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THE OHIO STATE UNIVERSITY

Seasoned vs Non-seasoned Specialized Bank Acquisitions: Finding the Source of Diseconomies

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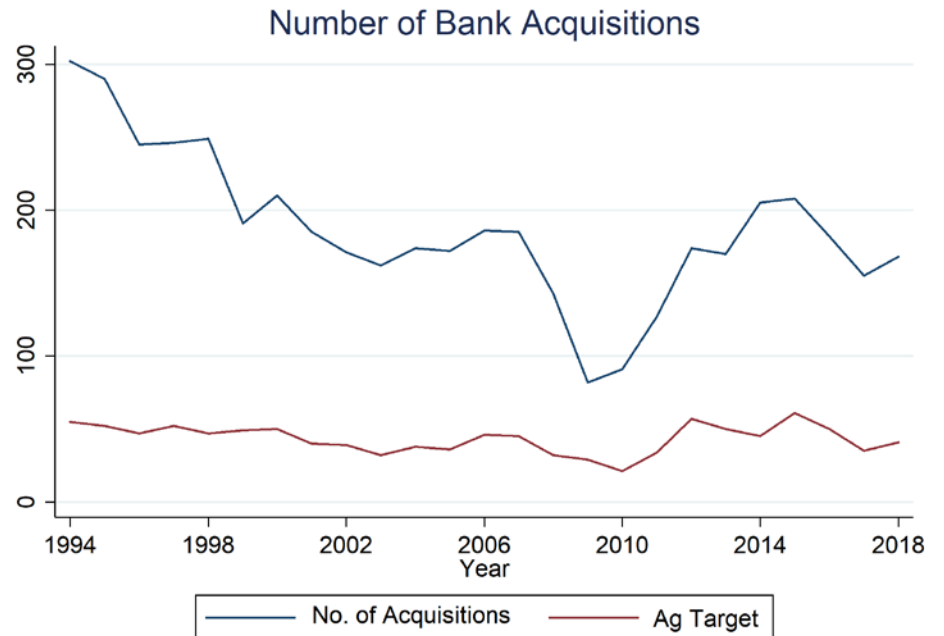
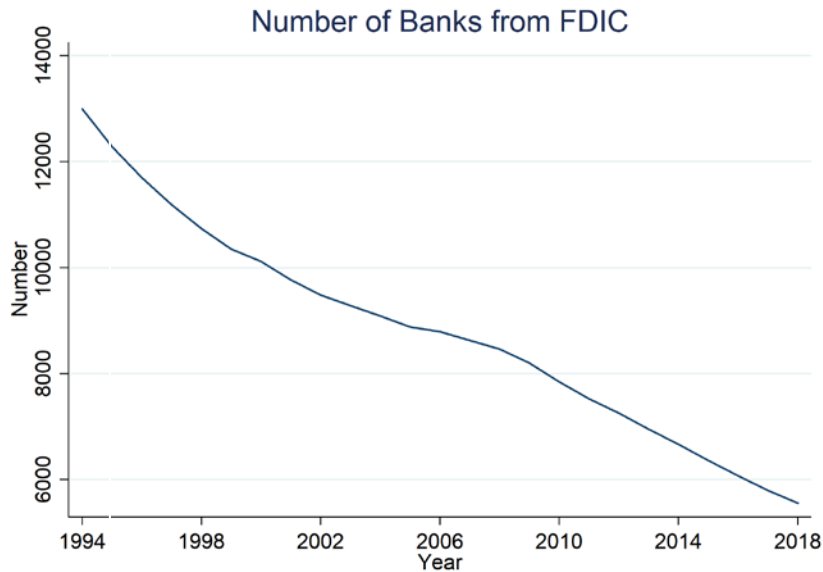
Farm Income Enhancement Chair

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Introduction

The number U.S. banking institutions has decreased significantly due to different bank transformations. Between 1-3% of banks are acquired every year, and 8-30% of the acquisitions targeted specialized agricultural banks between 1994 and 2018.





Introduction

- Conflicting theories on the implication of mergers and acquisitions are supported by empirical studies with conflicting empirical findings. However, a large body of literature documents “underperformance” of mergers and acquisitions (M&A) in the post-transformation period.
- Strategic management research highlights the importance “cultural fit” or “strategic fit” between the acquirer and the target in understanding the post-acquisition performance.
- Unique nature of agricultural banks (highly specialized loan product and practice).



Research Questions

- Examine the post-merger performance of agricultural banks in the middle of a rapid decline in numbers
New bank regulations such as the Basel III may encourage diversification of assets including loans (Kim and Katchova, 2020)
- Does the type of M&A – geographical distance, cultural difference, and the acquirer's previous exposure (knowledge) to agricultural loan issuance – matter?



