Household Inequality, Corporate Capital Structure and Entrepreneurial Dynamism

Fabio Braggion
CentER - Tilburg University

Department of Finance
PO Box 90153, NL 5000 LE Tilburg, The Netherlands
Telephone: +31 13 4668209, Fax: +31 13 4662875
E-mail: f.braggion@uvt.nl

Mintra Dwarkasing *
CentER - Tilburg University

Department of Finance
PO Box 90153, NL 5000 LE Tilburg, The Netherlands
Telephone: +31 13 4668209, Fax: +31 13 4662875
E-mail: m.s.d.dwarkasing@uvt.nl

Steven Ongena
University of Zürich, *SFI* and *CEPR*

Department of Banking and Finance
University of Zürich (UZH)
Plattenstrasse 32, CH-8032 Zürich, Switzerland
E-mail: steven.ongena@bf.uzh.ch

This Draft: April 2014

* Corresponding author. We thank Marco Da Rin and Fabiana Penas for very valuable discussions. We also like to thank the *Kauffman Foundation* for providing access to its Firm Survey. The *Netherlands Organisation for Scientific Research* (*NWO*) generously supported Dwarkasing through its Mosaic Grant Program during the writing of this paper.

Household Inequality, Corporate Capital Structure and Entrepreneurial Dynamism

Abstract

We empirically test hypotheses emanating from recent theory showing how household wealth inequality may determine corporate financing and entrepreneurial dynamism. We employ a historic measure of wealth inequality, i.e., the distribution of land holdings at the US county level in 1890, and saturate specifications with comprehensive sets of fixed effects and characteristics. The estimated coefficients suggest that county-level wealth inequality robustly increases sole-ownership and the proportion of equity, family and bank financing, yet decreases angel and venture capital financing. Inequality further reduces the likelihood local firms are high-tech and depresses various other measures of entrepreneurial dynamism.

(96 words)

Keywords: inequality, corporate financing, entrepreneurship.

JEL: D31, G3, L26.

I. Introduction

Inequality between households in income and wealth is a defining societal characteristic. Concerns about its potential growth during recent decades have brought this issue back to the top of the agenda of policymakers and social leaders in many Western economies. In his agenda-setting Speech on Economic Mobility on December 4th, 2013, President Obama for example called lack of societal mobility and growing inequality "the defining challenge of our time", while in her Speech on Stability and Growth for Poverty Reduction at the Bretton Woods Committee Annual Meeting on May 15, 2013, IMF Managing Director Lagarde called inequality a "growing concern for policymakers around the world". And in his very first apostolic exhortation in November 2013 also Pope Francis took aim at modern capitalism for encouraging "idolatry of money" and growing inequality in the world.

With recent academic work consequently revisiting the defining, measuring, analysing and potentially explaining of the growth in household inequality (Chetty, Hendren, Kline and Saez (2014); Chetty, Hendren, Kline, Saez and Turner (2014)), policymaker and academic interest has also turned to the possible social and economic consequences of inequality. Bank of India Governor Rajan for example in an earlier book argued that faced with a declining (share of) income and in order to keep up their spending, middle-class households in the US started to borrow more against their real-estate property, and abetted by the financial sector in the process created the house price bubble (Rajan (2010)).

Recent economic theory also directly links the degree of wealth inequality to financial outcomes. Perotti and von Thadden (2006) for example build a model in which the median voter in an unequal society only owns her non-diversifiable human capital. As a result, she may prefer a financial system dominated by family and bank, "institutions" with whom she shares her aversion to risk. In more equal societies, the median voter may also own

diversifiable financial wealth, and may prefer a system that also relies on equity financing and is characterized by risk-taking dynamism (see also Rajan and Ramcharan (2011)).

In this paper we assess the salient hypotheses emanating from this modelling by relating local wealth inequality to local corporate ownership, financing and type, and to entrepreneurial dynamism. Identifying the effect of inequality on these corporate outcomes presents us with a steep empirical challenge, because these and other corporate outcomes themselves (such as the local ease to start a *de novo* firm and the resultant distribution of profits) could easily determine local income and wealth inequality at the household level. We especially focus on start-up firms: first, their financing is more likely to depend upon local credit market conditions (Gilje (2012); Berger, Cerqueiro and Penas (2014)); second, it allows us to precisely identify entrepreneurial dynamics, as we can observe technology and production choices at the very beginning of the firm's life cycle.

To identify the effect of inequality on corporate outcomes we first of all rely on a historic measure of wealth inequality, i.e., the distribution of land holdings at the US county level in 1890 (*sic*), a measure which given its historic nature is strappingly pre-determined. To construct the Gini-coefficient of land holdings in 1890, we access the US Census of Agriculture dataset that contains the size and number of plantations in all counties recorded every ten years since 1860 (due to missing observations for counties in Oklahoma the state-level coefficient has to be used).

For our unique measure to be able to deliver it has to be true that counties with a more unequal land distribution in 1890 are also those that are characterized by a higher wealth inequality today. While reliable wealth inequality data at the county level simply does not exist, at the (more aggregated) state level Lagerlöf (2005) and Nunn (2008b) for example

show that economic inequality in the Nineteenth Century and Twentieth Century are positively and significantly correlated.

Given that our measure of wealth inequality is at the county level (and also knowing where the firms are precisely located) and to account for any unobserved heterogeneity at the state, year, industry, state-year and industry-year level that would affect our estimates, as a second crucial ingredient in our identification strategy we load in all relevant combinations of State, Year, Industry, State * Year and/or Industry * Year Fixed Effects. We further control for a large number of salient firm, main owner, county and state characteristics taken from the Kauffmann Survey of Business Formation and the Panel Data of Entrepreneurial Dynamics, among other datasets, which are also used to construct our dependent outcome variables of interest.

Even after saturating specifications with these aforementioned dense sets of fixed effects and characteristics, the estimated coefficients robustly suggest that county-level wealth inequality increases the likelihood that a firm is a sole-proprietorship and boosts its proportion of equity, family and bank financing (the latter to both owner or firm). Angel and venture capital financing on the other hand strikingly decreases in inequality, and so does the likelihood that newly created firms are high-tech. Various other measures of firm dynamism such as the presence of entrepreneurs in the county that enjoy uncertainty or that are working on another start-up (following a recorded previous attempt) are similarly decreasing in county inequality. Important for our identification strategy, we also notice that including controls in our regressions, makes the relationships between wealth inequality and entrepreneurial outcomes stronger rather than weaker. To the extent that firms and state/county unobservables characteristics are correlated to our controls, it appears that endogeneity works against finding

any link between wealth inequality and start-up capital structure and technology choices (Altonji, Elder and Taber (2005); Bellows and Miguel (2006); Bellows and Miguel (2009)).

These estimates are not only statistically significant, but also economically relevant. A one standard deviation increase in county-level wealth inequality for example increases the likelihood of a sole proprietorship is locally present by 9 percent (of its own standard deviation). Similarly constructed semi-elasticities for the effect of inequality on equity, family and bank financing to owner or firm equal 11, 20, 28 and 20 percent, respectively. Angel and venture capital financing on the other hand decreases by up to 29 percent in inequality, and the likelihood that newly created firms are high-tech by up to 14 percent.

In sum, our findings vividly demonstrate the importance of inequality for corporate outcomes, and not only contribute to the already-cited literature that specifically links wealth inequality with firm ownership, financing and entrepreneurial dynamism, but also contributes directly to our understanding of all relevant factors shaping such outcomes. In his Opus entitled "The Theory of Economic Development," Joseph Schumpeter stated that "an individual can only become an entrepreneur by previously becom[ing] a debtor" (Schumpeter (1934), p. 102).

While this Schumpeterian notion of creative destruction has received ample attention in the literature, detailed analyses of young entrepreneurs' financing, and especially the local conditions determining it, seem still mostly missing. Our estimates on this account demonstrate that local conditions are very important in determining the type and amount of financing entrepreneurs receive and that local wealth inequality, and possibly related the quality of local institutions, may shape creative destruction. Our work in this sense also contributes to a larger literature that investigates the salient long-term determinants of

economic growth and development (Engerman and Sokoloff (1997); Acemoglu, Johnson and Robinson (2001); Acemoglu, Johnson and Robinson (2002); Engerman and Sokoloff (2002); Nunn (2008a)).

The rest of the paper is organized as follows. Section II discusses the testable hypotheses and introduces in more detail our measure of wealth inequality. Section III discusses the results on local wealth inequality and firm ownership, financing and type and type, while Section IV links local wealth inequality and entrepreneurial dynamism. Section V concludes.

II. Inequality and Corporate Outcomes

A. Testable Hypotheses

In general thinking about how wealth inequality between individuals may eventually determine corporate financing (and also entrepreneurial dynamism) starts from the premise that individuals are generally risk-averse and will "choose" (i.e., "vote for" in a society that has a direct voting mechanism) those institutions that best represent their claims in companies (see Perotti and von Thadden (2006)). In addition to their human capital that is commonly distributed yet inherently non-diversifiable, wealthy individuals may also own diversifiable financial wealth.

Now, wealth may be distributed unequally among individuals, i.e., many individuals including the so-called "median voter" then own mainly non-diversifiable human capital. If "banks" are more risk-averse than the "equity market", the median voter with mainly non-diversifiable human capital will opt for banks. If wealth is distributed more equally among individuals, on the other hand, the median voter is more likely to also own financial wealth in

addition to her human capital and is more likely to vote for the equity market. The "family" as a saving mechanism is also typically considered to be more risk averse than the equity market.

Within this framework we can therefore derive ten testable hypotheses concerning the effect of wealth inequality on corporate financing and entrepreneurial dynamism:

Hypothesis 1: As proprietorships are often characterized by concentrated ownership and usually are family owned, the likelihood that a start-up is a sole proprietorship as opposed to any other type of firm will be increasing in county inequality.

Hypothesis 2: Greater wealth inequality will force firm owners to invest a larger fraction of own funds into the new business. *Hence, greater wealth inequality will lead to, ceteris paribus, owner equity being a greater fraction of total financing.*

Hypothesis 3: As 'the family' typically is considered to be a more risk averse source of financing compared to the 'outside' equity market, greater wealth inequality will lead to, ceteris paribus, firm family financing to be a greater fraction of total financing. Entrepreneurs will be forced to rely on internal equity, obtained from amongst others family because the supply of outside equity will be hampered in more unequal societies.

Hypothesis *4: Greater wealth inequality will lead to, ceteris paribus, equity obtained from angels and venture capitalists to be a smaller fraction of total financing.* The intuition behinds this hypothesis is as follows; Angels and venture capitalists are residual claimants on the profits a firm makes and therefore can be considered to induce risk taking more compared to banks, something that contradicts with the preferences of the median voter when she mainly owns non-diversifiable human capital. As a consequence equity markets will be less developed when inequality is greater, making the supply of angel and venture capital less prevalent in counties with larger inequality.

