

**A NEW HISTORY OF BANKING PANICS IN THE UNITED STATES, 1825-1929:
CONSTRUCTION AND IMPLICATIONS**

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ON-LINE APPENDIX

A1 – Descriptions of Earlier Panic Series

Section A1 of the appendix describes the methodologies behind each of the nine panic series on a case-by-case basis.

Kemmerer

Kemmerer (1910) identified financial panics by reading the *Commercial and Financial Chronicle*, the leading economic newspaper of the late 19th and early 20th centuries, from 1873 to 1908. He found eight major and twenty-one minor panics. However, he provided almost no explanation for his methodology. He did not provide a clearly defined criterion for selecting major and minor panic episodes, nor did he provide a definition of panic. For the major panics, he chose periods that were “financial disturbances”¹ without explaining what that term encompassed, and for minor panics, he did not provide any rationale for his selection process.

Moreover, when describing his panics, Kemmerer wrote, “the word panic has been used here to cover several financial disturbances for which many would not use so strong a word, i.e., the disturbances of 1884, 1890, 1899, and 1901.”² In this quote, he openly acknowledged that his decision to classify several of these episodes as panics was questionable. Furthermore, in a footnote, Kemmerer provided a cautionary message regarding the methodology he used to identify his minor panics, noting that such a list was created after “a rather hasty perusal of the [*Commercial and Financial*] *Chronicle*” and that “this list is probably not complete, and there may be room for doubt as to the inclusion of some of the dates mentioned.”³

Thorp

Thorp (1924), in his classic work *Business Annals*, one of the early pioneering studies on the history of business cycles, identified twelve panics in his yearly headings of major economic events from 1790 to 1925. He assembled his list by reading newspapers; however, he failed to explain his rationale in identifying those twelve episodes as panics. He provided no explanation of his methodology, nor did he provide a definition of panic.

DeLong and Summers

DeLong and Summers (1986) identified twelve panics from 1890 to 1910, with a panic being defined as a period when the average commercial paper rate increases by more than one percentage point from quarter-to-quarter or when banks stop paying deposits at par. Eight of these panics satisfy the first criterion, a quarter-to-quarter increase in the average commercial paper rate of more than one percentage point. They are 1890:4, 1893:2, 1893:3, 1896:1, 1896:3, 1898:2, 1899:4, and 1905:4. The remaining four episodes were, presumably, classified as panics on the basis of the second criterion. DeLong and Summers likely chose to classify panics accordingly because increases in the commercial paper rate suggest tight monetary conditions, while the cessation of paying out deposits at par indicates a degree of caution on the part of banking authorities. However, such conditions do not necessarily translate into bank failures, bank runs or stock market crashes, making it unclear whether the episodes identified by DeLong and Summers were in fact panics.

To illustrate this point, consider extending the DeLong-Summers series beyond the 1890-1910 period to the 1875-1889 and 1911-1983 periods on the basis of the first criterion, which identifies a panic by a quarter-to-quarter increase of one percentage point or more in the average commercial paper rate. This methodology finds the following additional panics: 1875:4, 1876:4, 1877:3, 1878:4, 1881:1, 1886:4, 1887:3, 1889:4, 1914:3, 1931:4, 1958:4, 1973:2, 1974:2, 1974:3,

¹ P. 223.

² P. 223.

³ P. 223.

1978:4, 1979:4, 1980:1, and 1980:4. This list omits several of the banking panics of the Great Depression—the banking panic in the fall of 1930, the banking panic in the spring of 1931, and the banking panic of 1933—as well as the Stock Market Crash of 1929. By contrast, this list contains several episodes from the 1950s, 1970s, and early 1980s that are not generally regarded as panics. Given that a quarter-to-quarter increase of one percentage point or more in the average commercial paper rate fails to identify several of the major financial panics of the Great Depression, but does identify several dubious cases from the postwar period, it is unlikely that this criterion is an effective way to identify panics. Moreover, this criterion also would not have identified the panic of 1907.⁴

Sprague

Sprague (1910) described five episodes of financial unrest during the National Banking era—three crises (1873, 1893, 1907), one panic (1884), and one episode of monetary stringency (1890). His classification suggests that he regarded the disturbances of 1884 and 1890 as of a different nature from the disturbances of 1873, 1893 and 1907, and yet he did not explicitly describe why he labeled each episode accordingly, nor did he provide a precise definition of crisis, panic or monetary stringency. In addition, Sprague did not provide an explanation of how he assembled his listing of panics.

Gorton

Gorton (1988) identified a banking panic as occurring “when depositors demand such a large-scale transformation of deposits into currency that...the banking system can only respond by suspending convertibility of deposits into currency, issuing clearinghouse loan certificates, or both.”⁵ Using this definition, Gorton found seven disturbances from 1863 to 1914 that fit this definition: suspension of convertibility occurred in five episodes (1873, 1890, 1893, 1907 and 1914) and the issuance of loan certificates occurred in six episodes (1873, 1884, 1890, 1893, 1907 and 1914). To this list, Gorton added 1896, writing that the issuance of Clearing House loan certificates was authorized even though none were actually issued. However, it is not clear how Gorton identified his panic observations nor whether he adopted a systematic methodology to identify panics.⁶

Reinhart and Rogoff

Reinhart and Rogoff (2009) identified banking crises if one of two events occurred:

- “(1) bank runs that lead to the closure, merging, or takeover by the public sector of one or more financial institutions
- (2) if there are no runs, the closure, merging, takeover, or large-scale government assistance of an important financial institution (or groups of institutions), that marks the start of a string of similar outcomes for other financial institutions.”⁷

To find banking crises from 1800 to 2008, they “rely on existing studies of banking crises and on the financial press.”⁸ A potential weakness of their methodology involves their dependence on previous studies. Any errors embedded in earlier studies would simply be transplanted over to their series. Moreover, while Reinhart and Rogoff mention that they used the financial press, it is unclear how they used it.

⁴ The commercial paper rate data come from Table 2 - Appendix B of Gordon (1986).

⁵ P. 223.

⁶ For example, according to the December 1899 edition of the *Commercial and Financial Chronicle*, the Boston Clearing House issued loan certificates to the Globe National Bank in the midst of a minor disturbance. Gorton did not classify that episode as a panic even though clearinghouse loan certificates were issued, raising the possibility that Gorton might have missed other important episodes.

⁷ P. 10.

⁸ P. 10.

Even putting these issues aside, Reinhart and Rogoff provide two—at times, contradictory—versions of their series on banking crises. One version of their series is presented in Table A.3.1 of their book, whereas the other version is presented in Table A.4.1. While the two versions agree on many crises, they disagree on several episodes.

Bordo and Wheelock

Bordo and Wheelock (1988) identified banking panics on the basis of previous studies by Schwartz (1988), Thorp (1926), Sprague (1910), and Friedman and Schwartz (1963). The main concern with the Reinhart-Rogoff series reoccurs with the Bordo-Wheelock series. Any errors embedded in earlier studies would simply be transplanted over to their series.

Friedman and Schwartz

Though they do not create a list, Friedman and Schwartz (1963), in their classic work, note five banking panics before the Great Depression: 1873, 1884, 1890, 1893 and 1907. They first mention these five banking crises in Chapter 1, their introductory chapter (pp. 8-9). Friedman and Schwartz (1963) rely on a range of historical sources, government documents and economic studies in discussing these episodes. For example, Friedman and Schwartz cite congressional documents, the Annual Reports of the Treasury and Comptroller of the Currency in select years, Sprague’s *History of Crises*, Fels’ *American Business Cycles*, and Noyes’ *Forty Years of American Finance*.

Wicker

Between the end of the Civil War and the founding of the Federal Reserve, Wicker (2000) identifies three major banking panics—1873, 1893, and 1907—and two incipient banking panics—1884 and 1890. He classifies 1884 and 1890 as incipient rather than full banking panics because, he argues, policy intervention—on the part of the New York Clearing House—acted to “forestall a banking panic.”⁹ However, the counterfactual—whether a panic would have occurred in the absence of policy intervention and hence, whether these disturbances really were incipient panics—is unobservable. Moreover, it also seems likely that Wicker intended his work as a set of individual case studies on the five most cited banking disturbances of this era, rather than as a complete series that lists when every banking panic occurred between 1865 and 1914.

A2 – Panic Series Documentation

Section A2 of the appendix provides citations to the contemporary news articles reporting the banking panics on my new series. For each banking panic, I list the following information: (1) the name of the newspaper reporting the panic, (2) the listing of the panic in the index page, (3) the newspaper articles reporting the panic, (4) whether the panic was reported on the front page of the newspaper, and (5) the geographic reach of the panic.

Banking Panic	Newspaper	Index Listing	Newspaper Articles	Front Page	Geographic Reach
Nov 1833 - May 1834	<i>Niles Weekly Register</i>	Bank Run, Bank Failures	Vol 45: [Dec 28, 1833 "Bank Items and Scraps" p. 295; Jan 25, 1834 "Banks and Banking Matters" p. 373; Feb 1, 1834 "Miscellaneous" p. 389; Feb 15, 1834 "The Pressure" p. 415] Vol 46: Mar 1, 1834 "The Pressure" p. 5; Mar 8, 1834 "The Currency"	Yes [Mar 1, 1834; Mar 8, 1834; Mar 29; 1834; Apr 12; 1834;	Nationwide monetary unrest, with reports of runs and/or suspensions in New York, Pennsylvania, Maryland, District

⁹ P. xv.

			p.17; Mar 22, 1834 "Panic-Makers" p. 51; Mar 29, 1834 "Front Page" p. 65; Apr 5, 1834 "Front Page" p. 82; Apr 12, 1834 "Front Page" p. 97; Apr 19, 1834 "Front Page" p. 113; Apr 19, 1834 "Banks, Currency, and the Times" p. 117-118; Apr 26, 1834 "Banks--Currency--and the Times" p. 133; May 10, 1834 "Maryland Savings Institution" p. 171; May 17, 1834, "Front Page" p. 185]	May 17; 1834]	of Columbia, Louisiana, Georgia, New Jersey, and Virginia.
Mar - May 1837	<i>Niles Weekly Register</i>	Specie Payments, Suspension of	Vol 52: [Mar 25, 1837 "Money Market" p. 49; Apr 1, 1837 "Money Affairs" p. 66; Apr 8, 1837 "Money Matters in New York" p. 81-82; Apr 15, 1837 "Money Matters" p. 97; Apr 22, 1837 "Money Matters" p. 113; May 6, 1837 "The Money Market" p. 143; May 13, 1837 "Suspension of Specie Payments" p. 161; May 20, 1837 "Suspension of Specie Payments" p. 179-180; May 27, 1837 "Front Page" p. 193]	Yes [May 6, 1837; May 13, 1837; May 27, 1837]	Financial and monetary unrest first visible in March and April, primarily in New Orleans and New York City. Suspension of Specie Payments in New York City in May following a dramatic run on its banks. Quickly followed by the suspension of specie payments throughout the country.
Oct 1839	<i>Niles Weekly Register</i>	Suspension of Specie Payments, Bank Suspensions	Vol 57: [Oct 12, 1839 "Suspension of Specie Payments" p. 97; Oct 19, 1839 "Suspension of Specie Payments" p. 121-123; Oct 26, 1839 "Suspension of Specie Payments" p. 139--143; Nov 2, 1839 "The Philadelphia Banks in Explanation of their Course" p. 155-156; Nov 9, 1839 "Suspension of Specie Payments" p. 169-170]	Yes [Oct 12, 1839]	Suspension of specie payments by the banks of Philadelphia in October. Quickly followed by the suspension of specie payments in cities and towns throughout the country.
Jan - Apr 1841	<i>Niles Weekly Register</i>	Banks - Suspension of Specie Payments (Vol 59); Bank Suspension (Vol 60)	Vol 59: [Feb 13, 1841 "Another Suspension of Specie Payments by the Banks" p. 372] Vol 60: [Mar 31, 1841 "Banks" p. 32; Mar 20, 1841 "North Carolina" p. 39; Apr 10, 1841 "Banks" p. 96]	No	PA, DE, MD, NC, VA, IL
Mar 1842	<i>Niles Weekly Register</i>	Bank Run	Vol 62: [Mar 19, 1842 "Banks" p. 48; Mar 25, 1842 "Bank Items" p. 64]	No	PA
May - Jun 1842	<i>Niles Weekly Register and Merchants' Magazine</i>	Bank Failure (Niles Weekly Register Vol	Vol 62 of Niles Weekly Register: [Jun 18, 1842 "Bank Items" p. 256]; Vol 7 of Merchants' Magazine and Commercial Review: [July 1842	No	New Orleans

	<i>and Commercial Review</i>	62); Bank Suspension (Merchants' Magazine and Commercial Review Vol 7)	"Monthly Commercial Chronicle" p. 77-79]		
Oct 1851	<i>Merchants' Magazine and Commercial Review</i>	Bank Failure, Panic	Vol 25: [Nov 1851 "Commercial Chronicle and Review" p. 595]	No	NY, NJ, MD
Sep 1854 - Feb 1855	<i>Merchants' Magazine and Commercial Review</i>	Bank Panic	Vol 31: [Oct 1854 "Commercial Chronicle and Review" p. 460; Nov 1854 "Commercial Chronicle and Review" p. 591; Dec 1854 "Commercial Chronicle and Review" p. 716; Jan 1855 "Commercial Chronicle and Review" p. 81-82; Feb 1855 "Commercial Chronicle and Review" p. 209]	No	OH, IN, MI, WI, IA, MO, NY, CA
Aug - Oct 1857	<i>Merchants' Magazine and Commercial Review</i>	Bank Panic, Bank Suspensions, Financial Revulsion	Vol 37: [Oct 1857 "Commercial and Financial Chronicle" p. 452-453; Nov 1857 "The Commercial Crisis of 1857" p. 531-534; Nov 1857 "Commercial and Financial Chronicle" p. 581-584; Dec 1857 "The Panic and Financial Crisis of 1857" p. 659-668; Dec 1857 "Commercial and Financial Chronicle" p. 711-712]	Yes [Nov 1857; Dec 1857]	The Aug 24th failure of the Ohio Life Insurance Company, based in Cincinnati, Ohio with offices in NYC, was followed by a steady stream of runs on banks in many parts of the country. On Sep 25th, the Bank of Pennsylvania suspended, along with a generalized suspension of specie payments by the banks in Philadelphia, Baltimore, Washington and many of the interior cities. The climax of the panic occurred on Oct 13, when a dramatic run forced NYC to suspend specie payments.
Nov 1860	<i>Merchants' Magazine and Commercial</i>	Bank Suspension, Panic	Vol 44: [Jan 1861 "Commercial and Financial Chronicle" p. 75-84; Feb 1861 "Commercial and Financial Chronicle" p. 196-211]	No	Suspension of Specie Payments by Banks in the South

