

Home Equity Finance and Entrepreneurial Performance: Evidence from a Mortgage Reform

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Motivation

- Bank debt is an important source of credit for entrepreneurs
 - But entrepreneurs may be overconfident or have non-pecuniary motives
 - Potential problem with asymmetric information about profitability of project
- What is the effect of improving access to collateralized borrowing?
 - Reduces financing constraints
 - Change focus to screening value of home
 - Allow entrepreneur to bypass project screening of banks
 - Result depends on the quality of banks screening technology
- Why important to resolve?
 - Learn whether credit constraints matter for start-ups/survival
 - Learn whether banks allocate credit efficiently

This study

- How does an exogenous increase in access to collateralized credit impact entrepreneurship?
- Measure the effect of a Danish 1992 mortgage reform
 - Allowed for the first time that home owners could borrow against equity for other things than buying a house
- Very rich micro data to document evolution of debt and entrepreneurship
 - Distinguish between net and gross flows
 - Net: what policy makers are interested in?
 - Gross: separate entry from survival and characterize entrants/survivors in detail
 - Can directly observe and verify channel through which the reform operates
 - Register-based data (3rd party reported) increases confidence in observing outcomes such as entrepreneurship

Agenda

I. Identification Strategy

II. Data

III. Results

IV. Conclusions

Danish mortgage reform of 1992

- Mortgage banks in Denmark
 - Issue bonds to fund loans
 - Credit assessment by availability of collateral and ability to service loan
- 1992 reform changed rules about mortgage finance in two critical ways
 - Use mortgage loans for purposes other than financing property (max 80%)
 - maximum maturity up from 20 to 30 years
- Both these factors impacted the availability of credit
 - Introduce loans using housing collateral to finance investment in business
 - Credit assessment not based on the profitability of the project
 - The level of equity that was unlocked varied by the timing of the house purchase

Cross sectional variation in Equity to Value (ETV) in 1991

Year of last move	Age in 1991																									
	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
1970 or before																	0,62	0,62	0,62	0,62	0,65	0,65	0,65	0,66	0,67	0,69
1971																	0,59	0,62	0,63	0,62	0,61	0,62	0,62	0,64	0,65	0,68
1972															0,58	0,63	0,59	0,59	0,60	0,61	0,59	0,61	0,60	0,63	0,62	0,64
1973														0,59	0,57	0,58	0,57	0,56	0,57	0,57	0,60	0,59	0,61	0,61	0,63	0,64
1974													0,56	0,54	0,52	0,56	0,55	0,56	0,56	0,55	0,57	0,59	0,58	0,58	0,61	0,62
1975												0,48	0,49	0,47	0,50	0,50	0,49	0,50	0,51	0,52	0,55	0,53	0,55	0,56	0,56	0,58
1976											0,43	0,45	0,41	0,43	0,45	0,44	0,46	0,46	0,49	0,50	0,48	0,50	0,51	0,51	0,54	0,54
1977										0,39	0,38	0,41	0,39	0,42	0,41	0,44	0,45	0,45	0,47	0,47	0,47	0,49	0,49	0,52	0,53	0,53
1978								0,36	0,38	0,34	0,36	0,37	0,40	0,37	0,39	0,38	0,40	0,41	0,42	0,44	0,43	0,44	0,45	0,47	0,48	0,50
1979							0,31	0,30	0,32	0,31	0,31	0,31	0,31	0,35	0,35	0,36	0,34	0,34	0,35	0,37	0,38	0,38	0,38	0,41	0,43	0,45
1980						0,34	0,34	0,31	0,28	0,30	0,29	0,29	0,28	0,32	0,30	0,31	0,32	0,33	0,33	0,36	0,34	0,36	0,35	0,39	0,41	0,38
1981				0,22	0,28	0,25	0,29	0,28	0,29	0,29	0,30	0,29	0,30	0,33	0,32	0,36	0,36	0,32	0,34	0,37	0,38	0,37	0,40	0,39	0,41	
1982			0,22	0,26	0,26	0,23	0,25	0,25	0,26	0,29	0,27	0,28	0,26	0,28	0,29	0,29	0,29	0,31	0,31	0,30	0,31	0,31	0,33	0,34	0,35	
1983		0,24	0,22	0,23	0,21	0,22	0,22	0,22	0,23	0,23	0,23	0,23	0,24	0,22	0,25	0,26	0,24	0,27	0,26	0,26	0,27	0,26	0,29	0,30	0,31	
1984	0,21	0,16	0,17	0,18	0,15	0,16	0,16	0,14	0,17	0,16	0,15	0,18	0,18	0,19	0,17	0,18	0,17	0,19	0,18	0,18	0,20	0,21	0,22	0,21	0,22	
1985	0,18	0,17	0,16	0,14	0,15	0,15	0,14	0,14	0,15	0,15	0,14	0,14	0,17	0,16	0,16	0,15	0,16	0,16	0,17	0,18	0,21	0,17	0,20	0,21	0,21	0,23
1986	0,14	0,13	0,13	0,13	0,12	0,12	0,12	0,12	0,11	0,12	0,13	0,13	0,13	0,13	0,14	0,13	0,14	0,14	0,15	0,16	0,16	0,17	0,19	0,18	0,20	0,21
1987	0,14	0,12	0,12	0,12	0,12	0,12	0,12	0,12	0,13	0,13	0,12	0,14	0,14	0,14	0,15	0,15	0,15	0,15	0,15	0,18	0,16	0,18	0,20	0,22	0,21	0,20
1988	0,12	0,13	0,11	0,12	0,12	0,12	0,13	0,14	0,12	0,13	0,14	0,13	0,15	0,15	0,14	0,15	0,15	0,17	0,17	0,17	0,19	0,20	0,18	0,18	0,22	0,23
1989	0,13	0,13	0,13	0,13	0,14	0,14	0,14	0,13	0,14	0,13	0,13	0,15	0,16	0,16	0,17	0,15	0,18	0,19	0,17	0,18	0,21	0,19	0,20	0,21	0,21	0,23
1990	0,15	0,14	0,15	0,15	0,14	0,16	0,15	0,15	0,16	0,17	0,16	0,17	0,16	0,16	0,16	0,19	0,19	0,19	0,19	0,20	0,22	0,21	0,22	0,26	0,24	0,26

