Internet Appendix - Not for Publication

Is There a Trade-off Between Protecting Investors and Promoting Entrepreneurial Activity? Evidence From Angel Financing

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A Net Worth Calculation

This section describes the procedure of calculating the mean value of household net worth in a city following Chenevert et al. (2017). Two data sets are used in the calculation. The first data set is the Wave 10 of the 2008 Survey of Income and Program Participation (SIPP), which was conducted during the September to December in 2011. The second one is the 2011 personal income tax data from the Internal Revenue Service (IRS). The SIPP data only provides the geography of respondents at the state level. To obtain the net worth information at the city level, I combine the SIPP data with both the state-level and the ZIP code-level data from the IRS. Specific steps of calculating the mean value of a city's household net worth are as follows.

Step 1: I collect the state-level mean values of household net worth (NW_{STATE}) from the Wave 8 of the 2008 SIPP which was conducted in 2011. In addition, I obtain the state-level average value of household net worth of five categories of assets ($\text{NW}_{\text{STATE,CATEGORY}}$): (1) interest paying assets (investment in banks and financial institutions); (2) dividend paying assets (investment in stocks, mutual funds, and equity in business); (3) retirement accounts; (4) real estate assets; (5) other assets that are not included in the above four categories.

Step 2: Using state-level personal income tax data from IRS, I

calculate the state-level average household gross income ($\text{INCOME}_{\text{STATE}}$) in 2011. I also calculate the average of the income generated from the five categories ($\text{INCOME}_{\text{STATE,CATEGORY}}$) of assets as listed in Step 1. Dividing the mean values of net worth for each type of assets obtained from Step 1 by the mean values of income obtained from Step 2, I obtain the net-worth-to-income ratio for each of the five types of assets at the state level ($\left(\frac{NW}{INCOME}\right)_{\text{STATE,CATEGORY}}$).

Step 3: Using the net-worth-to-income ratios obtained from Step 2 multiplied by the ZIP-code income generated from each type of assets ($\text{INCOME}_{\text{ZIP,CATEGORY}}$), I get the household net worth for each type of assets at the ZIP-code level as illustrated below:

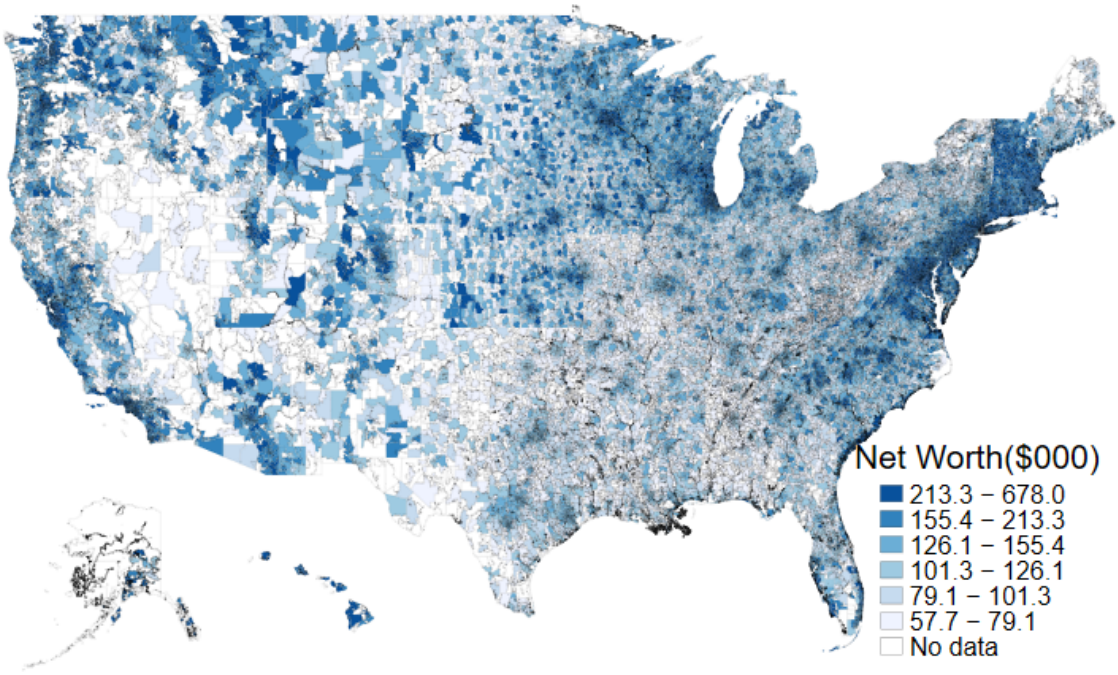
$$NW_{ZIP,CATEGORY} = \left(\frac{NW}{INCOME}\right)_{STATE,CATEGORY} * INCOME_{ZIP,CATEGORY}$$

Adding up the net worth for the five types of assets, I obtain the mean value of net worth at the ZIP code level (NW_{ZIP}). Finally, the mean values of household net worth at the city level are obtained by averaging the mean values of net worth at the ZIP code level weighted by ZIP code-level population.[A1]

Figure A1 shows the geographic variance of the estimated average net

[A1] Using the value weighted by the population in each ZIP code or the simple mean (not weighted) does not affect the results and conclusions of this study.

Figure A1. Geographical Variation of the Net Worth in 2011



worth across U.S. cities in 2011. The darker the color represents a higher net worth in a city. One can observe that the net worth in large cities along the east coast and west coast is relatively higher. Cities in Colorado and Illinois also enjoy high net worth.

