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Failing Banks

by Correia, Luck, and Verner

Discussion by:
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This paper

"The ultimate cause of bank failures and banking crises is almost always and everywhere a deterioration of bank fundamentals."

- "Bank runs can be rejected as a plausible cause of failure for most failures in U.S. history."
- Bank runs are, in most cases, a *consequence* of imminent bank failure
  - Final convulsions of a bank or banking system that has already undergone substantial asset deterioration

Specific findings

1. Bank failures are preceded by deteriorating fundamentals:
   - Fact 1: Failing banks see rising losses and deteriorating solvency before failure.
   - Fact 2: Failing banks rely increasingly on expensive non-core funding.
   - Fact 3: Failing banks happen after asset boom-bust pattern.

2. Bank failures highly predictable based on $Insolvency_{bt}$ x $FundingVulnerability_{bt}$
   - As are aggregate failure waves in the time series

3. Most common failure reasons according to OCC bank examiners:
   - Fraud, assets losses, external events, and bad governance

4. Quantification exercise:
   - >80% of pre-FDIC bank failures characterized by either: a high predicted probability of failure, no deposit outflows, or low asset recovery rates in receivership

The setting

- The U.S. National Banking Era: Interesting setting to test theories of bank failures

- Other countries and historical periods have had deposit insurance, lenders-of-last-resort, too-big-to-fail banks, and a variety of government interventions during banking crises

  - The U.S. National Banking Era (with tens of thousands of tiny undiversified unit banks and minimal government interventions during crises) is perhaps the one setting where **one might expect to find a lot of liquidity-based failures**.

Historical data

Data for 1865-1941: transcribed from OCC reports

Assets and liabilities of national banks as shown by reports of condition December 30, 1933—Continued

ILLINOIS—Continued

DISTRICT NO. 8—Continued

	Location and name of bank	President	Cashier	Loans and discounts, including overdrafts	United States Government securities owned	Other bonds, stocks, and securities, etc., owned
1	National City, National Stock Yards.	O. J. Sullivan	R. D. Garvin	$3,664,806	$6,532,834	$733,004
2	New Douglas, Prange	A. F. Prange	W. W. Prange	107,457	50,000	64,219
3	Oblong, First	S. F. Odell	J. B. McKnight	786,318	83,500	208,704
4	O'Fallon, First	E. H. Smiley	W. R. Dorris	296,662	174,207	484,832
5	Okawville, First	W. G. Frank	W. E. Friend	151,758	79,547	307,394
6	Okawville, Old Exchange	C. H. Merrick	F. Moehle	88,300	76,675	216,049
7	Pittsfield, First	L. C. King	F. A. Hicks	650,876	251,425	166,315
8	Ramsey, Ramsey	L. C. Thiele	J. E. Easterday	137,655	51,250	43,077
9	Raymond, First	J. E. McDavid	C. McNaughton	431,989	35,588	116,659
10	Robinson, Second	A. U. McCandless	A. H. Lodge	1,190,820	485,556	327,905
11	St. Francisville, Peoples	S. Gray	G. H. Corrie	170,068	107,500	110,128
12	Salem, Salem	J. C. Martin	A. H. Bachman	353,021	968,786	1,324,844
13	Sandoval, First	B. F. Holmes	H. H. Bellamy	58,831	45,710	28,768
14	Smithton, First	J. A. Miller	E. P. Baltz	113,288	59,881	80,845
15	Sorento, National	L. C. Dreiling	H. H. Holbrook	10,902		9,491
16	Sparta, First	T. B. Stephenson	P. G. Brown	168,354	95,550	53,236
17	Staunton, Staunton	C. F. Hackman	J. W. P. Kerr	85,469	82,293	237,000
18	Sumner, First	G. W. Hill	O. D. Atkins	38,933	59,787	148,707
19	Vandalia, First	F. L. Rice	R. H. Sturgess	234,469	428,738	170,332
20	Vienna, First	W. L. Williams	F. E. Worrell	213,432	100,181	33,951
21	Waterloo, First	N. B. Pautler	J. F. Schmidt	172,706	223,338	136,773
22	Wayne City, First	J. F. Mateer	W. O. Allen	88,400	52,700	33,908
23	White Hall, White Hall	C. A. Ruckel	R. S. Worcester	371,118	206,063	188,280
24	Witt, Security	H. F. Fesser	H. S. Armentrout	121,245	64,346	138,243
25	Woodlawn, First	E. A. Hill	M. Wood	68,828	47,522	44,461
26	Wood River, First	O. F. Nagel	G. G. Guker	237,024	92,269	170,906
27	Wood River, Wood River	J. M. Olin	H. E. Paton	261,407		55,577
28	Worden, First	T. C. Unger	W. E. Meyer	38,797	33,308	10,941
29	Xenia, First	J. M. Tully	E. Kepp	99,489	34,000	1,169
30	Zeigler, First	F. G. Hitt	R. R. Frazier	49,690	390,574	220,202