	<i>Review</i>				
Dec 1861	<i>Merchants' Magazine and Commercial Review</i>	Bank Suspension	Vol 46: [Jan 1862 "Commercial Chronicle and Review" p. 100-102; Feb 1862 "Commercial and Financial Chronicle" p. 202; Mar 1862 "Commercial Chronicle and Review" p. 308-313]	No	Generalized Suspension of Specie Payments
Sep 1873	<i>Commercial and Financial Chronicle</i>	Panic	Vol 17: [Sep 13, 1873 "Monetary Trouble and Financial Reform" p. 341-342; Sep 13, 1873 "The Money Market and Financial Situation" p. 350; Sep 20, 1873 "Is the Outlook Hopeful" p. 373-374; Sep 20, 1873 "Financial Remedies and Preventives" p. 375-375; Sep 20, 1873 "The Failures in Wall Street" p. 375-376; Sep 20, 1873 "The Money Market and Financial Situation" p. 382; Sep 27, 1873 "Will Wall Street Recover" p. 405-406; Sep 27, 1873 "The Money Market and Financial Situation" p. 410; Oct 25, 1873 "How Are We Recovering from the Panic?" p. 541-542]	Yes [Sep 13, 1873; Sep 20, 1873; Sep 27, 1873]	Precipitated by the Sep 18th failure of Jay Cooke and Company, headquartered in Philadelphia, but with offices in NYC and DC. Quickly spread throughout the country.
May 1884	<i>Commercial and Financial Chronicle</i>	Bank Failures, Panic	Vol 38: [May 10, 1884 "The Financial Situation" p. 549; May 10, 1884 "The Money Market and Financial Situation" p. 563; May 17, 1884 "The Financial Situation" p. 581-582; May 17, 1884 "The Money Market and Financial Situation" p. 589; May 24, 1884 "The Financial Situation" p. 605; May 31, 1884 "Lessons Which the Panic Teaches Us" p. 632; May 31, 1884 "The Money Market and Financial Situation" p. 640]	Yes [May 10, 1884; May 17, 1884; May 24, 1884]	NYC, PA, NJ
Nov 1890	<i>Commercial and Financial Chronicle</i>	Panic	Vol 51: [Nov 8, 1890 "The Money Market and Financial Situation" p. 637; Nov 15, 1890 "The Financial Situation" p. 654-655; Nov 15, 1890 "The Money Market and Financial Situation" p. 667; Nov 22, 1890 "The Money Market and Financial Situation" p. 703; Nov 22, 1890 "The Financial Situation" p. 692]	Yes [Nov 15, 1890; Nov 22, 1890]	NYC
May - Aug 1893	<i>Commercial and Financial Chronicle</i>	Bank Failures	Vol 56: [May 13, 1893 "The Financial Situation" p. 770; May 27, 1893 "The Financial Situation" p. 856; Jun 10, 1893 "The Money Market and Financial Situation" p. 964; Jun 17, 1893 "The Money Market and Financial Situation" p. 1000; Jun 24, 1893 "The Money Market and Financial Situation" p.	Yes [May 13, 1893; May 27, 1893; Jul 22, 1893; Jul 29, 1893]	Began in the interior of the country. Quickly spread throughout the country.

			1046] and Vol 57: [Jul 8, 1893 "Results of President Cleveland's Proclamation" p. 42-43; Jul 15, 1893 "The Money Market and Financial Situation" p. 92; Jul 22, 1893 "The Financial Situation" p. 122; Jul 29, 1893 "The Financial Situation" p. 162; Aug 5, 1893 "Is It the Balance of Trade or the Silver Law?" p. 199; Aug 12, 1893 "The Financial Situation" p. 232; Aug 19, 1893 "The Money Market and Financial Situation" p. 283]		
Dec 1896	<i>Commercial and Financial Chronicle</i>	Bank Failures	Vol 63: [Dec 26, 1896 "The Financial Situation" p. 1132]	Yes [Dec 26, 1896]	IL, MN, WI
Dec 1899	<i>Commercial and Financial Chronicle</i>	Bank Panic	Vol 69: [Dec 16, 1899 "Items about Banks, Bankers and Trust Companies" p. 1227; Dec 23, 1899 "The Financial Situation" p. 1268; Dec 23, 1899 "Items about Banks, Bankers and Trust Companies" p. 1277-1278; Dec 23, 1899 "The Money Market and Financial Situation" p. 1283; Dec 30, 1899 "Items about Banks, Bankers and Trust Companies" p. 1328; Dec 30, 1899 "The Money Market and Financial Situation" p. 1332] and Vol 70: [Jan 6, 1900 "Retrospect of 1899" p. 13-14]	Yes [Dec 16, 1899; Dec 23, 1899; Dec 30, 1899]	Boston, NYC
Jun - Jul 1901	<i>Commercial and Financial Chronicle</i>	Bank Failures	Vol 72: [Jun 29, 1901 "The Financial Situation" p. 1256; Jun 29, 1901 "Items About Banks, Bankers and Trust Companies" p. 1262] and Vol 73: [Jul 6, 1901 "The Financial Situation" p. 2; Jul 6, 1901 "Items About Banks, Bankers and Trust Companies" p. 13; Jul 6, 1901 "The Money Market and Financial Situation" p. 19]	Yes [Jun 29, 1901; Jul 6, 1901]	New York: Buffalo and NYC
Oct 1903	<i>Commercial and Financial Chronicle</i>	Bank Failures	Vol 77: [Oct 24, 1903 "The Financial Situation" p. 1256; Oct 24, 1903 "Items About Banks, Bankers and Trust Co's" p. 1265; Oct 24, 1903 "The Money Market and Financial Situation" p. 1273]	Yes [Oct 24, 1903]	PA, MD
Dec 1905	<i>Commercial and Financial Chronicle</i>	Bank Failure	Vol 81: [Dec 23, 1905 "The Financial Situation" p. 1752; Dec 23, 1905 "Items About Banks, Bankers and Trust Co's" p. 1765; Dec 23, 1905 "The Money Market and Financial Situation" p. 1774]	Yes [Dec 23, 1905]	Chicago
Oct - Nov	<i>Commercial</i>	Panic	Vol 85: [Oct 12, 1907 "The	Yes [Oct	Began in NYC.

1907	<i>and Financial Chronicle</i>		Financial Situation" p. 888; Oct 19, 1907 "The Financial Situation" p. 968; Oct 26, 1907 "The Financial Situation" p. 1048; Oct 26, 1907 "Items About Banks, Bankers and Trust Co's" p. 1058-1062; Nov 2, 1907 "Review of October" in Supplement Volume p. 21-22; Nov 2, 1907 "The Financial Situation" p. 1108; Dec 7, 1907 "Review of November" in Supplement Volume p. 21-22]	26, 1907; Nov 2, 1907]	Quickly spread throughout the country.
Jan 1908	<i>Commercial and Financial Chronicle</i>	Bank Failures	Vol 86: [Feb 1, 1908 "The Financial Situation" p. 248; Feb 1, 1908 "Items About Banks, Bankers' and Trust Co's; p. 260-262]	Yes [Feb 1, 1908]	NYC
Aug - Sep 1920	<i>Commercial and Financial Chronicle</i>	Bank Disturbance	Vol 111:2 [Oct 2, 1920 "The Boston Bank Disturbances" p. 1327]	No	Boston
Nov 1920 - Feb 1921	<i>Commercial and Financial Chronicle</i>	Bank Closures	Vol 111:2 [Nov 27, 1920 "Closing of Thirteen Banks in North Dakota" p. 2101; Dec 4, 1920 "List of Closed North Dakota Banks Reaches Seventeen--Proposed Examination of Bank of North Dakota" p. 2183; Dec 11, 1920 "Twenty-Three Banks Closed in North Dakota--Relief Measures" p. 2283] and Vol 112:1 [Jan 1, 1921 "Further Closing of Banks in North Dakota" p. 21; Jan 8, 1920 "Still Another Bank Closed in North Dakota" p. 108; Feb 19, 1921 "Measures to Obtain Financial Relief for North Dakota Delayed" p. 703; Feb 19, 1921 "Bank Failures Still Continue in North Dakota" p. 705; Feb 26, 1920 "Three More North Dakota Banks Fail" p. 793]	No	ND
Jul 1926	<i>Commercial and Financial Chronicle</i>	Bank Failures	Vol 123:1 [Jul 17, 1926 "Over 70 Chain Banks in Georgia Close as Result of Petition for Receiver for Bankers' Trust Co. of Atlanta--Florida Banks Also Affected" p. 285-286; Jul 24, 1926 "Bank Suspensions in Georgia and Florida" p. 411-412; Jul 31, 1926 "Chain Bank Failures" p. 499-501; Jul 31, 1926 "Atlanta Clearing House on Georgia Bank Suspensions" p. 529; Aug 7, 1926 "Movement for Reopening of Closed Florida Banks, Reopening of a Georgia Bank, and Closing of Another" p. 666-667; Aug 21, 1926 "Closed Georgia Banks--Nine	No	FL, GA

			Reported as Ready to Reopen" p. 936-938; Sep 11, 1926 "Failure of Chain Banks in Georgia Laid to Unsound, Inadequate Laws by Fulton County (Ga.) Grand Jury" p. 1332-1335; Sep 25, 1926 "Failed Georgia Banks--Fourteen of Chain Banks Reported Reopened" p. 1582-1583]		
Mar 1927	<i>Commercial and Financial Chronicle</i>	Bank Failures	Vol 124:1 [Mar 12, 1927 "Items About Banks, Trust Companies, &C." p. 1467-1468; Mar 19, 1927 "More Florida Banks Fail" p. 1620-1621; Mar 26, 1927 "Another Florida Bank Fails" p. 1772]	No	FL
Jul - Aug 1929	<i>Commercial and Financial Chronicle</i>	Bank Failures	Vol 129:1 [Jul 20, 1929 "The Florida Bank Failures" p. 422, Jul 27, 1929 "The Florida Bank Failures" p. 576, Aug 3, 1929 "Florida Bank Failures Now Thirty-two" p.743, Aug 10, 1929 "Charles W. Collins, Formerly Deputy Comptroller of Currency, Says We Have Inherited 'Antiquated and Worn Out' Banking System-- Cause of Florida Bank Failures-- Predicts World-Wide Branch Bank System" p. 905, Aug 10, 1929 "Florida Bank Failures" p. 909; Aug 31, 1929 "Reopening of Tampa (Florida) Bank--Other Closed Florida Institutions Reported Reopened-- New Laws Permits Opening Under 'Freezing' Provisions" p. 1386; Sep 7, 1929 "Florida Banking--State Bank Examiner Estimates Payments to Depositors by Five Closed Banks" p. 1541]	No	FL

A3 – Inconsistencies in Earlier Series

A comparison of my new series with earlier series reveals major inconsistencies in some of the earlier series. Some series combined panics with other developments in financial markets. Others failed to distinguish among different types of financial panics. A few series even went so far as to incorrectly identify foreign banking panics as domestic ones. To demonstrate this, Table 3 (in the paper) presents the new series on banking panics alongside the nine earlier series for the period 1825-1929. Entries with strikes are panic episodes noted in one of the earlier panic series that are not included in the new series on banking panics. These episodes do not contain banking panics. To verify this, I read the contemporary news reports surrounding each of these episodes. I consider them one at a time.

1825 and 1847. In both 1825 and 1847, a banking panic occurred in England—not in the United States. The Bordo-Wheelock, Thorp, and Reinhart-Rogoff series list 1825 as either a U.S. panic or crisis date and the Thorp series lists 1847 as a U.S. panic date. While serious banking panics

did occur, they were confined to England in both cases. The reporting of the *Niles Weekly Register* in 1825 contains only a few reports of isolated bank failures in the U.S and the reporting of the *Merchants' Magazine and Commercial Review* in 1847 does not contain any accounts of bank runs, suspensions or failures in the U.S. There was no generalized panic in the U.S. in either year.

April 1864. One version of the Reinhart-Rogoff series lists April 1864 as a banking crisis; however, no banking panic occurred. Instead, a serious disturbance on stock markets erupted following the passage of a law in the U.S. senate designed to force a reduction in the price of gold.¹⁰ According to the press, the measure “excited the liveliest fears...the stock market, under the immense pressure...underwent a severe revulsion.”¹¹ In reporting the events of April 1864, the editors of the *Merchants' Magazine* described “one of the most severe revulsions of late years in the stock market.”¹² However, the crisis appears to have been confined to the stock market: there were no reports of any bank runs, suspensions, or failures in April of 1864.

Oct 1896. The Gorton series lists October 1896 as a banking panic; however, no banking panic occurred then. The *Commercial and Financial Chronicle* did not report any banking panics in October 1896. Instead, a non-major banking panic—confined entirely to Chicago, St. Paul and West Superior—occurred in December of that year. The panic was small in scope; only 4 banks suspended.¹³

1914. Even though serious financial instability occurred, the events of the summer of 1914 do not constitute a banking panic—according to my definition—since bank runs, suspensions, and failures were avoided. The outbreak of war in Europe dramatically increased the demand for specie and caused a worldwide rush to liquidate stocks, resulting in the closing of the New York Stock Exchange on July 31, 1914. A few days later in early August, fears of a run on the U.S. banking system led to the issuance of emergency currency under the Aldrich-Vreeland Act. The Act flooded the country’s banking system with additional currency. No banking panic materialized in 1914.¹⁴

Five DeLong-Summers Panics. Five of the twelve DeLong-Summers panic quarters do not contain banking panics: 1896:01, 1896:03, 1898:02, 1903:02, and 1909:04. To verify this, I read the *Commercial and Financial Chronicle* during all of the DeLong-Summers panic quarters. Since no banking panics occurred, why were these five episodes classified as panics? Several of them satisfy the DeLong-Summers panic criterion of a quarter-to-quarter increase of one

¹⁰ Due to increased borrowing to finance wartime expenditures, the price of gold had increased substantially.

¹¹ “Commercial Chronicle and Review,” *Merchants' Magazine and Commercial Review*, May 1864, p. 365.

¹² “Commercial Chronicle and Review,” *Merchants' Magazine and Commercial Review*, May 1864, p. 363.

¹³ Gorton included Oct 1896 as a panic, noting that the issuance of Clearing House loan certificates was authorized, even though none were actually issued. However, a reading of the *Chronicle* reveals that the issuance of loan certificates was authorized ten months earlier in Dec 1895: “The action taken by the Clearing-House Association on Monday, providing for the issuance of Clearing-House loan certificates was a strong factor in producing the change in sentiment which took place early in the week. The measure was entirely a precautionary one, looking to the possibilities of the future rather than to the needs of the present, and no certificates have been applied for” (“The Money Market and Financial Situation,” *Commercial and Financial Chronicle*, Dec 28, 1895, p. 1144).