Cross sectional variation in Equity to Value (ETV) in 1991

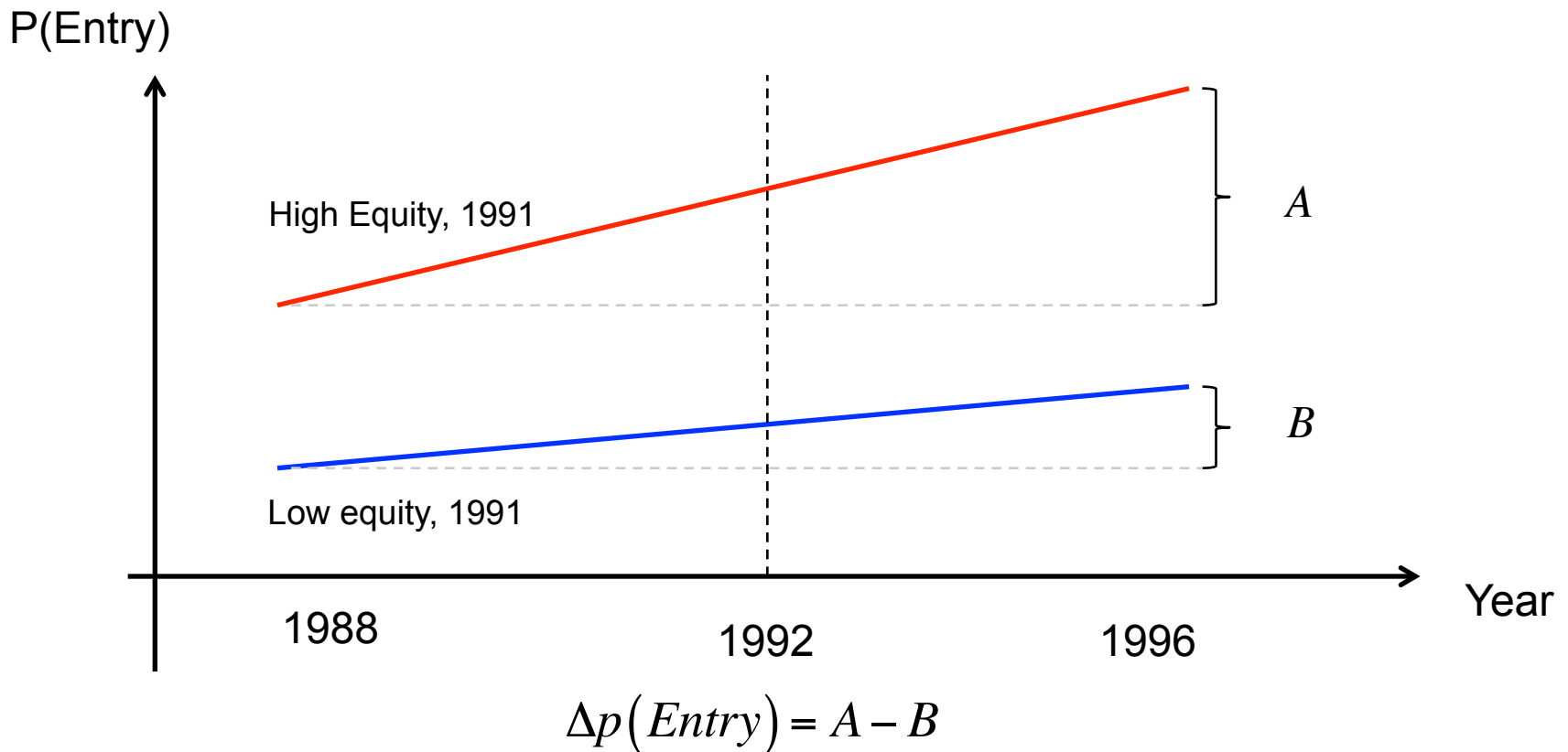
Year of last move	Age in 1991																									
	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
1970 or before																	0,62	0,62	0,62	0,62	0,65	0,65	0,65	0,66	0,67	0,69
1971																	0,59	0,62	0,63	0,62	0,61	0,62	0,62	0,64	0,65	0,68
1972															0,58	0,63	0,59	0,59	0,60	0,61	0,59	0,61	0,60	0,63	0,62	0,64
1973														0,59	0,57	0,58	0,57	0,56	0,57	0,57	0,60	0,59	0,61	0,61	0,63	0,64
1974													0,56	0,54	0,52	0,56	0,55	0,56	0,56	0,55	0,57	0,59	0,58	0,58	0,61	0,62
1975												0,48	0,49	0,47	0,50	0,50	0,49	0,50	0,51	0,52	0,55	0,53	0,55	0,56	0,56	0,58
1976											0,43	0,45	0,41	0,43	0,45	0,44	0,46	0,46	0,49	0,50	0,48	0,50	0,51	0,51	0,54	0,54
1977									0,39	0,38	0,41	0,39	0,42	0,41	0,44	0,45	0,45	0,47	0,47	0,47	0,49	0,49	0,52	0,53	0,53	
1978							0,36	0,38	0,34	0,36	0,37	0,40	0,37	0,39	0,38	0,40	0,41	0,42	0,44	0,43	0,44	0,45	0,47	0,48	0,50	
1979						0,31	0,30	0,32	0,31	0,31	0,31	0,31	0,35	0,35	0,36	0,34	0,34	0,35	0,37	0,38	0,38	0,38	0,41	0,43	0,45	
1980					0,34	0,34	0,31	0,28	0,30	0,29	0,29	0,28	0,32	0,30	0,31	0,32	0,33	0,33	0,36	0,34	0,36	0,35	0,39	0,41	0,38	
1981				0,22	0,28	0,28	0,29	0,28	0,29	0,29	0,30	0,29	0,30	0,33	0,32	0,36	0,36	0,32	0,34	0,37	0,38	0,37	0,40	0,39	0,41	
1982			0,22	0,26	0,26	0,23	0,25	0,25	0,26	0,29	0,27	0,28	0,26	0,28	0,29	0,29	0,29	0,31	0,31	0,30	0,31	0,31	0,33	0,34	0,35	
1983			0,24	0,22	0,23	0,21	0,22	0,22	0,22	0,23	0,23	0,23	0,24	0,22	0,25	0,26	0,24	0,27	0,26	0,26	0,27	0,26	0,29	0,30	0,31	
1984		0,21	0,16	0,17	0,18	0,15	0,16	0,16	0,14	0,17	0,16	0,15	0,18	0,18	0,19	0,17	0,18	0,17	0,19	0,18	0,18	0,20	0,21	0,22	0,21	
1985	0,18	0,17	0,16	0,14	0,15	0,15	0,14	0,14	0,15	0,15	0,14	0,14	0,17	0,16	0,16	0,15	0,16	0,16	0,17	0,18	0,21	0,17	0,20	0,21	0,23	
1986	0,14	0,13	0,13	0,13	0,12	0,12	0,12	0,12	0,11	0,12	0,13	0,13	0,13	0,13	0,14	0,13	0,14	0,14	0,15	0,16	0,16	0,17	0,19	0,18	0,21	
1987	0,14	0,12	0,12	0,12	0,12	0,12	0,12	0,12	0,13	0,13	0,12	0,14	0,14	0,14	0,15	0,15	0,15	0,15	0,15	0,18	0,16	0,18	0,20	0,22	0,21	
1988	0,12	0,13	0,11	0,12	0,12	0,12	0,13	0,14	0,12	0,13	0,14	0,13	0,15	0,15	0,14	0,15	0,15	0,17	0,17	0,17	0,19	0,20	0,18	0,18	0,22	
1989	0,13	0,13	0,13	0,13	0,14	0,14	0,14	0,13	0,14	0,13	0,13	0,15	0,16	0,16	0,17	0,15	0,18	0,19	0,17	0,18	0,21	0,19	0,20	0,21	0,23	
1990	0,15	0,14	0,15	0,15	0,14	0,16	0,15	0,15	0,16	0,17	0,16	0,17	0,16	0,16	0,16	0,19	0,19	0,19	0,19	0,20	0,22	0,21	0,22	0,26	0,24	