When wealth is distributed unequally the median voter will primarily own non-diversifiable human capital. Assuming that banks are more risk-averse than the equity market, the median voter in this case will opt for banks, resulting in a greater supply of bank funding.

Hypothesis 5a: Greater wealth inequality will lead, ceteris paribus, firm owners' personal bank financing to be a larger fraction of total financing.

Hypothesis 5b: Greater wealth inequality will lead, ceteris paribus, firm total bank financing to be a larger fraction of total financing.

Hypothesis 6: As banks can be conservative in their lending it can be difficult for less conservative businesses such as high technology firms to obtain such financing. We therefore expect to see less high technology start-ups when county inequality is larger and bank financing becomes more prevalent. *Hence, the probability that a new business venture will be a high tech firm will, ceteris paribus, decrease in county inequality.*

Relating the above existing literature and models of inequality to entrepreneurial dynamics we are able to form the following hypotheses:

When wealth is distributed unequally the median voter will mainly own non-diversifiable human capital and will vote for systems that align best with these interests. As a consequence we will observe a more conservative approach to investments and less risky corporate strategies. Interpreting this broadly we can therefore expect that:

Hypothesis 7a: *Greater wealth inequality makes young entrepreneurs, ceteris paribus, enjoy uncertainty less.*

Hypothesis 7b: Given that starting up a new business venture can be risky, *the probability that young entrepreneurs are working on another start-up following a recorded previous*

attempt will decrease in county inequality. This is in line with the general expectation that in more unequal societies there will be a more conservative approach to investments.

Hypothesis 8: The costs of innovation can be substantial, although its benefits can be rather uncertain. We therefore expect, in line with the expectation of less risky corporate strategies, *that the probability to not engage in product innovation is increasing in county inequality*.

Hypothesis 9: When there already are a lot of similar firms in the market and competition is fierce young firms run a larger ex ante risk of not surviving. Contrary, when a young firm expects to cater a niche in the market it is more likely to be successful. We therefore expect *that young entrepreneurs' positive assessment of whether there already are a lot of firms offering the same product or services decreases when wealth inequality is greater*.

Hypothesis 10: As the benefits from high technology intensive firms can be rather uncertain at the start we hypothesize, in line with the expectation that in more unequal counties corporate strategies will be less risky, that *the likelihood that a young firm will be of a high tech character will decrease in county inequality*.

To summarize: The amount of 'inside' equity will be increasing in wealth inequality (*H1*, *H2*, *H3*), whereas the amount of 'outside' equity will be decreasing in it (*H4*). The amount of bank financing will be increasing in local inequality (*H5a* and *b*), yet a greater prevalence of bank financing can have side effects. We expect the probability that a new business venture will be a high tech firm will, ceteris paribus, decrease in county inequality (*H6*). In counties where local inequality is larger we expect to observe a more conservative approach to investments (*H7a* and *b*, *H9*). And similarly we expect to observe less risky corporate strategies in more unequal counties (*H8*, *H10*).

B. Measuring Wealth Inequality

Given the fact that it is not possible to obtain representative measures of wealth inequality at the county level (such measures simply do not exist), we resort to history to obtain a unique proxy for wealth inequality in US counties.

To construct our measure of wealth inequality we obtain information on historical farm land sizes at the county level from the 1890 US Census. More precisely, for each county we have information on the total number of farms that – based upon their total acres of farm land – fall in a certain size bin. Farms are assigned to one of the following seven bins: Under 10 acres, from 10 to 19 acres, 20 to 49 acres, 50 to 99 acres, 100 to 499 acres, 500 to 999 acres, and 1,000 or more acres.

First, we assume that the lower bound farm size of each bin is the average farm size of all the farms in this bin (for the first bin we set the lower bound equal to 0.001). Next, we use these lower bounds to calculate a county Gini coefficient in a similar way as in Rajan and Ramcharan (2011) for example, by using the formula introduced by Atkinson (1970):

$$Gini = 1 + \frac{1}{n} - [\frac{2}{m*n^2}] \sum_{i=1}^{n} (n - i + 1) y_i,$$

where m is the mean farm size, n the total number of farms and y_i each farm ranked in ascending order, in line with Rajan and Ramcharan (2011).

Notice that we are not able to calculate a Gini coefficient for those counties that became incorporated after 1890, as the information on 1890 farm size distribution is unavailable. For these counties we manually look up the 1890 counties which these missing counties were part of before incorporation and take (simple) averages of the corresponding Gini coefficients. As the entire state of Oklahoma was incorporated well after 1890 (in 1907) we only have information on those few counties (8) that existed when it was still a territory. Based upon the

information from these counties we construct a state Gini coefficient which we use for all counties in Oklahoma. To calculate this state Gini coefficient we sum the number of farms in each bin across counties.

The Gini coefficient is a measure of inequality that ranges between 0 and 1, where a coefficient close to 0 can be interpreted as full equality, whereas a coefficient of 1 indicates perfect inequality. In our dataset the average Gini coefficient is 0.44 and its standard deviation is 0.14. This is slightly lower compared to more contemporary measures of household wealth inequality at the aggregated level (contemporary measures of household wealth inequality at the county level do not exist). For example, De Nardi (2004) shows that the Gini coefficient for the entire US is 0.78 based upon household wealth data from the Survey of Consumer Finances from 1989. Relying on the same survey, Wolff (2010) finds that the Gini coefficient is 0.83 in 2007.

III. Firm Ownership, Financing and Type

A. Data Sources with Information on Firm Ownership, Financing and Type

From the Kauffman Firm Survey (KFS) panel dataset we obtain the financial information for a five-year period from 2004 to (and including) 2008 on 4,928 individual US start-ups during their early years of operation. This information is particularly useful to reconstruct the sources of financing of these young firms and allows us to distinguish between owner's own equity and external financing as well as between family, bank and venture capital financing.

Data on our main dependent variables is actually obtained from a restricted-access-only database, which is the so-called Fourth Follow-Up Database and which is a longitudinal survey. We analyze the 3,419 firms of the baseline survey that either survived over the entire

2005-2008 period or were specifically identified as going out of business during the same period. Hence, firms that dropped out in a specific year because their owners cannot be located or refuse to respond to the follow-up survey are not included in our analysis. The dataset contains response-adjusted weights (which we use) to minimize the potential non-response bias in the estimates. From this database, we construct several crucial financial outcome variables, as well as control variables.

B. Dependent Variables

We study the impact of county equality on, in total, seven corporate outcome variables. Table I collects all definitions of all these dependent variables, and also of all controls, and indicates the relevant data sources. Table II provides summary statistics.

[Tables I and II around here]

For the purpose of summarizing we categorize the dependent variables into firm ownership, firm financing and firm type, though we recognize this categorization is not entirely descriptive. In terms of firm ownership, we feature the following three variables (the estimates for these specifications will be reported in Table III): *Firm Is Proprietorship* equals one if the firm is a proprietorship, and equals zero otherwise; *Firm Equity* is the amount of equity invested (by up to a maximum of 14 owners) divided by total firm financing; and *Firm Family Financing* is the amount of equity invested by parents and/or spouse divided by total firm financing.

From the 3,419 firms in our dataset 1,294 firms (38 percent) are proprietorships at the start of the sample period. Most firms (61 percent) have at least one owner that invests her own

equity into the firm during the first year of start-up. A quarter of all firms in our sample are even entirely financed by equity invested by the main owners in the first year of operations. The start-ups in our sample rely less on funding from family, at inception 142 firms, only 4 percent, are partially financed by owners' spouses or parents, as already indicated by Robb and Robinson (2014) who find, using the same dataset, that start-ups rely less extensively on friends and family financing as opposed to other forms of financing.

As firm financing variables we feature (the estimates will be in Table IV): *Firm Angel and Venture Capital Financing* is the amount of equity obtained from angels and venture capitalists divided by total firm financing; *Firm Owners' Personal Bank Financing* is the amount of personal loans obtained by the owners from a bank or another financial institution divided by total firm financing; and *Firm Bank Financing* is the total amount of business and owners' personal bank financing divided by total firm financing. Finally, as the sole firm type variable we have: *Firm is High Tech* which equals one if the firm operates in a high technology industry, and equals zero otherwise.

Firms in our sample tend to rely little on equity obtained from angels and venture capitalists; just 4 percent of the firms make use of this type of financing at the startup. On average only 2 percent of total funding is obtained through these sources. The mean amount of equity from angels and venture capitalists at inception is a little over $37,500. Contrary to equity obtained from angels and venture capitalists, start-ups tend to rely more on debt financing in the form of bank financing as on average 10 percent of total financing comes from both business and owner's personal loans. The largest part, 7 percent, comes from personal loans obtained by the owner(s). The average amount of bank financing that firms rely upon in our sample is $28,277 at inception.

We classify firms as being high technology intensive (*High Tech*) based upon the High Technology Industries NAICS list from the Science and Engineering Indicators 2006 from the NSF. Based upon this classification 31 percent of the firms are considered as being high tech at inception.

C. Control Variables

We have three sets of control variables, i.e., firm characteristics, main owner characteristics, and state and county characteristics. We discuss each of these sets of control variables now in turn.

1. Firm Characteristics

Total Assets is the logarithm of one plus total assets, which is the sum of cash, accounts receivable, product inventory, equipment or machinery, land and buildings, vehicles, other business owned property and other assets; *ROA* is the Return on Assets, i.e., the amount of net profit divided by total assets, which we winsorize at the 1 percent level; *Tangibility* is the amount of property, plant and equipment divided by total assets; and, *Number of Owners* is the logarithm of one plus the total number of owners.

In their first year of operations the start-ups in our dataset have total assets worth of, on average, $172,709. Some firms have a negative return on assets. For example, in the first year of operations 54 percent of all start-ups have a *ROA* below zero percent. Tangible assets make up around 56 percent of total assets on average. However, 26 percent of the businesses reports no tangible assets at all in the first year of business. The majority of firms (61 percent) have one owner, whereas the remaining 39 percent of businesses is owned by multiple owners.

2. *Main Owner Characteristics*

The main owner characteristics comprise four dummies that equal one if the condition embedded in its label is fulfilled, and equals zero otherwise. These four main owner dummies are: *Is Female*, *Is Black*, *Has At Least College Degree*, and *Is Born in the US*. *Work Experience* is the number of years of work experience of the main owner in the firm's industry.

We identify the main owner in the same way as Robb, Fairlie and Robinson (2009), who consider the owner with the largest amount of equity invested to be the primary owner.[1] Overall, entrepreneurs of the nascent businesses in our sample are mostly white (only 7 percent is black), male and born in the US. This is consistent with the owner characteristics of firm owners from the Survey of Consumer Finances (SCF) (see Puri and Robinson (2007)). Less than a third (27 percent) of the main owners is female, and only 9 percent is born somewhere outside of the United States. In addition, primary owners tend to have quite some work experience in the same industry as their new business is operating in, the average years of experience is a little less than 14 years (median of 11 years). Moreover, they are quite well educated, as the primary owner has at least a college degree in more than half of our sample, which is again in line with entrepreneurs from the SCF (Puri and Robinson (2007)).

