The Great Depression and the New Deal in America

Chapter for the Handbook of Cliometrics

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The Great Contraction

The Great Contraction was the worst economic disaster in American history. The unemployment rate in Table 1 skyrocketed from 2.9 percent in 1929 to nearly 16 percent in 1931 and then rose above 20 percent in 1932 and 1933. The annual unemployment rate has only been higher than 10 percent in one other year, 1921, outside the 1930s. A significant share of the population was not counted as unemployed because they became discouraged and stopped looking for work. People who kept their jobs often saw their average weekly hours decline by as much as one-fourth as companies tried to share work among more employees.

If anything, the output statistics were worse. In 1930 Americans produced almost 10 percent fewer final goods and services per person than in 1929, as seen in Table 1 and Figure 1. Outside of the 1930s there were only two worse years in American history, during the 1907 Panic and during the military demobilization in 1946. Yet that was only the first year of the Great Depression. In 1931, the U.S. produced 16 percent less per person than in 1929, in 1932 27 percent less and in 1933 roughly 29 percent less. It is hard to conceptualize such a drop in GDP. In 1932 and 1933 the drops were the equivalent of shutting down the entire economy west of the Mississippi River. Annual real GDP per capita did not reach its 1929 level again until 1939.

Meanwhile the price level dropped like a stone. Table 1 shows a fall of 26 percent over four years. Some saw this "deflation" as good news. Workers who kept their jobs at the old wage could now purchase 26 percent more. But those who owed money, on homes or on the relatively new credit accounts, suddenly saw the values of the dollars that they had to pay back rise markedly. Lenders might have fared better with the more valuable repayments if so many people had not been forced to default on their loans. After taking into account the depreciation of buildings and equipment, net investment in the U.S. ground to a complete halt and then turned negative in one year. Total corporate profits were negative for the years 1932 and 1933. The small percentage of the population owning stocks saw the Dow Jones Stock Index in Figure 1 fall by roughly 90 percent over the four-year period. If you could sell your house in whatever market was left, you were likely to get 40 to 60 percent less than in the late 1920s in some cities.[1]

The statistics cannot do justice to how bad the economy was. Families ran through their savings and then still had to find ways to survive. As 2 to 3 percent of the nonfarm population lost their homes to mortgage foreclosures each year, some people moved in with extended family. A large group of dispossessed lived in tent colonies or slept under newspapers renamed "Hoover blankets." Others wandered the countryside looking for work and food. The feature of American society hit hardest was the optimistic spirit associated with the Horatio Alger stories. In the past the watchword was to work hard and success would come your way. People who had worked hard all of their lives suddenly found themselves unemployed for long stretches of time. Pessimism about the future soon took hold, making it that much harder to spur a recovery.

Why?

Economists have plenty of answers but they do not all agree on how much weight to give each cause. The start of the Depression may have been a natural outcome of the boom and bust cycle in the economy. Investment expanded rapidly in the 1920s with the development and diffusion of new technologies like the automobile, electricity, radios, and many new appliances. The boom in the stock market caused the Dow Jones Stock Index to rise from a low of 63 in 1921 to a peak of 381 in 1929. Construction of all types exploded. The number of building permits for housing in urban areas between 1922 and 1928 nearly doubled or more previous

[1]See the new estimates developed by Fishback and Kollmann (2014).

highs in the economy. The optimism that led to the investment boom was matched by the willingness of banks, insurance companies, and buildings and loan to lend. Stocks were sold on margin, consumers could buy new autos and appliances on installment plans, and mortgage loans expanded rapidly. Some lenders packaged mortgages for resale to investors in mortgage-backed bonds. In many ways the 1920s boom and the recession that started in 1929 match Joseph Schumpeter's (????) description of increasing enthusiasm leading to overbuilding and overinvestment followed by corrections that lead to recessions until the actual demand for goods catch up.

Standard business cycle explanations of an overheating economy can only really explain the start of the Depression. It makes sense, for example, that after the number of building permits in Table 1 peaked in 1925 at 937 thousand, nearly double the amount from any year before the 1920s, that the number would fall back. By 1929 the number had nearly halved to 509 thousand, which was still much higher than at the beginning of the 1920s. But what explains a decline to a low of 93 thousand in 1933? What explains an all-time high unemployment rate over 20 percent, and the largest drop in output in history?[2]

Since the Wall Street Crash occurred in late 1929, the timing seems to imply that the stock crash was a major cause of the Great Depression. The Dow Jones Stock Index in Figure 1 peaked that year when it closed at 381on September 3, 1929, soon after the recession had started in August. The most spectacular loss occurred when the Dow declined 24 percent from its previous Friday's close at 301 over Monday and Tuesday, October 28 and 29. It then dropped to

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[2] Estimates of building permit information are from series Dc514 from Kenneth Snowden, "Housing," in Susan Carter, et. al. Millennial Edition of the Historical Statistics of the United States, Volume 4. New York: Cambridge University Press, 2006, p. 4-481.]

a low of 198 on November 11. Stocks then recovered. By April 1930 the Dow was challenging the levels had reached just before Black Tuesday. It then sunk in fits and starts to a low of 41.2 on July 8, 1932.

Most economists believe that the Stock Crash was not the predominant cause of the Great Depression for several reasons. Stock market values have fallen sharply on numerous occasions without consequent declines in the real economy. The spectacular drop in 1987 barely impacted the real economy and even the most recent decline of nearly 40 percent in the stock market in 2008 was followed by only one negative year of real output growth.