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1971																	0,59	0,62	0,63	0,62	0,61	0,62	0,62	0,64	0,65	0,68	
1972																0,58	0,63	0,59	0,59	0,60	0,61	0,59	0,61	0,60	0,63	0,62	0,64
1973															0,59	0,57	0,58	0,57	0,56	0,57	0,57	0,60	0,59	0,61	0,61	0,63	0,64
1974													0,56	0,54	0,52	0,56	0,55	0,56	0,56	0,55	0,57	0,59	0,58	0,58	0,61	0,62	
1975											0,48	0,49	0,47	0,50	0,50	0,49	0,50	0,51	0,52	0,55	0,53	0,55	0,56	0,56	0,58	0,58	
1976										0,43	0,45	0,41	0,43	0,45	0,44	0,46	0,46	0,49	0,50	0,48	0,50	0,51	0,51	0,54	0,54		
1977									0,39	0,38	0,41	0,39	0,42	0,41	0,44	0,45	0,45	0,47	0,47	0,47	0,49	0,49	0,52	0,53	0,53		
1978								0,36	0,38	0,34	0,36	0,37	0,40	0,37	0,39	0,38	0,40	0,41	0,42	0,44	0,43	0,44	0,45	0,47	0,48	0,50	
1979									0,31	0,30	0,32	0,31	0,31	0,31	0,35	0,35	0,36	0,34	0,34	0,35	0,37	0,38	0,38	0,38	0,41	0,43	0,45
1980						0,34	0,34	0,31	0,28	0,30	0,29	0,29	0,28	0,32	0,30	0,31	0,32	0,33	0,33	0,36	0,34	0,36	0,35	0,39	0,41	0,38	
1981				0,22	0,28	0,28	0,28	0,28	0,29	0,29	0,30	0,29	0,30	0,33	0,32	0,36	0,36	0,36	0,32	0,34	0,37	0,38	0,37	0,40	0,39	0,41	
1982				0,22	0,26	0,26	0,23	0,25	0,25	0,26	0,29	0,27	0,28	0,26	0,28	0,29	0,29	0,29	0,31	0,31	0,30	0,31	0,31	0,33	0,34	0,35	
1983			0,24	0,22	0,23	0,21	0,22	0,22	0,22	0,23	0,23	0,23	0,23	0,24	0,22	0,25	0,26	0,24	0,27	0,26	0,26	0,27	0,26	0,29	0,30	0,31	
1984		0,21	0,16	0,17	0,18	0,15	0,16	0,16	0,14	0,17	0,16	0,15	0,18	0,18	0,19	0,17	0,18	0,17	0,19	0,18	0,18	0,20	0,21	0,22	0,21	0,22	
1985	0,18	0,17	0,16	0,14	0,15	0,15	0,14	0,14	0,15	0,15	0,14	0,14	0,17	0,16	0,16	0,15	0,16	0,16	0,17	0,18	0,21	0,17	0,20	0,21	0,21	0,23	
1986	0,14	0,13	0,13	0,13	0,12	0,12	0,12	0,12	0,11	0,12	0,13	0,13	0,13	0,13	0,14	0,13	0,14	0,14	0,15	0,16	0,16	0,17	0,19	0,18	0,20	0,21	
1987	0,14	0,12	0,12	0,12	0,12	0,12	0,12	0,12	0,13	0,13	0,12	0,14	0,14	0,14	0,15	0,15	0,15	0,15	0,15	0,18	0,16	0,18	0,20	0,22	0,21	0,20	
1988	0,12	0,13	0,11	0,12	0,12	0,12	0,13	0,14	0,12	0,13	0,14	0,13	0,15	0,15	0,14	0,15	0,15	0,17	0,17	0,17	0,19	0,20	0,18	0,18	0,22	0,23	
1989	0,13	0,13	0,13	0,13	0,14	0,14	0,14	0,13	0,14	0,13	0,13	0,15	0,16	0,16	0,17	0,15	0,18	0,19	0,17	0,18	0,21	0,19	0,20	0,21	0,21	0,23	
1990	0,15	0,14	0,15	0,15	0,14	0,16	0,15	0,15	0,16	0,17	0,16	0,17	0,16	0,16	0,16	0,19	0,19	0,19	0,19	0,20	0,22	0,21	0,22	0,26	0,24	0,26	