The ideal way to identify the treatment is to obtain data on individual or household balance sheet and deed records. However, given the difficulty in obtaining these sensitive data, my paper and Lindsey and Stein (2020) take different approaches to measure the treatment. Their paper uses survey data and estimate the fraction of household affected at the state level. The advantage of their approach is that they can measure the treatment at the state-level relatively accurately. The main drawback of their approach is that they can only perform the analysis at a macro level

without controlling for any local changes or shocks. In addition, they examine aggregated business formation and employment of small firms, but only a small fraction of these firms are angel-backed and these changes may due to other state-level or macro shocks. My approach, using the city-level mean HV/NW ratio, although may generate concerns discussed and addressed in Section B, enables my analysis to have much more variation across the U.S. and control for other local shocks that may affect the results. Furthermore, most of my analysis focuses on firms that received angel investments and their future performances, therefore, provides more direct evidence of the impact of the regulation change compared to their paper.

B Additional Tests

Figure B1. Geographical Variation of the Home-Value-To-Net-Worth Ratio in 2011 (Only Cities Within Top-30 Metropolitan Statistical Areas are Included)

This figure shows the geographical variance of the HV/NW ratio across among cities within top-30 metropolitan statistical areas (MSA) in 2011. Top-30 MSAs are chosen based on the total population in 2011. The darker the color represents a higher HV/NW ratio. The HV/NW ratio is calculated by diving the average home value in a city by the average household net worth in the city. The average home value in city i is calculated by averaging the Zillow home value index across all ZIP codes in city i. The average net worth in city i is estimated by combining data from SIPP and IRS following the procedure specified in Appendix A.

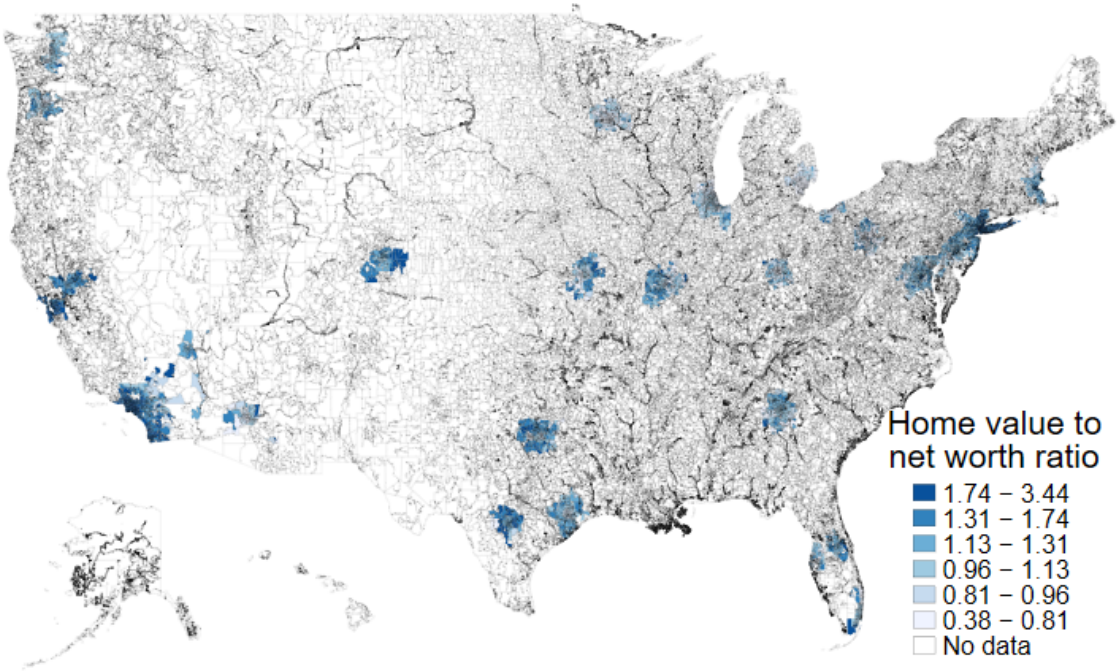


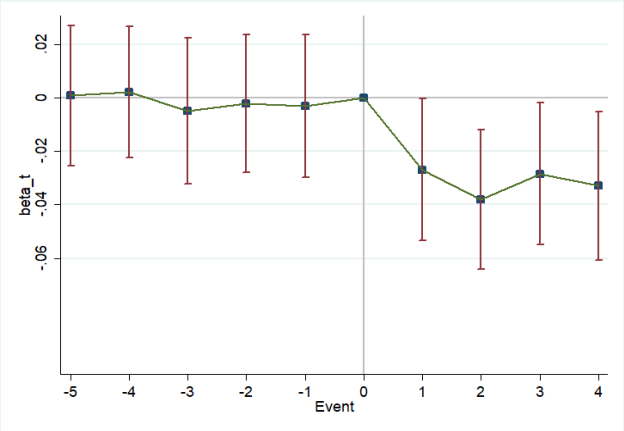
Figure B2. Plot of Coefficients Around the Event Time

The figures show the coefficients plot around the regulation change by estimating the following model:

$$Y_{it} = \alpha + \sum_{t=-5, t\neq 0}^{4} \beta_t TREAT_i * PERIOD_t + CONTROLS_{i,t} + \delta_t + \eta_i + \epsilon_{it}$$

where PERIOD_t is a set of dummy variables that equals one if a city-half-year observation is from the time unit t. For example, PERIOD_1 equals one if observations are from the first-half year of 2012. The benchmark group comprises of observations that are in the event period (the second half of 2011, $t = 0$). TREAT_i is a dummy that equals one if city i's HV/NW ratio is larger than the median of the HV/NW ratio in the sample in 2011 and equals zero otherwise, POST_t is a dummy that equals one if period t is after 2011 and equals zero otherwise. Panel (a) shows the plot of estimates of β_t when the outcome variable is the natural logarithm of one plus the number of angel investments. Panel (b) shows the plot of estimates of β_t when the outcome variable is the natural logarithm of one plus the amount of angel investments. The center points show the point estimates of β_t and the vertical lines denote the 90% confidence intervals of β_t estimates.

