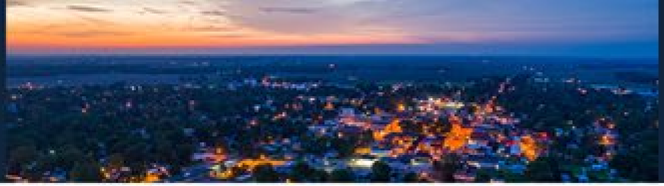

Bank Entrepreneurs

September 2020

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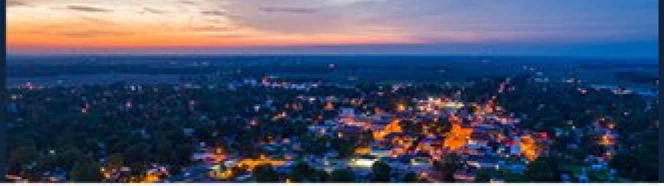
Motivation

- Banks play a pivotal role in supporting economic growth:
  - Corporate investment (Ivashina and Scharfstein, 2010; Santos, 2011)
  - Employment (Peek and Rosengren, 2000; Chodorow-Reich, 2014)
  - Entrepreneurship (Gertler and Gilchrist, 1994; Black and Strahan, 2002)
  - Innovation (Kerr and Nanda, 2009; Cornaggia et al, 2015)

- Research in understanding the lifecycle of banks:
  - Development of New Products (DeYoung and Roland, 2001)
  - Expansion to Nonbanking (Boyd and Graham, 1986)
  - Monopoly and Competition (Cetorelli and Strahan, 2006)
  - Mergers and Acquisitions (Berger et a., 1999)
  - Failures (Granja et al., 2017)



Motivation

- **Gap existing in the literature:** Where do banks come from?
  - Existing literature has faced significant data limitations

- A better understanding of bank formation can inform what motivates bank creation or how to best promote the new generation of bank entrepreneurship

- **This Paper:** Presents the first analysis of bank entrepreneurs

Methodology

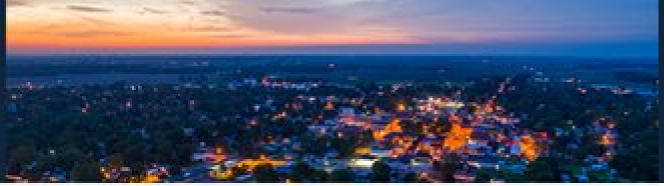
We develop a novel dataset derived from Section 5 of the Federal Deposit Insurance Act, which requires any institution seeking deposit insurance to apply to the FDIC

- Through this application process we are able to observe detailed information for each potential De Novo bank
  - Sources of financing, earning prospects, lending risk, and community needs
  - Detailed biographies of all founding members including prior employment
  - Personal interviews detailing entrepreneur motivations

First Contribution: We illustrate how banks are chartered and who charters them

- We match each approved application to the future balance sheet and income statement of the bank
  - Characterizes the lending strategies/ performance of each newly-insured bank

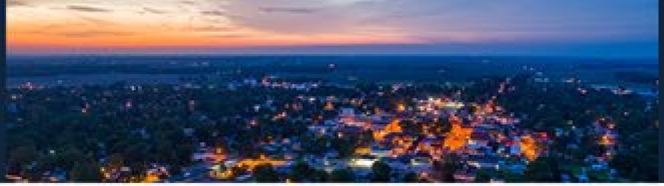
Second Contribution: We relate each bank entrepreneur to the lending strategies, performance, and survival of the De Novo bank



Bank Sample

- Section 5 of the FDI Act: requires any depository institution seeking federal deposit insurance to file an application with FDIC
  - We hand-collect information from applications to compile our dataset