¹⁴ This episode is contained on the Gorton and Reinhart-Rogoff series. However, Reinhart and Rogoff acknowledge in a brief summary of the episode that a banking crisis was avoided in 1914: “a banking crisis was avoided by flooding the country with emergency currency to prevent hasty withdrawals” (Reinhart and Rogoff, p. 390).

percentage point or more in the average commercial paper rate—a potentially important development in financial markets, but not necessarily an indicator of a financial panic.

Twenty-One Kemmerer Panics. Table 3 makes it clear that the Kemmerer series should never be used or interpreted as a series on banking panics: more than two-thirds of Kemmerer’s panic episodes do not contain banking panics. Eight of the twenty-nine Kemmerer panic episodes contain banking panics—Sept 1873, May 1884, Nov 1890, May-Aug 1893, Dec 1896, July 1901, and Oct 1907—whereas the remaining twenty-one do not contain banking panics. To verify this, I read the *Commercial and Financial Chronicle*—Kemmerer’s source in identifying panics—during all of Kemmerer’s panic episodes. Since no banking panics occurred, why did Kemmerer classify these twenty-one episodes as panics? A reading of the *Chronicle* provides a hint: many of Kemmerer’s episodes coincided with reports of instability in the stock market. This raises the possibility that Kemmerer combined banking panics with stock market disturbances in one series or that Kemmerer’s panic series was intended to serve as a series on stock market panics, with these eight banking panic episodes simply coinciding with stock market panics. However, because Kemmerer never clearly explained what kind of financial disturbance he included as a panic, it is unclear which of these two interpretations most accurately applies to his series. Moreover, even if Kemmerer had intended his series as a series on stock market panics, it is unlikely that he constructed it in a consistent way. Kemmerer relied on the reporting of the *Chronicle*—rather than on stock market indices or other quantitative evidence—to identify his episodes. Deciphering the magnitude of declines in stock prices or the magnitude of instability in stock markets from the qualitative reporting of the *Chronicle* is likely to be highly unreliable. This might, in part, explain the cautionary messages—outlined in Section 1.3—that Kemmerer provided regarding the accuracy of his series.

A4 – Movements in Stock Prices and Commercial Paper Rates

Tables A1 and A2 below show the percentage change in the Cowles Commission and Standard and Poor’s Corporation Stock Index surrounding the major and non-major banking panics, respectively. The series comes from the NBER macrohistory series m11025a (U.S. Index of All Common Stock Prices, Cowles Commission and Standard and Poor’s Corporation) and is available at a monthly frequency, beginning in 1871. The table reveals that the stock index declines dramatically in each of the major banking panics since 1871. The index declines by 15.7% during the Panic of 1873, 22.9% during the Panic of 1893 and 15.9% during the Panic of 1907. Among the major panics, the average percentage change is a decline of 18.1%. For the non-major banking panics, the stock index declines in seven of the thirteen banking panics and rises in the remaining six. Among the non-major panics, the average percentage change is a decline of 2.4%. Thus, whereas major banking panics occur alongside substantial declines in stock prices, non-major banking panics do not always accompany declines in the stock market. This may reflect the fact that the non-major banking panics are, in general, more localized disturbances, and thus, are less likely to show up in aggregate stock market indicators at the national level.

Table A1. Percentage Change in the Cowles Commission and Standard and Poor’s Corporation Stock Index During Major Banking Panics.

Major Bank Panic	% Change in Stock Index
1873	-15.66
1893	-22.85
1907	-15.92

Average -18.14

Table A2. Percentage Change in the Cowles Commission and Standard and Poor's Corporation Stock Index During Non-Major Banking Panics.

Minor Banking Panic	% Change in Stock Index
May 1884	-13.57
Nov 1890	-9.67
Dec 1896	-3.29
Dec 1899	-6.85
Jun - Jul 1901	2.69
Oct 1903	-3.15
Dec 1905	2.57
Jan 1908	4.19
Aug - Sep 1920	-0.45
Nov 1920 - Feb 1921	-13.43
Jul 1926	2.92
Mar 1927	1.14
Jul - Aug 1929	5.16
Average	-2.44

Tables A3 and A4 show the change (in percentage points) in the commercial paper rate surrounding the major and non-major banking panics, respectively. The commercial paper rate series comes from the NBER macrohistory series m13002 (U.S. Commercial Paper Rates) and is available at a monthly frequency, beginning in 1857. The commercial paper rate increases during each of the major banking panics, though the magnitude varies dramatically. The commercial paper rate increases by 15.5 percentage points during the Panic of 1857, 9.44 percentage points during the Panic of 1873, 4.85 percentage points during the Panic of 1893 and 1.02 percentage points during the Panic of 1907.¹⁵ For the non-major banking panics, the commercial paper rate changes little. Among the non-major panics, the average change in the commercial paper rate is an increase of 0.16 percentage points. For most of the non-major panics, the change in the commercial paper rate is less than one percentage point and in all cases, less than two percentage points.

Table A3. Change in the Commercial Paper Rate During Major Banking Panics.

Major Bank Panic	Change in Commercial Paper Rate (in Percentage Points)
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¹⁵ The small increase in the commercial paper rate during the major banking panic of 1907 is noteworthy, but not without precedent. During the major banking panics of the Great Depression, the commercial paper rate remained low and did not spike. For example, using the dates of major banking panics during the Great Depression provided by Wicker (1996), the commercial paper rate changed by -0.15 percentage points between November 1930 and January 1931, -0.28 percentage points between April and August 1931, 1.47 percentage points between September and October 1931, and 1.40 percentage points between February and March 1933.

1857	15.50
1873	9.44
1893	4.85
1907	1.02
Average	7.70

Table A4. Change in the Commercial Paper Rate During Non-Major Banking Panics.

Minor Banking Panic	Change in Commercial Paper Rate (in Percentage Points)
Nov 1860	1.80
Dec 1861	-0.70
May 1884	1.03
Nov 1890	1.43
Dec 1896	-1.61
Dec 1899	0.46
Jun - Jul 1901	0.36
Oct 1903	0.13
Dec 1905	0.23
Jan 1908	-1.36
Aug - Sep 1920	0.16
Nov 1920 - Feb 1921	-0.18
Jul 1926	0.34
Mar 1927	0.18
Jul - Aug 1929	0.12
Average	0.16

A5 – Description of Non-Major Banking Panics

Section A5 of the appendix provides a description of the non-major banking panics listed on the new series. For a description of the major banking panics, see Sections A6 and A7.

January – April 1841 (PA, DE, MD, NC, VA)

A banking panic broke out in 1841 following the decision of the Bank of the United States to resume specie payments. On January 15, 1841, the Bank of the United States resumed specie payments; however, the Bank subsequently experienced such a large demand for specie that it quickly suspended specie payments again on Feb 4, 1841.

In the short space of twenty days, since its vaults were opened, we understand that the bank has paid out nearly six millions of dollars in specie funds. The daily increase of the demands upon its vaults, from the eastward, rendered it impossible for the bank longer to resist the torrent. It has reluctantly yielded to the force of imperious circumstances. The great error we consider, arose from the legislature requiring the banks to resume before they were prepared for it; for how can the banks pay the people, before the people pay the

banks? When the Bank of England suspended specie payments, it required twenty-two years to resume.¹⁶

The suspension of specie payments by the Bank of the United States triggered runs on other banks that had also resumed specie payments. Runs and citywide resuspensions of specie payments were reported in Philadelphia, Wilmington, Baltimore, Raleigh, and Richmond. One additional bank suspension was reported in Illinois.

March 1842 (PA)

A banking panic occurred in Pennsylvania in March 1842. On March 16, 1842, the banks of Philadelphia refused to accept notes from the Penn Township bank, triggering a run on the bank that ended in its suspension. The following day, a citywide run on the banks of Philadelphia occurred, resulting in additional bank suspensions. During the afternoon of March 17, after a meeting among the directors of several banks in Philadelphia, banking officials confidently asserted that the banks in Philadelphia were sound, declaring that the banks of Philadelphia would receive the notes of specie paying banks and pay out either specie or their own notes to entitled persons. The panic subsequently subsided.

May – June 1842 (New Orleans)

A banking panic broke out in New Orleans following the decision by the banks to resume specie payments. On May 18th and 19th, the banks of New Orleans resumed specie payments. However, the decision to resume was not a unanimous decision by the banks of New Orleans; seven banks supported resumption, whereas three banks opposed resumption. According to the *Merchants' Magazine*, when the seven New Orleans banks in favor of resumption chose to resume, the remaining banks felt compelled to also resume payments to avoid public discredit.

We stated in our last number that preparations were on foot for resumption at New Orleans. Soon after that number went to press, seven of the banks of New Orleans returned to specie payments, although the law did not require it of them until December next. There are ten banks in New Orleans; and three of them, the Citizens' Consolidated, and State banks, being opposed to resumption, resisted the movement for some days after it was entered into by the other institutions. The force of public opinion was, however, such as to oblige them to follow in the movement, or submit to discredit.¹⁷

Over the following sixteen days, there was a constant drain of specie from the banks of New Orleans. At the end of May, the banks of New Orleans made public their bank reports, which triggered a run that led to a resuspension of specie payments among the banks.

The resumption effected under these circumstances was of but short duration. It continued sixteen days under a constant effort of the institutions to realize their assets, and to meet the unremitting demand for specie in payment of their outstanding obligations. At the close of the month of May the banks again made their report, which was followed by an immediate panic on the part of the public. This caused a run which in three days resulted in a resuspension of six of the banks.¹⁸

The *Merchants' Magazine* identified “bickerings between the banks themselves” as the cause of the panic.

The sudden panic which set in and existed throughout April may therefore fairly be ascribed to the bickerings between the banks themselves. The want of confidence which

¹⁶ “Another Suspension of Specie Payments by the Banks,” *Niles Weekly Register*, Feb 13, 1841, p. 372.

¹⁷ “Monthly Commercial Chronicle,” *Merchants' Magazine and Commercial Chronicle*, July 1842, p. 77.

¹⁸ “Monthly Commercial Chronicle,” *Merchants' Magazine and Commercial Chronicle*, July 1842, p. 77-78.

they exhibited in each other shook the confidence of the public, and the disastrous results that we have seen.¹⁹

The *Niles Weekly Register* corroborates this account of the panic:

The attempt by the Banks of New Orleans to resume specie payments has proved unavailing. They resumed on the 18th and 19th ult.; an immediate depreciation of the Municipality notes ensued, and so on the 20th a mob destroyed several brokers' shops, but was soon quelled with the arrest of the ringleaders. In a few days, more than \$600,000 were drained from them. Some disagreement amongst themselves led to distrust; a panic and a severe run ensued, which some of them maintained for several days, but finally all had to suspend. The Citizens bank and Louisiana state bank on the 31st ult. announced that they suspend until the 5th of December. The Consolidated bank, the Commercial bank and the Canal bank were overwhelmed on the 1st inst. The crowd was tremendous and some lives were lost. The City bank held out until the 2d inst. but then gave in. The Mechanics and Traders bank, the Carrollton bank, the Union bank, and the bank of Louisiana continue to pay specie, but except the latter, they are said to have no notes out, and to be doing but little business.²⁰

October 1851 (NY, NJ, MD)

In October 1851, a banking panic broke out in New York, New Jersey and Maryland. According to the *Merchants' Magazine*, six banks failed or closed doors in the midst of the panic. Two banks in New Jersey—the People's Bank of Patterson and the Commercial Bank of Perth Amboy—were the first to fail. These failures were followed by the stoppages of three banks in upstate New York—the James' Bank of New Rochelle, the Farmers' Bank at Mina, and the Western Bank at White Creek—as well as the Bank of Salisbury, Maryland. The *Merchants' Magazine* notes that while the failures of these banks unsettled confidence in markets in the Northern states, the panic was short-lived and passed quickly.

September 1854 – February 1855 (OH, IN, MI, WI, IA, MO, NY, CA)

The discovery of fraud in the stock accounts of two important railroad companies triggered a disturbance on Stock Exchanges during the summer of 1854. The New York and New Haven Railroad Company and the Harlem Railroad Company were discovered to have 50,000 shares of stock—20,000 shares in excess of its legal limit—and the Harlem Railroad Company was discovered to have issued 4,131 shares of stock that were unauthorized. These over-issues amounted to \$2,000,000 for the New York and New Haven Railroad Company and \$276,00 for the Harlem Railroad Company. The discovery of this fraud created a serious disturbance on stock markets:

The discovery of the above frauds created a universal panic that for a while threatened to break up the railroad system throughout the country. Stocks precipitately declined, and were unsaleable even at a mere nominal price; while those who had borrowed money upon railroad stocks or bonds, subject to the call of the lender, were required to make immediate payment. This twofold operation created much distress in every commercial community. The rapid decline in stocks ruined a great many whose chief investments were in this species of property; and the impossibility of borrowing upon these securities at any price, obliged all who were carrying any considerable amount to fail in their obligations, or obtain an extension from their creditors.²¹

¹⁹ "Monthly Commercial Chronicle," *Merchants' Magazine and Commercial Chronicle*, July 1842, p. 78.

²⁰ "Bank Items," *Niles Weekly Register*, Jun 18, 1842, p. 256.

²¹ "Commercial Chronicle and Review," *Merchants' Magazine and Commercial Chronicle*, Aug 1854, p. 207-208.

Shortly thereafter, in September 1854, a banking panic broke out in the interior. The panic was geographically concentrated in the interior West and Northwest, but reached as far east as New York and as far west as California. The December edition of the *Merchants' Magazine* describes the progress of the panic:

A panic began in the interior, and especially in the West and Northwest. In Ohio, Indiana, Illinois, Michigan, Wisconsin, Iowa and Missouri, and to some extent in the States on the south of the Ohio, a large circulation of bank notes, mostly of the free banks, had been obtained through expenditures for railroad purposes, and the general expansion of business. When the contraction began, this circulation came in rapidly, and found the banks wholly unprepared to meet it. As the difficulty became known, the excitement increased, and every effort made for relief only heightened the panic. All the banks which had balances at the East drew for them, and borrowed to the extent of their credit besides, while between twenty and thirty, perhaps more, of institutions which were really solvent, were compelled to suspend payment. A large number of private bankers were carried down in the crash, and the distress became general.²²

While the panic was geographically concentrated in the interior, the November 1854 *Merchants' Magazine* reported three bank suspensions in New York City and the January 1855 *Merchants' Magazine* reported a general run on the savings banks in New York City.