Method

Compare propensity to start firm in the period 1988-1996 for persons with a lot of equity (Equity-To-Value: ETV>25%) to people with little equity in 1991



B: increase rooted in other factors, f ex. demand or house prices \uparrow

Agenda

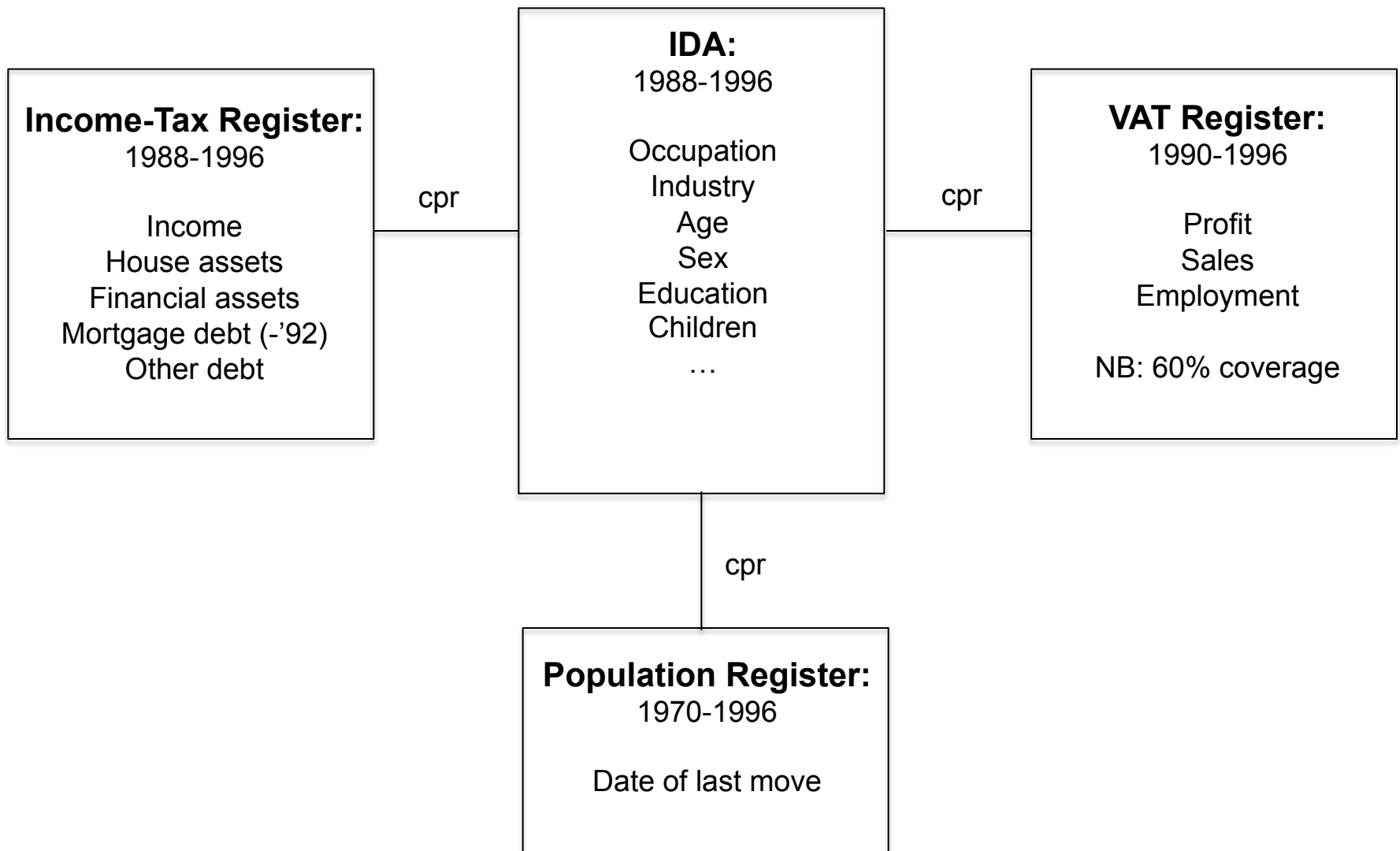
I. Identification Strategy

II. Data

III. Results

IV. Conclusions

Micro data from Danish registers



Sample

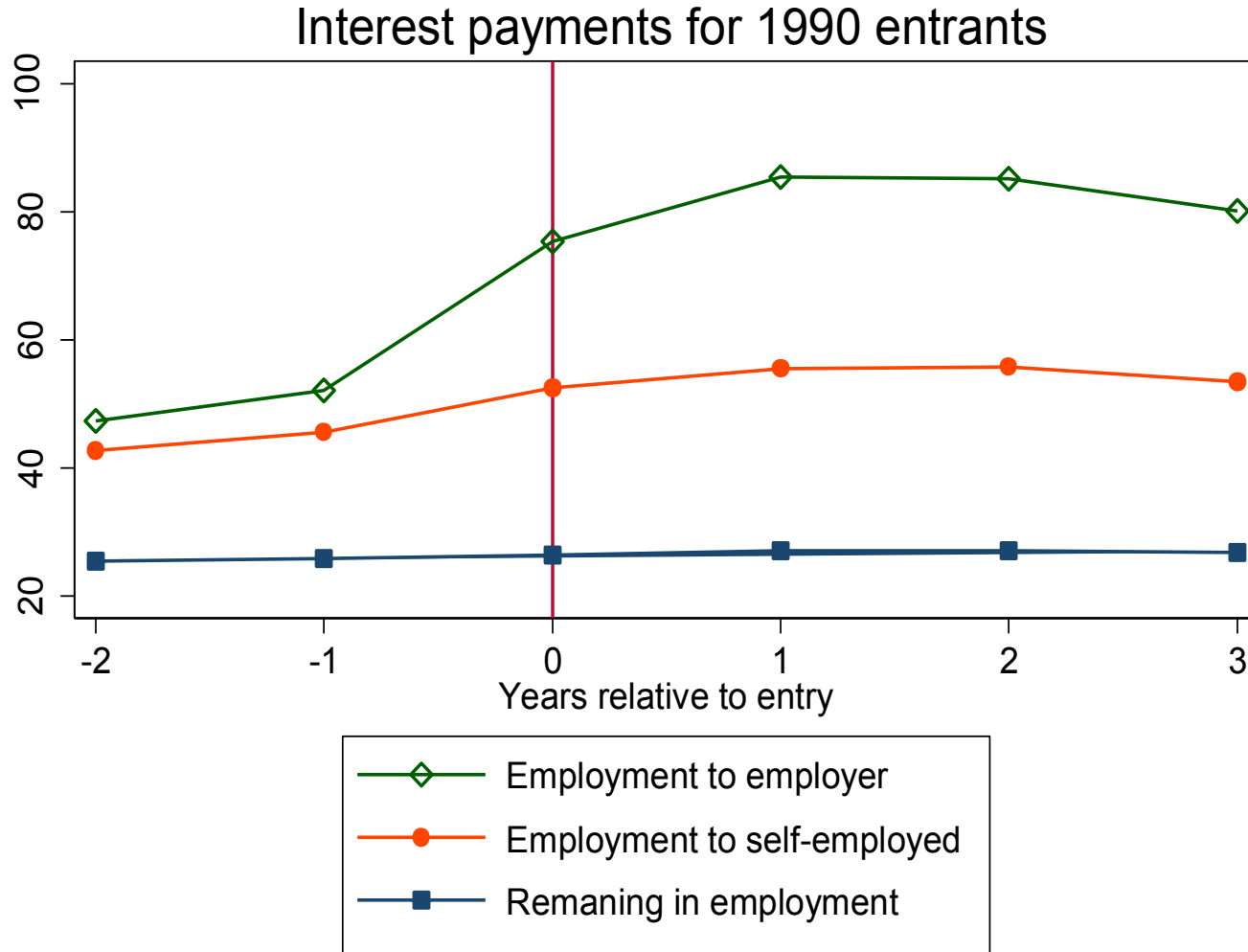
- Restrict to those aged 25-50 in 1991 and not working in the agricultural sector
 - Ensure not capturing retirement into entrepreneurship
 - Farming is subject to subsidies and other drivers that are quite distinct
- Focus on those who are home owners in 1991
 - Need this for our identification strategy
- 25% random sample

Definition of Entrepreneurship

- Look at those who have at least one employee
 - Focus on those who are employers rather than self employed
 - Likely to capture serious entrepreneurs and not those setting up tax shelters or working as part time consultants, also less likely to capture “necessity entrepreneurs”
 - Those who need credit the most

Definition of Entrepreneurship

Increase in Debt at Founding



Definition of Entrepreneurship

- Look at those who have at least one employee
 - Focus on those who are employers rather than self employed
 - Likely to capture serious entrepreneurs and not those setting up tax shelters or working as part time consultants, also less likely to capture “necessity entrepreneurs”