- We analyze a total of 185 banks chartered between 2000 and 2008



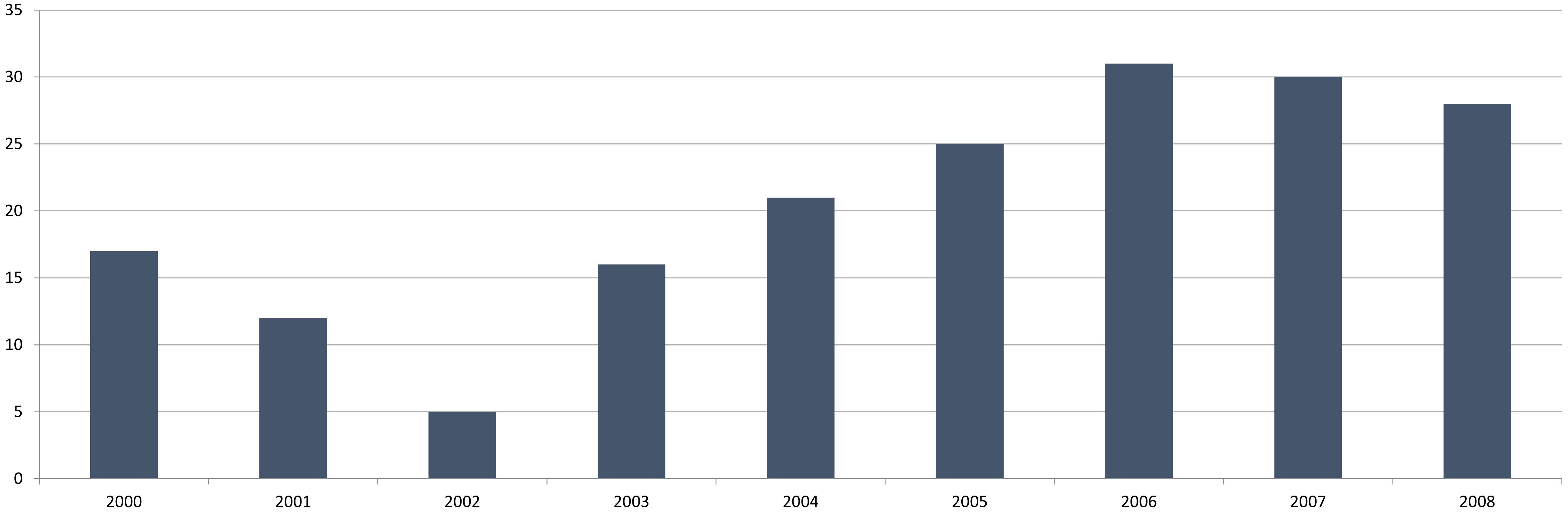
Defining the Bank Entrepreneur

- We define bank entrepreneurs as the following individuals:
  - CEO/president
  - Directors
  - Chief Officers (e.g. CFO, CCO) who invest capital in the firm
  - Shareholders investing over 10% of total capital

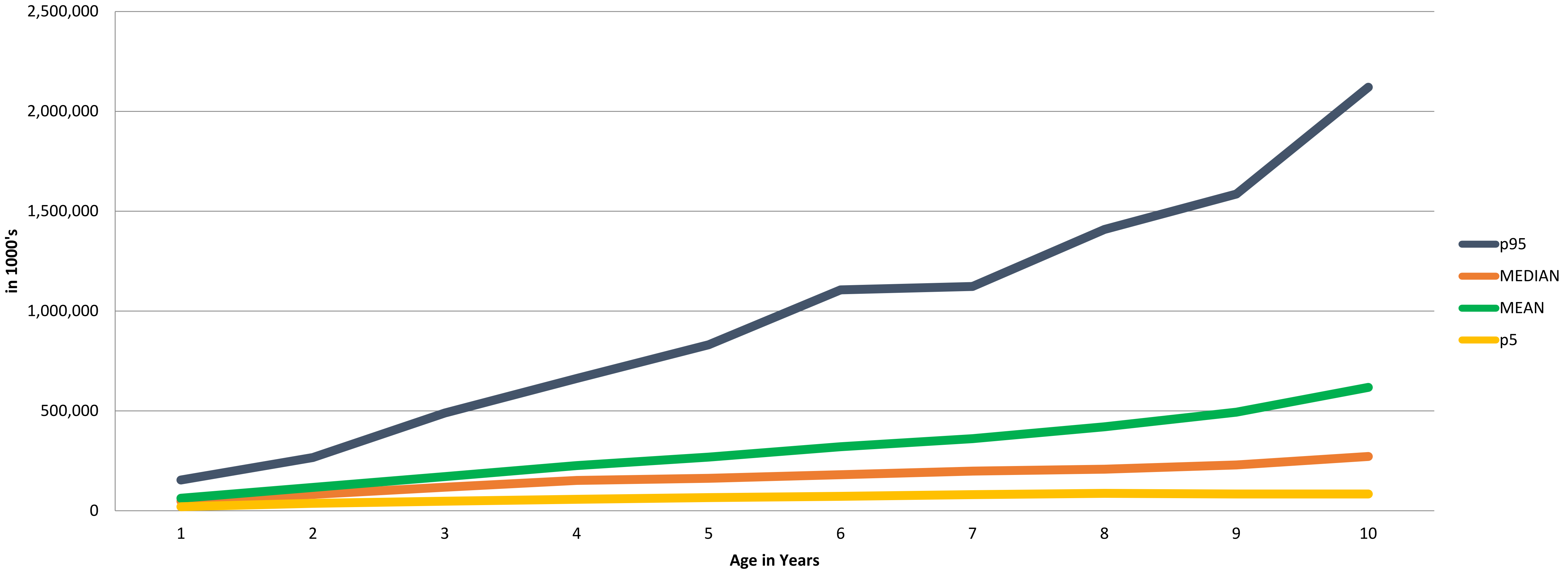
- All bank entrepreneurs file Interagency Biographical and Financial Report as a part of the deposit insurance application which includes:
  - Employment Histories
  - Net worth and capital invested in the bank
  - Age and Location of Residence