The troubles which the difficulties connected with one or two Savings Banks in the city of New York, have thus brought upon the poor of that city, are beyond calculation. There has been more or less run upon all of these deposits for Savings.²³

The final reports of bank runs and suspensions came from California in February 1855. Bankers Page & Bacon of St. Louis, Missouri suspended in early 1855, triggering a run on its San Francisco branch. The San Francisco branch quickly suspended, sparking additional runs in California and four additional bank suspensions.

November 1860 (Suspension of Specie Payments by Banks in the South)

Political unrest following the election of Abraham Lincoln as President triggered financial instability in November 1860. According to the *Merchants' Magazine*, a drain of specie from the North to the South and a repudiation of debts by the South led to serious financial instability in November:

The apprehension of political evils came seriously to affect general business, showing itself in the demand for gold for the South...The effects of disturbance began to be felt early after the election, manifesting itself in growing discredit at the South, and consequent uneasiness as to the ultimate effects of hesitation in payments...The exchanges of the South fell to lower rates on New York, and the banks and remitters were reluctant buyers. In consequence a current of specie set southward in degree somewhat greater than usual even at this season. The loss of credit, growing out of political derangements, by causing a change in the usual mode of moving the crops to market, produced much difficulty.²⁴

The financial situation prompted the New York Clearinghouse Association to issue loan certificates and to pool specie among member banks. While these measures appear to have

²² "Commercial Chronicle and Review," *Merchants' Magazine and Commercial Chronicle*, Dec 1854, p. 716-717.

²³ "Commercial Chronicle and Review," *Merchants' Magazine and Commercial Chronicle*, Jan 1855, p. 81.

²⁴ "Commercial Chronicle and Review," *Merchants' Magazine and Commercial Chronicle*, Dec 1860, p. 714-716.

successfully calmed the situation in New York, the banks in the South suspended specie payments, with the exception of the banks at New Orleans.²⁵

December 1861 (Generalized Suspension of Specie Payments)

Toward the end of 1861, in the midst of the Civil War, hoarding of gold and heavy withdrawals of coin reduced bank reserves. On December 28, 1861, the New York Banks decided to suspend specie payments. Banks throughout the country—Boston, Philadelphia, Baltimore, Providence, Albany and other cities—quickly followed suit and suspended specie payments as well.

May 1884 (NYC, PA, NJ)

In 1884, a banking disturbance—confined primarily to New York City—broke out in May. On May 5, the Marine National Bank and the brokerage firm of Grant & Ward failed. The Marine National Bank had advanced funds to Grant and Ward for speculative activities. On May 10, due to connections with Grant and Ward, the Northwestern Car and Manufacturing Company was placed into receivership. Two days later, a run broke out on the Second National Bank following the disclosure that John Eno, the bank's president, had embezzled three million dollars.

On May 14, the Metropolitan Bank closed its doors following a serious run. Rumors had been circulating that its president had misappropriated funds for speculative purposes. The suspension of the Metropolitan Bank, an institution holding reserves from banks throughout the nation, led to the intervention of the New York Clearing House. On the afternoon of May 14, the New York Clearing House issued \$24 million in loan certificates and the members of the Clearing House pooled their reserves for joint protection. The New York Clearing House directed a large sum of loan certificates to the Metropolitan Bank after confirming that the bank had acceptable securities. The next day, May 15, the Metropolitan Bank reopened and the *Chronicle* noted an “an increase of confidence...in financial circles.”²⁶

Conditions subsequently stabilized, in spite of a few additional failures. On May 15, Messrs Fisk & Hatch failed. The following day, the Newark Savings Institution, which had ties to Fisk & Hatch, closed its doors as a precautionary action. However, when reasons for its closing were disclosed, “the market improved in tone and late in the day a pretty substantial recovery took place.”²⁷ The following week, two additional suspensions occurred: the Penn Bank of Pittsburgh and the West Side Bank in New York. The former suspension was caused by the sharp break in oil prices from the preceding week's stock market crash and the latter suspension was the result of a defalcation by a teller. Conditions had, nevertheless, stabilized in New York, with the *Chronicle* noting “a decided improvement in public confidence.”²⁸

November 1890 (NYC)

In 1890, a banking disturbance broke out in New York City in mid-November. The brokerage firm of Decker, Howell & Co. suspended on November 10th. The Bank of North America, which

²⁵ “Commercial Chronicle and Review,” *Merchants' Magazine and Commercial Chronicle*, Jan 1861, p. 76-77.

²⁶ “The Financial Situation,” *Commercial and Financial Chronicle*, May 17, 1884, p. 582.

²⁷ “The Money Market and Financial Situation,” *Commercial and Financial Chronicle*, May 17, 1884, p. 589.

²⁸ “The Money Market and Financial Situation,” *Commercial and Financial Chronicle*, May 31, 1884, p. 640.

had made advances to the brokerage firm, fell \$900,000 short at the New York Clearing House, prompting the New York Clearing House to issue loan certificates. This action helped the Bank of North America overcome its shortfall at the Clearing House and bolstered the position of the Mechanics' and Traders' Bank, which had lost \$500,000 in deposits that week. According to the *Chronicle*, conditions quickly stabilized following the issuance of loan certificates. The *Chronicle* reported, "On Wednesday the tone was much improved, and the knowledge of the Clearing House action gave a feeling of confidence that had a large effect."²⁹ On November 12th, the North River Bank of NYC failed, but according to the *Chronicle*, its failure was bank-specific and unrelated to the other developments. The following week witnessed the failure of a few brokerage houses, but these failures did not seriously affect confidence, with the *Chronicle* noting, "the market resisted well and was fairly steady".³⁰ A week later, the *Chronicle* reported, "the crisis is past."³¹

December 1896 (IL, MN, WI)

The failure of The National Bank of Illinois set off a banking panic in December 1896. According to the *Chronicle*, the bank had loaned an amount that surpassed its "combined capital, surplus and undivided profits" to one corporation and a large additional sum to a relative of one of the officers of the bank. Due to these questionable banking practices, the Chicago Clearing House refused to extend assistance to the National Bank of Illinois, forcing the Bank to close its doors. The failure of the National Bank of Illinois triggered runs on other institutions and three additional bank closings (two at St. Paul and one at West Superior). The panic was, however, short-lived and ended quickly. The *Chronicle* describes the course of this banking panic:

The trouble in that city [Chicago] was precipitated by the decision of the Chicago Clearing House, refusing Clearing House privileges to the National Bank of Illinois... The leading facts disclosed would indicate very bad banking methods. The statement is that, with a capital of \$1,000,000 and a surplus which according to the return of October 6 1896 was reported at \$1,000,000, besides \$315,213 of undivided profits, the bank had loaned \$2,400,000—or more than the combined capital, surplus and undivided profits—to one corporation, and \$500,000 to a near relation of a leading officer of the bank, no part of which could be made available at once for banking purposes. The National Bank of Illinois was one of the oldest and supposed to be one of the most conservatively managed institutions in Chicago, and the announcement of its failure was a great surprise in New York banking circles. For a time fear was felt lest the results of this failure would be widely disastrous. This feeling was encouraged by the suspension on Tuesday of the Bank of Minnesota at St. Paul, a State institution, one of the oldest in the West, having a capital of \$600,000. That suspension was likewise followed by the failure of the Union Stockyards Bank, also of St. Paul, and the suspension on Wednesday of the Bank of West Superior. The latest reports from Chicago are much more assuring than they were, it being stated that the runs on the savings banks had ceased and that no further unfavorable developments were expected.³²

December 1899 (Boston and New York City)

²⁹ "The Money Market and Financial Situation," *Commercial and Financial Chronicle*, Nov 15, 1890, p. 667.

³⁰ "The Money Market and Financial Situation," *Commercial and Financial Chronicle*, Nov 15, 1890, p. 667.

³¹ "The Money Market and Financial Situation," *Commercial and Financial Chronicle*, Nov 22, 1890, p. 703.

³² "The Financial Situation," *Commercial and Financial Chronicle*, Dec 26 1896, p. 1132.

Financial instability broke out in Boston in December 1899 following a decline in the price of copper stocks. The Globe National Bank had made loans on United States Oil and United Mining securities. The market price of these securities declined, leading to the resignation of the bank's president and a threat of deposit withdrawals. On Thursday December 14, the Boston Clearing House Association came to the assistance of the Globe National Bank by issuing \$3,500,000 in loan certificates.³³

On December 16, John P. Squire & Co, a pork-packing corporation in Boston whose head was the vice-president of the Broadway National Bank of Bank, failed. The Broadway National Bank applied for assistance to the Boston Clearing House Association, but the Clearing House denied its request, already having extended relief to the Globe National Bank. The Broadway National Bank suspended on Saturday December 16.

On Monday December 18, the Produce Exchange Trust Co. and the stock commission house of Henry Allen & Co.—both of New York City—suspended. According to the *Chronicle*, rumors of instability triggered a run on the Trust Company, forcing it to suspend. The news of these suspensions unleashed panic-like conditions on the Stock Exchange, causing a heavy liquidation of stocks and a spike in call-money rates.

According to the *Chronicle*, swift intervention by banking and financial interests contained the disturbance. On Monday December 18, J.P. Morgan & Co., the Central Trust Company and nine member banks from the New York Clearing-House Association rushed loans to the Stock Exchange. J.P. Morgan & Co. loaned \$1,000,000, the Central Trust Company loaned \$1,000,000 and the nine member banks loaned \$9,000,000 on the Exchange. On the same day, Treasury Secretary Gage decided to allow internal government revenue receipts to accumulate in the banks, rather than the Sub-Treasury, for the next thirty days. These actions caused a dramatic decline in call money rates on Monday. The following day, another pool of \$10,000,000 was offered by members of the New York Clearing House to provide relief to the money market, but only \$5,000,000 was actually loaned. According to the *Chronicle*, these actions contained the disturbance:

To the credit of our bankers and banks be it said that they arrested the ruinous liquidation we have referred to and stayed the panic... When the panic was most unbridled, a banking firm, a trust company, and a combination of the Clearing-House banks, provided all the funds needed, reducing the rate at the Exchange to 6 per cent, and how Secretary Gage announced the readiness of the Treasury to turn all internal revenue receipts for thirty days into depository banks.³⁴

June – July 1901 (New York: Buffalo and New York City)

On June 27, 1901, the Seventh National Bank at New York City suspended. Two days later, the City National Bank of Buffalo, which had large balances with several correspondents in New York, suspended. On July 2, the Niagara Bank of Buffalo, which held stock of the City National Bank as collateral, also closed. The news of these suspensions triggered runs in Buffalo. The Buffalo Clearing House responded by rushing to extend aid to banks undergoing runs. According to the *Chronicle*, the actions of the Buffalo Clearing House contained the panic.

³³ The following week, however, after additional financial unrest in Boston and New York, the Comptroller of the Currency placed the Globe National Bank in the hands of a receiver.

³⁴ "The Financial Situation," *Commercial and Financial Chronicle*, Dec 23 1899, p. 1268.

The prompt action of the members of the Buffalo Clearing House, in resolving to stand together in one another's support, checked the panic and averted disturbance from that source.³⁵

October 1903 (PA, MD)

Two trust companies in Baltimore—the Maryland Trust Company and the Union Trust Company—suspended on Monday October 18, 1903. Two days later, the Federal National Bank of Pittsburgh failed, triggering a run on the First National Bank of Allegheny. The following day, the First National Bank failed. According to the *Chronicle*, these closings had a brief impact on Stock Exchanges:

The announcement on Monday of the suspension of two Baltimore trust companies and subsequently of banks at Pittsburgh and Allegheny had a depressing effect in Wall Street during the early part of the week. Aggressive liquidation followed Monday's announcement, but when it became known that the failures were due to specific rather than general causes, the tide turned, and although the stock market has assumed a state of extreme dullness, the tone is relatively firm.³⁶

December 1905 (Chicago)

In December 1905, “three Chicago institutions...became embarrassed to such an extent as to threaten a run.”³⁷ On December 18, these three banks—the Chicago National Bank, the Home Savings Bank and the Equitable Trust Company—failed. A committee from the Chicago Clearing House explained the reasons behind the failures, “The difficulty with the institutions has been that their investments had been made in assets connected with the railway and coal enterprises of John R. Walsh. Those assets were not immediately available to meet deposits.”³⁸ According to the *Chronicle*, due to the actions of the Chicago Clearing House Association, these failures produced only mild sensation in Chicago. “The matter proved, however, to be less serious than at first supposed, as the Chicago Clearing House banks took charge of the affairs of the closed institutions and gave notice that they would pay all depositors in demand.”³⁹ Comptroller Ridgely echoed these sentiments,

The action of the Chicago Clearing House banks in coming to the aid of the Chicago National Bank, the Home Savings Bank and the Equitable Trust Company, has relieved an almost critical situation, which, if it had not been taken promptly in hand, might have led to very serious consequences, not only in Chicago, but elsewhere. The action of the Clearing House banks makes it absolutely certain that all the creditors of the three institutions will receive their money immediately and should thus relieve any apprehension on the part of the public in regard to financial troubles in Chicago.⁴⁰

January 1908 (New York City)

³⁵ “The Financial Situation,” *Commercial and Financial Chronicle*, July 6, 1901, p. 2.

³⁶ “The Money Market and Financial Situation,” *Commercial and Financial Chronicle*, October 24, 1903, p. 1273.

³⁷ “The Financial Situation,” *Commercial and Financial Chronicle*, December 23, 1905, p. 1752.

³⁸ “Items about Banks, Bankers and Trust Co's,” *Commercial and Financial Chronicle*, December 23, 1905, p. 1765.

³⁹ “The Money Market and Financial Situation,” *Commercial and Financial Chronicle*, December 23, 1905, p. 1774.

⁴⁰ “Items about Banks, Bankers and Trust Co's,” *Commercial and Financial Chronicle*, December 23, 1905, p. 1765.

On Saturday January 25, 1908, the New York Clearing House loan committee announced that Clearing House loan certificates, which had been issued during the Panic of 1907, would be retired shortly. This announcement triggered bank runs. Faced with heavy withdrawals of deposits, four banks that were indebted to the Clearing House closed over the following week. The National Bank of North America failed on January 26, the New Amsterdam National Bank and the Mechanics and Traders' Bank closed on January 29 and the Oriental Bank suspended on January 30. In light of these difficulties, the Clearing House Committee decided to provide the banks with more time to retire their loan certificates.