(a) Number of Angel Investments



(b) Amount of Angel Investments

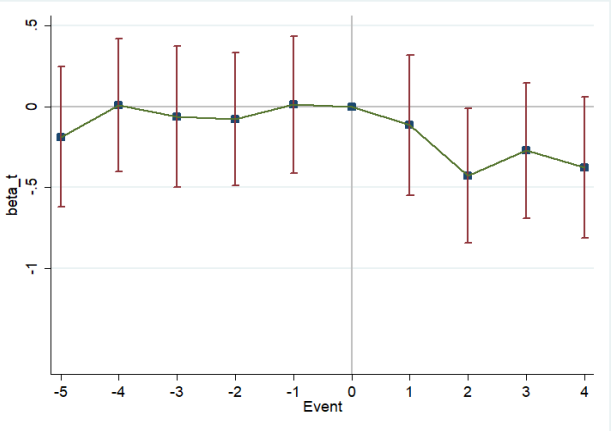


Table B1. Summary Statistics on the Distribution of Sample Firms by Age Group and by State

This table shows the distribution of the sample firms by age group and by state. Panel A shows the distribution of sample firms by age group: founded for less than 3 years, from 3 to 5 years, and above 5 years. Panel B displays the geographical distribution of the sample firms with states that have more than 1% of sample firms shown individually and the rest states shown jointly as "other states." The first column shows the age group or the state abbreviation. The second column shows the number of firms. The third and fourth columns show the percentage and cumulative percentage, respectively.

Panel A: Age distribution of sample firms			
Age group	Freq.	Percent	Cum. Percent
Less than 3	23,864	57.34	57.34
From 3 to 5	6,222	14.95	72.29
More than 5	11,531	27.71	100.00

Panel B: Geographical distribution of sample firms			
State	Freq.	Percent	Cum. Percent
CA	10,268	23.81	23.81
NY	3,855	8.94	32.75
TX	2,999	6.95	39.70
MA	2,562	5.94	45.64
WA	2,035	4.72	50.36
FL	1,976	4.58	54.94
CO	1,663	3.86	58.80
IL	1,279	2.97	61.77
PA	1,247	2.89	64.66
NC	1,041	2.41	67.07
GA	943	2.19	69.26
AZ	898	2.08	71.34
VA	855	1.98	73.32
MD	838	1.94	75.26
NJ	813	1.89	77.15
MN	785	1.82	78.97
OH	734	1.70	80.67
CT	719	1.67	82.34
UT	651	1.51	83.85
OR	643	1.49	85.34
TN	569	1.32	86.66
NV	527	1.22	87.88
MI	479	1.11	88.99
IN	443	1.03	90.02
Other states	4,301	9.98	100.00

Table B2. Sub-sample Test Based on Housing Price Growth Since the Crisis

This table shows the results of the robustness test by performing a sub-sample test sorting all cities into two groups based on the housing price growth from the end of 2008 to the end of 2011. The first two columns show the sub-sample where cities that had a housing price growth below the median are included. The last two columns show the sub-sample where cities that had a housing price growth above the median are included.The dependent variable is ln(NUM+1), the natural logarithm of one plus the number of angel investments in city i and time t. The dependent variable is ln(AMOUNT+1), the natural logarithm of one plus the amount of angel investments in city i and time t. ln(HV/NW) is the natural logarithm of city i's home-value-to-net-worth ratio in 2011, POST is a dummy that equals one if period t is after 2011 and equals zero otherwise. Control variables, POPULATION, INCOME_PER_PERSON, and HOME_VALUE, are described in section B. I also control for time and city fixed effects. In all regressions, I double-cluster standard errors at the city level and at the time level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	1 ln(NUM+1)	2 ln(AMOUNT+1)	3 ln(NUM+1)	4 ln(AMOUNT+1)
ln(HV/NW)*POST	-0.029***	-0.212*	-0.024**	-0.247
	(0.007)	(0.106)	(0.009)	(0.172)
POPULATION	0.074	1.126	-0.068	-0.724
	(0.109)	(1.975)	(0.075)	(1.483)
INCOME_PER_PERSON	0.028	-0.011	0.059	1.348
	(0.049)	(0.772)	(0.078)	(1.194)
HOME_VALUE	-0.005	0.037	0.011	0.859
	(0.048)	(0.685)	(0.069)	(1.105)
CONSTANT	-0.759	-8.432	0.194	-13.567
	(1.599)	(27.276)	(1.284)	(23.903)
Observations	19,314	19,314	18,900	18,900
R-squared	0.642	0.398	0.686	0.459
Housing Price Growth (08'E to 11'E)	LOW	LOW	HIGH	HIGH
City FE	YES	YES	YES	YES
Semi-annual FE	YES	YES	YES	YES
# of cities	1932	1932	1890	1890