- Our sample includes nearly 1900 separate individuals

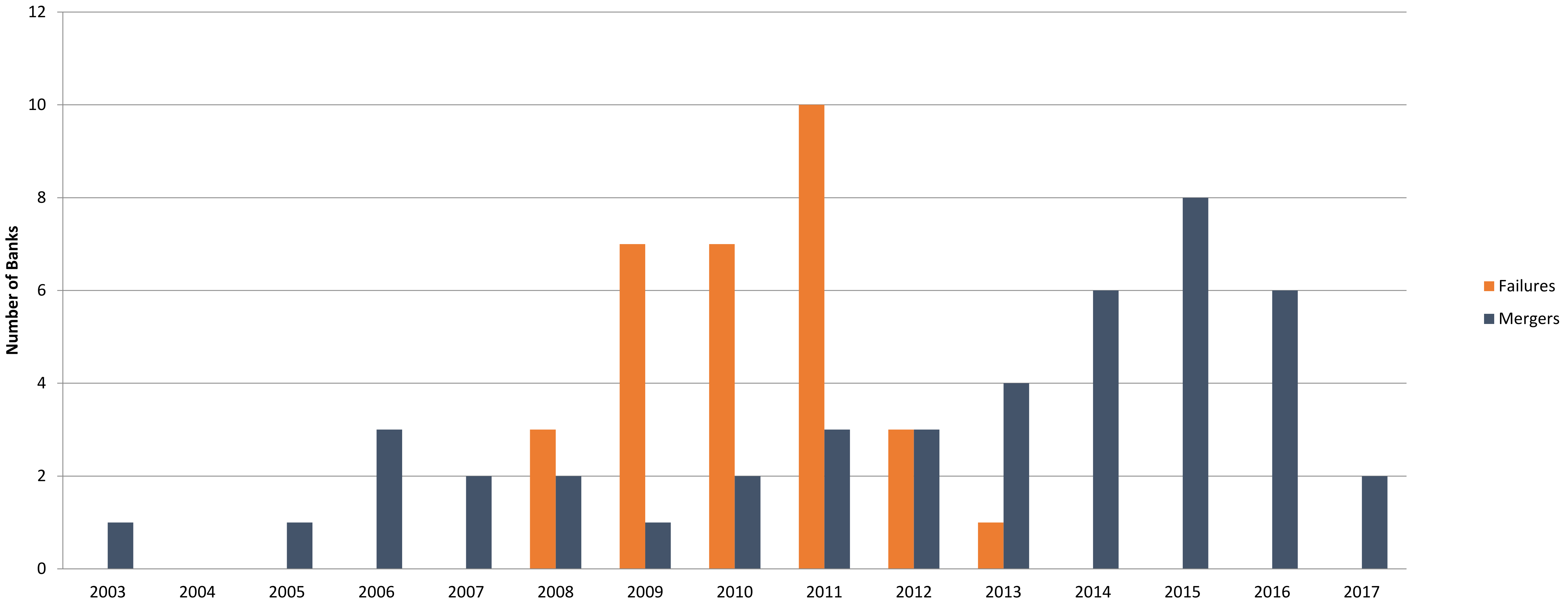
Summary of Sampled De Novo Banks: Entry



Summary of Sampled De Novo Banks: Size



Summary of Sampled De Novo Banks: Outcomes



Question I: Where do banks come from?