 - Those who need credit the most

- Look at two measures of entrepreneurship
 - Being an entrepreneur: Indicator =1 if maintain an active firm in period t
 - Becoming an entrepreneur: Indicator = 1 if start an active firm in period t but was not a firm owner in t-1

Summary Statistics: Entrepreneurship

	Stock of entrepreneurs			Transition into entrepreneurship		
	Total sample	Employers	Employer share of total	Potential Entrants	New Entrants	Transition probability
1988	300.758	9.183	3,05%	290,851	1,633	0.56%
1989	301.453	9.380	3,11%	291,332	1,549	0.53%
1990	302.445	9.279	3,07%	292,073	1,579	0.54%
1991	303.431	8.949	2,95%	293,166	1,773	0.60%
1992	302.283	9.651	3,19%	293,355	2,397	0.82%
1993	301.129	9.590	3,18%	291,497	1,517	0.52%
1994	300.057	9.615	3,20%	290,328	1,521	0.52%
1995	299.109	9.655	3,23%	289,260	1,360	0.47%
1996	298.227	9.774	3,28%	288,255	1,300	0.45%
Total	2.708.892	85.076	3,14%	2,620,117	14,629	0.56%

Summary Statistics:

Sample Population

	All	Treated (ETV \geq 0.25)	Control (ETV $<$ 0.25)
Year of house purchase	1982	1979	1985
Age	38.7	41.6	36.4
Female=1	0.51	0.53	0.49
Partner=1	0.88	0.89	0.87
Kids=1	0.64	0.61	0.66
Educ, Vocational,	0.47	0.48	0.47
Educ, BSc	0.15	0.14	0.15
Educ, MSc, PhD	0.05	0.04	0.06
Total Assets, tDKK	850,170	912,404	801,734
Housing assets, tDKK	770,560	818,330	733,381
Non-Housing assets, tDKK	79,610	94,074	68,353
Observations	303,431	132,799	170,632