Table B3. Impact on Local Angel Financing

This table shows the results of the classic DiD analysis by estimating the following model:

$$Y_{i,t} = \alpha + \beta TREAT_i * POST_t + CONTROLS_{i,t} + \delta_t + \eta_i + \epsilon_{i,t}$$

where i represents a city and t represents a semi-annual time period. $Y_{i,t}$ are the two dependent variables that represent local angel financing: ln(NUM+1), the natural logarithm of one plus the number of angel investments, and ln(AMOUNT+1), the natural logarithm of one plus the amount of angel investments in city i and time t. TREAT_i is a dummy that equals one if city i's HV/NW ratio is larger than the median of the HV/NW ratio in the sample in 2011 and equals zero otherwise, POST_t is a dummy that equals one if period t is after 2011 and equals zero otherwise. Control variables, POPULATION, INCOME_PER_PERSON, and HOME_VALUE, are described in section B. I also control for time and city fixed effects. In all regressions, I double-cluster standard errors at the city level and at the time level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	1	2	3	4
VARIABLES	*ln(NUM+1)*	*ln(AMOUNT+1)*	*ln(NUM+1)*	*ln(AMOUNT+1)*
TREAT*POST	-0.026***	-0.279**	-0.025***	-0.259*
	(0.007)	(0.110)	(0.007)	(0.118)
POPULATION			0.011	0.325
			(0.059)	(0.999)
INCOME_PER_PERSON			0.038	0.607
			(0.060)	(0.835)
HOME_VALUE			-0.018	0.327
			(0.040)	(0.537)
CONSTANT	0.247***	3.518***	-0.041	-9.983
	(0.001)	(0.019)	(1.206)	(17.494)
Observations	38,960	38,960	38,214	38,214
R-squared	0.667	0.432	0.668	0.433
City FE	YES	YES	YES	YES
Semi-annual FE	YES	YES	YES	YES
# of cities	3896	3896	3822	3822

Table B4. Excluding Outliers Based on Cities' Average Net Worth in 2011

This table shows the results of the robustness test by excluding sample outliers based on cities' average net worth in 2011. The dependent variable in Columns 1 to 3, ln(NUM+1), is the natural logarithm of one plus the number of angel investments in city i and time t. The dependent variable in Columns 4 to 6, ln(AMOUNT+1), is the natural logarithm of one plus the amount of angel investments in city i and time t. In Columns 1 and 4, I exclude cities that have the largest 10% of net worth in the sample in 2011. In Columns 2 and 5, I exclude cities that have the smallest 10% of net worth in the sample in 2011. In Columns 3 and 6, I exclude cities that have the largest 10% of net worth or the smallest 10% of net worth in the sample in 2011. ln(HV/NW) is the natural logarithm of city i's home-value-to-net-worth ratio in 2011, POST is a dummy that equals one if period t is after 2011 and equals zero otherwise. Control variables, POPULATION, INCOME_PER_PERSON, and HOME_VALUE, are described in section B. I also control for time and city fixed effects. In all regressions, I double-cluster standard errors at the city level and at the time level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	1	2	3	4	5	6
	Net worth in 2011					
	ln(NUM+1)			ln(AMOUNT+1)		
	Exclude largest	Exclude smallest	Exclude largest and smallest	Exclude largest	Exclude smallest	Exclude largest and smallest
ln(HV/NW)*POST	-0.027***	-0.035***	-0.038***	-0.231*	-0.349**	-0.377**
	(0.007)	(0.007)	(0.007)	(0.110)	(0.115)	(0.122)
POPULATION	0.004	0.023	0.022	0.116	0.493	0.366
	(0.054)	(0.062)	(0.060)	(0.925)	(1.028)	(0.986)
INCOME_PER_PERSON	0.052	0.039	0.053	1.051	0.583	1.021
	(0.062)	(0.063)	(0.071)	(0.972)	(0.904)	(1.131)
HOME_VALUE	-0.023	-0.023	-0.033	0.050	0.321	-0.018
	(0.026)	(0.047)	(0.032)	(0.348)	(0.616)	(0.437)
CONSTANT	-0.080	-0.094	-0.124	-9.318	-11.258	-10.561
	(1.119)	(1.333)	(1.308)	(18.364)	(18.737)	(20.782)
Observations	34,384	34,458	30,628	34,384	34,458	30,628
R-squared	0.661	0.674	0.668	0.418	0.441	0.428
City FE	YES	YES	YES	YES	YES	YES
Semi-annual FE	YES	YES	YES	YES	YES	YES
# of cities	3439	3446	3063	3439	3446	3063