Bank Entrepreneur Background

	No of Entrepreneurs	Number with Bank Experience	Net Worth	Entrepreneur investment/Equity Raised	Age	Distance between Bank and Residence
Median	11	5	$3 million	21.8	52	7.5

De Novo banks are chartered with eleven entrepreneurs

Nearly half of the bank's entrepreneurs hold prior experience in the banking sector

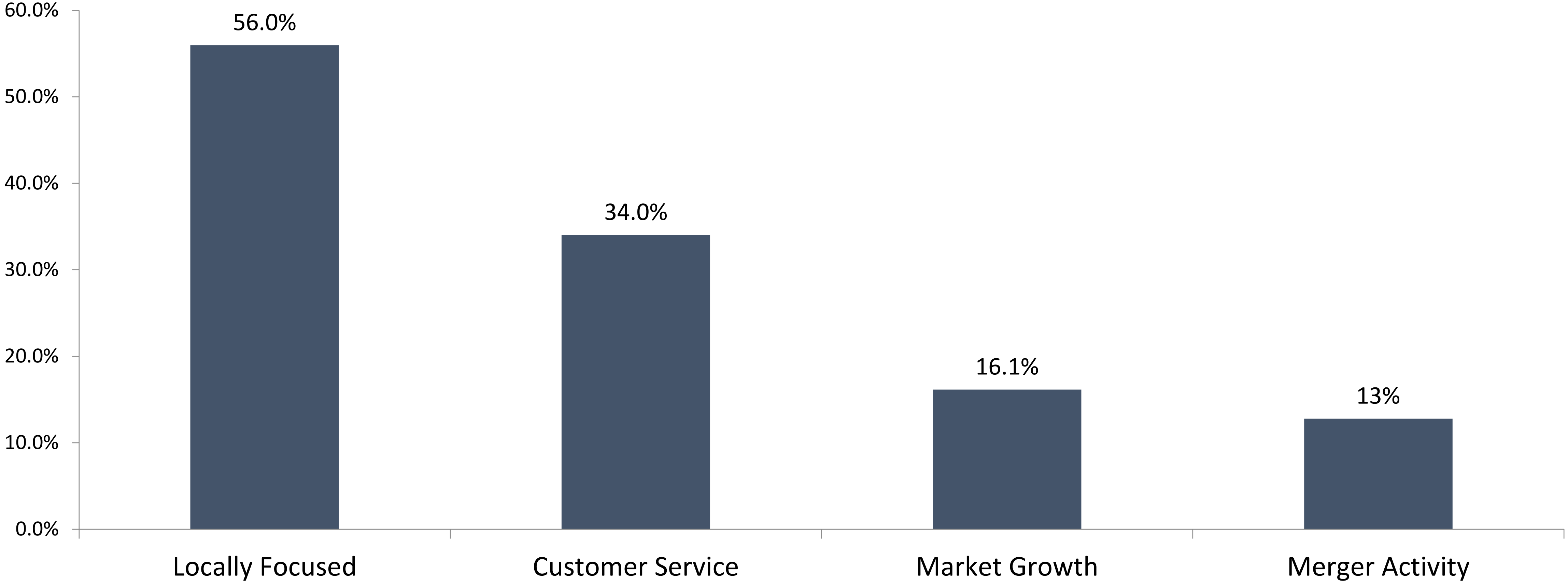
Entrepreneurs hold a median of $3 million in net worth

Entrepreneurs provide 22% of total capital to the bank

Median age is 52 years

64% of entrepreneurs live in the same county as the bank headquarter location

Stated Motivations of Bank Entrepreneurs



Stated Motivations of Bank Entrepreneurs

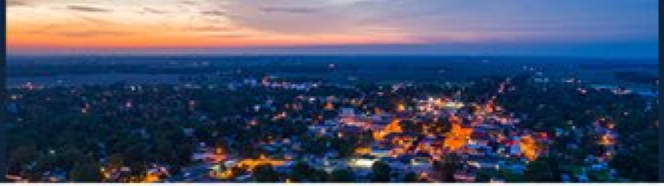
- Top reasons for starting a de novo bank: local focus & customer service
  - Both business practices characterize community banks

- Similar to findings from the FDIC Small Business Lending Survey 2018:
  - 82.3% of business lending is local for small banks
  - Small banks are considered to hold a competitive advantage in customer service

Employment History of Entrepreneurs

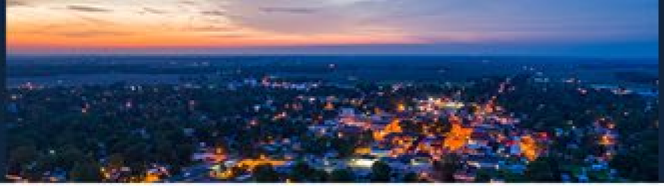
No. of board members	Banker	Real Estate	Health Care	CPA	Attorney	Business owner	Retiree	Other
At least one	94.6%	81.1%	43.8%	34.1%	47.6%	90.3%	36.8%	73.0%
At least two	63.8%	57.8%	13.0%	4.3%	18.4%	74.1%	9.2%	44.9%
At least three	33.5%	35.1%	3.8%	0.5%	5.9%	51.9%	2.2%	22.2%