The closing of four local financial institutions, namely, the National Bank of North America, the New Amsterdam National Bank, the Mechanics' & Traders' Bank, and the Oriental Bank, marked the course of events this week...All of these banks were among the few still indebted to the Clearing House, and their suspension followed closely the notification issued by the Clearing House Loan Committee last Saturday to the effect that the retirement of all Clearing House certificates would be required shortly, it being the intention of the Association, it was understood, to resume the publication of the detailed bank statement on Feb. 8. It was decided, however, at a meeting of the Clearing House committee on Tuesday—after the National Bank of North America had been forced to suspend—to allow the banks more time in which to cancel their certificates.⁴¹

August – September 1920 (Boston)

Charles Ponzi, the financier who would later go down in infamy for his financial frauds, was arrested in Boston on Aug 12. The Securities Exchange Commission and the Hanover Trust Company, two banks under his charge, were shut down. These events unsettled public confidence in Boston. The Prudential Trust Company closed on September 10. A run on the Cosmopolitan Trust Company forced it to suspend on September 25. The suspension of the Cosmopolitan Trust Company unleashed runs on additional banks in Boston. Due to heavy demands by depositors, three Boston trust companies were forced to put into operation a law that required a 90-day notice for withdrawals on savings deposits. One of these trust companies, the Fidelity Trust Company, closed on September 28.

To calm the situation, on September 27, Massachusetts Governor Calvin Coolidge announced his “efforts to have all the banks join in a plan to prevent any solvent bank from being forced to close.”⁴² The following day, conditions stabilized in Boston, and Governor Coolidge remarked,

The bank situation is quieting down generally. I have talked with the bank commissioner and he informs me that everything he hears today is of a reassuring nature. I understand that the runs on the banks yesterday have subsided. The second thought of the people is coming to the rescue of the situation. The disquieting rumors have ceased and the ordinary confidence has returned. All that is necessary to provide an adequate remedy is a continuation of the public confidence which seems to exist this morning.⁴³

November 1920 – February 1921 (North Dakota)

Beginning in mid-November 1920 and continuing until February 1921, North Dakota was hit by a wave of bank failures. In total, more than thirty banks closed. Toward the end of November, O.E. Lofthus, the State Bank Examiner, appraised the situation, citing the national financial situation, crop failures, the expected withdrawal of public funds deposited in North Dakota banks,

⁴¹ “Items About Banks, Bankers and Trust Co’s,” *Commercial and Financial Chronicle*, February 2, 1908, p. 260-261.

⁴² “The Boston Bank Disturbances,” *Commercial and Financial Chronicle*, October 2, 1920, p. 1327.

⁴³ “The Boston Bank Disturbances,” *Commercial and Financial Chronicle*, October 2, 1920, p. 1327.

the low price of grain, and withdrawals exceeding collections as reasons for the closings of these institutions:

O.E. Lofthus, State Bank Examiner...said that the North Dakota situation is a reflection of the national financial situation...Mr. Lofthus said he expected many of the banks would reopen when the present financial stringency was passed.⁴⁴

O.E. Lofthus, State Bank Examiner, in a statement today said that successive crop failures are responsible for the closing of five banks in the western part of the state. None of the banks closed, he said, are to be classed as failures. Their suspension is due to their inability to realize at this time on assets that are perfectly good, and they probably will reopen later on. Money loans held by the banks are second mortgages on real estate or chattel mortgages. Others are notes given to other parties and rediscounted. The makers are good for payment, but are refusing to sell their grain on the present low market, and so cannot meet the notes. The Farmers State Bank of Greene, in a statement explaining its closing, said it would be unable to meet the expected withdrawal of public funds now deposited with it by the Bank of North Dakota.⁴⁵

The closing of state banks at this time is owing to the withdrawals exceeding collections to a point where the reserves have become depleted, according to O.E. Lofthus.⁴⁶

The failure of the Federal Reserve to extend additional credit to North Dakota banks was also cited as a reason for the closing of these institutions:

John N. Hagan, Commissioner of Agriculture and Labor, blames the Federal Reserve Bank for failing to extend more credit to the banks in North Dakota, where they are embarrassed by failure of crops or refusal of farmers to sell their grain. If the Federal Reserve Board would only extend the necessary credit, he said, the situation could be adjusted.⁴⁷

To alleviate the financial situation, the bankers of North Dakota implemented the following measures:

‘More than 600 North Dakota bankers, in conference here today with representative officials of the State Administration, adopted a plan intended to meet the financial situation that has resulted in the closing of the banks. The most important step taken to prevent the closing of the additional banks was the creation of a pool to be used for the benefit of banks that are unable to finance themselves

Another step aimed at bringing additional capital into the State was the approval of State bond issues for the financing of farm loans, and the pledge of the bankers to assist in the sale of such bonds...

Dealing with the Bank of North Dakota, the deposits of which are reduced through the adoption by the voters of the State recently of a law doing away with the compulsory deposit of all public funds in the State bank, the bankers pledged their cooperation, to the

⁴⁴ “Closing of Thirteen Banks in North Dakota,” *Commercial and Financial Chronicle*, November 27, 1920, p. 2101.

⁴⁵ “Closing of Thirteen Banks in North Dakota,” *The Minneapolis Journal in Commercial and Financial Chronicle*, November 27, 1920, p. 2101.

⁴⁶ “List of Closed North Dakota Banks Reaches Seventeen—Proposed Examination of Bank of North Dakota,” *Commercial and Financial Chronicle*, December 4, 1920, p. 2183.

⁴⁷ “Closing of Thirteen Banks in North Dakota,” *The Minneapolis Journal in Commercial and Financial Chronicle*, November 27, 1920, p. 2101.

end that withdrawals that may be made shall be orderly and that the State bank shall not be unnecessarily crippled.⁴⁸

The banking disturbance in North Dakota lasted three months, with reports of bank failures and heavy withdrawals continuing until February.

July 1926 (FL, GA)

A serious banking panic hit Florida and Georgia during the summer of 1926. The disturbance seems to have been associated with a speculative real estate boom and bust.

The panic erupted on July 14 when the closing of the Bankers' Trust Co. of Atlanta unleashed a wave of bank suspensions in Georgia and Florida. Eighty-three banks closed within one week. According to the Associated Press, most of these closings were the direct result of the closing of the Bankers' Trust Co. of Atlanta.

Opinion was expressed in financial circles that most of the banks which closed were not insolvent but, because of the closing of the Bankers' Trust Co., upon which they relied for funds, were forced to close.⁴⁹

T.R. Bennett, the Superintendent of Banks in Georgia, describes how the collapse of the Bankers' Trust Co. of Atlanta unleashed a banking panic.

The present flurry is due entirely to causes originating outside the state and does not indicate any weakness on the part of Georgia banks. But for the difficulties of the Bankers' Trust Company, brought about by conditions in Florida, not a bank in Georgia would have closed. When it was announced that the trust company was no longer in a position to finance the banks for whom it had acted as financial agent, these banks were immediately thrown on their own resources. Before they could adjust themselves and make new connections, all sorts of wild rumors were started, and at quite a number of places runs on the banks were begun. To prevent the depletion of their assets pending the forming of new connections, it seemed to many banks necessary to suspend active business.⁵⁰

The collapse of a speculative real estate boom in Florida was the primary cause of the banking disturbance, according to the contemporary news reports. The *New York Times* reported that the closings were "due primarily to deflation of Florida real estate values and apparently resulted from attempts at large operations on insufficient capital."⁵¹ The *Commercial and Financial Chronicle* noted, "We must look further for a cause. And we are not long in finding it—insufficient liquidity of assets due to land and stock booms."⁵²

According to the *New York Times*, the Federal Reserve System extended aid to Southern banks to mitigate the panic.

The Federal Reserve System also has kept a close watch on the situation, and in several cases where it was deemed advisable aid was extended to Southern banks. In some

⁴⁸ "Twenty-Three Banks Closed in North Dakota—Relief Measures," *Commercial and Financial Chronicle*, December 11, 1920, p. 2284.

⁴⁹ "Over 70 Chain Banks in Georgia Close as Result of Petition for Receiver for Bankers' Trust Co. of Atlanta—Florida Banks Also Affected," *Commercial and Financial Chronicle*, July 17, 1926, p. 285.

⁵⁰ "Bank Suspension in Georgia and Florida—Investigation Into Affairs of Bankers Trust Co. of Atlanta—Statement of Jacksonville Clearing House," *Atlanta Constitution in Commercial and Financial Chronicle*, July 24, 1926, p. 412.

⁵¹ "Fundamental Conditions Sound According to New York Bankers," *New York Times in Commercial and Financial Chronicle*, July 17, 1926, p. 286.

⁵² "Chain Bank Failures," *Commercial and Financial Chronicle*, July 31, 1926, p. 500.

instances, however, the authorities considered that small, untried banks were operating on unsound lines and that it would be just as well if they suspended operations.⁵³

Conditions stabilized in early August. In total, however, eighty banks closed in Georgia and roughly sixty banks closed in Florida.⁵⁴

March 1927 (Florida)

During the first two weeks in March 1927, six banks failed in Palm Beach County, Florida. Three banks failed on Tuesday March 8, precipitating runs on banks in the area. According to the *Chronicle*,

An armoured car rushed \$2,000,000 in cash from Miami to check the runs...Hundreds of frantic depositors thronged the streets in front of each bank and received their money as fast as it could be handed out through the windows. At 2 o'clock, the closing hour, more than 100 depositors, it was stated, were still at the doors of the Farmers' Bank & Trust Co.⁵⁵

Three additional banks failed on Monday March 14, triggering runs on the Citizens' Bank and the Central Farmers' Trust Co, the two largest banks in West Palm Beach. The directors of one of the failed banks explained the reasons behind the closing of the institution:

The failure of three Palm Beach banks in June, followed by the hurricanes, continued depression in real estate together with the unfortunate upheaval in city affairs...have created a feeling of unrest and lack of confidence resulting in persistent and continual withdrawals on the part of depositors.⁵⁶

While conditions stabilized fairly quickly, on March 18th, one additional bank—the Seminole Bank at Stuart, Florida—closed on account of the banking instability at West Palm Beach.

July – August 1929 (Florida)

A banking disturbance broke out in Florida in the summer of 1929. The disturbance seems to have been associated with an infestation of the Mediterranean fruit fly—a type of fly that causes extensive damage to citrus crops. According to the contemporary news reports, the effects of the Mediterranean fruit fly—coupled with fear on the part of the public—led to a wave of bank runs and failures in Florida.

Failure of 15 State banks in southwest Florida today, with aggregate deposits of more than \$22,500,000, was regarded by Ernest Amos, State Comptroller, tonight as being the 'darkened hour just before dawn.' In a statement to the Associated Press, the Comptroller said he believed the primary cause of the failures was 'unnecessary withdrawals, propaganda, and the mental attitude of the people. There is a financial depression to a certain degree everywhere in the State', he explained, 'which has been accentuated by the effect of the Mediterranean fruit fly and quarantine. I regard this as

⁵³ "Fundamental Conditions Sound According to New York Bankers," *New York Times in Commercial and Financial Chronicle*, July 17, 1926, p. 286.

⁵⁴ "Failure of Chain Banks in Georgia Laid to Unsound, Inadequate Laws by Fulton County (Ga.) Grand Jury—Bank Superintendent Says Investigation Considered Only One Side of Case," *Commercial and Financial Chronicle*, September 11, 1926, p. 1333.

⁵⁵ "Items About Banks, Bankers and Trust Companies," *Commercial and Financial Chronicle*, March 12, 1927, p. 1467.

⁵⁶ "Items About Banks, Bankers and Trust Companies," *Commercial and Financial Chronicle*, March 12, 1927, p. 1467.

the darkened hour just before the dawn, however, if the people will not tear down the temple upon their own heads. This is what they are doing now.’⁵⁷

Others corroborated this account:

The board of directors of the Citizens’ Bank & Trust Co., which was a parent institution for ten of the banks which failed today, issued a statement explaining that the present situation was due to ‘unwise gossip and continued adverse conditions following the appearance of the Mediterranean fruit fly, which was responsible for a feeling of unrest and fear developed on the part of the people.’⁵⁸

To alleviate the situation, the Federal Reserve Bank of Atlanta rushed cash to banks undergoing runs.

To bolster up public confidence, \$1,000,000 in cash was brought here by airplane today from Atlanta and delivered to the First National Bank of Tampa, a member of the Federal Reserve... Creed Taylor, Deputy Governor of the Federal Reserve Bank at Atlanta, who arrived here today, also declared that local bankers could ‘have all the money they need with which to meet the situation.’⁵⁹

According to the newspaper reports, these actions mitigated the panic:

Indications were that confidence had been restored and that in the next few days most of the money withdrawn yesterday and today will be returned to the vaults of the banks. The arrival of \$5,000,000 here today and yesterday from the Atlanta Federal Reserve Bank and the sight of the money in huge stacks in the cages of the bank tellers had a reassuring effect. Crowds about the banks were much smaller than yesterday and were there out of curiosity.⁶⁰

The banking situation subsequently stabilized. In total, however, over the course of one month, more than thirty banks failed in Florida.

A6 – Narrative Test

Section A6 of the appendix describes in greater detail the narrative evidence that I utilize to further restrict the VARs in Section 3.1. Section A7 provides more extensive documentation.

Narrative Evidence

Table 6, which presents the behavior of the Davis Index of Industrial Production surrounding every major banking panic between 1825 and 1914, shows that there is a clear correlation between major banking panics and output declines. However, as noted in the body of the paper, this information by itself does not prove that panics have real output effects. If panics are products of recessions, then deteriorating economic conditions might be causing panics, rather than vice versa. Mitchell (1941) and Fels (1959) provide the main articulation of this hypothesis.⁶¹ They argue that major recessions cause panics. During downturns, business failures and declining fundamentals cause depositors to become alarmed that banks will suspend or fail. This precipitates a run to convert deposits into currency, thereby generating a panic.

⁵⁷ “The Florida Bank Failures,” *Baltimore Sun in Commercial and Financial Chronicle*, July 20, 1929, p. 422.

⁵⁸ “The Florida Bank Failures,” *Baltimore Sun in Commercial and Financial Chronicle*, July 20, 1929, p. 422.

⁵⁹ “The Florida Bank Failures,” *Baltimore Sun in Commercial and Financial Chronicle*, July 20, 1929, p. 422

⁶⁰ “The Florida Bank Failures,” *New York Times in Commercial and Financial Chronicle*, July 20, 1929, p. 422

⁶¹ Gorton (1988) terms this the Recession Hypothesis.

Under this specification, it would be misleading to attribute output declines to panics since panics would be products of downturns rather than causes.⁶²

In developing a test to identify the output effects of major banking panics—one that addresses this identification problem, information from the narrative record is helpful. Of particular relevance, financial and economic newspapers from the 1825 to 1929 period contain detailed commentaries by economic observers. In many instances, the economic press identify the events that precipitated a panic among depositors, making it easier to determine whether the panic was caused by a downturn or by some other disturbance.

Moreover, the newspaper records are also helpful in another regard. According to the Mitchell and Fels framework, major recessions cause panics because depositors become alarmed by declining fundamentals. In this framework, newspaper reports should reflect these deteriorating economic conditions and serve as a signal to depositors that fundamentals are declining or expected to decline. An examination of the news reports of economic conditions provides an assessment of how the public viewed the state of the economy surrounding each panic episode. According to the press, were economic conditions prosperous on the eve of the panic? Or were they declining? Did the press describe deteriorating economic fundamentals? Or was the state of the economy described as strong?