Agenda

I. Identification Strategy

II. Data

III. Results

a. Debt extraction

b. Net

c. Entry

d. Survival

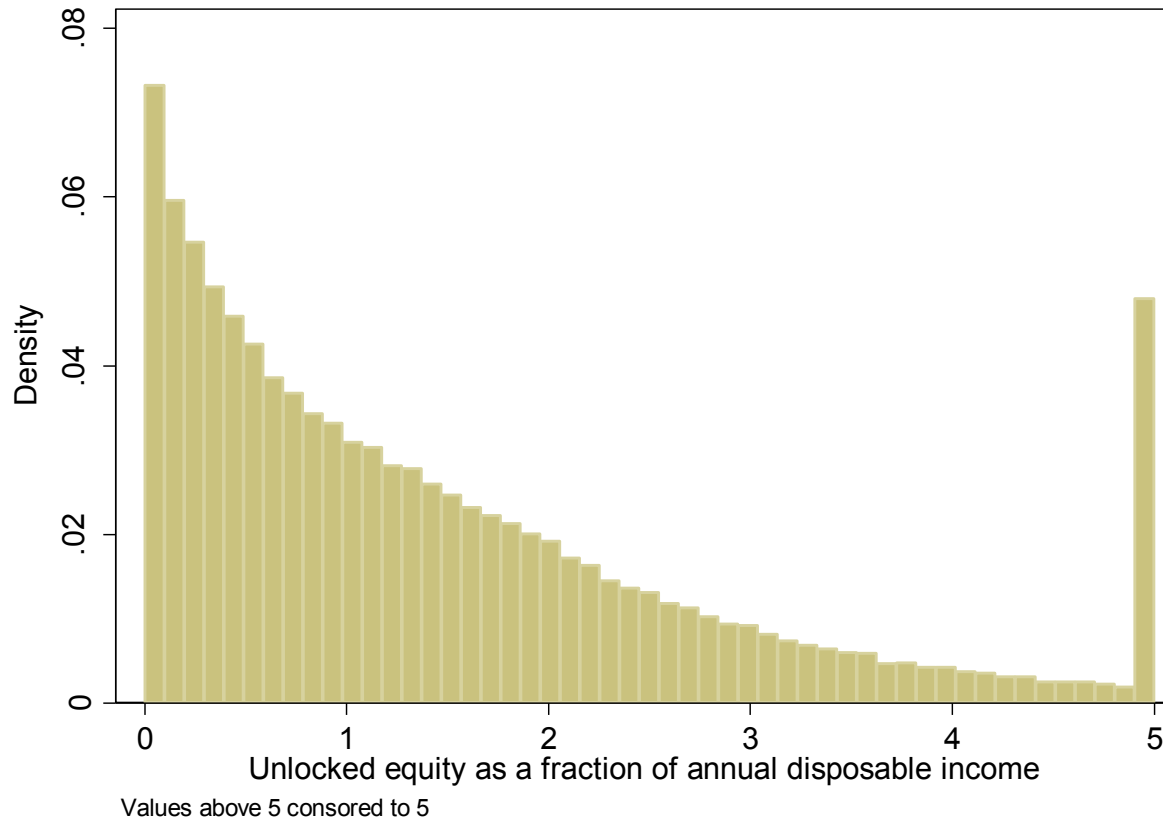
IV. Conclusions

Unlocked equity was substantial

- 53% of the individuals in our sample received some form of treatment
 - Treatment is defined as ETV in 1991 being greater than 0.25
- Conditional on treatment, amount of credit that could be extracted was substantial
 - Average amount unlocked was 200,000DKK (~\$ 34,000/27,000€)
 - Median amount unlocked was equivalent to 1 years income

Unlocked equity

Distribution of unlocked equity for $ETV > 0.2$ (relative to disposable income)



Debt extraction following reform

Total Interest Payments

	2 ETV groups					
	(1)		(2)		(3)	
Effect of reform, (ETV91>0.25)	3,318	***	3,335	***	3,288	***
	(249)		(229)		(228)	
Covariates-year fixed effects	Yes		Yes		Yes	
Municipality-year fixed effects	No		Yes		Yes	
Industry-year fixed effects	No		Yes		Yes	
Individual fixed effect	No		No		Yes	
Observations	2.708.881		2.708.881		2.708.881	

Debt extraction following reform

Total Interest Payments

	2 ETV groups					
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Municipality-year fixed effects	No		Yes		Yes	
Industry-year fixed effects	No		Yes		Yes	
Individual fixed effect	No		No		Yes	
Observations	2.708.881		2.708.881		2.708.881	

Corresponds to an average debt increase of about 37,000DKK = 6,300\$

NB: few take out, i.e. much higher conditional on taking out

Net entrepreneurship

Impact on net entrepreneurship

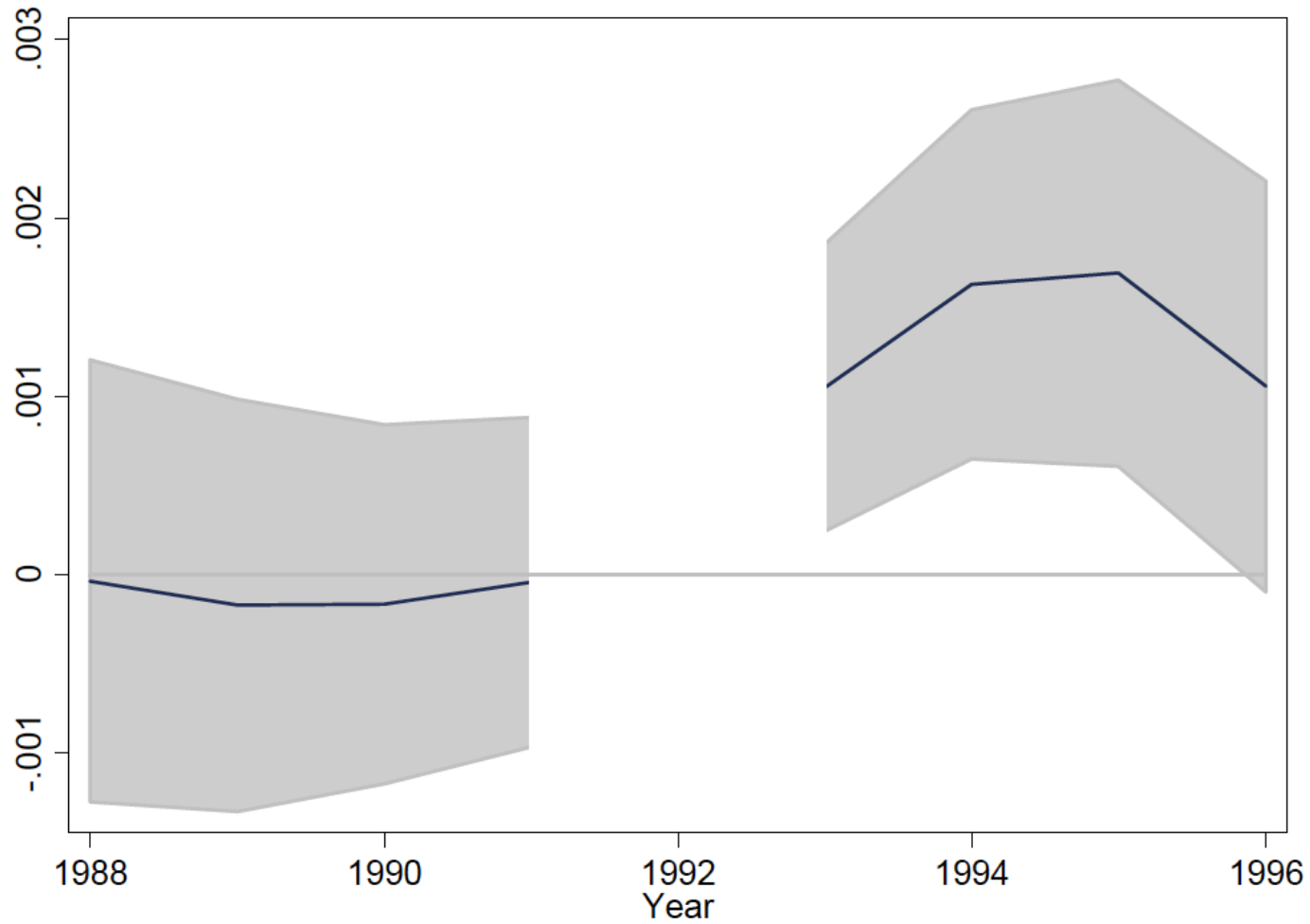
	2 ETV groups					
	(1)		(2)		(3)	
Effect of reform, (ETV91>0.25)	0.00125	**	0.00124	**	0.00129	**
	(0.00047)		(0.00047)		(0.00047)	
Covariates-year fixed effects	Yes		Yes		Yes	
Municipality-year fixed effects	No		Yes		Yes	
Industry-year fixed effects	No		Yes		Yes	
Individual fixed effect	No		No		Yes	
Observations	2.708.892		2.708.892		2.708.892	