Table B5. Excluding Outliers Based on Cities' Average Home Value in 2011

This table shows the results of the robustness test by excluding sample outliers based on cities' average home value in 2011. The dependent variable in Columns 1 to 3, ln(NUM+1), is the natural logarithm of one plus the number of angel investments in city i and time t. The dependent variable in Columns 4 to 6, ln(AMOUNT+1), is the natural logarithm of one plus the amount of angel investments in city i and time t. In Columns 1 and 4, I exclude cities that have the largest 10% of home value in the sample in 2011. In Columns 2 and 5, I exclude cities that have the smallest 10% of home value in the sample in 2011. In Columns 3 and 6, I exclude cities that have the largest 10% of home value or the smallest 10% of home value in the sample in 2011. ln(HV/NW) is the natural logarithm of city i's home-value-to-net-worth ratio in 2011, POST is a dummy that equals one if period t is after 2011 and equals zero otherwise. Control variables, POPULATION, INCOME_PER_PERSON, and HOME_VALUE, are described in section B. I also control for time and city fixed effects. In all regressions, I double-cluster standard errors at the city level and at the time level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	1	2	3	4	5	6
	Home value in 2011					
	ln(NUM+1)			ln(AMOUNT+1)		
	Exclude largest	Exclude smallest	Exclude largest and smallest	Exclude largest	Exclude smallest	Exclude largest and smallest
ln(HV/NW)*POST	-0.025***	-0.030***	-0.029***	-0.222**	-0.290*	-0.294*
	(0.006)	(0.008)	(0.008)	(0.096)	(0.140)	(0.141)
POPULATION	0.007	0.023	0.023	0.096	0.420	0.251
	(0.058)	(0.061)	(0.063)	(0.950)	(1.054)	(1.043)
INCOME_PER_PERSON	0.044	0.039	0.045	0.648	0.602	0.623
	(0.057)	(0.063)	(0.060)	(0.920)	(0.866)	(0.945)
HOME_VALUE	0.004	-0.010	0.014	0.398	0.516	0.610
	(0.029)	(0.046)	(0.032)	(0.412)	(0.624)	(0.522)
CONSTANT	-0.359	-0.251	-0.641	-9.250	-13.127	-13.011
	(1.092)	(1.332)	(1.224)	(17.970)	(19.019)	(19.879)
Observations	34,474	34,376	30,636	34,474	34,376	30,636
R-squared	0.640	0.675	0.649	0.406	0.440	0.415
City FE	YES	YES	YES	YES	YES	YES
Semi-annual FE	YES	YES	YES	YES	YES	YES
# of cities	3448	3438	3064	3448	3438	3064

Table B6. Using Top-Bracket HV/NW Ratio as an Alternative Treatment Measure

This table shows the results of the DiD analysis using an alternative measure of the treatment. Specifically, the mean home-value-to-net-worth ratio (HV/NW) is replaced with the top-home-value-to-top-net-worth ratio (HV_TOP/HW_TOP) for a city in 2011. Specifically, I use the top-tier Zillow Home Value Index of a city (typical home value in dollars within 65th to 95th percentile range in a city) as HV_TOP/NW_TOP is estimated using a similar methodology as NW, with the only difference that the statistics of the top-bracket income group (i.e., annual gross income of $200,000 or more) are used. The Statistics of Income provided by the IRS are listed in two formats: statistics of all gross income classes and statistics of six different gross income classes (under $25,000, $25,000 under $50,000, $50,000 under $75,000, $75,000 under $100,000, $100,000 under $200,000, and $200,000 or more). In my analysis, NW is calculated using the statistics in the first format and NW_TOP is calculated using those in the second format. The caveat of using the statistics of the top-class income is that when there are less than 20 tax returns for a particular income class, the observations of that class are combined with the next class within the same ZIP code due to privacy concerns. The dependent variables are ln(NUM+1), the natural logarithm of one plus the number of angel investments, and ln(AMOUNT+1), the natural logarithm of one plus the amount of angel investments in city i and time t. POST is a dummy that equals one if period t is after 2011 and equals zero otherwise. Control variables, POPULATION, INCOME_PER_PERSON, and HOME_VALUE, are described in section B. I also control for time and city fixed effects. In all regressions, I double-cluster standard errors at the city level and at the time level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	1 ln(NUM+1)	2 ln(AMOUNT+1)	3 ln(NUM+1)	4 ln(AMOUNT+1)
ln(HV_TOP/HW_TOP)*POST	-0.024***	-0.195*	-0.025***	-0.213*
	(0.007)	(0.098)	(0.007)	(0.111)
POPULATION			0.085	1.543
			(0.082)	(1.266)
INCOME_PER_PERSON			0.038	-0.036
			(0.075)	(0.977)
HOME_VALUE			-0.062	0.126
			(0.071)	(1.058)
CONSTANT	0.294***	4.058***	-0.201	-12.804
	(0.001)	(0.012)	(1.484)	(20.456)
Observations	24,760	24,760	24,580	24,580
R-squared	0.702	0.459	0.702	0.459
City FE	YES	YES	YES	YES
Semi-annual FE	YES	YES	YES	YES
# of cities	2476	2476	2458	2458

Table B7. Analysis of Impact on Angel Financing by Firm Age

This table shows the heterogeneous impact of the SEC regulation change by categorizing firms by the age when they received their angel investments. I use the same empirical specification (DiD with continuous treatment) as described in table 2. The dependent variable in Column 1 is the natural logarithm of one plus the number of firms whose age are less than three years when they received the angel investments in city i and time t. The dependent variable in Column 2 is the natural logarithm of one plus the number of firms whose age are three to five years when they received the angel investments in city i and time t. The dependent variable in Column 3 is the natural logarithm of one plus the number of firms whose age are more than five years when they received the angel investments in city i and time t. ln(HV/NW) is the natural logarithm of city i's home-value-to-net-worth ratio in 2011, POST is a dummy that equals one if period t is after 2011 and equals zero otherwise. Control variables, POPULATION, INCOME_PER_PERSON, and HOME_VALUE, are described in section B. I also control for time and city fixed effects. In all regressions, I double-cluster standard errors at the city level and at the time level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	1 Less than three years ln(NUM+1)	2 Three to five years ln(NUM+1)	3 Over five years ln(NUM+1)
ln(HV/NW)*POST	-0.012*	-0.009**	-0.017***
	(0.006)	(0.004)	(0.005)
POPULATION	0.045	-0.008	-0.037
	(0.055)	(0.012)	(0.032)
INCOME_PER_PERSON	0.065	-0.045	-0.036
	(0.050)	(0.027)	(0.029)
HOME_VALUE	0.042	-0.074***	-0.059*
	(0.046)	(0.019)	(0.028)
CONSTANT	-1.466	1.497**	1.531**
	(0.989)	(0.468)	(0.653)
Observations	38,214	38,214	38,214
R-squared	0.634	0.439	0.481
City FE	YES	YES	YES
Semi-annual FE	YES	YES	YES