Therefore, I utilize narrative sources in the following manner. I read the newspaper records surrounding every major banking panic between 1825 and 1929 to identify those panics that the reports of contemporary observers suggest were the result of idiosyncratic disturbances, as opposed to declining output conditions. I then use these episodes to empirically identify the output effects of panics by imposing restrictions on the VAR. Conceptually, the test of whether panics have real output effects is to see whether real economic activity declines following the outbreak of these panics.

Methodologically, this test is similar in approach to the work of Romer and Romer (1989, 2004) to identify the effects of monetary policy, Romer and Romer (2010) to identify the effects of changes in taxes, and Ramey and Shapiro (1998) and Ramey (2011) to identify the effects of changes in government spending. Moreover, similar to Ramey and Shapiro (1998) and Ramey (2011), the narrative sources used in this study are contemporary financial and economic news reports. In particular, I employ the following newspapers: *The Niles Weekly Register* (1825-1849), *The New York Commercial Advertiser* (1825-1857), *The Merchants' Magazine and Commercial Review* (1839-1869) and *The Commercial and Financial Chronicle* (1865-1914). These periodicals were among the leading economic and financial newspapers of their day.

Specifically, I read the newspaper records surrounding major banking panics to accomplish two goals: (1) to identify the perceived causes of panics and (2) to identify the perceived state of the economy when the panic broke out. The reasons for this are simple. In assigning causes to panics, contemporary observers may be able to pinpoint the forces that precipitated depositor anxiety and that led to a panic. In reporting the state of the economy, the press may be able to

⁶² These issues are particularly relevant in the debate on the causes of the Great Depression. Friedman and Schwartz (1963) argue that a wave of banking panics turned a relatively normal downturn into a much more severe depression. However, Temin (1976) challenges the Friedman and Schwartz view, distinguishing between two possibilities:

“The assertion is that the banking panics turned a short depression into a sustained decline in national income. The question to be examined here is whether the banking panics were independent of the fall in income or a result of this fall” (p. 83)

Friedman and Schwartz place special emphasis on the banking panic of October 1930, the first major banking panic of the Great Depression, arguing that “in October 1930, the monetary character of the contraction changed dramatically” (p. 308). As a result, Temin focuses his analysis on this panic episode. He concludes that agricultural distress—which was, he argues, a component of the depression—caused the banking panic of 1930. In Temin’s view, the banking panics of the Great Depression were consequences—rather than causes—of the depression.

clarify whether there were indications of a major recession on the eve of the outbreak of panic. Both pieces of information are helpful in determining whether a panic was caused by a downturn or by some other disturbance.

The newspaper records are incredibly useful in identifying the causes of panics. Descriptions of events leading up to panics and reports by contemporary economic observers help to identify the forces that precipitated a panic among depositors. Moreover, these records provide a gauge of market participants' contemporaneous beliefs regarding the causes that led to a panic. Did depositors panic because there were growing signs of an economic downturn or did they panic in response to some other disturbance?

In addition, it is straightforward to determine how the press perceived the state of the economy when a panic broke out. Many of the newspapers used in this study contained sections that described general macroeconomic trends on a regular basis: "The Commercial Epitome" in the *Commercial and Financial Chronicle*, "The Commercial Chronicle and Review" in the *Merchants' Magazine and Commercial Chronicle*, and "Review of the Market" in the *New York Commercial Advertiser*. Given the lack of data available to the economic press of the 19th and early 20th centuries, reporting of general macroeconomic trends clearly lacked the precision to which we are accustomed today. However, the economic press did have correspondence with the leading industrial and manufacturing centers of the country, allowing them to make broad generalizations regarding macroeconomic developments. Most importantly, the reporting by the press reveals the kinds of signals being sent to the public regarding the overall health of the economy. If depositors became alarmed that a recession would cause banks to fail, then such signals would have been present in the news reporting.

Therefore, I employ newspaper records to separate banking panics that might have been caused by downturns from those that were caused by other disturbances. However, since I rely on newspaper accounts, there are varying degrees of certainty across panic episodes. In some cases, the causes of a panic are clear and obvious, whereas in other cases, the causes are more ambiguous. Hence, to reflect these varying degrees of certainty, I classify panics along a two-dimensional scale. The scale ranges from 1 to 3. Figure III presents a visual representation of this scale.

On the first dimension, I classify panics according to reported causes. I read the newspaper records surrounding every major banking panic from 1825 to 1929 to identify the events or forces that contemporary observers cited as primary causes of the panic. If the newspaper records identify an event unrelated to output fluctuations as the primary cause of the panic, then I assign the panic a 3 on the first dimension of the scale. Examples of events that might precipitate a panic, but that are likely to be unrelated to output fluctuations include political decisions, the failure of a mismanaged bank, and international contagion. A political decision that causes a change in market expectations regarding the stability of the banking sector, the failure of a mismanaged bank and a subsequent contagion of fear generated in the aftermath of such a failure, or a panic abroad that triggers financial instability at home are all events that might generate a panic, but that are likely to be unrelated to movements in domestic output conditions. If the newspaper records identify any of these events—political decisions, failure of a mismanaged bank, or international contagion—as the primary cause of the panic, then I assign the panic a 3.

By contrast, if the newspaper records identify output fluctuations as the primary cause of the panic, then I assign the panic a 1. A banking panic caused by depositor anxiety that a major recession will cause banks to fail or suspend would be a prime example of a panic that would receive a 1 on the first dimension of the scale.

On the second dimension of the scale, I classify panics according to the state of the economy when the panic broke out. I read the descriptions of economic conditions on the eve of

the outbreak of panic.⁶³ If the newspaper records characterize economic conditions as “prosperous” on the eve of the outbreak of the panic, then I assign the panic a 3. If the newspaper records characterize the state of the economy as in “depression” or in “recession” on the eve of the outbreak of the panic, then I assign the panic a 1.⁶⁴

Moreover, on both dimensions, there is an intermediate category 2, which is reserved for ambiguous situations in which the newspaper records are not definitive in assigning causes or in characterizing the state of the economy. If the newspaper records identify both a downturn as well as other events that are unrelated to output fluctuations as primary causes of the panic, then the panic is assigned a 2 on the first dimension. If the newspaper records do not clearly characterize economic conditions either as “prosperous” or as in “depression/recession,” then the panic is assigned a 2 on the second dimension.

Lastly, in situations where the newspaper records are uninformative in identifying causes or in characterizing the state of the economy, I simply exclude the panic from the ranking. This occurs when the newspaper records do not seem to know what caused the panic and are in widespread disagreement or when the newspaper records simply do not contain descriptions of the state of the economy on the eve of the outbreak of panic.

The Classification

Between 1825 and 1929, there were seven major banking panics: 1833, 1837, 1839, 1857, 1873, 1893, and 1907. Table 7 presents the classification of these major banking panics on the scale. Three important observations should be noted. First, three banking panics—the panics of 1833, 1857, and 1873—received a 3 on both dimensions of the scale—that is, they did not break out in the midst of a downturn and they were not caused by output fluctuations, according to the newspaper records. These episodes serve as ideal candidates to identify the output effects of banking panics.

Second, no banking panics received a 1 on the first dimension of the scale—that is, none were attributed exclusively to a downturn. However, that should not be interpreted to mean that none of these banking panics were caused by downturns. The Panic of 1907 received a 2 on the first dimension, meaning that the newspaper records identified both a downturn and another disturbance as causes. Moreover, even though the Panic of 1893 received a 3 on the first dimension of the scale, it received a 1 on the second dimension because the newspaper records reported deteriorating economic conditions when the panic broke out, raising the possibility that declining output conditions played a role in the outbreak of that panic.

Third, the newspaper records were particularly unhelpful in classifying two of the major banking panics—the panics of 1837 and 1839. Contemporary observers were in widespread disagreement regarding the causes of these panics. In addition, the press failed to provide

⁶³ To determine whether the press reported positively or negatively on the state of the economy before the outbreak of panic, I read the following articles for the two months immediately preceding the panic: “The Commercial Epitome” in the *Commercial and Financial Chronicle*, “The Commercial Chronicle and Review” in the *Merchants’ Magazine and Commercial Chronicle*, and “Review of the Market” in the *New York Commercial Advertiser*.

⁶⁴ The reason for classifying panics on this second dimension is simple: it provides an additional filter to separate panics that may have been caused by downturns from those that were not. For example, consider a panic that broke out in the midst of declining economic conditions. If contemporary observers attributed the panic to an event unrelated to these declining output conditions, then the panic would receive a 3 on the first dimension of the scale. However, the panic’s occurrence in the midst of declining economic conditions calls into question whether contemporary observers were accurate in dismissing the role of deteriorating economic activity in aggravating depositor unrest. Therefore, classifying panics according to the state of the economy when the panic broke out provides an additional criterion to weed out panics that might have been caused by output fluctuations from those that were not.

descriptions of economic conditions on the eve of the outbreak of these panics. For these reasons, I omit these two panics from the scale.

In the remainder of this section of the appendix, I describe the classification of panics along the scale. To highlight the key findings, I present a condensed version here. For a more detailed treatment of each panic and for more extensive documentation, see Section A5 of the appendix.

Dimension 1: Reported Causes

Panic of 1833: Political Decision

According to the newspaper records, a political decision—the withdrawal of the government deposits from the Bank of the United States—caused the Panic of 1833. Chartered in 1816, the Bank of the United States served as the country’s fiscal agent, promoted a more uniform national currency, and aided the economy in times of distress. Accordingly, many historians view the Bank of the United States as a quasi-central bank. However, for ideological reasons, President Andrew Jackson was a consistent opponent of the Bank of the United States throughout the course of his presidential administration. As a consequence, Jackson decided to remove the government deposits from the Bank of the United States, beginning on October 1, 1833. Shortly thereafter, confidence in the Bank of the United States and in the overall banking system became impaired, precipitating runs. Fears that the country’s quasi-central bank would be weakened and that the nation’s banking system might be destabilized were widely reported by the press. The newspaper records attribute the panic’s origins to the destruction of “aggregate individual confidence”⁶⁵ following the removal of the government deposits from the Bank of the United States.

Panic of 1837 and Panic of 1839: Records in Widespread Disagreement

The newspaper records were in widespread disagreement regarding the causes of the Panics of 1837 and 1839. Indeed, a range of causes was provided for both panics. For the Panic of 1837, some reports identified political decisions of the Jackson administration as causes, whereas others identified years of unstable activity in the banking sector as the primary cause. For the Panic of 1839, some reports identified misguided decisions of banking authorities as the cause of the panic, whereas others identified the weak economic conditions prevailing since the prior panic as the primary cause. In 1839, the editors of the *Niles Weekly Register* described the uncertainty they felt regarding the causes of the panic, “we are too much in the dark as to the immediate cause of the catastrophe, to venture a decided opinion on the causes which produced it.”⁶⁶

Panic of 1857: Failure of Mismanaged Bank

The catalyst for the Panic of 1857 was the failure of the Ohio Life Insurance Company. Its failure was attributed to mismanagement and fraudulent activities.⁶⁷ The collapse of this banking firm triggered the panic. The Ohio Life was considered one of the most reputable firms in the nation and initially, the cause of its failure was unknown. Its demise shocked the financial community and sparked runs on banks throughout the country. Over the succeeding weeks, fear

⁶⁵ “Correspondence for the Commercial Advertiser,” *New York Commercial Advertiser*, Jan 6, 1834.

⁶⁶ “Suspension of Specie Payments,” *Niles Weekly Register*, Oct 26, 1839, p. 139.

⁶⁷ Edward Ludlow, the director of its New York office, loaned \$2 million, an amount that equaled the firm’s capital, to several railroad companies, with a significant proportion being loaned to the struggling Cleveland & Pittsburgh road. Following the bank’s suspension, Charles Stetson, the president of the company, seemed to be unaware of Ludlow’s activities and immediately launched an investigation. The extent of Ludlow’s mismanagement is still unclear—charges that his activities involved fraud and that he stole money for his own devices were leveled against him.

spread and the panic gained in intensity. The news reports identify this contagion of fear following the failure of the Ohio Life as the cause of the panic.

Panic of 1873: International Contagion

The panic of 1873 had its origins abroad. In May, a stock market crash in Vienna caused European investors to dispose of their holdings of American securities, and especially, their holdings of railroad bonds, the leading American security traded internationally. As a consequence, domestic markets became overloaded with railroad bonds to such a large degree that new bond sales could no longer be realized, cutting off the resources of many railroad companies and forcing several of them to default on interest payments. Over time, this precarious financial situation, along with the failure of some minor firms associated with the railroad sector, generated a feeling of distrust toward the railroad industry. On September 18, 1873, the failure of Jay Cooke and Company, a prominent banking company with connections to several railroad companies, unleashed the panic. The newspaper records identify international contagion as the cause of the panic: international forces—the unloading of American railroad securities abroad—produced financial instability at home, resulting in a panic.⁶⁸

Panic of 1893: Political Decision

The *Commercial and Financial Chronicle* attributed the outbreak of panic in 1893 to the Sherman Silver Purchase Act of 1890, a measure passed by pro-silver forces in the U.S. Congress. The Act's intended objectives centered on curbing deflation to improve the plight of debt-laden farmers; however, according to the press, it failed to achieve its goals and instead, served primarily to weaken the U.S. commitment to the gold standard. The Sherman Silver Act mandated that the U.S. government purchase 4.5 million ounces of silver bullion every month with notes that could be subsequently redeemed in either gold or silver—a requirement that over time, impaired the government's gold reserves and sparked doubts at home and abroad that the U.S. would remain on the gold standard. Fears that the U.S. would be forced onto a silver standard became self-fulfilling as foreign investors began withdrawing gold from the country in large quantities. Gold exports, coupled with growing anxiety over the U.S. commitment to the gold standard, undermined confidence in the nation's banking system, resulting in runs by nervous depositors that led to a panic. The newspaper records identify the Sherman Silver Purchase Act—a political decision—as the cause of the panic.⁶⁹

Panic of 1907: Mixed Causes (Downturn or Mismanagement/Fraudulent Banking Activity)

The actions of a group of New York City financiers, with controlling interests over several banks, triggered the panic of 1907. The group misappropriated bank funds to speculate on rising copper prices. The gamble proved to be a mistake. Copper prices collapsed and news of these events triggered runs on the banks implicated in the speculation. Rumors that other banks and trust companies might be connected to the speculators unsettled public confidence and a panic quickly spread throughout the city. Within a few days, the panic spanned most of the country. What caused the panic? The *Commercial and Financial Chronicle* identified two causes. For one, the *Chronicle* identified this fraudulent banking activity as a cause. But for another, the *Chronicle* also identified growing signs of a recession as an additional force that undermined confidence. The editors of the *Chronicle* wrote, “The more immediate causes for the upheaval

⁶⁸ “Report of the Comptroller of the Currency” in the *Commercial and Financial Chronicle*, Dec 6, 1873, p. 767-768.