Economists who assign the biggest role to the stock crash talk about how the crash led to greater uncertainty that cause consumers to cut back on purchases of durable goods like autos and refrigerators. Additionally, the crash created problems for stockholders who struggled to repay their loans or could no longer borrow, which in turn made it more difficult for banks to have enough funds to lend for new investments. But a relatively small share of the population owned stocks at the time, so the vast majority had little invested in the stock market crash. The long length of the stock market's fall to its extremely low 1933 depth suggests that the market might well have been responding to the changes in the economy rather than being a cause of the decline in the economy.[3]

Explanations of the Depression's cause often lead to answers that still leave much to be explained. Speculations about a decline in consumption as a prime cause just pushed the question back one level because scholars know little about why consumers bought less. Others have focused on a series of negative productivity shocks on the supply side of the economy as

[3]Christina Romer (1990) and Frederic Mishkin (1978) of modern economists assign the largest role to the stock crash. For other discussions of the causes of the Great Depression in laymen's language see Smiley and Randall Parker's (20??, 20??) volumes of incisive interviews with many of the leading economists who have written on the Depression..

causes. Yet, no one has had much success in identifying the exact nature of these shocks. Others point to increased uncertainty.[4]

Whatever was happening in the private economy, it was not helped by the economic policies chosen by Congress, President Hoover, and the Federal Reserve Board. Nearly everybody agrees that the Federal Reserve Board's monetary policy helped turn a recession into a major Depression. The primary disagreements center on how much blame the Fed deserved and why they followed such an inadequate policy. The economy of the early 1930s was the Federal Reserve's first great test. Sadly, the Fed failed it.[5]

Through 1935 the Fed had two major tools for influencing the money supply. They could buy and sell existing bonds in "open market operations." They could also adjust the "discount rate" at which member banks borrowed funds from the Fed to meet reserve requirements. In response to bank failures in a panic or a general downturn, the Fed could increase the money supply and stimulate the economy by buying bonds and/or lowering the discount rate.

In making policy the Fed also had to pay attention to the international gold standard. To remain on the gold standard, the Federal Reserve and U.S. banks had to stand ready to pay an ounce of gold for every $20.67 in Federal Reserve notes. This meant holding adequate U.S. gold reserves to make the promise believable. If changes in the relative attractiveness of the dollar led the U.S. supply of gold to fall below the appropriate level, the Fed was expected to take actions

[4]For the consumption arguments see Temin (197??) and Romer (1990). For negative productivity shocks see the work of Prescott?????, Kehoe, Chari, and McGratton (????).

[5]Friedman and Schwartz (196??) led the way in developing this monetarist argument. The argument was debated heavily in 1970s and 1980s, and the debate is are nicely summarized in Atack and Passell (19???). Some challengers became more accepting of the argument when it is tied to reliance on the gold standard. Real business cycle economists tend to give less weight to the monetarist argument but real business cycle economists Harold Cole and Lee Ohanian are willing to assign as much as 30 percent of the blame for the Depression to Federal Reserve Policy. For a summary of more recent work from the 1990s and 2000s, see Fishback (2010, 2013).

to make the dollar more attractive. At the time the standard policies in response to gold outflows included raising the discount rate and selling (or at least reducing purchases of) existing bonds. In an attempt to slow the speculative boom in stocks, Federal Reserve policy in 1928 and 1929 aimed at slowing the growth of the money supply. Over the next four years there were a series of negative shocks to the money supply, including the stock market crash in 1929, banking crises in 1930-31, 1931, and 1932-3, and Britain's abandonment of the gold standard in September 1931. The Federal Reserve's response to these crises might best be described as "too little, too late," as it allowed the money supply to fall by 30 percent.

The policy makers at the Fed thought they had applied a great deal of stimulus to the money supply when they cut the nominal discount rate in eleven steps from 6 percent in October 1929 to 1.5 percent in 1931. The rates seem low but had little effect because rapid deflation raised the value of dollars that borrowers had to repay in ways that caused the real discount interest rate to rise as high as 10.5 percent. In the minutes of their meetings, the policy makers did not mention the impact of deflation on real interest rates as a concern (Blinder 200??).

When Britain left the gold standard in 1931, the Fed felt that it had to stop an outflow of gold to Britain by raising the discount rate back to 3.5 percent in late 1931. Adjusted for deflation the discount rate in real terms reached 14 percent. Even though the rate was lowered again, the deflation left the real discount rate at 15.2 percent at one point in 1932. This is nearly triple the next highest real discount rate of 5.8 percent that has been reached after 1933. The deflation, itself a result of the fall in the money supply, made the discount rate a nearly useless tool for the Federal Reserve.

The Fed's other alternative was to make "open market purchases" of bonds. Its boldest move was an open market purchase of $1 billion in bonds over several months in the spring of

1932. By that time output in the economy had sunk by 30 percent and the unemployment rate was over 20 percent. Had the Fed offset the banking crises in 1930-31 with a $1 billion purchase, the damage likely would have been limited and the murkiest depths of the Depression avoided.

Why was the Federal Reserve so recalcitrant? In part, the Fed was following the same policies toward banks that they followed in the 1920s. Between 1920 and 1929 the Federal Reserve and state bank regulators allowed an average of 630 banks per year to suspend operations. Most of the banks were small and a good case could be made that they had made bad loans and investments that could not be salvaged. As the economy deteriorated between 1930 and 1933, banking problems worsened dramatically as bank runs led to a reduction in the number of banks from 25 thousand to 17.8 thousand. In many cases the suspended banks looked as bad as the banks that failed in the 1920s. Fed policy was not uniform across the country. The Atlanta Fed had some success at staving off bank failures and declines in the southern economy by providing large amounts of reserves quickly to banks that faced bank runs. The quick backing allowed the banks to reassure all of their depositors, who then re-deposited their money.[6]

The Fed's focus on keeping the U.S. on the gold standard also created significant problems. To combat the downturn the Fed wanted to stimulate the money supply and thus the economy, but changes in international markets were forcing them to do the opposite to remain on