Impact on net entrepreneurship

	2 ETV groups					
	(1)		(2)		(3)	
Effect of reform, (ETV91>0.25)	0.00125	**	0.00124	**	0.00129	**
	(0.00047)		(0.00047)		(0.00047)	
Covariates-year fixed effects	Yes		Yes		Yes	
Municipality-year fixed effects	No		Yes		Yes	
Industry-year fixed effects	No		Yes		Yes	
Individual fixed effect	No		No		Yes	
Observations	2.708.892		2.708.892		2.708.892	

4% increase in entrepreneurship

Dynamic specification



Impact on net entrepreneurship

4 ETV groups

	4 ETV groups					
	(4)		(5)		(6)	
Effect of reform, ETV91(.25-.50]	0.00081 (0.00058)		0.00073 (0.00058)		0.00082 (0.00058)	
Effect of reform, ETV91(.50-.75]	0.00159 (0.00066)	*	0.00170 (0.00066)	**	0.00176 (0.00065)	**
Effect of reform, ETV91(.75-1.0]	0.00169 (0.00072)	*	0.00165 (0.00073)	*	0.00161 (0.00072)	*
Covariates-year fixed effects	Yes		Yes		Yes	
Municipality-year fixed effects	No		Yes		Yes	
Industry-year fixed effects	No		Yes		Yes	
Individual fixed effect	No		No		Yes	
Observations	2.708.892		2.708.892		2.708.892	

Impact on net entrepreneurship

4 ETV groups

	4 ETV groups					
	(4)		(5)		(6)	
Effect of reform, ETV91(.25-.50]	0.00081 (0.00058)		0.00073 (0.00058)		0.00082 (0.00058)	
Effect of reform, ETV91(.50-.75]	0.00159 (0.00066)	*	0.00170 (0.00066)	**	0.00176 (0.00065)	**
Effect of reform, ETV91(.75-1.0]	0.00169 (0.00072)	*	0.00165 (0.00073)	*	0.00161 (0.00072)	*
Covariates-year fixed effects	Yes		Yes		Yes	
Municipality-year fixed effects	No		Yes		Yes	
Industry-year fixed effects	No		Yes		Yes	
Individual fixed effect	No		No		Yes	
Observations	2.708.892		2.708.892		2.708.892	

5% increase in entrepreneurship for ETV (0.75-1.0]

325,000 ≈ 55,000\$ credit released

It takes a lot of housing collateral to generate firms

Entry of new firms

Entry of new firms

Linear probability models where dependent variable = 1 if enter in year t

	2 ETV groups					
	(1)		(2)		(3)	
Effect of reform, I(ETV91>0.25)	0.00067	***	0.00063	***	0.00062	**
	(0.00019)		(0.00019)		(0.00019)	
Covariates-year fixed effects	Yes		Yes		Yes	
Municipality-year fixed effects	No		Yes		Yes	
Industry-year fixed effects	No		Yes		Yes	
Individual fixed effect	No		No		Yes	
Observations	2.708.892		2.708.892		2.708.892	

Entry of new firms

Linear probability models where dependent variable = 1 if enter in year t

	2 ETV groups					
	(1)		(2)		(3)	
Effect of reform, $I(ETV91 > 0.25)$	0.00067	***	0.00063	***	0.00062	**
	(0.00019)		(0.00019)		(0.00019)	
Covariates-year fixed effects	Yes		Yes		Yes	
Municipality-year fixed effects	No		Yes		Yes	
Industry-year fixed effects	No		Yes		Yes	
Individual fixed effect	No		No		Yes	
Observations	2.708.892		2.708.892		2.708.892	

10% increase in entry

Entry of new firms

High vs. low capital intensity

	High	Low	High	Low
	(1)	(2)	(3)	(4)
Effect of reform, I(ETV91>0.25)	0.00045 ***	0.00018		
	(0.00013)	(0.00014)		
Effect of reform, ETV91(.25-.50]			0.00029	0.00007
			(0.00016)	(0.00017)
Effect of reform, ETV91(.50-.75]			0.00030	0.00019
			(0.00018)	(0.00019)
Effect of reform, ETV91(.75-1.0]			0.00092 ***	0.00037
			(0.00022)	(0.00020)
Covariates-year fixed effects	Yes	Yes	Yes	Yes
Municipality-year fixed effects	Yes	Yes	Yes	Yes
Industry-year fixed effects	Yes	Yes	Yes	Yes
Individual fixed effect	Yes	Yes	Yes	Yes
Observations	2.708.892	2.708.892	2.708.892	2.708.892