ILLINOIS—Continued

DISTRICT NO. 8—Continued

Cash and exchange including reserve with Federal Reserve bank	Other assets	Total assets	Capital	Surplus	Undivided profits	Total deposits	Circulation	Bills payable and rediscounts	Other liabilities	
$3,678,840	$123,007	$14,732,491	$750,000	$150,000	$45,440	$12,983,612	$750,000		$53,439	1
16,019	4,386	242,081	25,000	10,000	837	206,244				2
210,440	76,380	1,365,342	75,000	50,000	21,563	1,144,859	73,860		60	3
183,751	75,195	1,214,647	100,000	30,000	4,676	979,939	100,000		32	4
44,503	5,173	588,375	50,000	10,000	7,526	470,830	50,000		19	5
67,929	4,889	453,842	50,000	10,000	14,951	328,891	50,000			6
206,835	113,931	1,389,382	125,000	125,000	41,325	998,602	99,280		175	7
68,692	14,762	315,436	25,000	25,000	7,675	232,761	25,000			8
34,659	41,646	660,541	50,000	10,000	763	494,282	25,000	$80,496		9
432,586	67,348	2,504,215	150,000	37,500	33,989	2,188,976	93,750			10
34,200	19,456	441,352	70,000	10,000	5,723	305,624	50,000		5	11
360,591	71,420	3,078,662	100,000	24,000	56,830	2,822,645	75,000		187	12
49,091	24,437	206,837	40,000	2,500	1,301	138,354	24,640		42	13
25,757	16,668	296,439	25,000	8,000	350	238,032	25,000		57	14
30,302	5,532	56,227	25,000	1,850	(d) 7,631	33,982		3,000	26	15
178,157	30,215	525,512	50,000	25,000	11,078	389,401	50,000		33	16
64,862	15,841	485,465	50,000	10,000	26,387	349,032	50,000		46	17
81,973	8,685	338,085	25,000	5,000	674	281,707	25,000		704	18
202,269	68,789	1,104,597	100,000	25,000	19,369	860,078	100,000		150	19
57,696	59,123	464,383	60,000	25,000	2,812	317,130	59,340		101	20
100,669	6,386	639,872	25,000	15,000	1,437	573,435	25,000			21
35,121	33,126	243,255	45,000		1,436	171,768	25,000		51	22
121,473	16,158	903,112	100,000	20,000	29,480	703,632	50,000			23
27,591	7,947	350,372	25,000	5,000	5,248	299,124	25,000			24
95,669	9,520	266,000	35,000	2,000	3,282	200,718	25,000			25
123,661	50,285	674,145	50,000	50,000	2,571	521,416	50,000		158	26
129,894	69,034	515,912	60,000	30,000	10,786	415,126				27
18,348	11,710	113,104	25,000	5,000	194	57,912	24,998			28
52,560	14,866	202,084	25,000		1,082	150,963	25,000		39	29
116,201	46,553	829,220	35,000	7,000	23,940	729,280	34,000			30

Data for 1959-1975

December 30, 1967 - December 31, 1968

Form F.R. 105 — Call 186 (Rev. 12-67)

RCRI
RCON

Budget Bureau No. 55-R004

Please read carefully "Instructions for the Preparation of Report of Condition"—Every item and schedule must be filled in. Printed items must not be amended. Amounts that cannot properly be included in the printed items must be entered under "Other assets" or "Other liabilities."