[6]Wheelock (19??) uses econometric methods to show that the statistical relationships between Fed policy instruments and the economic factors on which policy makers focused did not change between the 1920s and early 1930s. Wheelock and Richardson and Troost talk about differences in policiies at the regional Federal Reserve Banks. For discussions of the declines in asset quality and bank suspensions, see Calomiris and Mason AER

the gold standard. Once the U.S. left the gold standard in 1933, the economy began to improve.[7] The slow reaction to the bank panics during the 1930s was grouped with a series of policy blunders in other areas. The Hawley-Smoot Tariff Act of 1930 in the United States raised tariffs to levels that restricted U.S. imports. Other countries responded by erecting their own barriers to trade, especially after Britain went off the gold standard in September 1931. The result was a downward spiral in world trade. In the U.S. per capita exports and imports in Table 2 were cut in half by 1933. Tariffs lead to a variety of inefficiencies in the economy but the impact on real GDP per capita during the Depression was relatively small because exports were only about 6 percent of GDP in good times, while net exports were typically less than a half percent.[8]

Until the 1930s wages and prices had typically declined during downturns. The declines in the past often had contributed to a surge in purchases of consumer goods and in hiring workers that helped turn the economy around. President Hoover held conferences in 1929 to ask leading manufacturers in the country to run a job sharing policy that cut weekly hours so that workers would not lose their jobs and to hold wages stable, so that weekly earnings would not fall drastically. A number of large firms followed his dictate, waiting until the middle of 1931 before cutting hourly wages. In asking manufacturers to follow the job sharing model, the Hoover administration hoped that keeping more workers employed with stable wages would leave them with enough buying power to keep the economy moving, despite their losses in weekly earnings. In 1932 he signed the Norris-LaGuardia Act, which outlawed several anti-union practices and

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[7] In the debates over why the Federal Reserve was slow to react, scholars offer a variety of explanations. Most agree that adherence to the gold standard was a factor but they assign different weights to the importance of the policy as a cause of the Fed's actions.

[8] Irwin (????) provides a detailed description of the political economy of the tariff and argues that the size of the tariff increase was not as large as many have stated.

gave unions more power to organize and hold the line on wages. Following their introduction, the economy continued to slide, and even union membership fell 11 percent over the next year.[9]

Faced with increasing unemployment, President Hoover did not press for the federal government to start providing new welfare programs. Instead he followed the path set by the long-term federal structure of governments. Since colonial times, responsibilities for caring for the poor and the disabled had resided in local governments. States began playing a bigger role after 1909 by establishing mothers' pensions, workers' compensation, aid to the blind, and old age assistance.

Hoover also strongly believed in "voluntarism," as can be seen in his efforts to jawbone manufacturers into paying high wage rates. He thought the federal government should help organize efforts by others to resolve the problems. The government might help through loans. When faced by struggling farmers who demanded subsidies to control production and raise prices, the Hoover administration instead supported the provision of $500 million in loans through a Federal Farm Board. To aid the unemployed, he formed the President's Emergency Committee on Employment in 1930 to aid private organizations as they sought to help the poor. This group morphed into the President's Organization for Unemployment Relief in 1931. Eventually, in the summer of 1932 he signed legislation to offer $300 million in loans to local governments to aid them in poor relief.

Faced with large-scale bank failures, Hoover convinced bankers to set up the National Credit Corporation (NCC) to aid troubled banks. When the NCC fell short, Hoover and the

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[9]Lee Ohanian (2009 JET) argues that Hoover's jawboning was a major contributor to the Great Depression, arguing that employers followed the policies in part due to fears of the strength of unions. This is somewhat puzzling because union membership declined 3 percent in 1931, and 9 percent in 1932, which seems to imply declining union power. [Rose JEH 2010, Ohanian JET 2009, Selgin, Neumann, Fishback, Taylor Hoover's memoir.

Republican Congress mimicked loan programs from World War I and created the Reconstruction Finance Corporation (RFC) in February 1932 to make loans to troubled banks, industries, and the farm sector. The bank loans were not effective at preventing suspensions because banks had to hold assets as collateral for the RFC loans and thus could not sell them to pay depositors if trouble arose. The RFC was more successful at saving the banks when it began taking short run ownership stakes in the banks (Mason, Calomiris, et.al.). RFC ownership stakes set precedents for the moves by Treasury Secretary Henry Paulson and Fed Chair Ben Bernanke to take ownership in banks in the fall of 2008.

Hoover is often seen as a fiscal policy conservative. Compared to his Republican predecessors, however, he looks like a rabid spender. From 1921 through 1929 the Harding and Coolidge administrations had run the budget surpluses shown in Figure 2. They followed the standard pattern of repaying the debt run up during World War I. In response to the worsening economy Hoover and the Republican Congress increased nominal federal outlays by 5?? Percent between 1929 and 1932. After taking into account the deflation, they raised federal outlays by 88 percent. Herbert Hoover gets less credit for this rise than Franklin Roosevelt does for the New Deal because Hoover did not create new spending agencies, he just expanded existing programs by doubling federal highway spending and increasing the Army Corps of Engineers river and harbors and flood control spending by over 40 percent.

Herbert Hoover believed in balanced budgets, as did the New Dealer Franklin Roosevelt. The debates between Hoover and Congress in 1932 over how to raise taxes to balance the budget led to two major types of tax increases. The first was a “soak the rich” effort. Less than 10 percent of households earned enough to pay income taxes in the early 1930s. In the Revenue Act of 1932, the tax rate was raised for individuals earning more than $2000 from 0.1 percent to 2 percent, the rate rose from 0.9 to 6 percent for incomes from $10 to $15 thousand. People with income over $1 million saw their tax rate rise from 23.1 to 57 percent. (U.S. Bureau of the Census, 1975, pp. 1111; Revenue Act of 1932).