Table B8. Impact on Rates of Subsequent Financing and Successful Exits of Firms Received Angel Investments

This table shows the impact of the SEC regulation change on rates (instead of quantities) of local entrepreneurial activity for firms that received angel investments. I use the same empirical specification as described in Table 2. The dependent variable in Column 1, RATE_NEXT_ROUND, is the rate of receiving next-round financing in the future in firms that received angel investments in city i and time t. The dependent variable in Column 2, RATE_LATER_VC, is the rate of receiving investments from venture capitals later in firms that firms that received angel investments in city i and time t. The dependent variable in Column 3, RATE_ACQ, is the rate of having an acquisition later in firms that received angel investments in city i and time t. The dependent variable in Column 4, RATE_IPO, is the rate of having an IPO later in firms that received angel investments in city i and time t. The dependent variable in Column 5, RATE_ACQ_OR_IPO, is the rate of having an acquisition or an IPO later in firms that received angel investments in city i and time t. ln(HV/NW) is the natural logarithm of city i's home-value-to-net-worth ratio in 2011, POST is a dummy that equals one if period t is after 2011 and equals zero otherwise. Control variables are described in section B. I also control for time and city fixed effects. In all regressions, I double-cluster standard errors at the city level and at the time level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	1	2	3	4	5
	RATE_NEXT_ROUND	RATE_LATER_VC	RATE_ACQ	RATE_IPO	RATE_ACQ_OR_IPO
ln(HV/NW)*POST	-0.007	-0.003	-0.000**	-0.001**	-0.001**
	(0.004)	(0.002)	(0.000)	(0.000)	(0.000)
POPULATION	0.016	-0.003	-0.001	-0.005	-0.002
	(0.019)	(0.006)	(0.001)	(0.004)	(0.002)
INCOME_PER_PERSON	0.025	0.002	-0.002***	-0.000	-0.005**
	(0.022)	(0.008)	(0.001)	(0.002)	(0.002)
HOME_VALUE	-0.011	-0.016***	-0.003***	-0.004	-0.006***
	(0.012)	(0.005)	(0.001)	(0.003)	(0.001)
CONSTANT	-0.222	0.215	0.066***	0.112	0.150***
	(0.301)	(0.148)	(0.015)	(0.070)	(0.039)
Observations	38,214	38,214	38,214	38,214	38,214
R-squared	0.255	0.250	0.318	0.117	0.293
City FE	YES	YES	YES	YES	YES
Semi-annual FE	YES	YES	YES	YES	YES

Table B9. Coefficient Estimates for the Cost-Benefit Analysis

This table shows the coefficient estimates for the cost-benefit analysis in section IX. I use the empirical specification as illustrated by equation (4). The dependent variable in Column 1, ln(AMOUNT+1), is the natural logarithm of one plus the amount of angel investments in city i and time t. ln(SALES+1) in Column 2 is the natural logarithm of one plus the amount of sales generated in the next year by firms that received their angel investments in city i and time t. ln(EMPLOYMENT+1) in Column 3 is the natural logarithm of one plus the number of jobs supported in the next year by firms that received their angel investments in city i and time t. ln(NUM_PATENTS+1) in Column 4, is the natural logarithm of one plus the number of patents generated by firms that received their angel investments in city i and time t. HV/NW is city i's home-value-to-net-worth ratio in 2011, POST is a dummy that equals one if period t is after 2011 and equals zero otherwise. Control variables, POPULATION, INCOME_PER_PERSON, and HOME_VALUE, are described in section B. I also control for time and city fixed effects. In all regressions, I double-cluster standard errors at the city level and at the time level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	1 ln(AMOUNT+1)	2 ln(SALES+1)	3 ln(EMPLOYMENT+1)	4 ln(NUM_PATENTS+1)
ln(HV/NW)*POST	-0.147*	-0.152**	-0.044***	-0.022***
	(0.087)	(0.067)	(0.012)	(0.006)
POPULATION	0.240	0.144	-0.093	-0.064
	(1.073)	(0.805)	(0.162)	(0.035)
INCOME_PER_PERSON	0.615	0.382	-0.023	-0.105*
	(0.554)	(0.457)	(0.084)	(0.047)
HOME_VALUE	0.331	0.220	-0.102	-0.139***
	(0.515)	(0.365)	(0.060)	(0.042)
CONSTANT	-9.248	-5.451	2.924	3.483***
	(12.536)	(12.422)	(2.408)	(0.877)
Observations	38,214	38,214	38,214	38,214
R-squared	0.433	0.454	0.554	0.447
City FE	YES	YES	YES	YES
Semi-annual FE	YES	YES	YES	YES