⁶⁹ “The Financial Situation,” *Commercial and Financial Chronicle*, Aug 12, 1893, p. 232; “Is It the Balance of Trade or the Silver Law,” *Commercial and Financial Chronicle*, Aug 5, 1893, p. 199.

deserve narration here...There were...multiplying evidences of a reaction in the iron and steel trades and of recession in general business.”⁷⁰

Dimension 2: State of the Economy

Panics of 1833, 1857, and 1873: Prosperity

Prior to the outbreak of the Panics of 1833, 1857, and 1873, economic conditions were prosperous, according to the newspaper records. On the eve of the Panic of 1833, commentators were describing “the unexampled prosperity of the year”⁷¹ and were reporting, “every thing has the appearance that an early and extensive fall business will be done.”⁷² On the eve of the Panic of 1857, the *Merchants’ Magazine* noted, “the country continues prosperous,”⁷³ and the *New York Commercial Advertiser* reported, “The general business of the country is in a good condition, presenting both present and prospective, a most healthy appearance.”⁷⁴ On the eve of the Panic of 1873, the newspaper records noted, “business has been large and a cheerful tone pervades mercantile circles,”⁷⁵ and the Comptroller of the Currency reported, “there were in almost every direction evidences of prosperity.”⁷⁶ Indeed, by all accounts, economic conditions were prosperous prior to the outbreak of these panics.

Panics of 1893 and 1907: Depression/Recession

Prior to the outbreak of the Panics of 1893 and 1907, economic conditions were declining, according to the newspaper records. On the eve of the outbreak of the Panic of 1893, there were reports of many business and mercantile failures and the *Commercial and Financial Chronicle* made general references to an “existing depression.”⁷⁷ On the eve of the outbreak of the Panic of 1907, there were reports of large increases in commercial failures and the press made frequent references to an “existing depression”⁷⁸ and to a “recession in business.”⁷⁹ The newspaper records suggest that these two panics occurred in the midst of a downturn.

Panics of 1837 and 1839: No Clear Descriptions

In contrast to the reporting of other panics, the press failed to provide descriptions of economic conditions on the eve of the outbreak of these two panics. The section in the *New York Commercial Advertiser* that described economic conditions—the “Review of the Market”—was discontinued in 1837 and in 1839.

A7 – Detailed Panic Classification

⁷⁰ “Review of October,” *Commercial and Financial Chronicle*, Nov 2, 1907, p. 22.

⁷¹ *New York Commercial Advertiser*, Wed Oct 2, 1833, p. 2.

⁷² “Review of Market,” *New York Commercial Advertiser*, Aug 17, 1833.

⁷³ “Commercial Chronicle and Review,” *Merchants’ Magazine and Commercial Review*, September 1857, p. 325.

⁷⁴ “Cincinnati Gazette of Tuesday, Aug 25” in *New York Commercial Advertiser*, August 27, 1857.

⁷⁵ “Commercial Epitome,” Sept 13, 1873, *Commercial and Financial Chronicle*, p. 358.

⁷⁶ “Report of Comptroller of the Currency” in the *Commercial and Financial Chronicle*, Dec 6, 1873, p. 767-768.

⁷⁷ “The Financial Situation,” *Commercial and Financial Chronicle*, June 10, 1893, p. 946 and “The Depression in the Iron and Steel Trades,” *Commercial and Financial Chronicle*, May 13, 1893, p.775.

⁷⁸ “The Financial Situation,” *Commercial and Financial Chronicle*, Oct 5, 1907, p. 826-8.

⁷⁹ “Review of October,” *Commercial and Financial Chronicle*, Nov 2, 1907, p. 22.

Section A7 of the appendix provides a more extensive description of the classification of major banking panics that I outline in Section A6. It also provides detailed documentation of the contemporary news sources that I cite in that section.

Banking Panic of 1833-4

The Panic of 1833 broke out towards the end of November. In the weeks and months preceding the panic, economic commentators reported positively on the state of the economy. On the eve of the panic, commentators were describing “the unexampled prosperity of the year”⁸⁰ and were reporting that “every thing has the appearance that an early and extensive fall business will be done.”⁸¹ By all accounts, economic conditions seemed to be booming in the weeks and months prior to panic.⁸²

The events leading up to the panic of 1833 begin with President Andrew Jackson’s “war” against the Second Bank of the United States. Chartered in 1816, the Second Bank of the United States served as the country’s fiscal agent, promoted a more uniform national currency, and aided the economy in times of distress. Accordingly, many historians view the Bank of the United States as a quasi-central bank.

Andrew Jackson was a consistent opponent of the Bank of the United States throughout the course of his presidential administration. His antipathy towards the Bank was primarily ideological. A populist and champion of the common man, Jackson believed that the Bank of the United States concentrated too much financial power in one institution, benefited the east and the north at the expense of the south and the west, and made the rich richer. The bank’s charter was set to expire in 1836, but out of a desire to prematurely weaken the institution, he decided to remove the government deposits from the Bank of the United States.

The U.S. government began withdrawing its deposits from the Bank of the United States on October 1, 1833 and soon thereafter, confidence in the Bank of the United States quickly became impaired, according to the news reports. In November, runs on branches of the Bank of the United States occurred, with one very notable run on its Savannah branch, in which \$350,000 in specie was demanded. Over the next several months, confidence in the stability of the nation’s banking system deteriorated and the panic spread and intensified. Through the end of May 1834, bank runs and suspensions, along with general conditions of financial unrest, were reported by the press.

Why did a panic erupt in 1833 in a time of economic prosperity? The newspaper accounts attribute the panic’s origins to the destruction of “aggregate individual confidence” following the removal of the government deposits from the Bank of the United States. Fears that the country’s quasi-central bank would be weakened and that the nation’s banking system might be destabilized were widely reported by the press. This impairment of confidence, according to the news reports, precipitated the panic. Indeed, the news reports characterize the panic as a financial disturbance that occurred due to a radical change in market expectations regarding the stability of the banking system.

⁸⁰ *New York Commercial Advertiser*, Wed Oct 2, 1833, p. 2.

⁸¹ “Review of Market,” *New York Commercial Advertiser*, Aug 17, 1833.

⁸² Some additional accounts:

“It is the opinion of the best informed men that this city has never seen a more prosperous time than the present, and during the past year business of almost every description has been good. ... The internal commerce has also been flourishing... At the present moment there is every appearance of a large and extensive fall trade” (“Review of Market,” *New York Commercial Advertiser*, Aug 31, 1833).

“For the season of the year we have had a week of extraordinary activity” (“Review of Market,” *New York Commercial Advertiser*, Aug 17, 1833).

How has this been done? By removing the “Deposites” from the Bank of the United States and its Branches: THEREBY IMPAIRING INDIVIDUAL CONFIDENCE—AND DESTROYING PUBLIC CREDIT...

And how has the removal of the “deposites” caused the distress and alarm which pervades the seaport towns—and which, if the panic be not arrested, will, in another three months, suspend specie payment? I answer—by impairing and finally destroying public credit. And what is Public Credit? It is the aggregate of individual confidence. And what were the elements of this confidence, in reference to the matter we are considering? What sustained it? On what was it founded? Chiefly on a knowledge of the fact—that the Bank of the United States had and did control domestic exchange—regulate its rates—and give to the country a uniform currency—and on the belief that the means, in cash and bills, were abundant for the purposes of trade and commerce. Well—the “deposites” are withdrawn—and we are told that this cannot affect public credit, or in any way impair individual confidence—because the quantity of specie and bills is not reduced. The amount is the same as before. It has only changed its place of repose. So, if you seize a man and strangle him, he is the same man still—that is—he has lost none of his powers of usefulness—because he has the same quantity of flesh and blood and bone that he had when living.⁸³

That the removal of the government deposits from the Bank of the United States undermined confidence in the banking system and had an adverse effect on market expectations is quickly apparent from the financial press.⁸⁴

During a time of economic prosperity, a political decision, unrelated to underlying economic conditions—the removal of the government deposits from the Bank of the United States—brought forth a significant change in market expectations regarding the stability of the nation’s banking system that caused a panic. The panic of 1833 is, consequently, assigned a 3 on both dimensions of the scale.

Banking Panic of 1837

The Panic of 1837, the second major banking panic of the 1830s, broke out during the spring of that year. In contrast to the reporting of other panics, the press failed to provide descriptions of economic conditions on the eve of the outbreak of this panic. The section in the *New York Commercial Advertiser* that described economic conditions—“Review of the Market”—was discontinued in 1837.

Signs of financial and monetary unrest were first visible in March and April, primarily in New Orleans and New York City. The panic erupted in May when New York was forced to suspend specie payments following a dramatic run on its banks. Other regions quickly followed New York’s lead. Suspension of specie payments continued until May 1838.

The newspaper accounts were in widespread disagreement regarding the causes of the panic of 1837. Some argued that the Treasury Circular, an executive order passed by the Jackson administration requiring that government lands be purchased with either gold or silver, caused the panic. The circular’s intended objective centered on curbing speculation in lands. Many in the press noted, however, that the circular aggravated monetary conditions and destabilized the banking system by moving specie from eastern financial centers, where it was severely needed, to the west, where it was now required for purchasing government lands. Others identified another

⁸³ “Correspondence for the Commercial Advertiser,” *New York Commercial Advertiser*, Jan 6, 1834.

⁸⁴ The effect of the withdrawal of the government deposits on market expectations may have been even further amplified by the intense political debate as portrayed in the newspapers. Supporters of Jackson attacked the Bank of the United States as an unjust monopoly and argued for its termination, while Bank supporters excoriated the Jackson administration for its policies and predicted not only a derangement of the currency and credit but also financial catastrophe. It seems unlikely that depositors’ expectations would have remained undisturbed in the midst of such a fight.

Jacksonian measure—the administration’s 1836 decision to distribute the government surplus among the states—as the cause of the panic. This measure demanded the transfer of the government surplus from the pet banks to the states in four equal quarterly installments beginning on January 1, 1837. The news accounts, however, reported that forcing the pet banks to relinquish the surplus placed those institutions under undue strain, further destabilizing the nation’s banking system. Still, others cited a different cause of the panic: years of unstable activity in the banking sector. Following President Jackson’s bank war, the Bank of the United States was no longer in a position to oversee the nation’s banking system and act as a regulator. The result, according to many in the press, was a multiplication of banks and an expansion that fueled inflation and rampant speculation.⁸⁵ As a consequence, many news reports identified this unstable banking environment as the cause of the panic.

The newspaper records are in widespread disagreement regarding the causes of this panic. They also fail to provide descriptions of the state of the economy prior to the outbreak of the panic. Therefore, I omit the panic of 1837 from both dimensions of the scale.⁸⁶

Banking Panic of 1839

Like its predecessor, the press failed to provide descriptions of the state of the economy prior to the outbreak of this panic. The section in the *New York Commercial Advertiser* that described economic conditions—“Review of the Market”—was still not in operation in 1839.

The Panic of 1839 broke out on October 9, 1839 when the banks of Philadelphia suspended specie payments. As news of the Philadelphia suspensions spread, other cities followed Philadelphia’s lead in suspending payments, fearing that their reserves would be drained if they continued to pay out specie while their neighbors did not. As a consequence, by the middle of October, cities and towns throughout the country had suspended specie payments.

The press provided a variety of causes—often in conflict with one another—for the outbreak of panic in 1839. Some identified the misguided decision of Philadelphia banking officials to suspend specie payments as the cause of the panic. Others argued that the suspension was an unavoidable consequence of specie outflows engineered by the Bank of England to strengthen its reserve position.⁸⁷ A few others identified the previous panic as the cause, arguing that resumption in 1838 was premature and that the banks—as well as the overall economy—had not yet fully recovered from the prior financial disturbance. Consequently, the editors of the *Niles Weekly Register* described the uncertainty they felt regarding the causes of the panic, we are too much in the dark as to the immediate cause of the catastrophe, to venture a decided opinion on the causes which produced it.⁸⁸

The newspaper records do not seem to know what caused the panic and are in widespread disagreement. The press also failed to provide descriptions of the state of the economy on the eve of the outbreak of the panic. Therefore, I omit the panic of 1839 from both dimensions of the scale.

⁸⁵ More recently, Temin (1968) provides a different explanation of the inflation and speculation of the 1830s. He argues that international developments—capital inflows and specie inflows—caused the great inflation of the mid 1830s, rather than the impairment of the Bank of the United States.

⁸⁶ It might be tempting to classify this panic as a 3 on the first dimension of the scale on the grounds that political events were cited as causes; however, since the newspaper records are in disarray and do not agree on the causes, I omit this panic from the ranking to reflect the uncertainty that is displayed in these accounts.

⁸⁷ In 1839, the Bank of England’s specie reserves had fallen to low levels. At the same time, a wave of crop failures hit the country, forcing England to significantly increase its food imports. To pay for these imports, England required additional specie. The result was a drain of specie from the U.S. to England, according to the press.

⁸⁸ “Suspension of Specie Payments,” *Niles Weekly Register*, Oct 26, 1839, p. 139.

Banking Panic of 1857

The Panic of 1857 began during the last week of August. On the eve of the outbreak of the panic, the newspaper accounts reported positively on the state of the economy. In the September edition of *The Merchants' Magazine and Commercial Review*, the editors wrote "The country continues prosperous...We have passed through the summer, blest with unusual abundance in every department of agricultural labor, and without any serious commercial or financial difficulty."⁸⁹ The Aug 27th *New York Commercial Advertiser* echoes this description: "The general business of the country is in a good condition, presenting both present and prospective, a most healthy appearance...There never was a time when merchants and bankers were in a better condition than at present."⁹⁰ Indeed, by all accounts, economic conditions were prosperous prior to the outbreak of panic.

The first bank failure—the Ohio Life Insurance Company—occurred on August 24th. Its failure was attributed to mismanagement and fraudulent activities. Edward Ludlow, the director of its New York office, loaned \$2 million, an amount that equaled the firm's capital, to several railroad companies, with a significant proportion being loaned to the struggling Cleveland & Pittsburgh road. Following the bank's suspension, Charles Stetson, the president of the company, seemed to be unaware of Ludlow's activities and immediately launched an investigation. The extent of Ludlow's mismanagement is still unclear—charges that his activities involved fraud and that he stole money for his own devices were leveled against him.