- All the professions listed above provide a large network of contacts
- 57.8% of the interview comments include "I have many contacts to refer to the bank for deposit and/or credit services."
- According to the FDIC Small Business Lending Survey 2018, 72.9% (small banks) and 93.6% (large banks) use professional referrals to generate new and maintain existing small business lending relationships



Prior Bank Size & Title

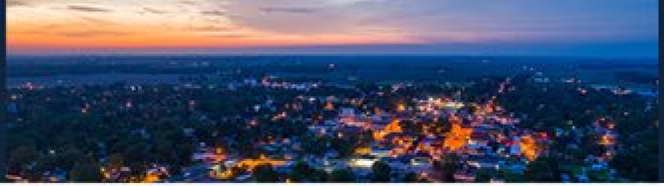
	President/CEO	Director	Other	Total
Under $100 million	44 (21.78%)	100 (49.50%)	58 (28.71%)	202 [21%]
$100 to $500 million	49 (17.13%)	139 (48.60%)	98 (34.27%)	286 [30%]
$500 mil to $1 billion	5 (5.68%)	34 (38.64%)	49 (55.68%)	88 [9%]
$1 to $5 billion	7 (6.19%)	24 (21.24%)	82 (72.57%)	113 [12%]
$5 to $10 billion	4 (9.09%)	6 (13.64%)	34 (77.27%)	44 [5%]
Over $10 billion	3 (1.32%)	34 (14.91%)	191 (83.77%)	228 [24%]



Prior Bank Experience of Entrepreneurs

- **Entrepreneurs disproportionately are from smaller banks:**
  - Over half of all entrepreneurs come from banks with assets less than $500 million
  - Under a quarter come from banks with assets more than $10 billion

- **In both instances, entrepreneurs hold managerial experience:**
  - In small banks, over 70% served as president/CEO or director
  - In large banks, over 80% served in other roles such as branch president



Question II: How do Entrepreneurs Influence Bank Performance?

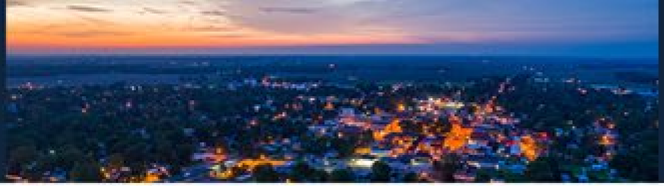
Framework

- **Our Prior Findings:** 95% of De Novo banks include at least one entrepreneur with prior bank experience
- **Instrumental Variables Strategy:** Demonstrate the lending policies of the former employer predict De Novo bank outcomes:
  - Loan risk exposure
  - Bank performance
  - Bank failure
- **Support for Analysis:** Our strategy is based on prior evidence that manager experiences predict corporate policy and performance:
  - (Malmendier and Tate, 2011; Dittmar and Duchin, 2015; Bernile et al., 2017)
  - We extend this literature to relating managerial experiences to failure

First-Stage Specification

$$CRE\ LoanRatio_{3rd\ Year} = \beta_1 CRE\ LoanRatio_{Prior} + \beta_2 RealEstate\ Exp_{Prior} + \delta Controls + \rho_t + \epsilon$$

- $CRELoanRatio_{3rd\ Year}$: Measures the percent of bank assets in commercial real estate lending at the end of the 3rd year of the De Novo bank charter
- $CRE\ LoanRatio_{Prior}$: The mean CRE loan ratio of the prior employer for all entrepreneurs with banking experience
- $RealEstate\ Exp_{Prior}$: The fraction of entrepreneurs holding prior experience in the real estate industry
- $Controls$:
  - **Bank Characteristics in the 3rd year after charter:** (i) bank equity, (ii) earnings, (iii) non-performing loans, and (iv) non-core funds
  - **Entrepreneur Characteristics:** (i) percent of entrepreneurs who worked at the same bank, and (ii) percent of equity derived from entrepreneurs
  - **Local Credit Demand:** (i) County-level commercial real estate loan ratio and (ii) county-level personal income growth
  - ρ_t: Establishment year fixed effects to control for lifecycle differences across banks



Second-Stage Specification

$$\Delta Performance_{2008-2010} = \beta \widehat{CRELoanRatio}_{3rd\ Year} + \delta Controls + \rho_t + \epsilon$$

