

ABSTRACT

This paper documents an *industry expertise channel* that reduces the information asymmetry between banks and mortgage borrowers. This channel is a result of information spillover from a bank's specialization in corporate lending to its mortgage lending. We find that banks allocate more mortgage credits to counties of which the major economic sectors are banks' specialized industries, especially when the information asymmetry or borrower risk is high. Further tests show that mortgages originated through the channel contain more soft information and have better performance. The findings suggest that information from the channel improves banks' screening and monitoring efficiency in the mortgage market.

Keywords: Information Asymmetry, Industry Expertise, Syndicated Loans, Mortgages.

SOFT INFORMATION IN LENDING

Better information allows banks to better discriminate between "good" and "bad" borrowers. Thus, mortgages originated through the industry expertise channel should be less standardized, i.e., larger dispersion in mortgage size.

	(1)	(2)	(3)	(4)
	Log(STD. Mortgage Size)	Log(STD. Mortgage Size)	Log(IQ. Mortgage Size)	Log(IQ. Mortgage Size)
Same Industry	0.144*** (0.005)	0.005* (0.003)	0.146*** (0.004)	0.015*** (0.003)
Observations	320,418	244,859	320,380	244,841
controls	No	Yes	No	Yes
County*Year FE	No	Yes	No	Yes
Bank FE	No	No	No	Yes
Bank*State FE	No	Yes	No	Yes
Adjusted R-squared	0.004	0.659	0.005	0.595

DEFAULT EXPERIENCE

Defaults on banks' corporate loan portfolios create exogenous shocks to banks' perception of their screening and monitoring ability, resulting in lower confidence in their expertise in relevant industries.

	(1)	(2)	(3)	(4)	(5)
	Log(No. Approved Mortgages)				
Default	-1.062*** (0.122)	-1.024*** (0.318)	-0.831*** (0.294)	-1.028*** (0.352)	-1.326** (0.605)
Observations	33,151	18,018	14,086	14,037	13,837
Bank-county Controls	No	No	Yes	Yes	Yes
Bank Controls	No	No	No	Yes	Yes
County*Year FE	No	Yes	Yes	Yes	Yes
Bank FE	No	Yes	Yes	Yes	No
Bank*State FE	No	No	No	No	Yes
Adjusted R-squared	0.001	0.479	0.721	0.729	0.828

KEY MEASURES

At the 3-digit NAICS level:

1. Bank industry specialization:

$$Specialization_{i,t}^b = \begin{cases} 1 & L_{i,t}^b \geq L_{i,t}^* \\ 0 & otherwise \end{cases}$$

- b : bank, i : industry, t : year.

- $L_{i,t}^b = \frac{Loan_{i,t}^b}{\sum_{i=1}^I Loan_{i,t}^b}$: a bank b 's portfolio share in the industry i .

- $L_{i,t}^*$: 75th percentile of the distribution of all banks' portfolio shares in the industry i plus the 1.5 inter-quartile range of the distribution (Paravisini et al.(2020)).

2. County major industry:

The top-three industries in a county that employ most residents of a county. On average, the top-three industries create about more than 40% of jobs in a county.

IMPLICATION FOR PERFORMANCE

Bank-year regression: *Rank of Specialized Lending* is the rank of proportion of banks' mortgage loans initiated through the industry expertise channel.

	(1)	(2)	(3)	(4)
	ROA - RE Loans	ROA - RE Loans	ΔROA - RE Loans	ΔROA - RE Loans
Rank of Specialized Lending	0.0006*** (0.0002)	0.0002** (0.0001)	0.0003** (0.0001)	0.0002* (0.0001)
Observations	651	651	651	651
Control	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes
Adjusted R-squared	0.850	0.935	0.034	0.389

MAIN TAKEAWAYS

- Document a new channel that banks rely on in mortgage lending - [the industry expertise channel](#).
- Banks allocate more mortgage credits to counties sharing their industry specializations, especially when information asymmetry is high or when local economies are in downturns.
- Mortgages originated through the channel contain more soft information and have better performance.