3. *State and County Characteristics*

As state characteristics we include its *GDP* which is the logarithm of one plus the gross domestic product of the state during the year.

---

[1] See their paper for the exact methodology on how to define the primary owner in case multiple owners invest an equal amount of equity into the firm.

As county characteristics we have: the *Population* which is the total county population at year-end; the *Catholic to Protestant Ratio* which is the ratio of the total number of Catholics divided by the total number of Evangelicals in the county at year-end 2000; the *Whites to Total Population Ratio* which is the ratio of the total county population of white race at year-end divided by the total population in the county at year-end; the *Votes for Democrats to Total Votes Ratio* which is the ratio of the total number of votes for the Democratic Party in the 2004 and 2008 elections in the county divided by the total number of votes in the county; the *Personal Income Per Capita* which is the logarithm of one plus the per capita county personal income at year-end; the *Nonfarm Establishments Per Capita* which is the total number of nonfarm establishments divided by the total population in the county at year-end; the *Federal Government Expenditures Per Capita* which is the total Federal government expenditures in thousands of US Dollars during the year in the county divided by the total population in the county; and the *Land Area* which is the logarithm of one plus the total county area in square miles at year-end 2000.

We include *GDP* to control for the state of the local economy and in the same line for per capita county personal income; their means respectively 10.65 and 10.48. With respect to county demographics, the majority of inhabitants are of white race, on average 82 percent (median 85 percent), half of the population tends to vote for the democrats and between counties there is considerable heterogeneity when it comes to religion, although on average Catholics outweigh Protestants by a factor of four. County federal government expenditures per capita differ quite a lot between counties as well; the 10^{th} percentile (of its logarithm) is 4 whereas the 90^{th} percentile is almost three times higher.

D. Results

1. Firm Ownership

We start by testing how local wealth inequality affects different measures of firm ownership. Table III provides the first estimation results. We relate local inequality to the probability that a start-up is a sole proprietorship. To be able to make causal statements we account for possible endogeneity in two ways: Given that our inequality measure is based upon historical farm land data from 1890 reverse causality will not be an issue. In addition, to account for omitted variables because of unobserved heterogeneity at the state, year, industry, state-year and industry-year level that could affect our estimates, we introduce correspondingly broad sets of fixed effects.

[Table III around here]

In column (1) in Table III we start with our baseline estimation using a standard Probit analysis. We include firm, owner and county characteristics as well as state, year and industry fixed effects. In columns (2) and (3) we repeat the estimation but alternatively include industry and state-year fixed effects and state-year and industry-year fixed effects, respectively. We see that local inequality matters. In all specifications we find, in line with H1, that the probability for a start-up to be a sole proprietorship increases in inequality. The point estimates increase slightly across columns. The effect we find is also economically significant and stable across specifications: A one standard deviation increase in county wealth inequality increases the probability for a start-up to be a sole proprietorship by around 9 percent.

Next we turn to H2. We use Tobit estimation to explore how wealth inequality explains the proportion of firm equity that is held by its owners. Columns (4) to (6) present the results from our analyses. Again, we include firm, owner and county characteristics as well as state, year and industry fixed effects in our baseline estimation in column (4). We alternatively include industry and state-year fixed effects and state-year and industry-year fixed effects respectively in columns (5) and (6). The results illustrate that the fraction of equity owners hold in their firm increases in county inequality, suggesting that owners are forced to rely on 'inside equity' more compared to other sources of outside equity financing, when inequality is higher. The effect is substantial: The semi-elasticity for a one standard deviation change of inequality on firm equity is 11, 11 and 12 percent respectively.

Another measure of firm ownership that may be affected by county inequality is the proportion of family ownership. To test this we construct as the dependent variable a measure of the proportion of family ownership, i.e., the amount of equity held in the firm by parents and/or spouses for each firm-year and perform a Tobit analysis in columns (7) to (9). Again, we control for firm, owner and county characteristics and the different sets of fixed effects.

As expected, inequality loads quite heavily on this measure of family ownership; the coefficient on county inequality enters positive and statistically significant in all specifications and indicates a semi-elasticity between 15 and 20 percent. These findings support H3 and again point in the direction that owners are forced to rely on 'inside equity'.

2. Firm Financing

So far the results demonstrate that local wealth inequality matters for firm ownership. In this section and based on the model in a recent paper by Perotti and von Thadden (2006), we ask whether it also matters for the way in which start-ups are financed. Table IV presents the

results of our Tobit analyses. We focus on the proportion of angel and venture capital financing in columns (1) to (3), controlling for the usual firm, owner and county controls as well as dense sets of fixed effects to capture unobserved state, year, industry, state-year and industry-year heterogeneity, respectively.

[Table IV around here]

The results in column (1) show that, in line with H4, the coefficient on county inequality is negative and statistically significant. The result indicates that a one standard deviation increase in county inequality decreases the proportion of angel and venture capital with 9 percent (of its own standard deviation). When including state-year fixed effects in column (2) the semi-elasticity drops somewhat to 7 percent (although the coefficient is not statistically significant anymore). But when we add industry-year effects in column (3) the estimated coefficient on inequality is again statistically significant (at the 1 percent level) and implies that a one standard deviation increase in county inequality decreases the proportion of angel and venture capital financing with almost a third, 29 percent.

Overall these findings support the hypothesis emanating from Perotti and von Thadden (2006) that when wealth is distributed unequally among individuals, the median voter with mainly non-diversifiable human capital will opt for those financing forms that induce risk-taking less. Given that angels and venture capitalists, or the 'outside equity market' so to speak, induces more risk-taking behavior compared to banks, the supply of these sources of financing will be less prevalent in more unequal societies. Hence, one would expect the

proportion of financing obtained from these sources to decrease in equality, something we indeed find evidence consistent with.

In the remaining columns of Table IV we explore, using Tobit analysis, how county inequality affects the proportion of bank financing in the form of personal loans from the owner (columns (4) to (6)), as well the proportion of total bank financing, i.e., the sum of personal and business loans in columns (7) to (9). The proportion of personal bank financing increases in inequality, as we can see from the results in columns (4) to (6). The coefficient on inequality is positive and statistically significant and robust across specifications: A one standard deviation increase in county inequality increases the proportion of personal bank financing with 28 percent. For the proportion of total bank financing we find a similar relationship, the coefficient on inequality is positive (but only statistically significant when including state-year and industry-year fixed effects). The semi-elasticity is 20 percent (of its standard deviation), indicating that a one standard deviation increase in inequality increases the proportion of total financing obtained from banks by a fifth. The results in Table IV clearly show that local inequality matters for firm financing. The findings confirm both H5a and H5b and show evidence consistent with the model in Perotti and von Thadden (2006)..

3. Firm Type

In the previous tables we find evidence in support of a greater prevalence of family ownership and bank financing and less outside equity financing from angels and venture capitalists for firms in more unequal counties. But does the prevalence of bank financing have other spill-over effects? We present results on this possibility in Table V, where we examine the effect of wealth inequality on firm type (H6). We construct a dummy variable that

indicates whether a Firm is High Tech or not and run a Probit analysis. Once again, we include firm, owner and county controls and broad sets of fixed effects.

[Table V around here]

Interestingly, the coefficient on county inequality is always negative and statistically significant at the 5 percent level, indicating that the likelihood that newly created firms are high-tech decreases in local inequality. The effects are also economically relevant. Depending upon specification, a one standard deviation increase in inequality decreases the likelihood that a Firm is High Tech by 11 or 14 percent of its standard deviation (in the first and last column, when including state, year and industry effect or state-year and industry-year effects respectively) or 4 percent (in column (2) when including state-year fixed effects). The results are suggestive of a possible side effect of a greater prevalence of bank financing in more unequal counties: A possible explanation for the negative effect of local inequality on the probability that a Firm is High Tech may be that banks are more willing to extend financing to conservative industries, making it difficult for new start-ups in more unconventional industries (such as high tech industries) to obtain bank financing in order to start up their business.

4. Channel of Persistence: The Election of Judges

Having already noted that economic inequality in the Nineteenth Century and Twentieth Century are positively and significantly correlated, in this section we turn to a possible explanation as to why our proxy for wealth inequality from as far back as 1890 still

significantly influences firm ownership and financing today, which is the election of state Supreme Court judges.

The way in which judges are selected differs considerably between states. Some states (in total 7) have implemented a Partisan election as the mode of selection, where the candidates are listed on the ballot along with a label designating the political party's ballot on which they are running; in other states judges are not affiliated with a political party on the ballot (for example the so called Non-partisan and Missouri Plan selection methods). Hence, in those states with a Partisan selection method for judges it is possible for voters to select a judge that best coincides with their preferences. Assuming that judges to a certain extent align their decision making with the interests of their voters, we therefore expect that our measure of wealth inequality impacts firm's financing and ownership even more in states where judges are selected based upon a partisan election method.

To test this hypothesis we create a partisan dummy *Partisan* which we code to be equal to 1 if a firm is located in a state where judges are elected based upon a Partisan election and 0 otherwise and interact this variable with our inequality measure. Table VI presents the results of this analysis.

[Table VI around here]

We focus on the interaction effect of inequality and being located in a state with a Partisan election method for the selection of judges on the probability of being a proprietorship in columns (1) – (3) in panel A of table VI. We again control for the usual firm, owner and county controls as well as dense sets of fixed effects to capture unobserved state, year,

industry, state-year and industry-year heterogeneity, respectively. Our measure for county inequality is positive and statistically significant throughout all specifications. The coefficient on the interaction between *Partisan* and our county inequality measure enters positively in all specifications as well (although not statistically significant), suggesting that the effect of inequality indeed is amplified when a firm is located in a state with partisan elections. This effect is quite significant too: The semi-elasticity of the interaction term ranges between 6.5 and 8.5 percent, depending upon specification.

When we turn to the effect of the interaction between the partisan election of judges and inequality on firm equity in columns (4) to (6) we see a similar effect: Both inequality and the interaction coefficient are positive, although only statistically significant in column (6). The semi-elasticity of the interaction term is economically significant as well, ranging between 16 and 18 percent. Remarkably, for family financing the interaction effect is negative and statistically significant.

In panel B of table VI we explore the interaction effect of inequality and a firm being located in a partisan election state on the amount of Angel and Venture Capital (columns (1) to (3)), firm owners' personal bank financing (columns (4) to (6)) and the total amount of bank financing (columns (7) to (9)). As expected, the interaction term enters negatively and significant across all specifications in columns (1) to (3), indicating that county inequality reduces the reliance on Angel and Venture Capital even more when a firm is located in a partisan election state. Somewhat surprisingly, county inequality itself is positive and statistically significant in columns (1) and (2); however when controlling for industry trends in column (3) it becomes negative again.