- $\Delta Performance_{2008-2010}$: includes measures of loan performance (delinquency, non-performing loans, loan charge-offs), bank performance (earnings and equity), and failure

- $CRELoanRatio_{3rd\ Year}$: Measures the percent of bank assets in commercial real estate lending at the end of the 3rd year of the De Novo bank charter

- $Controls$:
  - **Bank Characteristics in the 3rd year after charter:** (i) bank equity, (ii) earnings, (iii) non-performing loans, and (iv) non-core funds
  - **Entrepreneur Characteristics:** (i) percent of entrepreneurs working with the same bank, and (ii) percent of equity derived from entrepreneurs
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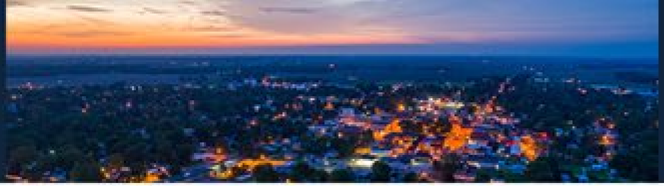
Risk Exposure from CRE Lending

We focus on CRE Lending, especially Construction and Development Loans, as the primary source of risk exposure:

- **Lending in Commercial Real Estate:**
  - Commercial real estate loans comprise over 43% of total assets by third year
  - The value of commercial real estate loans across all banks fell 18% in 2008-2011
  - Over seventy percent of 2008-2011 bank failures specialized in CRE lending

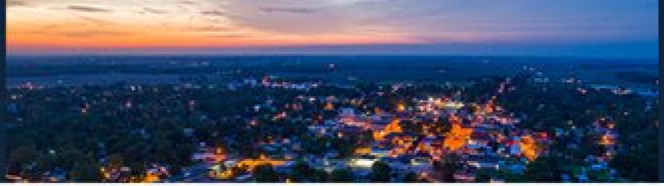
- **Lending in Construction and Development:**
  - Subset of commercial real estate lending
  - Particularly risky due to (i) construction risks not present in loans for built structures, and (ii) greater uncertainty about future market conditions for yet-to-be-built structures (Shibut et al., 2015)
  - 2010 noncurrent rates reported by the banking industry were 16.6 percent for C&D loans, compared to only 4.4 percent for other CRE loans



Confirmation of CRE Risk Exposure

	CRE	C&D	ΔNon-Performing	Δloan Charge-Offs	Failure
De Novo Bank	10.8797*** (12.01)	4.4910*** (8.28)	0.8755*** (3.47)	0.3140*** (4.13)	3.7448** (1.99)
Observations	22,791	22,791	18,434	18,368	22,823

- We match all De Novo Banks chartered in 2000-2008 to established banks in the same state with (i) similar assets size and (ii) similar deposit-to-asset ratio
- De Novo banks hold an 11% higher CRE Loan Ratio including a 4.5% higher C&D Loan Ratio
- Between 2008-2010, De Novo banks experienced an 0.9% greater increase in non-performing loans, 0.3% greater increase in loan charge-offs, and 3.75% higher likelihood of failure



First Stage Results: Effect on De Novo Actual Loan Ratios

	C&D	CRE	RRE	C&I	Consumer
Prior Bank Loan Ratio	0.4136*** (3.88)	0.4144*** (4.58)	0.4317*** (5.17)	0.3221*** (3.09)	0.1676*** (3.94)
Real Estate Experience	0.1567*** (3.33)	0.1804** (2.43)	-0.1062** (-2.17)	-0.0358 (-0.92)	-0.0269** (-2.29)
Controls	YES	YES	YES	YES	YES
Charter Year FE	YES	YES	YES	YES	YES
Observations	182	182	182	182	182
R-squared	0.499	0.430	0.403	0.286	0.268

- A 10% higher rate of CRE (C&D) lending at the prior bank increase the CRE (C&D) loan ratio by 4.1%
- A 10% increase in the proportion of entrepreneurs with prior real estate experience increases the CRE (C&D) loan ratio by 1.6% (1.8%)