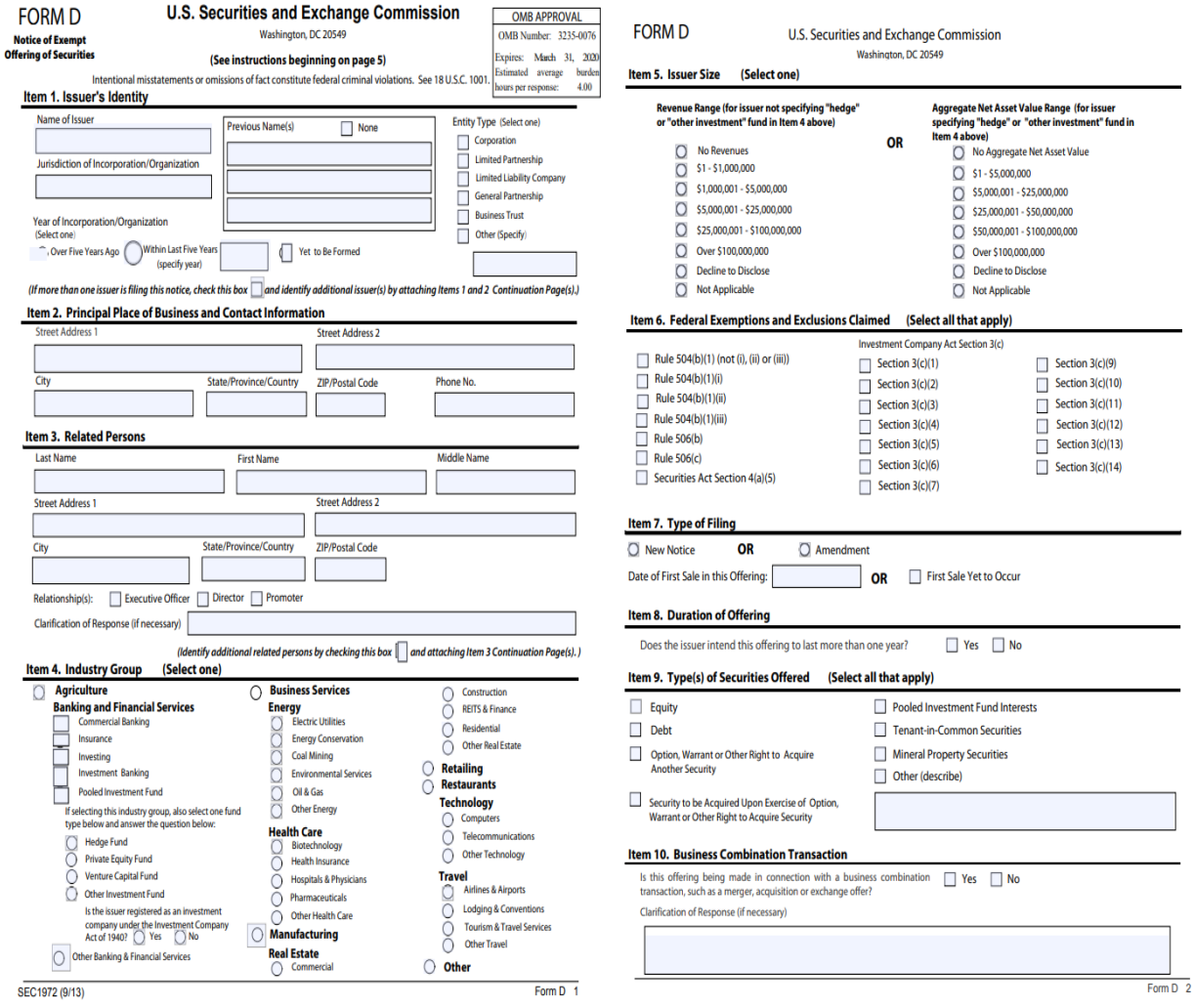
Table B10. Impact on Local Angel Financing Using Alternative Time Units

This table shows the estimation of the regulation change on local angel financing using alternative time units (year and quarter). ln(NUM+1) (ln(AMOUNT+1)) is the natural logarithm of one plus the number (amount) of angel investments in city i and period t. Columns 1 and 2 show the results when the time unit is set to be annual. Columns 3 and 4 show the results when the time unit is set to be quarterly. ln(HV/NW) is the natural logarithm of city i's home-value-to-net-worth ratio in 2011. POST is a dummy that equals one if period t is after 2011 and equals zero otherwise. Control variables, POPULATION, INCOME_PER_PERSON, and HOME_VALUE, are described in section B. I also control for time and city fixed effects. In all regressions. Standard errors are double-clustered at the city level and at the time level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	1	2	3	4
Time Unit:	Year		Quarter	
	ln(NUM+1)	ln(AMOUNT+1)	ln(NUM+1)	ln(AMOUNT+1)
ln(HV/NW)*POST	-0.042***	-0.362*	-0.019***	-0.205***
	-0.009	-0.156	-0.005	-0.061
POPULATION	0.004	0.241	0.007	0.373
	-0.13	-2.041	-0.045	-0.701
INCOME_PER_PERSON	0.056	0.979	0.032	0.523
	-0.049	-0.865	-0.049	-0.499
HOME_VALUE	0.022	1.266	-0.040*	-0.364
	-0.046	-0.671	-0.021	-0.293
CONSTANT	-0.473	-22.66	0.234	-2.411
	-1.517	-22.56	-1.068	-11.369
Observations	19,107	19,107	76,428	76,428
R-squared	0.772	0.478	0.647	0.406
City FE	YES	YES	YES	YES
Semi-annual FE	YES	YES	YES	YES
# of cities	3822	3822	3822	3822

C Form D

Form D is used to file a notice of an exempt offering of securities with the SEC. The federal securities laws require the notice to be filed by companies that have sold securities without registration under the Securities Act of 1933 in an offering made under Rule 504 or 506 of Regulation D or Section 4(a)(5) of the Securities Act.[A2] The figure below shows the first two pages of the Form D that firms file for exemption of registration to the SEC.