Turning to columns (4) – (9) the results again confirm that the effect of county inequality is amplified when a firm is located in a state with partisan election of judges. For both the amount of the firm owners' personal bank financing as well as the total bank financing amount both the individual effect of inequality as well as its interaction with *Partisan* are positive and also statistically significant in most specifications. Firms that are located in a state with partisan election of judges tend to rely even more on both personal bank financing as well as total bank financing when county inequality increases compared to firms located in non-partisan election states. The effects are also economically relevant, as the semi-elasticity of the interaction term falls between 32 and 36 percent for firm owners' personal bank financing and between 14 and 19 percent for total bank financing.

IV. Entrepreneurial Dynamism

A. Data Sources

For the second set of exercises we access the Panel Structure of Entrepreneurial Dynamics survey (henceforth PSED). From the PSED we obtain information on the activities of young entrepreneurs working in the US, their attitudes towards risk, the high-tech content of their ventures and the motivations and determinants that lead them to start a new enterprise.

B. Dependent Variables

We study the impact of county equality on in total five entrepreneurial outcome variables. Table VII collects all definitions of all these dependent variables, and also of all controls, and indicate the relevant data sources. Table VIII provides summary statistics.

[Tables VII and VIII around here]

To assess the effect of inequality on entrepreneurial dynamics we turn to the following five entrepreneurial outcomes (the estimates for these specifications will be reported in Table IX).

Enjoy uncertainty captures the extent to which entrepreneurs agree with the statement: "I enjoy the uncertainty of going into a new situation without knowing what might happen," where answers range on a five point scale from "Strongly disagree" (1) to "Strongly agree" (5).

Working on another Start-Up is an indicator variable representing whether or not the entrepreneur is working on another start-up now that she is no longer working for the current one (1 for yes, 0 if not).

Not Engaging in Product Innovation captures the level of product innovation brought about by the new business by measuring the answers of entrepreneurs to the question: "Will all, some, or none of your potential customers consider this product or service new and unfamiliar?"; answers range on a three point scale from "All" (1) to "None" (3).

Many Other Businesses Offer a Similar Product measures the response of entrepreneurs to the question: "Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?"; again answers range on a three point scale, in this case from "No other" (1) to "Many" (3).

The last outcome we examine, i.e., *Technological Start Up,* is an indicator variable that captures whether a start-up is of high-tech character. We construct this variable using the following three questions related to the high-tech nature of the business: "Will spending on research and development be a major priority for this (new) business?", "Would you consider

this (new) business to be hi-tech?", and "Were the technologies or procedures required for this product or service generally available more than five years ago?" We operationalize this variable by coding it equal to 1 if an entrepreneur responded "Yes" to at least one of these three questions and equal to 0 otherwise.

Entrepreneurs in our sample are on average risk-averse, at least in the sense that they do not like uncertainty, as the mean and median of the *Enjoy uncertainty* variable are 2.79 and 2 respectively. From the 623 entrepreneurs that are no longer involved in the start-up only a small fraction (starting from the 90th percentile upwards) is working on another new business venture. The entrepreneurs do not always expect to put an entirely new service or product into the market with their new firm as the mean and median of *Not Engaging in Product Innovation*, 2.38 and 3 respectively, indicate. They do, however, expect to have found a niche in the market with their new business according to their judgment on the amount of other businesses already in the market that are similar to theirs: The mean of *Many Other Businesses Offer a Similar Product* is 1.81 (median of 2) pointing to a general belief by entrepreneurs that not a lot of other businesses offering the same products or services are already in the market. Entrepreneurs in our sample mostly run businesses that do not have a high tech character; the *Technological Start Up* only takes on the value of 1 from the 90th percentile onwards.

C. Control Variables

We have two sets of control variables, i.e., entrepreneur characteristics and state and county characteristics. We include the following set of indicator variables that capture entrepreneur characteristics: *Entrepreneur Is Male* indicates whether the entrepreneur is male (1 if yes, 0 if no). *Entrepreneur Is Head of Household* indicates whether the entrepreneur is

head of a household or not (1 if yes, 0 if no). *Entrepreneur Is Married* captures whether an entrepreneur is married (1 if yes, 0 if no). In the same line *Entrepreneur Has a College Degree*, *Entrepreneur Is African American*, and *Entrepreneur's Parents Ran Their Own Business* indicate whether the entrepreneur is in the possession of a college degree, whether she is of African American race and whether her parents ran their own business in the past (1 if yes, 0 if no). *Entrepreneur Has a Network* is an indicator variable that indicates whether the entrepreneur knows other entrepreneurs (1 if yes, 0 if no). We construct the dummy variable *Entrepreneur's Self Assessed Skills* based upon the answers to the statement: "Overall, my skills and abilities will help me start this new business." We code it to be equal to 1 if respondents agree or strongly agree to the former statement and 0 otherwise. Finally, the *Entrepreneur's Age* variable measures the age of the entrepreneur in years.

Entrepreneurs in our dataset are mostly male, on average 40 years old and non-black. In addition, they usually are head of the household, married and tend to know other entrepreneurs already. Surprisingly, in contrast to the firm owners from the KFS, these young entrepreneurs are less often in the possession of a college degree (for the *Entrepreneur Has a College Degree* variable the mean is 0.38 with a median of 0). Often, the parents of the entrepreneur had already run a firm in the past (the mean of the *Entrepreneur's Parents Ran Their Own Business* variable is 0.52 with a median of 1) and entrepreneurs mostly assess their own skills to be an important contributor to the start of their new firm.

As to the state and county characteristics we can be brief as we include (except for *GDP*) the same set of state and county controls as in our first set of exercises when assessing the effect of inequality on entrepreneurial outcomes. For brevity's sake we therefore refer to Section III C for a more detailed description of these variables.

D. Results

1. Main Findings

In this section we relate local wealth inequality to entrepreneurial dynamics. For this we use entrepreneurial outcomes based upon answers by young entrepreneurs on various questions and statements from the PSED. Table IX presents the accompanying results.

[Table IX around here]

We start by exploring the impact of county inequality on the likelihood that young entrepreneurs enjoy uncertainty and start a new business following a previous attempt (H7a and H7b), two outcomes that not only gauge young entrepreneurs' attitudes towards risk but more importantly capture in a broad sense whether young entrepreneurs have a conservative approach to investments (assuming that entrepreneurs that dislike uncertainty are also more conservative in their investments and consider the start of a business after a previous attempt as risky). Columns (1) and (2) report the results of an ordered Probit analysis, where the dependent variable is *Enjoy Uncertainty*, a variable that captures the answer of entrepreneurs on whether they agree on enjoying uncertainty when going into a new situation without knowing what will happen. We control for entrepreneur and county characteristics in both specifications and include state as well as industry fixed effects (two- and one-digit, respectively) to capture unobserved heterogeneity at the state and industry level.

The results show that the likelihood of enjoying uncertainty decreases substantially in local inequality. The coefficient on inequality is negative and statistically significant in both specifications and indicates that a one standard deviation increase in local inequality decreases

the likelihood of entrepreneurs agreeing with the statement that they enjoy uncertainty by 8 percent (of its standard deviation).

When we turn to the likelihood that young entrepreneurs start up another business giving a previous attempt in columns (3) and (4) we see a similar pattern. Entrepreneurs are less likely to work on another start-up giving a previous attempt. The effect is statistically significant in all specifications (both when including state, year and industry fixed effects or year, industry and state-year effects) and very substantial: The semi-elasticity of the likelihood to start another business venture for a one standard deviation increase in county inequality of minus 40 or 57 percent (depending upon specification).

Overall, we interpret these findings to be consistent with hypotheses H7a and H7b and to provide evidence that there is a more conservative approach towards investments and risky corporate strategies when county inequality is more substantial, as in Perotti and von Thadden (2006).

Using an ordered Probit analysis and including state, year and industry fixed effects, we present evidence on the link between local inequality and anticipated product innovation by the young entrepreneur (H8) in column (5). The dependent variable measures the extent to which young entrepreneurs expect customers to consider their product or service as new and unfamiliar (all customers will consider the product to be new is 1, 2 for some and 3 for none). The likelihood to *not* engage in product innovation increases in inequality, although the coefficient is not statistically significant. This result suggests that young entrepreneurs dislike innovation when county inequality is larger, as its costs can be substantial but its benefits uncertain. Again, this finding supports the expectation that in more unequal counties

innovation is hampered because of conservative approach towards both investments as well as risky corporate strategies.

Column (6) links county inequality and the assessment of young entrepreneurs on how many other businesses currently offer a similar product or service to their potential customers (1 if they assess not other business currently offering a similar product or service, 2 if few and 3 if many) using an ordered Probit analysis. We again include the usual entrepreneur and county controls as well as state, year and industry fixed effects. The coefficient on inequality is negative, but not statistically significant at a conventional level. One possible explanation for this finding is that when competition is expected to be fierce (i.e., when it is expected that many firms already offer similar services or products to potential customers) young firms run a larger ex ante risk of not surviving. This increased risk of not surviving does not align with the preferences of the median voter in an unequal society; hence young entrepreneurs should value their business as being more unique before starting it when inequality is greater, again in line with a more conservative approach towards investments.

Finally, we report results on the link between local inequality and the likelihood that young entrepreneurs start up a high technology business venture (H10) using a Probit analysis in column (7). The dependent variable is a dummy variable that takes on the value of one if the entrepreneur responds "yes" to at least one of three questions that indicate whether the business has a high technology character (for the exact questions please refer to Table III). We once again control for the usual entrepreneur, county, state, year and industry fixed effects. As the benefits from high technology intensive firms can be rather uncertain at the start and investing in high tech services or products can be considered as quite risky, we expect the probability that a young firm will be of a high tech character to be decreasing in county

inequality. Surprisingly, local inequality positively affects the probability that the business venture has a high technology character, as the positive coefficient on inequality in column (7) indicates. Even though this result is somewhat counterintuitive based upon our prior expectations, little can be concluded as the inequality coefficient is not statistically significant at conventional levels.

2. Interactions

The results thus far demonstrate that local inequality matters for entrepreneurial dynamics. But does its impact differ for entrepreneurs that are more committed to their business? We turn to this question in this section. In particular, we interact county inequality with four specific entrepreneur characteristics/ expectations indicating the extent to which young entrepreneurs are committed to their business venture: 1. The entrepreneur is an opportunity entrepreneur; 2. The entrepreneur's expectation of the number of employees in the firm during the first year of operation; 3. The entrepreneur's expectation of total revenues; and 4. The total number of hours devoted to the new business by the entrepreneur. The estimates can be found in Table X. We now discuss its main findings.