The collapse of this banking firm triggered the panic. The Ohio Life was considered one of the most reputable firms in the nation and initially, the cause of its failure was unknown. Its demise shocked the financial community and sparked runs on banks throughout the country. Over the next several weeks, fear spread and the panic gained in intensity. On September 25th, the Bank of Pennsylvania suspended, along with a generalized suspension of specie payments by the banks in Philadelphia, Baltimore, Washington, and many of the interior cities. The panic reached its climax when a dramatic run on the New York City banks forced the city to suspend specie payments on October 13.

Why did a panic of such large magnitude erupt in a time of relative economic prosperity? The newspaper reports identify a contagion of fear following the failure of the Ohio Life Insurance Company as the primary cause of the panic:

In looking back over the course of the disastrous tide, it is easy to see that, whatever other causes may have laid the foundation for the revulsion, it was *panic* that lifted the floodgates and precipitated calamity. If a house of assembly, improperly constructed, is filled to overflowing, and a bench break in the gallery, the idea that the building is falling may be disseminated by an injudicious word, and, under the influence of *fright*, hundreds of lives be lost in the struggle to escape. Now, if we grant that the number admitted was too great for safety—that the place of egress was narrow and dangerous—or even that the crowd were reckless and selfish, we must still admit that, but for the fright, the company might all have retired at their leisure, without danger or difficulty.⁹¹

In another article, the editors of the *Merchants' Magazine* identify the invention of the electro telegraph as the immediate cause of the panic. The electro telegraph enabled the news of failures to be rapidly communicated to cities and towns throughout the country, thereby spreading fear and depositor unrest.

the more immediate cause of the panic, and which tended to aggravate the evils more than tenfold, is the operation of the electro telegraph, by means of which bad news, such as the failure or embarrassment of a bank, of a merchant or manufacturer, was immediately communicated to all the cities and large towns of the United States; and

⁸⁹ "Commercial Chronicle and Review," *Merchants' Magazine and Commercial Review*, September 1857, p. 325.

⁹⁰ "Cincinnati Gazette of Tuesday, Aug 25" in *New York Commercial Advertiser*, August 27, 1857.

⁹¹ *Merchants' Magazine and Commercial Review*, Oct 1857, p. 452.

information of all such misfortunes was immediately concentrated in all the cities, and worked up the minds of the laboring classes, as well as those of the business men, to a fever of excitement, causing fearful apprehensions among them in every city, that their banks also would fail, and inducing many, out of prudence, to withdraw their deposits, and to convert their bank notes into coin.⁹²

The daily news reporting found in the *New York Commercial Advertiser* corroborates this characterization of the panic. Telegraphic dispatches announcing bank suspensions and runs were reported by the press beginning in the immediate aftermath of the failure of the Ohio Life Insurance Company, sparking bank runs and a decline in confidence that intensified over time.

During a time of economic prosperity, the failure of a mismanaged banking company and the contagion of fear generated in the aftermath of its failure caused a panic. Consequently, the panic of 1857 is assigned a 3 on both dimensions of the scale.

Banking Panic of 1873

On the eve of the outbreak of the panic of 1873, economic conditions were prosperous, according to the newspaper records. The Comptroller of the Currency described the period preceding the panic as follows:

there were in almost every direction evidences of prosperity. The harvest was nearly or quite completed, and the bins and granaries were full to overflowing. The manufacturing and mining interests had also been prosperous during the year, and there was good promise that the fall trade which had opened, would be as large as during previous years.⁹³

Indeed, prior to the outbreak of panic, the newspaper records were positive in describing economic conditions.⁹⁴

The panic of 1873 had its origins abroad. In May, a stock market crash in Vienna caused European investors to dispose of their holdings of American securities, and especially, their holdings of railroad bonds, the leading American security traded internationally. As a consequence, domestic markets became overloaded with railroad bonds to such a large degree that new bond sales could no longer be realized, cutting off the resources of many railroad companies and forcing several of them to default on interest payments. Over time, this precarious financial situation, along with the failure of some minor firms associated with the railroad sector, generated a feeling of distrust toward the railroad industry. On September 18, 1873, the failure of Jay Cooke and Company, a prominent banking company with connections to several railroad companies, unleashed the panic.

According to the newspaper records, international contagion caused the panic of 1873. The Annual Report of the Comptroller of the Currency, published in the *Commercial and Financial Chronicle*, described the transmission mechanism of an international crisis to the U.S.

The immediate cause of the crisis is, however, more apparent. The money market had become overloaded with debt, the cost of railroad construction for five years past being estimated to have been \$1,700,000,000, or about \$340,000,000 annually...such bonds and stock had been disposed of to a considerable extent in foreign markets, and as long as this continued the sale of similar securities was stimulated, and additional amounts offered. When the sales of such securities could no longer be effected abroad, the bonds of railroads and other enterprises of like nature which were in process of construction

⁹² *Merchants' Magazine and Commercial Review*, Dec 1857, p. 660.

⁹³ "Report of Comptroller of the Currency" in the *Commercial and Financial Chronicle*, Dec 6, 1873, p. 767-768.

⁹⁴ Some additional accounts:

"Business has been large during the past week...the buying capacity of the country for the coming year will be large" ("Commercial Epitome," Aug 30, 1873, *Commercial and Financial Chronicle*, p. 294)

"In the aggregate the volume of business has been large, and a cheerful tone pervades mercantile circles" ("Commercial Epitome," Sept 13, 1873, *Commercial and Financial Chronicle*, p. 358).

were thus forced upon the home market, until their negotiation became almost impossible. The bankers of the city of New York, who were burdened with the load, could not respond to the demands of their creditors, the numerous holders of similar securities became alarmed, and the panic soon extended throughout the country.⁹⁵

During a time of economic prosperity, international forces transmitted a crisis in Europe to the United States via the unloading of American railroad securities abroad.⁹⁶ Therefore, the panic of 1873 merits a 3 on both dimensions of the scale.

Banking Panic of 1893

In contrast to many of the earlier panics, the press did not describe economic conditions as prosperous on the eve of the outbreak of the panic of 1893. There were reports of many business and mercantile failures and the *Commercial and Financial Chronicle* made general references to an “existing depression.”⁹⁷ The newspaper reporting suggests that the panic of 1893 might have occurred in the midst of a downturn.

The newspaper records attribute the outbreak of panic in 1893 to the Sherman Silver Purchase Act of 1890, a measure passed by pro-silver forces in the U.S. Congress. The Act’s intended objectives centered on curbing deflation to improve the plight of debt-laden farmers; however, according to the press, it failed to achieve its goals and instead, served primarily to weaken the U.S. commitment to the gold standard. The Sherman Silver Act mandated that the U.S. government purchase 4.5 million ounces of silver bullion every month with notes that could be subsequently redeemed in either gold or silver—a requirement that over time, impaired the government’s gold reserves and sparked doubts at home and abroad that the U.S. would remain on the gold standard. Fears that the U.S. would be forced onto a silver standard became self-fulfilling as foreign investors began withdrawing gold from the country in large quantities. Gold exports, coupled with growing anxiety over the U.S. commitment to the gold standard, undermined confidence in the nation’s banking system. Runs by nervous depositors began in May of 1893 and the panic grew in intensity during June, July, and August. According to the press reports, by causing gold outflows, the Sherman Silver Purchase Act weakened depositor confidence, precipitating bank runs and hoarding of currency and gold.

Nothing could better illustrate the utter and general loss of confidence than this disappearance of paper money. Every one was satisfied that gold was being hoarded and would go on being hoarded so long as the conditions remained as they were. The uninterrupted and increasing export of that metal and the continuance of the silver bullion purchases which were forcing the outflow would obviously lead that result...But hoarding currency is another affair altogether...the withdrawals have been in the main the work of the more ignorant classes, who really have no clear notion of the actual situation. They have read and heard everywhere of the large outflow of gold money and without possessing any distinct idea of the cause for the outflow, the fact has excited their fears and led them to hold on to [their] currency.⁹⁸

The newspaper records identify the Sherman Silver Purchase Act as the primary cause for the panic of 1893.

Probably a serious crisis never occurred which could be charged wholly to a single force. There is though always an obvious, dominant force...The dominant force now is no doubt the Silver Purchase law. In that belief the nation is almost of one mind; it

⁹⁵ “Report of the Comptroller of the Currency” in the *Commercial and Financial Chronicle*, Dec 6, 1873, p. 767-768.

⁹⁶ Many among the press even referred to the panic of 1873 as the “Railroad Bond Panic.”

⁹⁷ “The Financial Situation,” *Commercial and Financial Chronicle*, June 10, 1893, p. 946 and “The Depression in the Iron and Steel Trades,” *Commercial and Financial Chronicle*, May 13, 1893, p.775.

⁹⁸ “The Financial Situation,” *Commercial and Financial Chronicle*, Aug 12, 1893, p. 232.

recognizes too that owing to the action of that law the country is on the verge of a most fearful catastrophe. Already the cry of distress is heard from every part of the land.⁹⁹

Of course no one can expect any revival of enterprise or even of confidence so long as the purchase clause of the 1890 silver law remains unrepealed...Such a defective measure of values is a sufficient cause for our financial disturbance. That being true, there is no need for looking for a further explanation.¹⁰⁰

A political decision—the Sherman Silver Purchase Act—brought forth a change in market expectations regarding the stability of the nation’s monetary and banking system that led to panic. Consequently, I classify the panic of 1893 as a 3 on the first dimension of the scale. However, it receives a 1 rather than a 3 on the second dimension because the press described declining economic conditions on the eve of the panic.

Banking Panic of 1907

Prior to the onset of the Panic of 1907, the newspaper accounts reported negatively on the state of the economy. The press described large increases in commercial failures in the months preceding the panic and made frequent references to an “existing depression” and to a “recession in business.”¹⁰¹ The newspaper records suggest that economic activity was declining when the panic broke out. The Panic of 1907 is, therefore, assigned a 1 on the second dimension of the scale.

The actions of a group of New York City financiers, with controlling interests over several banks, triggered the panic of 1907.¹⁰² The group misappropriated bank funds to speculate on rising copper prices. The gamble proved to be a mistake. Copper prices collapsed and news of these events triggered runs on the banks implicated in the speculation. The New York Clearing House extended aid to these troubled institutions following an inspection that deemed the banks solvent and the resignation of those implicated in the scandal. A few days later, on October 21, the president of the Knickerbocker Trust Company, the third largest trust company in New York, resigned amid rumors that he had business connections with one of the speculators. On the same day, the National Bank of Commerce announced that it would discontinue clearing for the Knickerbocker.¹⁰³ This precipitated a run on the Knickerbocker on October 22, forcing it to pay \$8,000,000 to depositors before it suspended. The suspension of the Knickerbocker Trust Company unleashed the panic. Rumors that other banks and trust companies might be connected to the speculators unsettled public confidence and the panic quickly spread throughout the city.¹⁰⁴ Within a few days, the panic spanned most of the country.

⁹⁹ “Is It the Balance of Trade or the Silver Law,” *Commercial and Financial Chronicle*, Aug 5, 1893, p. 199.

¹⁰⁰ “Results of President Cleveland’s Proclamation,” *Commercial and Financial Chronicle*, July 8, 1893, p. 42-43.

¹⁰¹ “The Financial Situation,” *Commercial and Financial Chronicle*, Oct 5, 1907, p. 826-8; “Commercial Epitome,” *Commercial and Financial Chronicle*, Oct 5, 1907, p. 871; and “Review of October,” *Commercial and Financial Chronicle*, Nov 2, 1907, p. 22.

¹⁰² Most prominently August F Heinze, Charles W. Morse, Edward R. Thomas and Orland F. Thomas.

¹⁰³ The Knickerbocker was subsequently shown to be solvent. Goodhart (1997) raises the possibility that rivalries between the national banks and trust companies played a role in the refusal of the National Bank of Commerce to clear for the Knickerbocker.

¹⁰⁴ On Oct 22, the day following the suspension of the Knickerbocker, a run occurred on the Trust Company of America, one of the other prominent trust companies of New York, after one of the daily newspapers published an article alleging that the president of the Knickerbocker and Mr. Morse, one of the speculators, had borrowed large amounts of money from the Trust Company of America. The article was subsequently revealed to be false, but it unsettled public confidence and precipitated a run, forcing the Trust Company of America to pay \$12,000,000 to depositors. From there, the panic quickly grew in intensity, extending to banks and trust companies throughout the city.

What caused the panic of 1907? In contrast to the reporting of prior panics, the *Commercial and Financial Chronicle* failed to provide a primary cause for the panic of 1907. Instead, it confined most of its reporting of the panic to a description of events, with little analysis of the panic's causes, and in those articles that actually did directly address the panic's causes, the *Chronicle* mentioned several forces that worked to undermine confidence in the banking system. For one, the *Chronicle* attributed part of the decline in confidence to the growing evidence of a recession:

The more immediate causes for the upheaval deserve narration here...adverse developments kept piling up one after another...There were...multiplying evidences of a reaction in the iron and steel trades and of recession in general business.¹⁰⁵

For another, the *Chronicle* identified the misappropriation of bank funds for speculative purposes—and the implication of other banks and trust companies—as another shock to confidence.

The *Chronicle* identified growing signs of a recession as a force that undermined confidence—an indicator that the panic may have been caused by depositor anxiety that a downturn would cause banks to fail or suspend.¹⁰⁶ However, the *Chronicle* also identified the misappropriation of bank funds for speculative purposes as a force that undermined confidence—an indicator that the panic may have been triggered by fraudulent banking activities in New York and that it then spread throughout the country due to a subsequent contagion of fear. Thus, because the newspaper accounts identify a downturn as well as an event unrelated to the downturn as causes of the panic, the panic of 1907 merits a 2 on the first dimension of the scale. It is unclear from the newspaper records alone whether the panic of 1907 was more likely to have been caused by a downturn than by another disturbance.

¹⁰⁵ “Review of October,” *Commercial and Financial Chronicle*, Nov 2, 1907, p. 22.

¹⁰⁶ In a recent study, Odell and Weidenmier (2004) argue that the 1906 San Francisco earthquake led to financial developments (increases in discount rates by foreign central banks to stem gold outflows to honor fire insurance claims, alongside other, more discriminatory measures by foreign central banks to reduce gold outflows to the U.S.) that pushed the U.S. economy into recession in 1907. The recession then made the financial system vulnerable to a panic, according to Odell and Weidenmier. This is consistent with my reading of the narrative evidence surrounding the Panic of 1907. According to the narrative evidence, the Panic of 1907 broke out in the midst of a downturn and contemporaries attributed the outbreak of the panic, at least in part, to the growing signs of a developing recession. Thus, the narrative evidence is consistent with a crucial link in the chain of events described by Odell and Weidenmier—that a developing recession made the financial system more vulnerable to panic during the Fall of 1907.