DIST-ST-BANK 9000

Report of Condition of 9010
(Legal title of bank)

of 9130 (City), (County), (State) (Zip Code), **at the close of business on** 9999, **19**

State Bank No. 9020 *Federal Reserve District No.* 9170

ASSETS

			Dollars	Cts.	
1.	Cash, balances with other banks, and cash items in process of collection (Schedule D, item 7)		0010		1
2.	United States Government obligations,		0400		2
3.	Obligations of States and political subdivisions		0900		3
4.	Securities of Federal agencies and corporations		0600		4
5.	Other securities (including $ .... corporate stocks)		0950		5
6.	Federal funds sold and securities purchased under agreements to resell		1350		6
7.	Other loans and discounts (Schedule A, item 10)		1400		7
8.	Bank premises, furniture and fixtures, and other assets representing bank premises		2145		8
9.	Real estate owned other than bank premises		2150		9
10.	Customers' liability to this bank on acceptances outstanding	2153	2155		10
11.	Other assets (item 6 of "Other assets" schedule)		2160		11
12.	TOTAL ASSETS		2170		12

LIABILITIES

			Dollars	Cts.	
13.	Demand deposits of individuals, partnerships, and corporations (Schedule E, item 4)	2615	2220		13
14.	Time and savings deposits of individuals, partnerships, and corporations (Schedule F, item 6)		2360		14
15.	Deposits of United States Government (Schedule E, item 5 and Schedule F, item 7)		2610		15
16.	Deposits of States and political subdivisions (Schedule E, item 6 and Schedule F, item 8)		2620		16
17.	Deposits of foreign governments and official institutions, central banks and international institutions (Schedule E, item 7 and Schedule F, item 9)	2645	2650		17
18.	Deposits of commercial banks (Schedule E, items 8 and 9 and Schedule F, items 10 and 11)		2660		18
19.	Certified and officers' checks, etc. (Schedule E, item 10)		2330		19
20.	TOTAL DEPOSITS (items 13 to 19)	$ 2200	xxx xxx xxx	xx	20
	(a) Total demand deposits (Schedule E, item 11)	$ 2210	xxx xxx xxx	xx	(a)
	(b) Total time and savings deposits (Schedule F, item 12)	$ 2350	xxx xxx xxx	xx	(b)

An example of a bank failure

Continental Illinois (from Rose 2023)

- "By 1981, Continental had acquired a large amount of oil and gas loans from Penn Square Bank, an Oklahoma-based bank with a freewheeling culture… An employee in Continental's oil and gas division warned in an internal memo that **"potential credit problems could be going unnoticed"…**

- Her warnings, largely ignored, proved prescient when Penn Square failed in 1982, and details of Penn Square's **reckless loan underwriting** became publicly known…

- "To fund its purchases of loans made by Penn Square, **Continental tapped relatively risky funding sources.** The bank had little ability to scale up funding from stable retail deposits because Illinois state law at the time forbid banks from operating branches. Continental relied on money market sources, such as the eurodollar market, for much of its funding…

- After Penn Square failed, Continental's creditors became concerned about the bank's financial condition, which made it **even more reliant on expensive and less stable funding sources."**

Continental Illinois (from Rose 2023)

- **“A large-scale run by depositors on Continental began around May 7, 1984**… Over the next ten days, the bank lost about 30 percent of its funding. To replace lost funds, Continental turned to the Federal Reserve Bank of Chicago…”

- **“The run on Continental finally stopped on May 17** [after receiving support from] the FDIC, Federal Reserve, and Office of the Comptroller of the Currency.”

- **“But the bank run resumed [in July 1984]…”**

- “The FDIC announced an additional support plan that involved the FDIC taking 80 percent ownership in Continental’s holding company... The FDIC ultimately estimated its loss was about $1.1 billion.”