The higher income tax rates did little to stem the drop in tax revenues between fiscal 1932 and 1933 because receipts from income taxes and estate taxes fell 37 percent. Some of the fall was due to tax avoidance by the very rich and the rest was due to the continued deterioration in the economy. New excise taxes helped make up the shortfall in income tax revenue, so that total tax collections stayed roughly the same in 1932 and 1933 in Figure 2. The Revenue Act tacked on new excise taxes on oil pipeline transfers, electricity, bank checks, communications, and manufacturers—particularly, autos, tires, oil, and gasoline (U.S. Bureau of the Census 1975, 1107 and 1111; Commissioner of Internal Revenue, 1933, 14-15). Unfortunately, these new taxes contributed to retarding the development of some of the new industries that might have led a recovery.

As the economy dove toward the depths of the Depression, Herbert Hoover and the Republican Congress offered a variety of new policies to combat the problems. Some, like the Hawley- Smoot Tariff and the Federal Reserve's inaction were disastrous, not only for the U.S. but for the world economy. The high-wage policies were misguided and the efforts at voluntary organization floundered in the face of such a deep Depression. The Hoover administration offered a wide range of subsidized loans and even ramped up federal spending to shares of GDP not seen in peace-time. No matter what Hoover threw at the Depression, nothing stemmed the tide. In consequence, he and the Republican Congress lost power to Franklin Delano Roosevelt and the Democrats in a landslide during the 1932 Election.

Between Roosevelt's November landslide victory and his inauguration on March 4, 1933, the U.S. economy's tailspin deepened. Industrial production, prices received by farmers and producers, real weekly manufacturing wages, and the share of corporations earning profits all bottomed out. Industrial production reached a low that had not been seen since the sharp recession in spring 1921 and since 1915 before that. The unemployment rate hovered around 25 percent, while average weekly work hours fell below 35 (from 45 in the 1920s) for the second time.

The banking sector when through another wave of failures as 633 banks suspended payments from December 1932 through February 1933. Roosevelt and Hoover disagreed over how to deal with the suspensions during the winter. Hoover pressed Roosevelt to agree to Hoover's recommended policies but would not act without Roosevelt's approval. Not wanting to be saddled with Hoover's policies, Roosevelt refused consent and decided to wait and set his own policies after the inaugural. Meanwhile, state governments had begun declaring bank holidays and restrictions on deposits paid out. By March 4, every state and Washington, D.C. had imposed some type of restriction (Wicker, p. 153). It remained to be seen what the new administration could do to turn the tide.

The New Deal and Partial Recovery

"This Nation calls for action, and action now," Franklin Roosevelt declared during his inaugural speech on March 4, 1933.[10] Two days later he announced a National Banking Holiday. Within 100 days Roosevelt and the Democratic Congress had established a "New Deal for the American public" that developed into the largest peace-time expansion of federal government activity in American history.

Over the next seven years Roosevelt and the Democratic Congress tried government solutions to dozens of problems in the American economy. When they saw a problem, they tried to fix it with more spending or new government regulation. But in many cases a policy designed to fix one problem contradicted the fix for another problem. For example, when they tried to raise prices in the farm sector by limiting production, they contributed to increased unemployment among farm workers while also raising prices for food for workers and the unemployed, leading to reductions in their standard of living.

Monetary Policies

Within two months of taking office Roosevelt had completely reversed the monetary policies of the early 1930s. His goal was to shift expectations from continued deflation to anticipated inflation. Roosevelt announced his goal of higher prices for farmers and producers and higher wages for workers on numerous occasions. The National Bank Holiday closed all banks and thrift institutions temporarily, while auditors examined the banks. Banks declared

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[10] Inaugural Address of Franklin Delano Roosevelt. Dowloaded on June 10, 2010 from http://www2.bartleby.com/124/pres49.html.

sound were soon reopened. Insolvent banks were reorganized, some with Reconstruction Finance Corporation backing. These seals of approval for the reopened banks helped change expectations about the solvency of the bank system.[11]

By June Roosevelt had taken the U.S. off of the Gold Standard and appointed Eugene Black from the Atlanta Fed as the Chair of the Federal Reserve Board. Under Black, who had saved many southern banks facing bank runs by flooding them with cash, the Fed began to focus on monetary expansion (Richardson and Troost, 2009). Between April and May the discount rate was cut from 3.5 to 2.5 percent. It then fell to 2 percent by the end of the year, to 1.5 percent in 1934, and then to 1 percent in 1937. The return of inflation meant that the real discount rate through 1937 was negative, a sharp contrast to the double-digit positive real discount rates during the Hoover era.

The move off of the Gold Standard and the devaluation of the dollar to $35 dollars per ounce of gold combined with political events in Europe to cause a flow of gold into America. The economy began to recover. This same pattern was repeated throughout the world. In country after country, as central banks sought to maintain the gold standard their domestic economies continued to sink. As each left the gold standard, their economies rebounded.[12]

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[11] For discussions of the Bank Holiday, see. For discussions of the reversal of policy to fight deflation see Temin and Wigmore (1990) and Eggertsson (2008).

