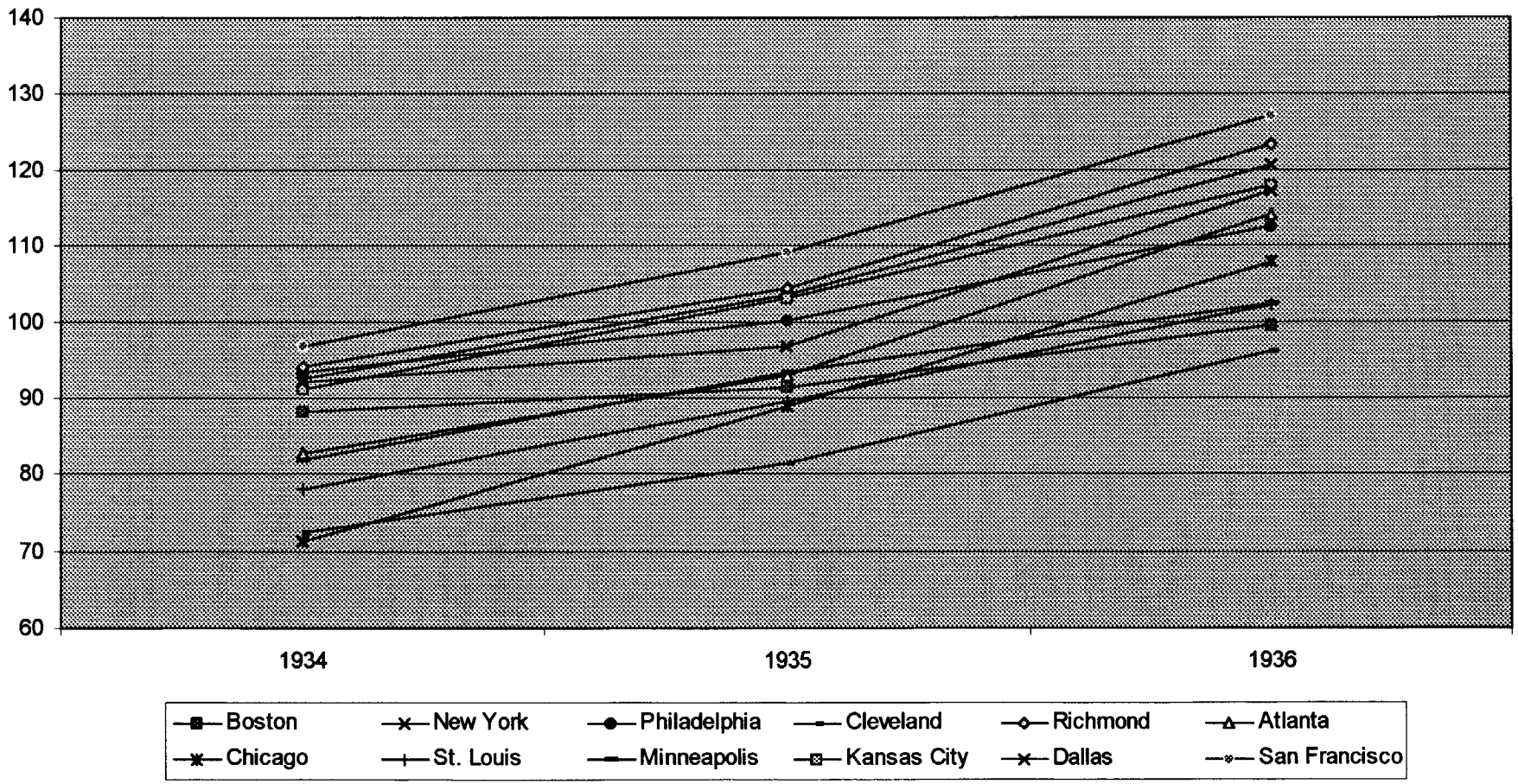


Figure 6
Deposits by Federal Reserve District
Before the Doubling of Reserve Ratios: 1934-36
1929 = 100



Appendix: Sources of Data

Deposits: 1875-1914.

Exact figures on the stock of money by region are not available. The amount of coins within the United States, for example, can be estimated from figures on minting and imports and exports, but the amount within any one region cannot be estimated accurately. But figures on deposits, and in some periods bank notes, by place of issue (although not by where they are held) are available. Fand (1954, pp. 72-76) estimated deposits in Non-national banks in four regions: New England, Middle States, Southern States, and Western states for the years 1875-1896. These regions do not correspond exactly to economic regions. Perhaps the main problem from this perspective is the combination of the Pacific Coast with the other western states. It would be, however, extremely time consuming to build up separate estimates for the non-national banks for this region, so I have relied on the national bank data to provide a picture of the Pacific Coast. To Fand's estimates of deposits in non-national banks, I added deposits of national banks. The source is a table by state that appeared regularly in the *Annual Report of the Comptroller of the Currency*. U.S. Comptroller of the Currency (1920, pp. 307-343). I have also relied on the National Bank Data for a picture of the period 1896, although I am now working on more complete statistics. The regions are defined as follows.

(1) **New England**: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.
(2) **Middle Atlantic**: Delaware, District of Columbia, Maryland, New Jersey, New York, and Pennsylvania.
(3) **South**: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia, and West Virginia.
(4) **Middle West**: Illinois, Indiana, Indian Territory, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, Oklahoma, and Wisconsin.
(5) **Pacific Coast, Western states, and Territories**: Alaska, Arizona, California, Colorado, Dakota Territory, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, Puerto Rico, South Dakota, Utah, Washington, and Wyoming.

Deposits: 1914-1941.

For this period I have switched to Deposits by Federal Reserve District because the data is readily available; U.S. Board of Governors of the Federal Reserve System (1943, pp. 688-927).