Data

FDIC Call Quarterly Reports, Annualized (June reports)

FFIEC (Federal Financial Institutions Examination Council) Bank Transformation Data

Exclude other types of bank transformation (government aided acquisition, partial transfer of assets, or bank failure)

Criteria for the final sample:

FFIEC acquirer and target information must match the FDIC call reports

Call reports should be available for ± 4 quarters (one year) for the acquirer and -4 quarters for the target

Final sample covers the time period 1994-2018



Types of Bank Acquisitions

- **Strategic Fit (Product Knowledge)**
Agricultural bank acquirer vs non-agricultural bank acquirer
or the acquiring bank had some exposure to agricultural loans
- **Geographic Knowledge**
In-state acquisitions vs out-of-state acquisitions
Out-of-state acquisitions further divided into adjacent-state acquisitions
- **Cultural Knowledge**
Urban vs. Rural combinations



Empirical Framework

Bank Performance & Risk Measures $s_{i,t}$

$$= a_{i,t} + \sum \mathbf{Merger\ Activity}_{i,t-1} + \mathbf{Capital\ Ratio}_{i,t-1} + \mathbf{Tier1}_{i,t-1} + \mathbf{Deposits}_{i,t-1} + \mathbf{Size}_{i,t-1} \\ + \mathbf{Cost\ Efficiency}_{i,t-1} + \mathbf{Firm\ Age}_{i,t-1} + \mathbf{GDP}_t + \mathbf{Net\ Farm\ Income}_t + \lambda_i + \mathbf{Year}_t$$



Dependent Variables

Profitability: Return on assets

Bankruptcy Risk: Z-index (Kohler Z score)

$$Z_i = \frac{ROA_i + Equity/Asset_i}{SD_{ROA}}$$

- Inverse measure of bankruptcy for financial institutions
- Increases with profitability and equity level, decreases with profit fluctuation

Loan Specific Performance: Non-performing agricultural loans/Total agricultural loans



Results: Bank Bankruptcy Risk (Z-Score)

Agricultural Bank Acquisition: Bankruptcy Risk

Ag Bank Merger	-2.275**							
	(1.022)							
Ag Specialized Acquirer	-2.509**							
	(1.120)							
Ag Exposure Acquirer	-5.097***							
	(1.892)							
In-state Acquisition	-1.947*							
	(1.078)							
Out-of-state Acquisition	-5.097***							
	(1.892)							
Adjacent-state Acquisitions	-5.548***							
	(2.094)							
Same Culture Acquisition	-2.004*							
	(1.26)							
Control Variables	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Bank FE	Y	Y	Y	Y	Y	Y	Y	Y



Results: Bank Profitability

Agricultural Bank Acquisition: Profitability (ROA)

Ag Bank Merger	-0.00867						
	(0.0105)						
Ag Specialized Acquirer	-0.0172						
	(0.0135)						
Ag Exposure Acquirer	-0.0124						
	(0.0117)						
In-state Acquisition	-0.0166						
	(0.0101)						
Out-of-state Acquisition	0.0625						
	(0.0534)						
Adjacent-state Acquisitions	0.0177						
	(0.0241)						
Same Culture Acquisition	-0.0159						
	(0.0133)						
Control Variables	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
Bank FE	Y	Y	Y	Y	Y	Y	Y



Results: Bank Agricultural Defaults

Agricultural Bank Acquisition: Agricultural Loan Delinquency

Ag Bank Merger	0.00487							
	(0.0441)							
Ag Specialized Acquirer	0.0366							
	(0.0463)							
Ag Exposure Acquirer	0.0262							
	(0.0420)							
In-state Acquisition	0.0128							
	(0.0451)							
Out-of-state Acquisition	-0.0669							
	(0.179)							
Adjacent-state Acquisitions	-0.00570							
	(0.199)							
Same Culture Acquisition	-0.0301							
	(0.0382)							
Control Variables	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Bank FE	Y	Y	Y	Y	Y	Y	Y	Y



Results and discussion

- Results do not suggest that there is an improvement in the post-acquisition period, but rather negative due to increased bankruptcy risk.
- Geographically distanced acquisitions result in the largest increases in terms of bankruptcy, while the increase is small for the in-state acquisitions.
- Acquisitions made between culturally similar institutions also result in a lesser increase in bankruptcy risk, hinting that the integration cost might be smaller.
- Further tests to be implemented.



Q&A?

Thank you!

*If you have any questions or comments, please contact me at:
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