[12] Eichengreen, Temin and Wigmore, Kindleberger,. Eggertsson]

The Fed's emphasis on raising the money supply lasted through three years of recovery, as real GDP per capita neared its 1929 level in 1937 in Figure 1, and the unemployment rate fell toward 14 percent in Figure 2. In 1935, the Fed gained control of an additional policy tool, "reserve requirements," the share of deposits banks were required to hold in reserve. Unfortunately, by August 1936 the Fed had begun to fear that banks were holding large excess reserves above and beyond the required reserves. Fearing that the banks would begin lending the excess reserves, raise the money supply, and create rapid inflation, the Fed doubled the long standing reserve requirements in three steps on August 16, 1936, March 1, 1937 and May 1, 1937. The Fed had failed to recognize that the banks were holding so many excess reserves to protect themselves against bank runs. The banks' experience of the past decade had given them little confidence that the Fed would act as a lender of last resort. Therefore, the banks increased their reserves to make sure that they retained some excess reserves as a cushion above the newly doubled requirements. These changes were followed by a spike in 1938 in unemployment to 19 percent in Figure 2, and a decline in real GDP per person back to its 1936 level in Figure 1.[13]

Fiscal Policy

All agree about the nature of monetary policy. The myth that seemingly will not die, however, is the idea that Roosevelt followed the doctrines of John Maynard Keynes in using government spending to stimulate the economy. In *The General Theory of Employment, Interest, and Money* from 1935, Keynes argued that the economy can settle into an equilibrium at less than full employment, particularly when there are factors blocking wage and price adjustments.

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[13]This description is based on Friedman and Schwartz (1963). For a view that puts less emphasis on the Fed's role, see Romer (1992) ??calomiris???.

Increases in government spending and/or reductions in taxation that lead to larger budget deficits are methods for pushing the economy toward full employment. Because the New Deal ramped up government spending under the New Deal, people have mistakenly presumed that Roosevelt followed a Keynesian policy.

Although by 1939 the Roosevelt administration had raised real per capita government outlays by nearly 70 percent in Figure 1, the per capita tax revenues shown there rose at roughly the same pace. As a result, the budget deficits in Figure 1 do not look much different from the deficits the Hoover administration ran in fiscal years 1932 and 1933. Economists and economic historians, including Keynes himself, have long known that Roosevelt did not follow Keynes' dictates. Keynes even wrote an open letter to President Roosevelt published in newspapers in late December 1933 saying that the increased spending was good but the increase in tax revenues was reducing the stimulative effect. [Keynes letter, Brown, Peppers]

Both federal outlay and the size of deficits fell well short of the Keynesian recommendation given the size of the shortfall in real GDP. The bottom line in Figure 1 is the difference in real dollars between GDP per person in the year marked on the graph and in 1929. The GDP per person shortfall was $1,987 in 2013 dollars in 1934. Government outlays in that fiscal year were only about $436 per person more than they had been in 1929 and the deficit was only $455 per person more negative than it had been in 1929. To even begin to be close to the size of a Keynesian stimulative policy designed to get to full employment, the deficit would have needed to be at least 3 times as large and probably larger.

Roosevelt's tax rate policies made matters worse by chilling incentives for investors. After some minor tinkering in 1934, income tax rates were raised again for people earning over

$100,000 in 1936. The top rate went from 57.2 to 68 percent for people earning over $1 million. The National Industrial Recovery Act of 1933 instituted a tax on capital stock, dividends, and excess profits that was collected through the rest of the 1930s. In 1936 a surtax was added on profits that were not distributed as dividends. None of these new tax rates generated a great deal of tax revenue, but they did create the wrong incentives for investment. Sadly, the companies least able to avoid the highest marginal rate of 27 percent on undistributed profits were smaller, faster growing firms that were not yet able to obtain external financing (Calomiris and Hubbard 1993). Most of the growth in tax revenues came from natural increases in tax revenues as the economy recovered, a temporary processing tax on agricultural goods that ended in 1935, and the renewed collections of alcohol taxes after the end of Prohibition.

The Roosevelt administration's best tax policy was its relaxation of the some of the tariff barriers imposed in 1930. The Reciprocal Trade Agreement Act of 1934 freed Roosevelt to sign a series of tariff reduction agreements with Canada, several South American countries, Britain and key European trading partners. As a result, American imports rose from a 20-year low in 1932-1933 to an all-time high by 1940.[14]

Alphabet Soup

The New Deal combined expansions in federal spending and regulatory roles in a proliferation of acronyms for new agencies. Some were temporary, like the Federal Emergency Relief Administration (FERA) and the Works Progress Administration (WPA) relief agencies, but the vast majority became permanent parts of the economic landscape.

[14]For historical comparisons of the impact of tariff rates, see Irwin (1998). Kindleberger (1986, 170) and Atack and Passell (1994, 602) describe the international trade developments in the 1930s.

The agencies that distributed the most grant money provided relief to the poor, built public works, and paid farmers to take land out of production. When the FERA was established during the first 100 days, the federal government took responsibility for the first time for aiding the poor and the unemployed.[15] The FERA provided both direct relief payments and work relief jobs through 1935, when responsibility for "unemployables" was returned to the state and local governments and the WPA took over the provision of work relief. Meanwhile, the Public Works Administration (PWA), Public Roads Administration (PRA), and Public Building Administration (PBA) were new agencies that continued the federal government's role in funding the building of large dams, federal highways, federal buildings, and improvements to federal lands while also aiding state and local governments in building their own projects.

A series of studies in the past 20 years show, on net, that the public works and relief spending were beneficial to the communities where they were built. Nearly all of the studies are based on panel data sets with multiple years of data for each locations. The methods for identifying the effects typically examined the impact of changes over time within the same location after controlling for nation-wide shocks to the economy. They used methods to avoid negative feedback effects that arose from the government providing more funds in areas where the economy was bad. An additional dollar of public works and relief spending in a state raised income in the state by between 67 cents and $1.09. Areas with more public works and relief projects saw increases in retail sales, drew more internal migrants, experienced less crime, and had lower death rates from infant mortality, suicides, and infectious disease.[16]

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[15] The federal government had long provided benefits and disability payments for its administrative employees, soldiers and veterans.