[Table X around here]

Entrepreneurs that consider themselves to be an 'opportunity entrepreneur', i.e., one that takes an advantage of a business opportunity by setting up a firm instead of only becoming an entrepreneur as there are no better choices of employment available are more likely to *not* engage in product innovation when they are located in a county that is more unequal. This

effect is not only statistically significant, but also economically meaningful: The semi-elasticity varies between 3 and 6 percent, depending upon the specification.

Local inequality also matters more for those entrepreneurs that are more committed in the sense that they expect to use more employees in the first year of operations. For these entrepreneurs an increase in inequality results in a lower likelihood to engage in product innovation and to be of a high tech nature. A firm that expects to have an amount of employees that is one standard deviation above the mean expected number of employees experiences a decrease in product innovation of around 30 percent and a 21 percent lower likelihood to a high technology firm. The same results hold for those entrepreneurs that ex ante expect to have a total first year revenue that is one standard deviation above the mean expected total revenue, although the effects are somewhat smaller: The semi-elasticity's are 9 percent and 10 percent for no product innovation and being high tech respectively.

Somewhat surprisingly, when entrepreneurs devote more than an average amount of hours to their new business, local inequality fosters product innovation, although this effect is not always statistically significant. In sum, we conclude that local inequality matters even more for those entrepreneurs that are more committed to their business venture (rather than to have to set up a business to be employed).

V. Conclusions

We empirically test hypotheses emanating from recent theory showing how household wealth inequality may determine corporate financing and entrepreneurial dynamism. In particular risk-averse individuals vote for those institutions that best represent their claims in companies (see Perotti and von Thadden (2006)). In addition to their human capital that is

commonly distributed yet inherently non-diversifiable, voters may also own diversifiable financial wealth. Given an unequal distribution of wealth the median voter own mainly non-diversifiable human capital making them to prefer banks (or the family). If wealth is distributed more equally the median voter is more likely to also own financial wealth in addition to her human capital in which case he is more likely to vote for the equity market.

Within this framework we can therefore derive ten testable hypotheses concerning the effect of wealth inequality on corporate financing and entrepreneurial dynamism. To test these hypotheses we employ a historic measure of wealth inequality, i.e., the distribution of land holdings at the US county level in 1890, and we saturate specifications with comprehensive sets of fixed effects and characteristics.

The estimated coefficients suggest that county-level wealth inequality robustly increases sole-ownership and the proportion of equity, family and bank financing, yet decreases angel and venture capital financing. Inequality further reduces the likelihood local firms are high-tech and depresses various other measures of entrepreneurial dynamism.

In order to shed a deeper understanding on why exactly inequality from this far back in time (i.e., 1890) still significantly influences firms' financing today we are in the process of obtaining information on district court appeal cases. District court judges are elected by the local (district) community and we expect their decision making to a certain extent to coincide with the interests of their voters. Our main objective is therefore to see whether these local judges' sentencing differs between districts with differing levels of inequality, i.e., do local judges indeed support local bank financing more in those districts where inequality is higher? In particular we want to assess whether the extent to which banks are favored in first degree court cases differs across districts. Based upon the model by Perotti and von Thadden we

expect that judges will be more lenient towards banks in districts where inequality is more prominent and formal bank financing more prevalent and hence will sentence in favor of the bank as opposed to the other party with a higher probability.

References

Acemoglu, D., S. Johnson, and J. A. Robinson, 2001, "The Colonial Origins of Comparative Development: An Empirical Investigation," *American Economic Review* 91, 1369-1401.

—, 2002, "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution," *Quarterly Journal of Economics* 117, 1231-1294.

Altonji, J., T. Elder, and C. Taber, 2005, "Selection on Observed and Unobserved Variables: Assessing the Effectiveness of Catholic Schools," *Journal of Political Economy* 113, 151-184.

Atkinson, A. B., 1970, "On the Measurement of Inequality," *Journal of Economic Theory* 2, 244-263.

Bellows, J., and E. Miguel, 2006, "War and Institutions: New Evidence from Sierra Leone," *American Economic Review* 96, 394-399.

—, 2009, "War and Local Collective Action in Sierra Leone," *Journal of Public Economics* 93, 1144-1157.

Berger, A. N., G. Cerqueiro, and M. F. Penas, 2014, Market Size Structure and Small Business Lending: Are Crisis Times Different from Normal Times?, University of South Carolina, Columbia SC.

Chetty, R., N. Hendren, P. Kline, and E. Saez, 2014, Where is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States, National Bureau for Economic Research, Cambridge MA.

Chetty, R., N. Hendren, P. Kline, E. Saez, and N. Turner, 2014, Is the United States Still a Land of Opportunity? Recent Trends in Intergenerational Mobility?, National Bureau for Economic Research, Cambridge MA.

De Nardi, M., 2004, "Wealth Inequality and Intergenerational Links," *Review of Economic Studies* 71, 743-768.

Engerman, S. L., and K. L. Sokoloff, 1997, "Factor Endowments, Institutions, and Differential Paths of Growth Among New World Economies: A View from Economic Historians of the United States," in S. Harber, ed., *How Latin America Fell Behind*, Stanford University Press, Stanford CA.

—, 2002, Factor Endowments, Inequality, and Paths of Development Among New World Economies, National Bureau of Economic Research, Cambridge MA.

Gilje, E., 2012, Does Local Access to Finance Matter? Evidence from US Oil and Natural Gas Shale Booms, Wharton, Philadelphia.

Lagerlöf, N.-P., 2005, Geography, Institutions and Growth: The United States as a Microcosm, York University, Toronto.

Nunn, N., 2008a, "The Long-Term Effects of Africa's Slave Trades," *Quarterly Journal of Economics* 123, 139-176.

—, 2008b, "Slavery, Inequality, and Economic Development in the Americas: An Examination of the Engerman-Sokoloff Hypothesis," in E. Helpman, ed., *Institutions and Economic Performance*, Harvard University Press, Cambridge MA.

Perotti, E., and E.-L. von Thadden, 2006, "The Political Economy of Corporate Control and Labor Rents," *Journal of Political Economy* 114, 145-174.

Puri, M., and D. T. Robinson, 2007, "Optimism and Economic Choice," *Journal of Financial Economics* 86, 71-99.

Rajan, R., and R. Ramcharan, 2011, "Land and Credit: A Study of the Political Economy of Banking in the United States in the Early 20th Century," *Journal of Finance* 66, 1895-1930.
Rajan, R. G., 2010, *Fault Lines*, Princeton University Press, Princeton NJ.
Robb, A., R. W. Fairlie, and D. T. Robinson, 2009, Patterns of Financing: A Comparison Between White- and African-American Young Firms - Fourth in a Series of Reports Using Data from the Kauffman Firm SurveyKauffman Foundation, Kansas City.
Robb, A., and D. T. Robinson, 2014, "The Capital Structure Decisions of New Firms," *Review of Financial Studies* Forthcoming.
Schumpeter, J., 1934, *The Theory of Economic Development*, Transactions Publishers, New Brunswick.
Wolff, E. N., 2010, Recent Trends in Household Wealth in the United States: Rising Debt and the Middle-Class Squeeze - An Update to 2007, Levy Economics Institute.

TABLE I

VARIABLE NAMES, DEFINITIONS, AND DATA SOURCES FOR THE EMPIRICAL ANALYSIS OF FIRM OWNERSHIP, FINANCING AND TYPE

Variable Name	Variable Definition	*Source*
Dependent Variables		
Firm Is Proprietorship	= 1 if firm is a proprietorship, = 0 otherwise	*KFS*
Firm Equity	The amount of equity invested by up to 14 owners divided by total firm financing	*KFS*
Firm Family Financing	The amount of equity invested by parents and/or spouse divided by total firm financing	*KFS*
Firm Angel and Venture Capital Financing	The amount of equity obtained from angels and venture capitalists divided by total firm financing	*KFS*
Firm Owners' Personal Bank Financing	The amount of personal loans obtained by the owners from a bank or another financial institution divided by total firm financing	*KFS*
Firm Bank Financing	The amount of business and owners' personal bank financing divided by total firm financing	*KFS*
Firm is High Tech	= 1 if firm operates in a high technology industry, = 0 otherwise	*NSF*
Main Independent Variable		
County Inequality in 1890	The Gini coefficient of the distribution of farm land in 1890 in the county (for counties in Oklahoma the state-level coefficient is used)	*USC*
Control Variables		
Firm Characteristics		
Firm Total Assets$_{t-1}$	The logarithm of one plus total assets, which is the sum of cash, accounts receivable, product inventory, equipment or machinery, land and buildings, vehicles, other business owned property and other assets	*KFS*
Firm ROA$_{t-1}$	Return on Assets, i.e., the amount of net profit divided by total assets winsorized at the 1% level	*KFS*
Firm Tangibility$_{t-1}$	The amount of property, plant and equipment divided by total assets	*KFS*
Firm Number of Owners$_{t-1}$	The logarithm of one plus the total number of owners	*KFS*
Main Owner Characteristics		
Main Owner Is Female	= 1 if main owner is a female, = 0 otherwise	*KFS*
Main Owner Is Black	= 1 if main owner is black, = 0 otherwise	*KFS*
Main Owner Has At Least College Degree	= 1 if main owner has at least a college degree, = 0 otherwise	*KFS*
Main Owner Is Born in the US	= 1 if main owner was born in the US, = 0 otherwise	*KFS*
Main Owner's Work Experience	Number of years of work experience of the main owner in the firm's industry	*KFS*
State and County Characteristics		
State GDP$_{t-1}$	The logarithm of one plus the gross domestic product of the state during the year	*USC*
County Population	Total county population at year-end	*USC*
County Catholic to Protestant Ratio	Ratio of the total number of Catholics divided by the total number of Evangelicals in the county at year-end 2000	*ARDA*
County Whites to Total Population Ratio	Ratio of the total county population of white race at year-end divided by the total population in the county at year-end	*USC*
County Votes for Democrats to Total Votes Ratio	Ratio of the total number of votes for the Democratic Party in the 2004 and 2008 elections in the county divided by the total number of votes in the county	*USC*
County Personal Income Per Capita	The logarithm of one plus the per capita county personal income at year-end	*BEA*
County Nonfarm Establishments Per Capita	Total number of nonfarm establishments divided by the total population in the county at year-end	*USC*
County Federal Government Expenditures Per Capita	Total Federal government expenditures in thousands of US Dollars during the year in the county divided by the total population in the county	*USC*
County Land Area	The logarithm of one plus the total county area in square miles at year-end 2000	*USC*

NOTES. The table defines the variables used in the empirical analysis of firm ownership, financing and type, as well as the corresponding data sources used. Total firm financing is the sum of total debt and equity financing. *t-1* indicates a one year lag is used in the empirical analysis. Data sources include: *ARDA* = Association of Religion Data Archives; *BEA* = Bureau of Economic Analysis; *KFS* = Kauffman Firm Survey; *NSF* = National Science Foundation; *USC* = US Census.

