Comments on " The Great Depression as a Credit Boom Gone Wrong"

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It is a great pleasure to discuss the Eichengreen and Mitchener paper. Barry Eichengreen is a frequent collaborator of mine, from whom I always learn a great deal whether from our joint work or his work with others. This paper is a very interesting and important paper. It focuses on the credit boom and bust of the 1920's that preceded the Great Depression. The 1920's experiences in many respects is the historical episode that has the closest resonance for the recent IT boom and bust that we are still experiencing. The Great Depression of course is the biggest macroeconomic event of all times.

My comments focus on a number of issues including:

1. The obfuscation between the rival credit and bubble stories posited in the paper.
2. Whether the 1920's boom was mainly a real side phenomenon with the credit side aspect secondary?
3. Whether the credit boom-bust of the 1920's was really a cause of the Great Depression.
4. The credibility of the credit indicator used at the heart of the analysis.
5. The sectoral evidence.
6. The role of the gold standard and monetary policy.

1. Credit versus Bubble Explanation

The paper runs a race between the credit view and the asset bubble view of the 1920's experience. Yet the difference between the two views is not clearly spelled out. The rise in asset prices presumably had to be financed and presumably this came largely from bank credit. Moreover the indicator that the authors use contains equity prices, which they show is the component which has the most predictive power. So, is the difference between the two approaches based on the extent to which credit expansion was done only to finance fundamentals based and not bubble based expenditure. Or is it based on the wealth effect of the stock market crash? Or its impact on financial system balance sheets? And aren't the two interpretations complementary rather than substitutes. Aren't assets and debts two sides of the same problem (the balance sheet problem)?

2. Credit Booms, Real Booms, Crashes and Recessions

My reading of the 1920's experience is that there was a credit boom which accompanied a real boom. The 1920's in the U.S. and other countries was a period of exceptionally rapid real growth. It was also a period when many new industries and products based on technologies developed earlier came to fruition. In that respect it is similar to the recent experience, although according to Gordon (2000) and David and Wright (1999) and others, the productivity boom of the 20's was more significant than today.

Also like the recent boom, it had to be financed somehow and it was, by bank credit, commercial paper and equities. It was also supported by a benign and stable

macro policy stance, although the underlying gold standard produced a mild deflationary trend in gold prices unlike the low inflation of the 90's.

The question is did the credit boom (and also the stock market boom since it is difficult to tease them apart) - - have to bust and produce a great depression, or could it have continued and kept financing the real growth that was occurring? Or could it have bust, as it did, but just lead to what Barry and I once termed 'a garden variety recession.'

There are 2 parts to this question. Did the boom have to bust? Recent work by Prescott and McGrattan (2002), which follows an earlier study by Sirkin (1975), suggests that U.S. stock market valuation in 1929 was fully justified by fundamentals which predicted productivity advances and real growth. They argue that tight Fed policy to stem the stock market boom was unnecessary. But even if there was a speculative (bubble) component to the run up in stock prices form 1927-29, and even if the Fed had followed preemptive policy to deflate the boom to prevent a worse bust down the road (possibly created through adverse balance sheet effects interacting with collateral constraints, as Olivier Jeanne and I argue (2002a, 2002b)), did it have to produce the greatest depression of all time? The paper really does not adequately treat these issues.

In some research I did in a background paper for the April 2003 World Economic Outlook, I looked at the historical record for the U.S. and the U.K. from 1800-2000 on stock market crashes, recessions, productivity booms, and financial distress. Table 1 presents the evidence.