[16] (See Fishback, 2010 or Fishback, Allen, Fox, and Livingston 2010 for a survey)

The Social Security Act of 1935 established a new long run set of social insurance institutions. The new old-age security pension program, what people now call social security, called for taxes on employers and workers to finance pensions for retired workers. Unemployment Insurance (UI) required that employers pay into funds that would provide benefits when their workers became unemployed. Although many states had already set up programs to aid widows with children, the poor elderly, and the blind, the Social Security Act helped expand these programs by federal government provided matching grants that improved benefits and gave states incentives to create the programs if they had not already. The states spent the most on the needs-based old-age assistance programs. These programs encouraged the elderly to live on their own and retire, although they did not have much impact on the death rates of the elderly.[17]

In contrast, the AAA farm program was specifically designed to reduce output and raise farm prices with an aim to raise farmer's incomes from a decade of doldrums. In the final analysis the AAA led to a significant redistribution of benefits to landowning farmers away from consumers, farm workers and some farm tenants. Large farmers were the chief beneficiaries of the payments and whatever price boosts occurred. The reduction in land under cultivation generally reduced the demand for labor and thus made it more difficult for farm workers and share croppers to find work. Recent estimates of the local effect of the AAA show that counties receiving more AAA spending saw no change or a negative effect on overall economic activity and experienced some out-migration.[18]

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[17] See Costa (1999), Stoian and Fishback (2010), Parsons (1991) Balan-Cohen (2009), Friedberg (1999).

[18] See Fishback, Horrace, and Kantor (2005, 2006); Depew, Fishback, and Rhode (2013); Fishback, Kantor, and Wallis (2003).

The financial disaster led to a variety of new financial regulations. Since the 1930s the SEC has monitored the stock markets, set reporting requirements for firms issuing stock, combated insider trading, and enforced rules on market trades. To stem the tide of future bank runs on deposits, the FDIC and FSLIC provided federal government insurance of deposits in banks and savings and loans. Limits were set on the types of investments that could be made by commercial banks and savings and loans. Regulation Q prevented payment of interest on checking accounts.[19]

In the moribund housing sector, states had tried to prevent foreclosures with moratoria laws that allowed home and farm owners to delay payments on their mortgages. The laws had the unfortunate effect of raising the risk of making loans because lenders could not be sure the states would not prevent repayments again (Alston and Rucker). The result after the moratoria were eliminated was higher interest rates and much more restricted lending during the recovery. The HOLC bought over one million mortgages that were in danger of foreclosure "through no fault of" the home owner and then refinanced them on generous terms. The purchases almost fully replaced the bad loans on the lenders' books while helping about 80 percent of the borrowers remain in their homes. Given the uncertainty about the program the upfront subsidy to housing markets probably was as high as 20 to 30 percent of the value of the loans, although after the fact, the HOLC only had losses equal to about 2 percent of the loans. The program also helped stave off further drops in housing prices and homeownership (Fishback, Rose, and Snowden (2013). In 1934 the Federal Housing Administration was formed to offer federal insurance for mortgage loans both for new and existing homes and for repair and reconstruction.

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[19] For detailed accounts of the banking regulations, see Mitchener and Richardson (2013), Calomiris (), Mason and Mitchener (2013).

In 1938 Fannie Mae was established as a government corporation to provide a secondary market for mortgage loans in which banks could sell the loans as assets and then use the funds to make new mortgages.

The most controversial economic agency created by the New Deal was the National Recovery Administration (NRA). Between 1933 and 1935, when it was declared unconstitutional, the NRA fostered the development of “fair” codes of competition in industry. Industrialists, workers, and consumers in each industry were expected to meet and establish rules for minimum prices, quality standards, and trade practices. The workers were to be protected by minimum wages, limits on work hours, and rules related to working conditions in ways that looked like the job-sharing proposals Hoover had made earlier. Section 7a of the NIRA established standard language for the codes that gave workers the right to bargain collectively through the agent of their choice. Once the code was approved by the NRA the codes were to be binding to all firms in the industry, even those not involved in the code writing process. One of several goals was to prevent the “destructive” competition that some of Roosevelt’s advisors believed had caused the deflation. The advisors expected that firms allowed to raise prices would sell more. Hours limits were put in place to allow more workers to remain employed, while the wages were raised to help reduce the losses in weekly earnings from the cut in hours.

The NRA might have had a beneficial macroeconomic effect to the extent that it contributed to shifting people’s expectations from deflation to inflation.[20] However, from a microeconomic perspective, the NRA was the antithesis of antitrust policy at any other time in American history. U.S. law had always banned cartels and price-fixing agreements in restraint

[20] See Temin and Wigmore (1990) and Eggertsson (2008, 2013??) for this argument.

of trade. Suddenly, the federal government gave industry leaders antitrust exemptions and cartel-like powers to set prices, wages, and output. Many were written by industry trade groups with little input from unions who were relatively weak at the time. Even worse, the federal government became the enforcer called on to prevent the natural tendency for firms to break away from cartel agreements. A recent study of the timing of the industry codes and their impact on the industries served to raise hourly wages and lowered hours worked in ways that cut the average weekly wage. When the Supreme Court struck down the NRA as unconstitutional in the Schecter Poultry case in 1935 (Need an article), no one was sorry to see the NRA go. Unlike the AAA, which was quickly reintroduced in a revised form after it was declared unconstitutional, there was little support for re-enacting the codes of competition from many quarters and the Roosevelt administration let it die.[21]

After the NRA was struck down, the National Labor Relations Act of 1935 reinstituted the section 7A right of labor unions to organize and collective bargain. An employer was required to negotiate with a union if a majority of his workers voted to unionize. A National Labor Relations Board was established to monitor elections and arbitrate collective bargaining disputes. After the Act was affirmed as being constitutional in the spring of 1937, there was a surge in union recognition strikes, and the number of members rose from 4.2 million in 1936 to 8.3 million in 1938.

