Determinants of Failures of Credit Unions and of Commercial Banks: Similarities and Differences

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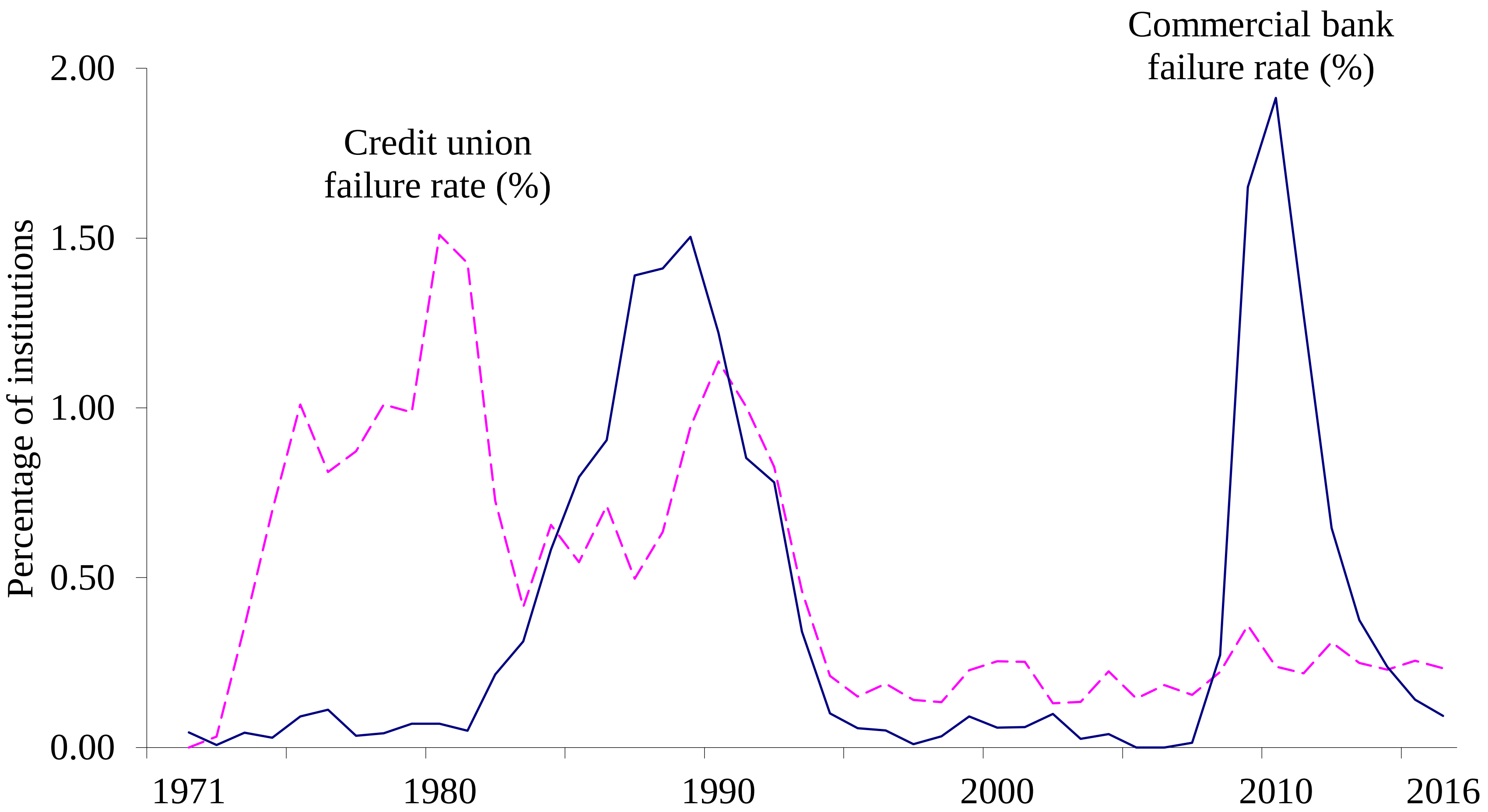
Presentation Plan

- Failures of Credit Unions and of Banks
  - Which Years Had Higher Failure Rates?
  - Which Industry Was Riskier?
- Similar and Different Determinants of Failures
- Estimated Probabilities of Failure (EPFs)
  - “Risk”
  - Distributions for 2010 for Credit Unions and for Banks
  - High-Risk Credit Unions and Banks Over Time

Failure Rates of CUs and of Banks



Prior Research on Failures

- Research on failures varies by industry and time period
  - Very high for commercial banks
  - Previously high for mutual vs. stock thrifts
  - Very low for credit unions
  - “Procyclical,” research rising and falling with failure rates
- Some recurring features in failure research
  - Most determinants are related to C, A, M, E, L, S
  - Estimation via logits or discriminant analysis
  - Sub-samples by industry, by size, by time period