Observations

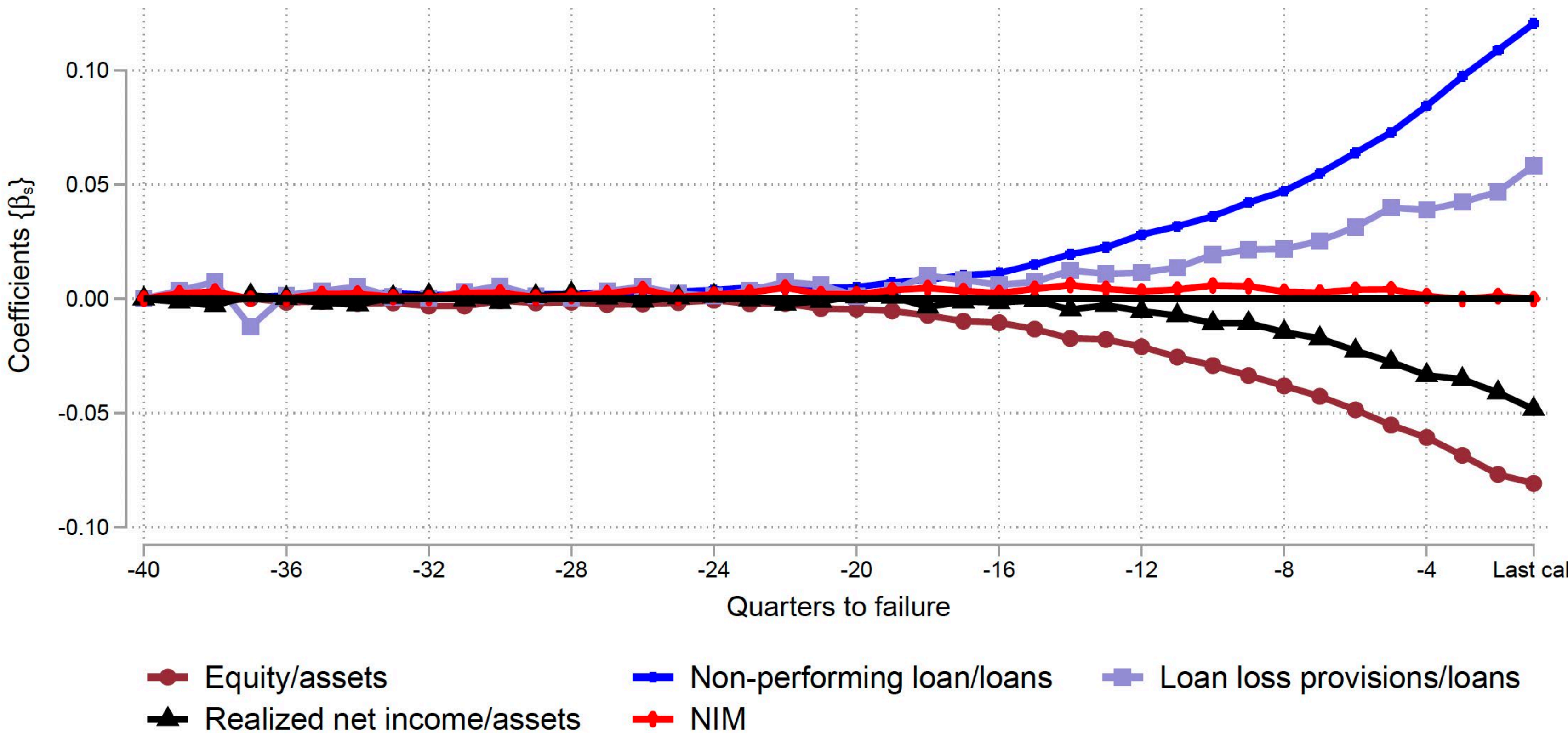
Observations

1. Bank equity crashes precede banking panics by *about nine month*
   - Suggesting that panics are the result, rather than the cause, of earlier bank losses.
   - Baron, Verner, and Xiong (2021)

2. Interest-rate risk does not seem to a widespread cause of U.S. bank failures historically
   - Though maybe there are specific years or banks where interest-rate risk is important?

Figure 2: *Losses and Solvency of Failing Banks: 1865-2023*

(a) *1959-2023*



Observations

3. I was surprised that disclosed credit losses predict bank failures in the historical period
   - Banks are extremely hesitant to acknowledge credit losses, since markets always assume disclosed losses are just the tip of the iceberg
   - Asset write-downs are usually extremely delayed

Conclusions

- Important work, with many policy implications

- Creative use of historical data

- Rejects the view that banking crises are the result of *small* solvency shocks that are amplified by depositor fragility, resulting in disproportionately large effects.
  - Instead, in most cases, bank runs are the final convulsions of a banking system that has already undergone substantial asset quality deterioration