[21]Bellush (1975) offers a good administrative history of the NRA. Cole and Ohanian (2004) find that the high-wage policies and retrenchment in antitrust action associated with the NRA and the Roosevelt administration's post-NRA policies significantly slowed the recovery. Alexander (1997), Alexander and Libecap (2000), Taylor (?????), Chicu, Vickers and Ziebarth (2013) discuss the problems the industries had in establishing the codes of "fair" competition and the reasons why businesses did not press for a new NRA when it was declared unconstitutional. Jason Taylor (2009) studied the impact of the NRA and the President's Reemployment Agreement on hourly wages, weekly wages, weekly hours, total hours employed, and industry output.

The Economic Record

Roosevelt's New Deal led to enormous institutional changes that have carried into the 21st century. The Federal Government took responsibility for insuring against a wide variety of potential crises with new social insurance programs and new regulations. So how did the economy do?

In 1933 Real GDP per person in Table 1 and Figure 2 was about 29 percent less than its 1929 figure. Real GDP per person neared its 1929 level again in 1937, but fell back in 1938 before finally breaking the 1929 level finally in 1939. An entire decade was spent with less output per person than in 1929. The shortfall was even worse when the long run growth path is considered. Had real GDP per person rose at its long run average growth rate of 1.6 percent per year, GDP per person in 2009 dollars would have been more than $1,000 higher than the $9,112 level reached in 1939.

One factor that might have taken its toll on the private economy was the high degree of uncertainty about what the government planned to do. The New Deal went through multiple phases, as the AAA and the NRA were struck down by the courts and the Roosevelt administration tinkered with the new regulations, new taxes were introduced then removed, and temporary agencies received new extensions. Such uncertainty can wreak havoc when businesses and workers are making longer term decisions (Higgs).

The unemployment rate did not recover as well as Real GDP did. Figure 2 shows two measures of the unemployment rate for the 1930s that differ based on whether people on work relief are categorized as unemployed or employed. Either measure shows unemployment rates during the New Deal that are among the highest in America's economic history. Between 1933 and 1937 the unemployment rate dropped, but the Fed's increase of reserve requirements, the balancing of the federal budget deficit in Figure 2, and a variety of other shocks to the economy contributed to a sharp spike in the unemployment rate in 1938. Not until 1942 did the unemployment rate fall into a more normal range.

One bright spot while digging out of the Depression was a surprisingly rapid rise in "productivity," a measure of output relative to the inputs put into the process. One scholar has described the 1930s as "The Most Technologically Progressive Decade of the Century." Partly the rise in productivity came from the large public investments in roads, dams for electricity, highways, sanitation works, and airports that had begun earlier and been expanded under the New Deal. Many of these investments set the stage for greater productivity during World War II and the postwar boom (Field book). Some of the improvements came from firms faced with high wage rates and limited working time finding new ways to organize their workers and raise output per man hour. Some of the progress came from investments in research and development laboratories by businesses in the 1920s that bore fruit in the 1930s. Much of the research was based on basic science in chemistry and engineering that led to new uses of electricity, new fabrics, and new household appliances. The television, which dominated communications in the last half of the century, was being readied for commercial applications, but the War slowed the diffusion [Field 2003] In agriculture, new hybrid seeds, tractors, automobiles, trucks, and fertilizers began to diffuse widely. The usage was likely stimulated in part by farmers who sought to raise productivity on the acres that they had not taken out of production in response to the AAA payments.

In 1940 and 1941 the economy continued to recover. The U.S. may have benefited some from the disastrous war that had begun raging in Europe. Demand rose for U.S. production of military hardware, food, clothing, and other necessities, as European production of many items was stunted by the Nazi invasions and the bombings in Britain (Gordon 20???). Consumption in the U.S. was not growing as fast as output in part because the U.S. had begun shifting a number of factories to the production of munitions. The goal was to aid the Allies through Lend Lease and to prepare for the eventuality that the U.S. might enter the war. Once Japan bombed Pearl Harbor, however, the American economy shifted swiftly to a war-time command economy.