TABLE II

DESCRIPTIVE STATISTICS FOR THE EMPIRICAL ANALYSIS OF FIRM OWNERSHIP, FINANCING AND TYPE

Variable Name	Number of Observations	Mean	Standard Deviation	10%	Median (50%)	90%
Dependent Variables						
Firm Is Proprietorship	14,051	0.35	0.48	0	0	1
Firm Equity	10,377	0.36	0.41	0.00	0.15	1.00
Firm Family Financing	7,228	0.01	0.08	0.00	0.00	0.00
Firm Angel and Venture Capital Financing	7,229	0.02	0.11	0.00	0.00	0.00
Firm Owners' Personal Bank Financing	10,465	0.07	0.20	0.00	0.00	0.30
Firm Bank Financing	10,534	0.10	0.24	0.00	0.00	0.47
Firm is High Tech	15,328	0.31	0.46	0	0	1
Main Independent Variable						
County Inequality in 1890	13,908	0.44	0.14	0.28	0.42	0.64
Control Variables						
Firm Characteristics						
Firm Total Assets	14,015	9.41	3.71	1.79	10.23	12.91
Firm ROA	12,016	0.26	2.26	-0.91	0.04	1.67
Firm Tangibility	12,602	0.56	0.37	0.00	0.64	1.00
Firm Number of Owners	14,039	0.91	0.40	0.69	0.69	1.39
Main Owner Characteristics						
Main Owner Is Female	14,006	0.27	0.44	0	0	1
Main Owner Is Black	14,050	0.07	0.25	0	0	0
Main Owner Has At Least College Degree	13,706	0.55	0.50	0	1	1
Main Owner Is Born in the US	13,997	0.91	0.29	1	1	1
Main Owner's Work Experience	14,002	13.49	10.96	1	11	30
State and County Characteristics						
State GDP	13,875	10.65	0.14	10.51	10.64	10.80
County Population	13,875	905,644	1,557,066	42,269	405,142	2,015,355
County Catholic to Protestant Ratio	13,870	4.14	6.29	0.18	1.84	11.52
County Whites to Total Population Ratio	13,875	0.82	0.13	0.67	0.85	0.96
County Votes for Democrats to Total Votes Ratio	13,875	0.49	0.13	0.32	0.48	0.67
County Personal Income Per Capita	13,875	10.48	0.54	10.17	10.47	10.85
County Nonfarm Establishments Per Capita	13,875	0.03	0.01	0.02	0.03	0.03
County Federal Government Expenditures Per Capita	13,875	7.46	6.62	3.99	6.34	11.07
County Land Area	13,875	14.41	0.64	13.78	14.46	15.06

NOTES. The table provides the number of observations, mean, standard deviation, 10th percentile, the median (50th percentile) and the 90th percentile of all variables used in the empirical analysis. Due to confidentiality the minimum and maximum are not reported.

TABLE III

MAIN SPECIFICATIONS EXPLAINING FIRM OWNERSHIP

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent Variable	*Firm Is Proprietorship*			*Firm Equity*			*Firm Family Financing*		
County Inequality in 1890	0.924***	0.925***	0.956***	0.324*	0.315*	0.359***	0.0855***	0.0949***	0.121***
	(0.000)	(0.000)	(0.000)	(0.060)	(0.058)	(0.000)	(0.000)	(0.000)	(0.000)
Firm Total Assets$_{t-1}$	-0.193***	-0.196***	-0.198***	-0.0916***	-0.0919***	-0.0917***	0.00286***	0.00224***	0.00422***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm ROA$_{t-1}$	0.0368***	0.0384***	0.0378***	-0.0379***	-0.0382***	-0.0370***	-0.0450***	-0.0428***	-0.0388***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm Tangibility$_{t-1}$	0.704***	0.709***	0.709***	0.291***	0.294***	0.292***	0.221***	0.212***	0.220***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm Number of Owners$_{t-1}$	-2.703***	-2.732***	-2.768***	-0.0133	-0.00872	-0.00889***	0.138***	0.147***	0.140***
	(0.000)	(0.000)	(0.000)	(0.831)	(0.887)	(0.000)	(0.000)	(0.000)	(0.000)
Main Owner Is Female	0.256***	0.259***	0.256***	0.0945*	0.0990**	0.0983***	0.0233***	0.0240***	0.0437***
	(0.007)	(0.007)	(0.009)	(0.052)	(0.040)	(0.000)	(0.000)	(0.000)	(0.000)
Main Owner Is Black	0.0296	0.0275	0.0219	0.347***	0.325***	0.342***	0.0415***	0.0314***	0.0420***
	(0.833)	(0.846)	(0.877)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Main Owner Has At Least College Degree	-0.377***	-0.379***	-0.381***	0.0409	0.0477	0.0483***	-0.0541***	-0.0560***	-0.0511***
	(0.000)	(0.000)	(0.000)	(0.273)	(0.206)	(0.000)	(0.000)	(0.000)	(0.000)
Main Owner Is Born in the US	0.224*	0.222	0.228*	-0.0604	-0.0558	-0.0563***	0.0949***	0.0943***	0.0931***
	(0.095)	(0.101)	(0.088)	(0.284)	(0.324)	(0.000)	(0.000)	(0.000)	(0.000)
Main Owner's Work Experience	-0.00148	-0.00138	-0.00131	0.00304*	0.00338*	0.00330***	-0.00545***	-0.00577***	-0.00500***
	(0.616)	(0.644)	(0.657)	(0.085)	(0.051)	(0.000)	(0.000)	(0.000)	(0.000)
State GDP$_{t-1}$	0.397	--	--	-0.948	--	--	-1.654***	--	--
	(0.483)	--	--	(0.146)	--	--	(0.000)	--	--
County Population	-6.45e-08***	-6.54e-08***	-6.51e-08***	4.41e-09	4.86e-09	4.86e-09	3.82e-08***	3.77e-08***	3.61e-08***
	(0.000)	(0.000)	(0.000)	(0.572)	(0.519)	(0.519)	(0.000)	(0.000)	(0.000)
County Catholic to Protestant Ratio	-0.0126	-0.0127	-0.0134	0.00104	0.00106	0.00100***	0.00561***	0.00325***	0.00108***
	(0.181)	(0.189)	(0.159)	(0.825)	(0.821)	(0.000)	(0.000)	(0.000)	(0.000)
County Whites to Total Population Ratio	1.392***	1.432***	1.483***	0.495	0.540	0.571***	0.797***	0.889***	0.951***
	(0.010)	(0.009)	(0.007)	(0.134)	(0.109)	(0.000)	(0.000)	(0.000)	(0.000)
County Votes for Democrats to Total Votes Ratio	0.507	0.531	0.546	0.228	0.284	0.314***	0.426***	0.506***	0.579***
	(0.373)	(0.360)	(0.344)	(0.440)	(0.347)	(0.000)	(0.000)	(0.000)	(0.000)
County Personal Income Per Capita	0.00238	0.00356	0.00568	0.0148	0.00469	0.00469***	0.170***	0.173***	0.208***
	(0.978)	(0.967)	(0.947)	(0.612)	(0.872)	(0.000)	(0.000)	(0.000)	(0.000)
County Nonfarm Establishments Per Capita	-6.554	-6.613	-6.477	-5.286**	-5.359**	-5.544***	5.973***	5.093***	4.123***
	(0.253)	(0.251)	(0.264)	(0.033)	(0.030)	(0.000)	(0.000)	(0.000)	(0.000)
County Federal Government Expenditures Per Capita	0.00505	0.00489	0.00484	0.00809*	0.00832**	0.00790***	0.00460***	0.00576***	0.00488***
	(0.264)	(0.286)	(0.295)	(0.052)	(0.046)	(0.000)	(0.000)	(0.000)	(0.000)
County Land Area	0.586	0.545	0.551	-0.101	-0.0425	-0.0519***	0.245***	0.313***	0.292***
	(0.233)	(0.270)	(0.272)	(0.517)	(0.810)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-11.04	-3.548	-3.445	12.54*	0.671	0.510***	4.482***	-9.995***	-9.450***
	(0.278)	(0.502)	(0.521)	(0.095)	(0.715)	(0.000)	(0.000)	(0.000)	(0.000)
State Fixed Effects	Yes (45)	--	--	Yes (47)	--	--	Yes (47)	--	--
Year Fixed Effects	Yes (3)	--	--	Yes (3)	--	--	Yes (3)	--	--
2-digit Industry Fixed Effects	Yes (22)	Yes (22)	--	Yes (23)	Yes (23)	--	Yes (23)	Yes (23)	--
State*Year Fixed Effects	No	Yes (178)	Yes (178)	No	Yes (191)	Yes (191)	No	Yes (191)	Yes (191)
Industry*Year Fixed Effects	No	No	Yes (59)	No	No	Yes (65)	No	No	Yes (65)
Number of Observations	8,483	8,445	8,435	6,209	6,213	6,209	4,304	4,308	4,308
Pseudo R-squared	0.331	0.334	0.338	0.056	0.071	0.077	0.155	0.242	0.301
Semi-Elasticity for a St. Dev. Change in County Inequality	*9.0%*	*9.1%*	*9.4%*	*11.0%*	*10.7%*	*11.9%*	*14.5%*	*16.1%*	*20.4%*

NOTES. Models (1) to (3) are estimated with a probit model, while Models (4) to (9) are estimated with a tobit model left censored at 0 and right censored at 1. All models take into account cross-sectional Kauffman Firm Survey weights. The definition of the variables can be found in Table I. *t-1* indicates a one year lag. "Yes" indicates that the set of fixed effects is included. "No" indicates that the set of fixed effects is not included. "--" indicates that the indicated set of characteristics or fixed effects are comprised in the wider included set of fixed effects. Standard errors are clustered at the state level. P-values are given in parentheses. The *Semi-Elasticity for a St. Dev. Change in County Inequality* is calculated as the percent change in the dependent variable for a change of one standard deviation (i.e., 0.14) in County Inequality divided by a one standard deviation in the dependent variable (with all independent variables set at their mean). ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