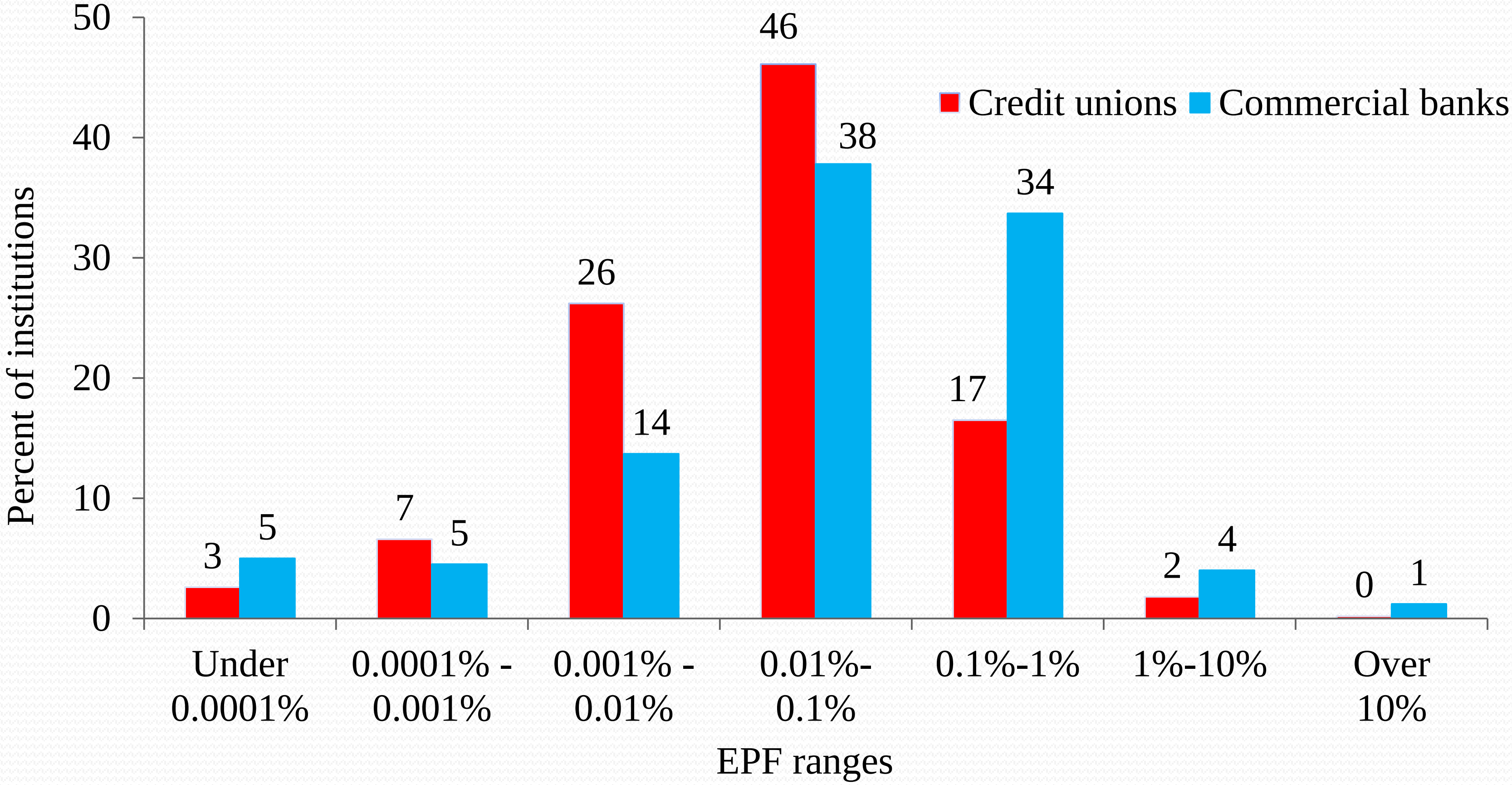
Data and Methods

- "Lower-frequency" determinants of failures
  - Consumer loans, residential mortgages, commercial mortgages, C&I loans, securities, all other assets, total assets (in real dollars), noninterest expense
  - Cash was the omitted asset category
- Higher-frequency" determinants of failures
  - Delinquent loans (or provisions), capital, ROA, state-level unemployment rate
- Financial variables scaled by each institution's total assets
- Estimated logits for failures during next calendar year
- Pooled, end-of-year data across years and individual institutions
  - More variables available for shorter sample period (1987-2016)
  - Fewer variables available for longer sample period (1980-2016)