Table 1. Stock Market Crashes, Booms, and Recessions. United Kingdom and United States, 1800–2000

Episodes	(1) Crashes				(2) Major Causes	(3) Recessions			(4) Preceding Booms			(5) Banking Panic	(6) Severe Financial Distress
		Stock Price Changes (In percent)						GDP Contraction			Stock price changes		
	Peak	Trough	Nominal	Real[1]		Peak	Trough	In percent	Previous Peak	Peak	In percent		
					United Kingdom								
(1)	1808	1812	-40.8	-54.5	War	--	--	--	--	--	--	1810	--
(2)	1824	1826	-37.3	-33.6	Latin America mania	--	--	--	1822	1824	78.4	1825	--
(3)	1829	1831	-28.0	-27.0	Political agitation	--	--	--	--	--	--	--	--
(4)	1835	1839	-23.4	-39.1	American boom	1836	1837	-0.6	--	--	--	1837	1839
(5)	1844	1847	-34.1	-30.5	Railroad boom	1846	1847	-2.5	1840	1844	51.9	1847	1847–48
(6)	1865	1867	-23.9	-24.5	Overend Gurney Crisis	--	--	--	1858	1865	48.4	1866	1866
(7)	1874	1878	-31.0	-19.7	European financial crisis	1874	1877	-2.0	--	--	--	--	--
(8)	1909	1920	-49.2	-80.5	World War I	1918	1921	-23.6	--	--	--	1921	--
(9)	1928	1931	-60.3	-55.4	Great Depression	1929	1931	-5.6	--	--	--	--	--
(10)	1936	1940	-50.1	-59.9	Housing boom, war scare	--	--	--	--	--	--	--	--
(11)	1944	1947	-29.2	-29.8	World War II	1943	1947	-14.7	--	--	--	--	--
(12)	1948	1949	-32.3	-34.0	--	--	--	--	--	--	--	--	--
(13)	1968	1970	-18.9	-27.8	Bretton Woods	--	--	--	1965	1968	24.6	--	--
(14)	1971	1974	-69.3	-76.6	Oil Shock	1973	1975	-1.4	--	--	--	--	--
(15)	1975	1976	-19.1	-30.8	Pound crisis	--	--	--	--	--	--	--	--
(16)	1980	1982	-11.4	-27.0	Thatcher Revolution	1979	1981	-3.4	--	--	--	--	--
(17)	2000	2002	-24.8	-26.7	Information Technology boom	--	--	--	1993	2000	78.4	--	--

Table 1. Stock Market Crashes, Booms, and Recessions. United Kingdom and United States, 1800–2000 (continued)

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		Stock Price Changes (In percent)						GDP Contraction			Stock price changes		
	Peak	Trough	Nominal	Real[1]		Peak	Trough	In percent	Previous Peak	Peak	In percent		
					United States								
(1)	1809	1814	-11.4	-37.8	War	1811	1812	-1.6	--	--	--	1804	--
(2)	1835	1842	-50.6	-46.6	Bank War	1836	1837	-2.0	1828	1835	57.2	1837	1837
						1839	1840	-6.4	--	--	--	1839	--
						1841	1842	-1.0	--	--	--	--	--
(3)	1853	1859	-50.6	-53.4	Railroad Boom	1857	1858	-8.6	--	--	--	1857	1857
(4)	1863	1865	49.9	-22.5	Civil War	1864	1865	-6.2	1860	1863	20.5	--	--
(5)	1875	1877	37.7	-26.78	Railroad Boom	--	--	--	1863	1872	50.5	1873	1873–74, 76
(6)	1881	1885	-26.7	-22.2	Railroad Boom	--	--	--	1875	1881	51.3	1884	--
(7)	1892	1894	-21.0	-16.4	Silver agitation	1892	1894	-3.0	--	--	--	1893	1893
													1894
													1896
(8)	1902	1904	-16.3	-19.4	Rich man’s panic	--	--	--	1899	1902	29.9	--	--
(9)	1906	1907	-19.4	-22.3	World Financial Crisis	1906	1908	-6.9	--	--	--	1907	--
(10)	1912	1914	-15.5	-17.6	War Scare	1913	1914	-7.6	--	--	--	--	--
(11)	1916	1918	-20.4	-42.5	War	1916	1917	--	--	--	--	--	--

Table 1. Stock Market Crashes, Booms, and Recessions. United Kingdom and United States, 1800–2000 (continued)