TABLE IV

MAIN SPECIFICATIONS EXPLAINING FIRM FINANCING

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent Variable	*Firm Angel and Venture Capital Financing*			*Firm Owners' Personal Bank Financing*			*Firm Bank Financing*		
County Inequality in 1890	-0.0767***	0.0544	-0.234***	0.407*	0.413*	0.398***	0.366	0.363	0.351***
	(0.000)	(0.900)	(0.000)	(0.066)	(0.060)	(0.000)	(0.117)	(0.116)	(0.000)
Firm Total Assets$_{t-1}$	0.108***	0.0999***	0.0982***	0.111***	0.112***	0.111***	0.135***	0.138***	0.137***
	(0.000)	(0.004)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm ROA$_{t-1}$	-0.105***	-0.104***	-0.102***	-0.0213	-0.0213	-0.0209***	-0.00905	-0.00842	-0.00860***
	(0.000)	(0.001)	(0.000)	(0.112)	(0.122)	(0.000)	(0.506)	(0.545)	(0.000)
Firm Tangibility$_{t-1}$	-0.000109	-0.0319	-0.0254***	0.170***	0.182***	0.189***	0.186***	0.197***	0.196***
	(0.983)	(0.742)	(0.000)	(0.009)	(0.004)	(0.000)	(0.001)	(0.000)	(0.000)
Firm Number of Owners$_{t-1}$	0.476***	0.500***	0.488***	-0.132***	-0.128***	-0.120***	-0.0655	-0.0610	-0.0565***
	(0.000)	(0.000)	(0.000)	(0.009)	(0.008)	(0.000)	(0.259)	(0.269)	(0.000)
Main Owner Is Female	-0.245***	-0.261**	-0.284***	0.00204	-0.00829	-0.0127***	-0.0276	-0.0312	-0.0324***
	(0.000)	(0.011)	(0.000)	(0.961)	(0.835)	(0.000)	(0.553)	(0.501)	(0.000)
Main Owner Is Black	-0.0320***	0.0355	0.110***	-0.162*	-0.155*	-0.165***	-0.197*	-0.188*	-0.191***
	(0.000)	(0.808)	(0.000)	(0.058)	(0.074)	(0.000)	(0.079)	(0.093)	(0.000)
Main Owner Has At Least College Degree	0.0458***	0.0613	0.0620***	0.0542	0.0593	0.0667***	0.0407	0.0442	0.0480***
	(0.000)	(0.607)	(0.000)	(0.241)	(0.197)	(0.000)	(0.330)	(0.291)	(0.000)
Main Owner Is Born in the US	0.122***	0.113	0.0204***	0.0379	0.0416	0.0481***	-0.00802	-0.00742	-0.00384***
	(0.000)	(0.237)	(0.000)	(0.712)	(0.684)	(0.000)	(0.921)	(0.927)	(0.003)
Main Owner's Work Experience	-0.00537***	-0.00378	-0.00257***	-0.00142	-0.00143	-0.00162***	-0.00104	-0.00109	-0.00125***
	(0.000)	(0.264)	(0.000)	(0.473)	(0.470)	(0.000)	(0.625)	(0.609)	(0.000)
State GDP$_{t-1}$	-1.540***	--	--	0.175	--	--	0.241	--	--
	(0.000)	--	--	(0.770)	--	--	(0.711)	--	--
County Population	2.81e-10	3.01e-10	1.31e-09	2.05e-08***	1.88e-08***	2.16e-08***	3.02e-09	1.62e-09	3.06e-09***
	(0.776)	(0.977)	(0.268)	(0.002)	(0.003)	(0.000)	(0.608)	(0.789)	(0.000)
County Catholic to Protestant Ratio	-0.00979***	-0.00777	-0.00429***	0.000648	0.00108	0.00120***	0.000800	0.00134	0.00128***
	(0.000)	(0.543)	(0.000)	(0.922)	(0.868)	(0.000)	(0.885)	(0.802)	(0.000)
County Whites to Total Population Ratio	0.0938***	0.0336	0.0762***	0.110	0.155	0.171***	0.235	0.260	0.266***
	(0.000)	(0.922)	(0.000)	(0.593)	(0.454)	(0.000)	(0.347)	(0.312)	(0.000)
County Votes for Democrats to Total Votes Ratio	1.031***	0.870**	0.936***	0.118	0.170	0.143***	0.119	0.171	0.158***
	(0.000)	(0.011)	(0.000)	(0.464)	(0.299)	(0.000)	(0.548)	(0.406)	(0.000)
County Personal Income Per Capita	0.163***	0.128	0.101***	-0.0363	-0.0357	-0.0365***	-0.0878	-0.0900	-0.0924***
	(0.000)	(0.388)	(0.000)	(0.482)	(0.482)	(0.000)	(0.153)	(0.145)	(0.000)
County Nonfarm Establishments Per Capita	4.020***	5.326	8.457***	-2.198	-2.131	-2.095***	-0.761	-1.029	-1.114***
	(0.000)	(0.276)	(0.000)	(0.596)	(0.607)	(0.000)	(0.869)	(0.826)	(0.000)
County Federal Government Expenditures Per Capita	-0.0115***	-0.0129	-0.00949***	-0.00138	-0.00171	-0.00203***	-0.00147	-0.00157	-0.00217***
	(0.000)	(0.205)	(0.000)	(0.818)	(0.782)	(0.000)	(0.730)	(0.717)	(0.000)
County Land Area	0.585***	0.552	0.565***	0.318***	0.354***	0.369***	0.00935	0.0529	0.0575***
	(0.000)	(0.294)	(0.000)	(0.004)	(0.002)	(0.000)	(0.850)	(0.291)	(0.000)
Constant	-1.835***	-10.48*	-9.715***	-9.277	-5.686***	-6.052***	-5.156	0.761***	0.754***
	(0.000)	(0.077)	(0.000)	(0.132)	(0.000)	(0.000)	(0.454)	(0.000)	(0.000)
State Fixed Effects	Yes (47)	--	--	Yes (47)	--	--	Yes (47)	--	--
Year Fixed Effects	Yes (3)	--	--	Yes (3)	--	--	Yes (3)	--	--
2-digit Industry Fixed Effects	Yes (23)	Yes (23)	--	Yes (23)	Yes (23)	--	Yes (23)	Yes (23)	--
State*Year Fixed Effects	No	Yes (193)	Yes (193)	No	Yes (193)	Yes (193)	No	Yes (193)	Yes (193)
Industry*Year Fixed Effects	No	No	Yes (65)	No	No	Yes (65)	No	No	Yes (65)
Number of Observations	4,303	4,307	4,307	6,200	6,204	6,204	6,236	6,240	6,240
Pseudo R-squared	0.262	0.360	0.439	0.085	0.113	0.123	0.100	0.120	0.129
Semi-Elasticity for a St. Dev. Change in County Inequality	*-9.3%*	*6.6%*	*-28.5%*	*28.3%*	*28.8%*	*27.7%*	*20.8%*	*20.7%*	*20.0%*

NOTES. Models (1) to (9) are estimated with a tobit model. All models are left censored at 0 and right censored at 1. All models take into account cross-sectional Kauffman Firm Survey weights. The definition of the variables can be found in Table I. *t-1* indicates a one year lag. "Yes" indicates that the set of fixed effects is included. "No" indicates that the set of fixed effects is not included. "--" indicates that the indicated set of characteristics or fixed effects are comprised in the wider included set of fixed effects. Standard errors are clustered at the state level. P-values are given in parentheses. The *Semi-Elasticity for a St. Dev. Change in County Inequality* is calculated as the percent change in the dependent variable for a change of one standard deviation (i.e., 0.14) in County Inequality divided by a one standard deviation in the dependent variable (with all independent variables set at their mean). ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

TABLE V

MAIN SPECIFICATIONS EXPLAINING FIRM TYPE

Model	(1)	(2)	(3)
Dependent Variable	*Firm is High Tech*		
County Inequality in 1890	-1.229**	-0.660**	-1.291**
	(0.026)	(0.030)	(0.021)
Firm Total Assets$_{t-1}$	-0.0104	-0.0724***	-0.0102
	(0.642)	(0.000)	(0.651)
Firm ROA$_{t-1}$	-0.0200	0.0172*	-0.0230
	(0.205)	(0.060)	(0.152)
Firm Tangibility$_{t-1}$	-0.760***	-0.813***	-0.796***
	(0.000)	(0.000)	(0.000)
Firm Number of Owners$_{t-1}$	0.313***	0.0750	0.324***
	(0.006)	(0.387)	(0.005)
Main Owner Is Female	-0.364***	-0.277***	-0.375***
	(0.004)	(0.000)	(0.004)
Main Owner Is Black	0.477***	0.169	0.492***
	(0.001)	(0.150)	(0.001)
Main Owner Has At Least College Degree	0.314***	0.459***	0.308***
	(0.000)	(0.000)	(0.001)
Main Owner Is Born in the US	-0.303**	-0.322***	-0.302**
	(0.029)	(0.002)	(0.034)
Main Owner's Work Experience	0.0185***	0.0196***	0.0187***
	(0.000)	(0.000)	(0.000)
State GDP$_{t-1}$	-0.0325	--	--
	(0.964)	--	--
County Population	-4.21e-09	6.16e-10	-4.15e-09
	(0.839)	(0.972)	(0.847)
County Catholic to Protestant Ratio	-0.0188*	-0.0159*	-0.0195*
	(0.096)	(0.081)	(0.086)
County Whites to Total Population Ratio	0.0136	0.399	0.0713
	(0.982)	(0.209)	(0.907)
County Votes for Democrats to Total Votes Ratio	0.158	0.721**	0.188
	(0.733)	(0.017)	(0.694)
County Personal Income Per Capita	0.0316	0.0650	0.0287
	(0.784)	(0.484)	(0.810)
County Nonfarm Establishments Per Capita	2.003	0.0482	2.493
	(0.759)	(0.990)	(0.711)
County Federal Government Expenditures Per Capita	0.00397	0.00636	0.00375
	(0.759)	(0.279)	(0.782)
County Land Area	-0.758	0.0890	-0.798
	(0.303)	(0.689)	(0.272)
Constant	2.410	-2.611	5.717
	(0.828)	(0.298)	(0.445)
State Fixed Effects	Yes (46)	--	--
Year Fixed Effects	Yes (3)	--	--
2-digit Industry Fixed Effects	Yes (6)	No	--
State*Year Fixed Effects	No	Yes (189)	Yes (189)
Industry*Year Fixed Effects	No	No	Yes (15)
Number of Observations	4,596	8,516	4,494
Pseudo R-squared	0.369	0.146	0.363
Semi-Elasticity for a St. Dev. Change in County Inequality	*-11.0%*	*-3.7%*	*-13.7%*

NOTES. Models (1) to (3) are estimated with a probit model. All models take into account cross-sectional Kauffman Firm Survey weights. A firm is defined to be a high tech firm based upon the High Technology Industries NAICS classification taken from the NSF Science and Engineering Indicators 2006. The definition of the variables can be found in Table I. *t-1* indicates a one year lag. "Yes" indicates that the set of fixed effects is included. "No" indicates that the set of fixed effects is not included. "--" indicates that the indicated set of characteristics or fixed effects are comprised in the wider included set of fixed effects. Standard errors are clustered at the state level. P-values are given in parentheses. The *Semi-Elasticity for a St. Dev. Change in County Inequality* is calculated as the percent change in the dependent variable for a change of one standard deviation (i.e., 0.14) in County Inequality divided by a one standard deviation in the dependent variable (with all independent variables set at their mean). ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