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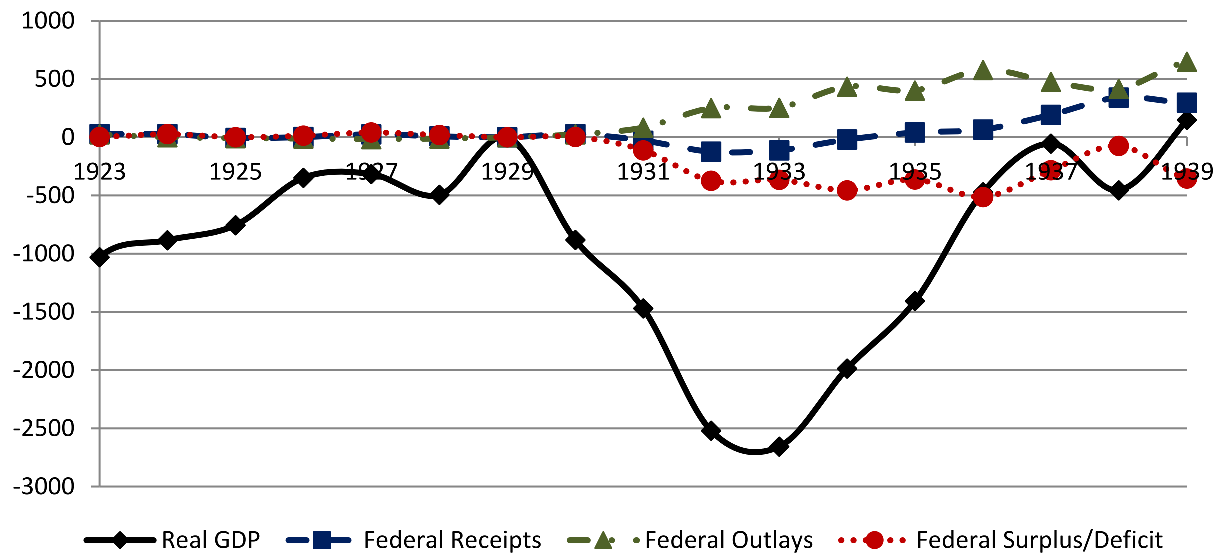
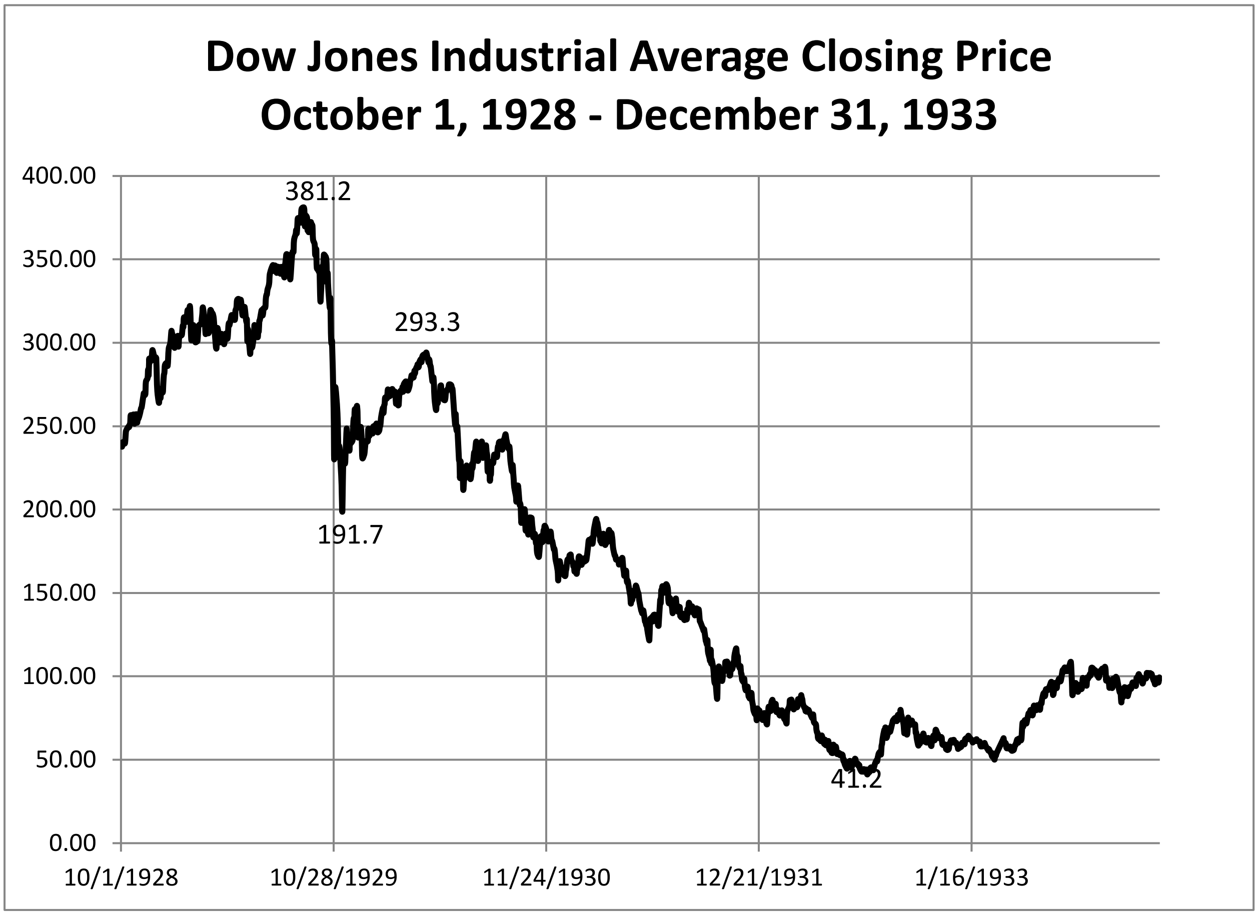
Figure 1
Per Capita Gross Domestic Product and Federal Government Revenues, Outlays, and Surplus/Deficit, Value minus 1929 Value, in 2013 Dollars), 1923-1939



Source: Fiscal years ran from July 1 through June 30, such that the 1930 value covers the period July 1, 1929 through June 30, 1930. Federal government expenditures, receipts, and the budget deficit/surplus are from series Ea584, Ea585, and Ea586 from John Wallis, "Federal Government Finances," in Susan Carter, et. al. Millennial Edition of the Historical Statistics of the United States, Volume 5. New York: Cambridge University Press, 2006, pp. 5-80 and 5-81. Population figures the GDP deflator (1996=100) are series Ca9, Ca13, and Ca14 from Richard Sutch, "Aggregate Measures and Long-Term Gross Domestic Product Series, p. 3-25 in Volume 3. The 1996 dollars were converted to 2009 dollars by multiplying by 1.32, the conversion factor based on the GDP deflator downloaded from Sam Williamson's and Lawrence Officer's Measuring Worth website on June 9, 2010 (http://www.measuringworth.com/uscompare/result.php?use%5B%5D=GDPDEFLATION&year_source=1996&amount=1&year_result=2009).

Figure 2



Source: Dow Jones Historical Data. Downloaded on June 4, 2010 from http://dowjonesdata.blogspot.com/2009/04/historical-dow-jones-data.html.