Similarities and Differences

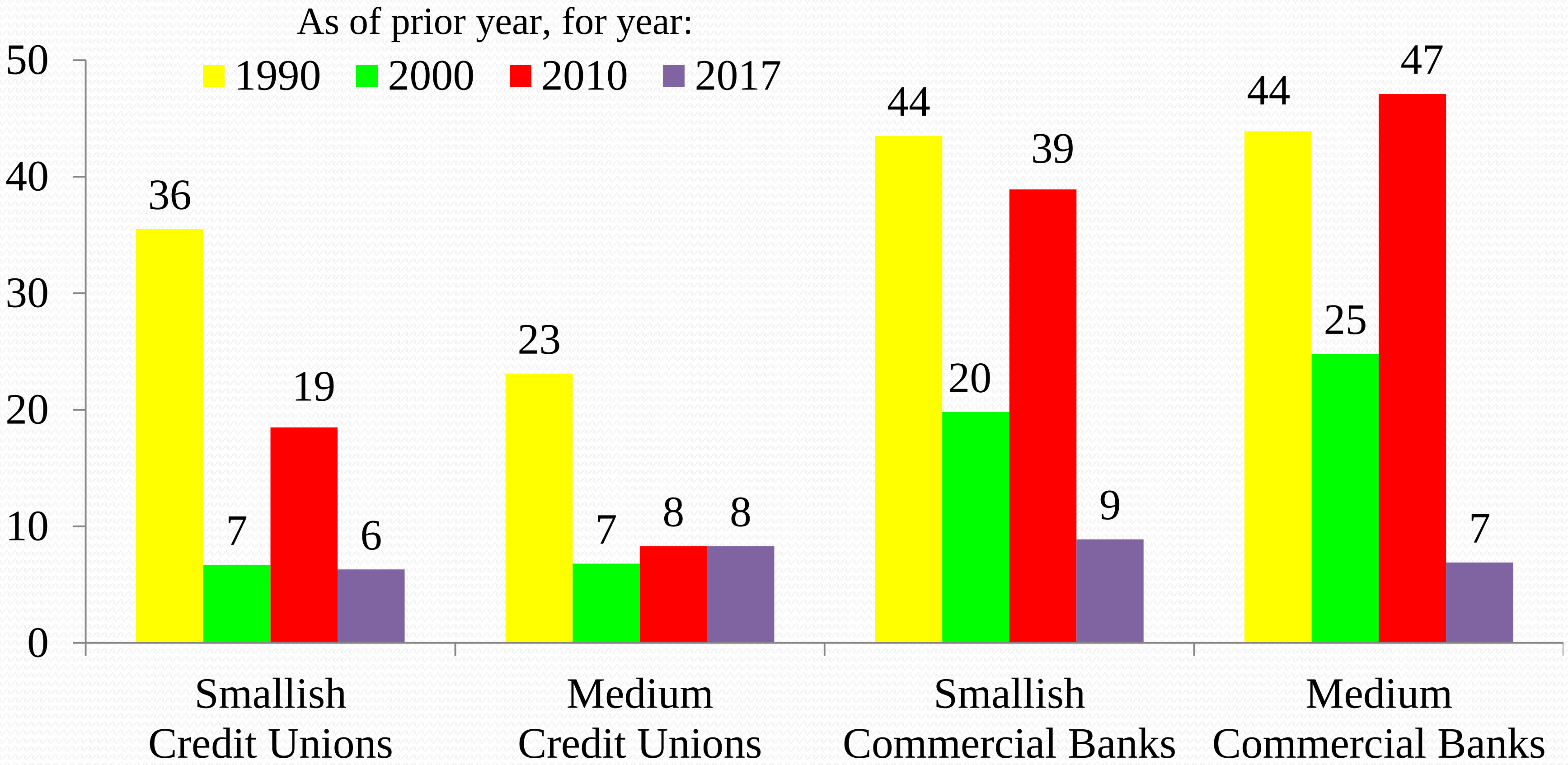
- Similar increases in credit union and bank EPFs associated with
  - More commercial mortgages, fewer securities, fewer assets, more delinquent loans, or lower ROA
- Different effects on credit union and bank EPFs associated with
  - Capital reduced banks' much more than credit unions' EPFs
  - Residential mortgages raised credit unions', but lowered banks' EPFs
  - C&I loans raised banks' with no detectable effect on credit unions' EPFs
  - Noninterest expenses raised credit unions' more than banks' EPFs
- Some estimates varied across asset sizes or time periods
- Lower R^2's suggest more omitted factors for credit unions

EPFs for Smallish CUs and Banks
(end of 2009 for 2010, $10-100 million of assets)



Higher-Risk Credit Unions and Banks

(percent with EPF>0.1%, smallish ($10-100 million), medium ($100 million-$1 billion), constant coefficients)



Conclusions

- Similar, important effects on EPFs for credit unions and banks
  - ROA, delinquent loans, securities
- Larger size typically reduced EPFs for credit unions and for banks
- Credit unions often had lower EPFs than banks of same size
  - By end of 2009, fewer credit unions than banks became higher-risk
- Time-varying EPFs largely due to changes in determinants
  - Smaller EPF changes due to changes in estimated coefficients
- Despite similar bank failure rates in 2000 and 2016, banks' EPFs were much lower for 2017 than they were for 2000
- Recently, <½ as many higher-risk smallish and medium banks