FORM D

Notice of Exempt Offering of Securities

U.S. Securities and Exchange Commission

Washington, DC 20549

(See instructions beginning on page 5)

Intentional misstatements or omissions of fact constitute federal criminal violations. See 18 U.S.C. 1001.

OMB APPROVAL

OMB Number: 3235-0076

Expires: March 31, 2020

Estimated average burden hours per response: 4.00

Item 1. Issuer's Identity

Name of Issuer

Previous Name(s) None

Entity Type (Select one)

Corporation

Limited Partnership

Limited Liability Company

General Partnership

Business Trust

Other (Specify)

Jurisdiction of Incorporation/Organization

Year of Incorporation/Organization (Select one)

Over Five Years Ago

Within Last Five Years (specify year)

Yet to Be Formed

(If more than one issuer is filing this notice, check this box and identify additional issuer(s) by attaching Items 1 and 2 Continuation Page(s).)

Item 2. Principal Place of Business and Contact Information

Street Address 1

Street Address 2

City

State/Province/Country

ZIP/Postal Code

Phone No.

Item 3. Related Persons

Last Name

First Name

Middle Name

Street Address 1

Street Address 2

City

State/Province/Country

ZIP/Postal Code

Relationship(s): Executive Officer Director Promoter

Clarification of Response (if necessary)

(Identify additional related persons by checking this box and attaching Item 3 Continuation Page(s).)

Item 4. Industry Group (Select one)

Agriculture

Banking and Financial Services

Commercial Banking

Insurance

Investing

Investment Banking

Pooled Investment Fund

If selecting this industry group, also select one fund type below and answer the question below:

Hedge Fund

Private Equity Fund

Venture Capital Fund

Other Investment Fund

Is the issuer registered as an investment company under the Investment Company Act of 1940? Yes No

Other Banking & Financial Services

Business Services

Energy

Electric Utilities

Energy Conservation

Coal Mining

Environmental Services

Oil & Gas

Other Energy

Health Care

Biotechnology

Health Insurance

Hospitals & Physicians

Pharmaceuticals

Other Health Care

Manufacturing

Real Estate

Commercial

Construction

REITS & Finance

Residential

Other Real Estate

Retailing

Restaurants

Technology

Computers

Telecommunications

Other Technology

Travel

Airlines & Airports

Lodging & Conventions

Tourism & Travel Services

Other Travel

Other

SEC1972 (9/13)

Form D 1

FORM D

U.S. Securities and Exchange Commission

Washington, DC 20549

Item 5. Issuer Size (Select one)

Revenue Range (for issuer not specifying "hedge" or "other investment" fund in Item 4 above)

No Revenues

$1 - $1,000,000

$1,000,001 - $5,000,000

$5,000,001 - $25,000,000

$25,000,001 - $100,000,000

Over $100,000,000

Decline to Disclose

Not Applicable

OR

Aggregate Net Asset Value Range (for issuer specifying "hedge" or "other investment" fund in Item 4 above)

No Aggregate Net Asset Value

$1 - $5,000,000

$5,000,001 - $25,000,000

$25,000,001 - $50,000,000

$50,000,001 - $100,000,000

Over $100,000,000

Decline to Disclose

Not Applicable

Item 6. Federal Exemptions and Exclusions Claimed (Select all that apply)

Rule 504(b)(1) (not (i), (ii) or (iii))

Rule 504(b)(1)(i)

Rule 504(b)(1)(ii)

Rule 504(b)(1)(iii)

Rule 506(b)

Rule 506(c)

Securities Act Section 4(a)(5)

Investment Company Act Section 3(c)

Section 3(c)(1)

Section 3(c)(2)

Section 3(c)(3)

Section 3(c)(4)

Section 3(c)(5)

Section 3(c)(6)

Section 3(c)(7)

Section 3(c)(9)

Section 3(c)(10)

Section 3(c)(11)

Section 3(c)(12)

Section 3(c)(13)

Section 3(c)(14)

Item 7. Type of Filing

New Notice OR Amendment

Date of First Sale in this Offering: OR First Sale Yet to Occur

Item 8. Duration of Offering

Does the issuer intend this offering to last more than one year? Yes No

Item 9. Type(s) of Securities Offered (Select all that apply)

Equity

Debt

Option, Warrant or Other Right to Acquire Another Security

Security to be Acquired Upon Exercise of Option, Warrant or Other Right to Acquire Security

Pooled Investment Fund Interests

Tenant-in-Common Securities

Mineral Property Securities

Other (describe)

Item 10. Business Combination Transaction

Is this offering being made in connection with a business combination transaction, such as a merger, acquisition or exchange offer? Yes No

Clarification of Response (if necessary)

Form D 2

[A2] See more information on the website of the SEC: `https://www.sec.gov/smallbusiness/exemptofferings/formd`.