Entry of new firms

High vs. low capital intensity

	High		Low		High		Low
	(1)		(2)		(3)		(4)
Effect of reform, I(ETV91>0.25)	0.00045	***	0.00018				
	(0.00013)		(0.00014)				
Effect of reform, ETV91(.25-.50]					0.00029		0.00007
					(0.00016)		(0.00017)
Effect of reform, ETV91(.50-.75]					0.00030		0.00019
					(0.00018)		(0.00019)
Effect of reform, ETV91(.75-1.0]					0.00092	***	0.00037
					(0.00022)		(0.00020)
Covariates-year fixed effects	Yes		Yes		Yes		Yes
Municipality-year fixed effects	Yes		Yes		Yes		Yes
Industry-year fixed effects	Yes		Yes		Yes		Yes
Individual fixed effect	Yes		Yes		Yes		Yes
Observations	2.708.892		2.708.892		2.708.892		2.708.892

Type of entry

	Survival	
	≥ 3 years	< 3 years
	(1)	(2)
Effect of reform, (ETV91>0.25)	0.00017 (0.00014)	0.00048 *** (0.00013)
Covariates-year fixed effects	Yes	Yes
Municipality-year fixed effects	Yes	Yes
Industry-year fixed effects	Yes	Yes
Individual fixed effect	Yes	Yes
Observations	2.708.892	2.708.892

Type of entry

	Survival		Experience in entering industry	
	≥ 3 years	< 3 years	Exp	No Exp
	(1)	(2)	(5)	(6)
Effect of reform, (ETV91>0.25)	0.00017 (0.00014)	0.00048 *** (0.00013)	0.00001 (0.00014)	0.00062 *** (0.00014)
Covariates-year fixed effects	Yes	Yes	Yes	Yes
Municipality-year fixed effects	Yes	Yes	Yes	Yes
Industry-year fixed effects	Yes	Yes	Yes	Yes
Individual fixed effect	Yes	Yes	Yes	Yes
Observations	2.708.892	2.708.892	2.708.892	2.708.892

Type of entry

	Survival		Experience in entering industry	
	≥ 3 years	< 3 years	Exp	No Exp
	(1)	(2)	(5)	(6)
Effect of reform, (ETV91>0.25)	0.00017 (0.00014)	0.00048 *** (0.00013)	0.00001 (0.00014)	0.00062 *** (0.00014)
Covariates-year fixed effects	Yes	Yes	Yes	Yes
Municipality-year fixed effects	Yes	Yes	Yes	Yes
Industry-year fixed effects	Yes	Yes	Yes	Yes
Individual fixed effect	Yes	Yes	Yes	Yes
Observations	2.708.892	2.708.892	2.708.892	2.708.892

Summary entering firms:

Capital intensive

Survive <3 years

No prior experience

Type of entry

Cumulative outcome in first three years after entry

	All entries		Survived ≥ 3 years	
	(1)	(2)	(3)	(4)
Panel A: Value Add				
Effect of reform, (ETV91>0.25)	-204 *	-192 *	-212	-231
	-(89)	-(92)	-(148)	-(160)
Panel B: Sales				
Effect of reform, (ETV91>0.25)	-330	-251	-76	190
	-(329)	-(334)	-(590)	-(614)
Panel C: Employment				
Effect of reform, (ETV91>0.25)	-1.21 *	-1.09 *	-0.99	-0.57
	-(0.51)	-(0.52)	-(0.89)	-(0.95)
Individual controls	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Municipality fixed effects	No	Yes	No	Yes
Observations	7.089	7.089	3.489	3.489

Type of entry

Cumulative outcome in first three years after entry

	All entries		Survived ≥ 3 years	
	(1)	(2)	(3)	(4)
Panel A: Value Add				
Effect of reform, (ETV91>0.25)	-204 *	-192 *	-212	-231
	-(89)	-(92)	-(148)	-(160)
Panel B: Sales				
Effect of reform, (ETV91>0.25)	-330	-251	-76	190
	-(329)	-(334)	-(590)	-(614)
Panel C: Employment				
Effect of reform, (ETV91>0.25)	-1.21 *	-1.09 *	-0.99	-0.57
	-(0.51)	-(0.52)	-(0.89)	-(0.95)
Individual controls	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Municipality fixed effects	No	Yes	No	Yes
Observations	7.089	7.089	3.489	3.489

Type of entry

Cumulative outcome in first three years after entry

	All entries		Survived ≥ 3 years	
	(1)	(2)	(3)	(4)
Panel A: Value Add				
Effect of reform, (ETV91>0.25)	-204 *	-192 *	-212	-231
	-(89)	-(92)	-(148)	-(160)
Panel B: Sales				
Effect of reform, (ETV91>0.25)	-330	-251	-76	190
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	-(0.51)	-(0.52)	-(0.89)	-(0.95)
Individual controls	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Municipality fixed effects	No	Yes	No	Yes
Observations	7.089	7.089	3.489	3.489

Summary entering firms:
Worse performance
Lower quality than incumbents

Agenda

I. Identification Strategy

II. Data

III. Results

IV. Conclusions

Conclusions

- 1992 mortgage reform change screening procedure
 - Reform introduced home equity loans for the first time
 - Changed screening from focus on profitability to focus on collateral
 - Has potential to change composition, but how depends on quality of bank screening
- Results
 - Entry: increase 10% - mainly in capital intensive industries, but **marginal entrant weaker**
 - Survival: increase 5% - **no better performance**, but some may survive
 - Net entrepreneurship: increase 4%
- Collateral constraints were binding, but effects relatively small
- Banks appeared to do a good job at screening before the reform
 - Some firms survive longer
 - Reform allow people to start low quality businesses
 - ⇒ **bank screening worked well**