Episode	(1) Crashes				(2) Major Causes	(3) Recessions			(4) Preceeding Booms			(5) Banking Panic	(6) Severe Financial Distress
		Stock Price Changes (In percent)						GDP Contraction			Stock price changes		
	Peak	Trough	Nominal	Real[1]		Peak	Trough	In percent	Previous Peak	Peak	In percent		
(12	1919	1921	-22.0	-24.5	Disinflation, disarmament	1918	1921	-8.3	--	--	--	--	--
(13)	1929	1932	-73.4	-66.5	Roaring 20s and policies	1929	1933	-29.7	1922	1929	201.8	1930 1931–33	1931 1932
(14)	1936	1938	-25.7	-27.0	Tight Monetary Policy	1937	1938	-4.5	--	--	--	--	--
(15)	1939	1942	-28.1	-38.8	War	--	--	--	--	--	--	--	--
(16)	1946	1949	-10.8	-27.1	Post war slump	1944	1947	-22.7	--	--	--	--	--
(17)	1968	1970	-15.7	-24.4	Bretton Woods	--	--	--	--	--	--	--	--
(18)	1972	1975	-24.1	-38.7	Oil shock	1973	1975	-0.6	--	--	--	--	--
(19)	1976	1979	1.0	-20.9	Oil shock	--	--	--	--	--	--	--	--
(20)	2000	2002	-27.7	-30.8	Information Technology boom	2001[2]	--	-0.5[2]	1993	2000	165.2	--	--

Data Sources by column.
(1) Bordo, Dueker and Wheelock (2000; 2002).
(2) Kindleberger (1996), and others.
(3) Bordo, Dueker and Wheelock (2001, 2002).
(4) ibid.
(5) Bordo (1986), Eichengreen and Bordo (2002) , and Kindleberger (1996).
(6) Bordo, Dueker and Wheelock (2001, 2002).

[1] Stock market crashes, including their peaks and trough, were determined on the basis of real stock prices. In a few cases peaks and trough in nominal stock price differed from those for real stock prices. The changes in nominal stock prices are based on peaks and troughs of real stock prices.

[2] The Business Cycle Dating Committee of the National Bureau of Economic Research (NBER), determined that a recession began in 2001 Q2. In the absence of a date for the end of the recession, the GDP contraction covers the period 2001 Q1–2002 Q3, when level declines were recorded.

What the record shows is that there were many crashes (20 for the U.S., 17 for the U.K.), that many of them, but not all, were associated with recessions. That only a few were associated with preceding productivity booms. The memorable episodes in the U.K. were the 1825 Latin American mania and the 1840 railroad boom. For the U.S., it was cotton in the 1830's, railroads in the 1870's, and radio etc in the 1920s. That the severe recessions associated with asset price busts also were accompanied by banking panics in a policy environment without a lender of last resort and/or by severe financial distress as defined by an index developed by Bordo, Dueker and Wheelock (2002, 2003). Finally with the principal exception of the 1920's none of these booms followed by busts led to a great depression.

Indeed the fact that the 1920's was the unique event in the historical record highlights the importance of the subject of the Eichengreen – Mitchener study. I am skeptical however that the severity of the recession that followed was caused by the magnitude of the preceding credit (asset price) boom as this paper suggests. The collapse in asset prices and the accompanying financing was likely relevant as an explanation for the first year of the slump, 1929-1930, as argued earlier by Romer (1993), and others, but after that date, I posit that the U.S. banking panics which could have been prevented by appropriate expansionary monetary policy and the role of the gold standard as an international propagation mechanism and constraint on policy action by the rest of the world, became the salient feature . Indeed it was monetary policy failures that explain why the 20s experience was then followed by the greatest depression of all time.

The policy lessons from the 20s and 30s seemingly have been learned by today's policy makers (perhaps with the principal exception of Japan) which likely explains why the recent bust has (so far) not had serious real effects.