First Stage Results: Effect on Planned Loan Ratios

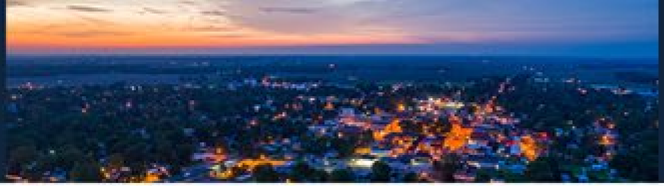
	Planned C&D	Planned CRE	Planned RRE	Planned C&I	Planned Consumer
Prior Bank Loan Ratio	0.4169***	0.2433**	0.0806	0.5000***	0.0691
	(3.08)	(2.24)	(0.69)	(3.41)	(0.34)
Real Estate Experience	0.0629	0.3170***	-0.0632	-0.0835	-0.0749
	(0.92)	(3.35)	(-1.03)	(-1.51)	(-1.37)
Controls	YES	YES	YES	YES	YES
Charter Year FE	YES	YES	YES	YES	YES
Observations	139	139	139	139	139
R-squared	0.278	0.288	0.206	0.235	0.167

- A 10% higher rate of CRE (C&D) lending at the prior bank increase the CRE (C&D) loan ratio by 4.2% (2.4%)
- A 10% increase in the proportion of entrepreneurs with prior real estate experience increases the CRE loan ratio by 3.2%

Second Stage Results: Instrumenting CRE Loans

	ΔEquity	ΔEarnings	Δ30-89 Days Past Due	ΔNon-performing	ΔLoan Charge-offs
Instrumented CRE	-0.2101***	-0.0843*	0.0372	0.1811***	0.0634**
	(-3.34)	(-1.87)	(1.51)	(2.76)	(2.54)
Controls	YES	YES	YES	YES	YES
Charter Year FE	YES	YES	YES	YES	YES
Observations	182	182	182	182	182
R-squared	0.859	0.347	0.075	0.213	0.197

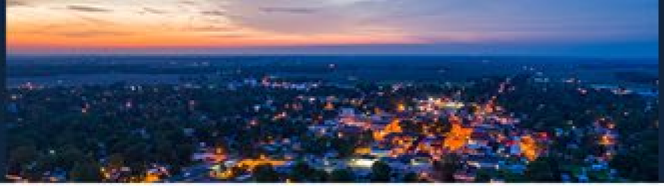
- A 10% greater exposure to CRE lending is associated with a 2% decrease in equity and a 0.8% decrease in earnings
- A 10% greater exposure to CRE lending is associated with a 1.8% increase in non-performing loans and a 0.6% increase in loan charge-offs
- The instrument is calculated by weighting all entrepreneurs equally. We find similar results when (i) focusing exclusively on the banking experience of the CEO, or (ii) weighting entrepreneurs by relative equity holdings



Second Stage Results: Instrumenting C&D Loans

	ΔEquity	ΔEarnings	Δ30-89 Days Past Due	ΔNon-performing	ΔLoan Charge-offs
Instrumented C&D	-0.2404***	-0.0848	0.0414	0.3121***	0.0783**
	(-2.62)	(-1.21)	(1.10)	(2.99)	(2.05)
Controls	YES	YES	YES	YES	YES
Charter Year FE	YES	YES	YES	YES	YES
Observations	182	182	182	182	182
R-squared	0.877	0.356	0.103	0.183	0.227

- A 10% greater exposure to C&D lending is associated with a 2.4% decrease in equity and a 0.8% decrease in earnings
- A 10% greater exposure to C&D lending is associated with a 3.1% increase in non-performing loans and a 0.8% increase in loan charge-offs
- The instrument is calculated by weighting all entrepreneurs equally. We find similar results when (i) focusing exclusively on the banking experience of the CEO, or (ii) weighting entrepreneurs by relative equity holdings



Second-Stage Results: CRE and C&D Loans on Failure

	Bank Failure	
Instrumented CRE	0.0116**	
	(2.38)	
Instrumented C&D		0.0187**
		(2.55)
Controls	YES	YES
Charter Year FE	YES	YES
Observations	182	182
R-squared	0.248	0.200

- A 10% greater exposure to CRE (C&D) lending is associated with a 1-2% increase in the likelihood of failure
- First in the literature to demonstrate the role of the manager's prior experience on corporate failures

Additional Robustness Tests

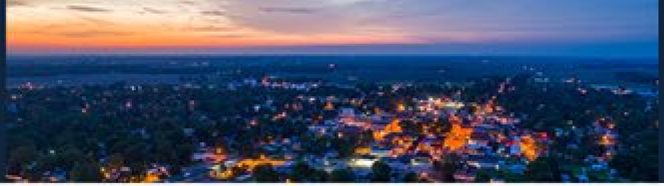
- Focusing exclusively on CEO experiences (rather than all entrepreneurs)
- Weighting Entrepreneurial experiences by initial financial investment (rather than equally)
- Excluding Real Estate Experience as a Secondary Instrument
- Focusing Exclusively on Banks in Southeastern States
- Alternate Controls for Local Credit Demand
- Extending the Analysis to Long-Term Lending Decisions