EMPIRICAL STRATEGY AND MAIN RESULTS

$$Y_{i,j,t} = \mu_i + \pi_{j,t} + \beta * Same\ Industry_{i,j,t} + \delta X_{i,j,t} + \varepsilon_{i,j,t}$$

where i represents a bank, j represents a mortgage borrower's home county, t represents mortgage origination year; $Y_{i,j,t}$ is the logarithm of the number of approved mortgages. $Same\ Industry_{i,j,t}$ is a dummy indicating a bank and a county share same industry specializations. $X_{i,j,t}$ is a vector of controls at the bank-county-year level. μ_i is bank fixed effects, and $\pi_{j,t}$ is county by year fixed effects.

	(1)	(2)	(3)	(4)	(5)
	Log(No. Approved Mortgages)				
Same Industry	0.185*** (0.012)	0.102*** (0.010)	0.087*** (0.008)	0.055*** (0.008)	0.030*** (0.007)
Observations	321,067	314,508	245,786	245,250	245,117
Bank-county Controls	No	No	Yes	Yes	Yes
Bank Controls	No	No	No	Yes	Yes
County*Year FE	No	Yes	Yes	Yes	Yes
Bank FE	No	Yes	Yes	Yes	No
Bank*State FE	No	No	No	No	Yes
Adjusted R-squared	0.001	0.433	0.688	0.697	0.771

SUBSAMPLE ANALYSIS

- Access to credits is limited for long-distance borrowers (e.g., Degryse and Ongena (2005), Agarwal and Hauswald (2010), Hollander and Verriest (2016)).
- Such information asymmetry can be mitigated through branch expansions, social networks, or reduced travel costs, etc. (e.g., Alessandrini et al. (2009), Rehbein and Rother (2020), Levine et al. (2020)).

- Banks' information demand is higher when local risk increases, as borrowers are more likely to miss their mortgage payments and default, resulting in significant losses.

	(1)	(2)	(3)	(4)	(5)	(6)
	Log(No. Approved Mortgages)					
	Industry Growth	Housing Price Growth	Loan to Income Ratio			
Same Industry	0.050*** (0.008)	0.026*** (0.007)	0.046*** (0.008)	0.025*** (0.007)	0.026*** (0.009)	0.009 (0.008)
Same Industry*VAR	-0.032*** (0.007)	-0.025*** (0.006)	-0.029*** (0.007)	-0.017*** (0.006)	0.083*** (0.009)	0.061*** (0.007)
Observations	239,425	239,297	240,778	240,647	245,250	245,117
Controls	Yes	Yes	Yes	Yes	Yes	Yes
County*Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	No	Yes	No	Yes	No
Bank*State FE	No	Yes	No	Yes	No	Yes
Adjusted R-squared	0.697	0.771	0.695	0.770	0.697	0.771

	(1)	(2)	(3)	(4)
	Log(No. Approved Mortgages)			
	Branch	Social Network		
Same Industry	0.069*** (0.009)	0.046*** (0.008)	0.351*** (0.052)	0.313*** (0.046)
Same Industry*VAR	-0.028*** (0.009)	-0.032*** (0.008)	-0.037*** (0.006)	-0.034*** (0.005)
VAR	0.620*** (0.011)	0.525*** (0.011)	0.292*** (0.009)	0.237*** (0.013)
Observations	245,250	245,117	245,118	244,986
Controls	Yes	Yes	Yes	Yes
County*Year FE	Yes	Yes	Yes	Yes
Bank FE	Yes	No	Yes	No
Bank*State FE	No	Yes	No	Yes
Adjusted R-squared	0.697	0.771	0.706	0.773

Measures:

Branch: number of depository branches a bank has in the county.

Social Network: Facebook social connection index between a bank's headquarter and the county.

Industry Growth: the standardized sales growth of all U.S. public firms in the top-three industries in a county.

Housing Price Growth: housing price growth of the county.

Loan to Income Ratio: the average of loan-to-income ratios of all mortgage applicants in a county.