3. Problems with the Credit boom indicator

The authors construct an indicator of credit booms for the 1920s and then use it to measure the extent to which the recession that followed could be attributed to the boom. Aside from the issues raised above which suggests that the exercise should have stopped with 1930, the year of recession before the banking panics and international factors took over, there are a number of serious problems with the indicator. These may be rectified by a more detailed discussion on why it is being used and how it is constructed, than is currently presented.

First, one variable used in the indicator, the broad money to GNP ratio is very problematic. M/Y is also Cambridge k, the inverse of velocity. Its variation is picking up very different forces. In the long-run, it is determined by real per capita income and various slower moving institutional factors such as demographics, the technology of the payments system, institutional restrictions on banking, financial innovation leading to the development of money substitutes etc (see Bordo and Jonung 1987). Before World War II, V had a declining trend in many countries. Afterwards a rising trend. In the short-run it reflects expectations of economic stability and monetary policy and tends to be procyclical. These factors are not distinguished. Moreover as Milton Friedman taught us money is not credit!

Second, these variables are not exogenous (as the authors point out) and they are clearly not independent. To the extent that M/Y reflects monetary policy, it may be reacting to stock prices (a component of the indicator) or stock prices may be responding to M/Y. M/Y, reflecting monetary policy in turn may impact the investment/income ratio (the third component), which may be reflecting and influencing stock prices.

Third, the weights used in the index are based on the forecast success in predicting subsequent currency and banking crises. Are these the variables that best explain currency and banking crises? For currency crises, I would also list, the exchange rate, current account and fiscal balance. For banking crises, the presence or absence of a lender of last resort, institutional restrictions on banking.

Fourth, the sample of countries used in the indicator needs more justification. I know that it is based on what is available, but the group is not homogenous. It lumps advanced countries in with emergers. If the 1920s is to be used as an example relevant to today's problems, shouldn't the sample be based on countries that have similar financial development, per capita income etc. Idiosyncrasies introduced by including countries like Argentina, Italy and Spain may obscure the message.

4. Sectoral Evidence

(A) Construction and Land

The authors discuss the Florida land boom as an example of an asset price boom facilitated by easy credit. It was indeed an exciting event but in the grand scheme of things it had little impact on the U.S. economy. It was a purely local phenomenon or what Schwartz (1986) called a pseudo crisis. Indeed as Bordo and Jeanne (2002)

show, an aggregate U.S. land price index for the 1920s does not show much of a boom and bust and its timing well preceded the slump.

The authors discuss the construction boom – bust of the 1920's as another aspect of the credit finance. According to R.A. Gordon (1974).This variable was the fundamental cause of the Great Depression. Subsequent research e.g. Temin (1976) finds little evidence for its importance as a cause of the depression.

(B) Consumer Durables

The proliferation of consumer durables in the 1920's was important. It was a key part of the real boom. And as the authors document, it was in part financed by consumer credit. But the authors do not show how important consumer credit was in total domestic credit nor how important a collapse in consumer credit was in the bust.

(C) The tech boom of the 1920's

The authors nicely document the development of the new industries of the 1920s and argue that many of them did not deliver on their promise. However to clearly make that case they need to refute the evidence of Prescott and McGrattan (2002) cited above.

5. The Gold Standard

The authors argue that the inter war gold standard was different than the pre war gold standard because it was a full blown gold exchange standard in which, foreign exchange reserves provided central banks greater scope for independent

accomodative monetary policies hence encouraging foreign capital to finance credit booms.

Was this really different than the pre 1914 era? Massive investment booms occurred in the U.S. in the 1830's, and 1870's which were followed by busts as was the case for Argentina in the 1880s. Why was that earlier experience different from the 1920s? The answer I believe lies not in the differences in the size of the credit boom stressed here but in the severity of the bust. As Bordo and Eichengreen (1999) and Delargy and Goodhart (1999) show, the busts in Argentina in 1890, the U.S. in 1893, Italy 1907 were severe but nothing compared to the Great Depression. As mentioned above, it was the policy response after 1930 and not the credit boom that accounts for the consequences of that event.

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