Conclusions

- **Where do new banks come from?**
  - Entrepreneurs are mature individuals with banking and real estate experience, who live near the proposed bank, and have many work-related contacts
  - Entrepreneurs arise disproportionately from small local banks
  - Local focus and customer service are the top two reasons for organizing de novo banks
  - Over 20% of bank capital is derived from entrepreneur equity

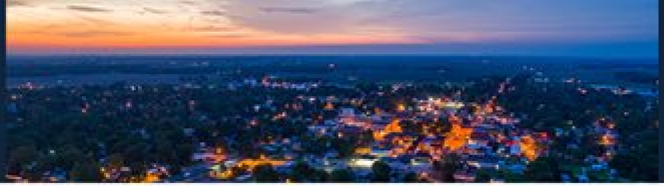
- **How do bank entrepreneurs influence firm performance and survival?**
  - Lending strategy is predicted by the prior experiences of the entrepreneurs
  - Instrumented lending strategy can explain loan and bank performance, as well as the likelihood of failure

Thank You!



Entry to Entrepreneurship Regressions

	(1) Entrepreneur/Emp	(2) Entrepreneur/Emp	(3) Entrepreneur/Emp
Log(asset)	-0.069**	-0.074**	-0.080***
	[-2.38]	[-2.55]	[-2.78]
Log(age)	-0.085***	-0.078**	-0.036
	[-2.64]	[-2.35]	[-1.05]
Merger	1.532*	1.577*	1.655**
	[1.85]	[1.90]	[2.00]
Loans & leases/Assets	0.008***		
	[3.35]		
RE loans/Assets		0.008***	
		[3.77]	
CRE loans/Assets			0.012***
			[5.24]
C&I loans/Assets		0.007	0.002
		[1.37]	[0.36]
Controls	YES	YES	YES
Adjusted R2	0.034	0.036	0.044
No. of observations	1422	1422	1422



Predicting Entry to Entrepreneurship

- Experience in a small bank predicts entry to bank entrepreneurship

  Small banks are unique in their focus on local lending:

  - A decentralized structure implies managers have far greater autonomy over adjudication and lending decisions (Stein, 2002; Liberti and Mian, 2008).
  - Small banks hold advantages in local lending due to informational advantage (Berger and Udell, 2002; Berger et al., 2005)
- Bank entrepreneurs arise from banks that were merged out
- Bank entrepreneurs arise from younger banks

	Auditing Standards of De Novo Banks	
Auditing Standards of Entrepreneurs	0.2324***	
	(2.79)	
Auditing Standards of CEO		0.1969***
		(2.81)
Controls	YES	YES
Charter Year Fixed Effect	YES	YES
Observations	169	158
R-squared	0.216	0.224

- We extend our analysis to the auditing standards of the De Novo bank
- Entrepreneurs/CEOs with prior experience at a bank with high auditing standards (defined by the GAAS) are 20-23% more likely to extend these standards to the De Novo bank
- Results suggest the role of the bank entrepreneurs is not isolated to lending outcomes

Distinguishing Credit Demand and Supply

- One concern is that lending strategies are determined jointly by local credit demand
- Therefore, we have controlled for county lending and income growth
- We now distinguish between (i) local entrepreneurs with prior experience in the county and (ii) non-local entrepreneurs
- We find no evidence that local and non-local entrepreneur lending strategies differ
- The results do not appear to be not driven by local credit demand conditions

First Stage Results: Distinguishing Credit Demand and Supply

VARIABLES	C&D RE	Commercial RE	Residential RE	C&I	Consumer
Prior Bank Loan Ratio	0.3740***	0.3164***	0.4339***	0.2760*	0.1105**
	(2.98)	(2.71)	(3.35)	(1.77)	(2.01)
Local Entrepreneur X Prior Bank Loan Ratio	0.0016	0.0031	-0.0007	0.002	0.0021
	(0.53)	(1.34)	(-0.28)	(0.66)	(1.60)
Local Entrepreneur	-0.0299	-0.1002	0.028	-0.0573	-0.0053
	(-0.97)	(-1.47)	(0.59)	(-1.35)	(-0.58)
Real Estate Experience	0.1601***	0.1612**	-0.1127**	-0.0173	-0.0249**
	(3.28)	(2.10)	(-2.37)	(-0.44)	(-2.06)
Charter Year FE	Yes	Yes	Yes	Yes	Yes
Observations	182	182	182	182	182
R-squared	0.505	0.437	0.439	0.287	0.272