TABLE VI

EXPLAINING FIRM OWNERSHIP AND FINANCING INCLUDING PARTISAN ELECTION OF JUDGES INTERACTION EFFECT

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent Variable	*Firm is proprietorship*			*Firm Equity*			*Firm Family Financing*		
Panel A: Partisan interaction effect on firm ownership									
County Inequality in 1890	0.786**	0.782**	0.778**	0.246	0.240	0.266***	0.151***	0.136***	0.146***
	(0.014)	(0.015)	(0.014)	(0.198)	(0.188)	(0.000)	(0.000)	(0.000)	(0.000)
Partisan Dummy	-2.800***	2.264	1.935	-0.868***	-1.012	-1.033***	0.379***	4.282***	6.292***
	(0.000)	(0.296)	(0.378)	(0.000)	(0.215)	(0.000)	(0.000)	(0.000)	(0.000)
County Inequality in 1890 * Partisan Dummy	0.898	0.915	1.181	0.511	0.488	0.549***	-0.383***	-0.279***	-0.176***
	(0.250)	(0.249)	(0.191)	(0.242)	(0.265)	(0.000)	(0.000)	(0.000)	(0.000)
Semi-Elasticity of the Interaction Term for a St. Dev. Change in County Inequality	6.57%	6.68%	8.56%	17.34%	16.57%	18.64%	-64.82%	-47.29%	-29.88%
Dependent variable	*Firm Angel and Venture Capital Financing*			*Firm Owners' Personal Bank Financing*			*Firm Bank Financing*		
Panel B: Partisan interaction effect on firm financing									
County Inequality in 1890	0.0566***	0.260***	-0.0291***	0.329	0.345***	0.328***	0.317	0.317***	0.310***
	(0.000)	(0.000)	(0.000)	(0.200)	(0.000)	(0.000)	(0.210)	(0.000)	(0.000)
Partisan Dummy	0.752***	7.553***	8.706***	-0.301	5.509***	5.311***	-0.146	4.542***	4.714***
	(0.000)	(0.000)	(0.000)	(0.120)	(0.000)	(0.000)	(0.519)	(0.000)	(0.000)
County Inequality in 1890 * Partisan Dummy	-1.699***	-2.317***	-2.192***	0.522	0.471***	0.501***	0.332	0.287***	0.253***
	(0.000)	(0.000)	(0.000)	(0.172)	(0.000)	(0.000)	(0.429)	(0.000)	(0.000)
Semi-Elasticity of the Interaction Term for a St. Dev. Change in County Inequality	-206.90%	-282.20%	-267.03%	36.34%	32.81%	34.86%	18.92%	16.39%	14.41%
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	--	--	Yes	--	--	Yes	--	--
Year Fixed Effects	Yes	--	--	Yes	--	--	Yes	--	--
2-digit Industry Fixed Effects	Yes	Yes	--	Yes	Yes	--	Yes	Yes	--
State*Year Fixed Effects	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Industry*Year Fixed Effects	No	No	Yes	No	No	Yes	No	No	Yes
Number of Observations Panel A	8,490	8,445	8,435	6,202	6,202	6,202	4,297	4,297	4,297
Number of Observations Panel B	4,296	4,296	4,296	6,194	6,194	6,194	6,229	6,229	6,229

NOTES. Models (1) to (3) are estimated with a probit model, while Models (4) to (9) are estimated with a tobit model left censored at 0 and right censored at 1 in Panel A. Models (1) - (9) in panel B are estimated with a tobit model left censored at 0 and right censored at 1. All models take into account cross-sectional Kauffman Firm Survey weights. The definition of the variables can be found in Table I. The Partisan Dummy variable is an indicator variable that takes on the value of 1 if a firm is located in a state where the mode of selection for state Supreme Court judges is partisan and 0 otherwise. *t-1* indicates a one year lag. "Yes" indicates that the set of fixed effects is included. "No" indicates that the set of fixed effects is not included. "--" indicates that the indicated set of characteristics or fixed effects are comprised in the wider included set of fixed effects. Standard errors are clustered at the state level. P-values are given in parentheses. The *Semi-Elasticity for a St. Dev. Change in County Inequality* is calculated as the percent change in the dependent variable for a change of one standard deviation (i.e., 0.14) in County Inequality divided by a one standard deviation in the dependent variable (with all independent variables set at their mean) when the Partisan dummy variable is 0 or 1 respectively. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

TABLE VII

VARIABLE NAMES, DEFINITIONS, AND DATA SOURCES FOR THE EMPIRICAL ANALYSIS OF ENTREPRENEURIAL DYNAMISM

Variable Name	Variable Definition	*Source*
Dependent Variables		
Enjoy Uncertainty	= 5 if "Strongly agree", = 4 if "Agree", = 3 if "Neither", = 2 if "Disagree", = 1 if "Strongly disagree", in response to the question: "I enjoy the uncertainty of going into a new situation without knowing what might happen"	*PSED2*
Working on Another Start-Up	= 1 if "Yes", = 0 if otherwise, in response to the question: "Now that you are no longer involved in this start-up effort, are you working on another start-up?"	*PSED2*
Not Engaging in Product Innovation	= 3 if "None", = 2 if "Some", = 1 if "All", in response to the question: "Will all, some, or none of your potential customers consider this product or service new and unfamiliar?"	*PSED2*
Many Other Businesses Offer a Similar Product	= 3 if "Many", = 2 if "Few", = 1 if "No other", in response to the question: "Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?"	*PSED2*
Technological Start-Up	= 1 if "Yes" in response to at least one of the following questions, = 0 otherwise: (a) "Will spending on research and development be a major priority for this (new) business?"; (b) "Would you consider this (new) business to be hi-tech?"; (c) "Were the technologies or procedures required for this product or service generally available more than five years ago?"	*PSED2*
Main Independent Variable		
County Inequality in 1890	The Gini coefficient of the distribution of farm land in 1890 in the county (for counties in Oklahoma the state-level coefficient is used)	*USC*
Main Entrepreneurial Interaction Variables		
Entrepreneur Takes an Opportunity	= 1 if entrepreneur answers (a) or (c) in response to the following question, = 0 otherwise: "Are you involved in this (new) business to take advantage of a business opportunity or because you have no better choices for work? (a) Take advantage of business opportunity, (b) No better choice (c) Combination of both (if vol.), (d) Have a job but seek better employment"	*PSED2*
Entrepreneur's Expectation Of Number Of Employees	Entrepreneur's expected number of employees during the first year of operations	*PSED2*
Entrepreneur's Number Of Hours Devoted To New Business	Total number of hours devoted to the new business by the entrepreneur	*PSED2*
Entrepreneur's Expectation Of Total Revenues	Entrepreneur's expectation of total revenues during the first year of operations	*PSED2*
Control Variables		
Entrepreneur Characteristics		
Entrepreneur Is Male	= 1 if entrepreneur is a male, = 0 otherwise	*PSED2*
Entrepreneur Is Head Of Household	= 1 if entrepreneur is the head of a household, = 0 otherwise	*PSED2*
Entrepreneur Is Married	= 1 if entrepreneur is married, = 0 otherwise	*PSED2*
Entrepreneur Has A College Degree	= 1 if entrepreneur has a college degree, = 0 otherwise	*PSED2*
Entrepreneur's Age	The age of the entrepreneur measured in years	*PSED2*
Entrepreneur Has A Network	= 1 if the entrepreneur knows other entrepreneurs, = 0 otherwise	*AL*
Entrepreneur Is African American	= 1 if entrepreneur is African American, = 0 otherwise	*PSED2*
Entrepreneur's Self Assessed Skills	=1 if "Strongly agree" or "Agree", = 0 otherwise, in response to the question: "Overall, my skills and abilities will help me start this new business"	*AL*
Entrepreneur's Parents Ran Their Own Business	= 1 if entrepreneurs' parents ran their own business in the past, = 0 otherwise	*PSED2*
State and County Characteristics		
County Population	Natural logarithm of total county population at year-end	*USC*
County Catholic to Protestant Ratio	Ratio of the total number of Catholics divided by the total number of Evangelicals in the county at year-end 2000	*ARDA*
County Land Area	The logarithm of the total county area in squared acres at year-end 2000	*USC*
County Votes for Democrats to Total Votes Ratio	Ratio of the total number of votes for the Democratic Party in the 2004 and 2008 elections in the county divided by the total number of votes in the county	*USC*
County Personal Income Per Capita	The logarithm of the per capita average county personal income at year-end	*BEA*
County Nonfarm Establishments Per Capita	Total number of nonfarm establishments divided by the total population in the county at year-end	*USC*
County Whites to Total Population Ratio	Ratio of the total county population of white race at year-end divided by the total population in the county at year-end	*USC*
County Federal Government Expenditures Per Capita	Total Federal government expenditures in thousands of US Dollars during the year in the county divided by the total population in the county	*USC*

NOTES. The table defines the variables used in the empirical analysis of entrepreneurial dynamics, as well as the corresponding data sources used. Data sources include: *AL* = Silvia Ardagna and Annamaria Lusardi's paper : "Where does Regulation Hurt? Evidence from New Businesses Across Countries" , NBER Working Paper nr. 14747, February 2009; *ARDA* = Association of Religion Data Archives; *BEA* = Bureau of Economic Analysis; *PSED2* = Panel Study of Entrepreneurial Dynamics II; *USC* = US Census.

TABLE VIII

DESCRIPTIVE STATISTICS FOR THE ANALYSIS OF ENTREPRENEURIAL DYNAMISM

Variable Name	Number of Observations	Mean	Standard Deviation	10%	Median (50%)	90%
Dependent Variables						
Enjoy Uncertainty	1,209	2.79	1.16	1	2	4
Working on Another Start-Up	623	0.20	0.40	0	0	1
Not Engaging in Product Innovation	2,294	2.38	0.71	1	3	3
Many Other Businesses Offer a Similar Product	2,296	1.81	0.70	1	2	3
Technological Start-Up	2,308	0.44	0.50	0	0	1
Main Independent Variable						
County Inequality in 1890	7,272	0.37	0.16	0.19	0.32	0.64
Main Entrepreneurial Interaction Variables						
Entrepreneur Takes an Opportunity	3,109	0.82	0.38	0	1	1
Entrepreneur's Expectation of Number Of Employees	2,886	18.13	581.80	0	0	7
Entrepreneur's Expectation of Total Revenue	2,673	5.54	50.33	0.03	0.30	3.00
Entrepreneur's Number of Hours Devoted to New Business	6,630	15.79	47.07	0.40	3	30
Control Variables						
Entrepreneur Characteristics						
Entrepreneur Is Male	7,272	0.63	0.48	0	1	1
Entrepreneur Is Head of Household	7,272	0.92	0.28	1	1	1
Entrepreneur Is Married	7,272	0.53	0.50	0	1	1
Entrepreneur Has a College Degree	7,272	0.38	0.48	0	0	1
Entrepreneur's Age	7,176	41.47	12.88	25	40	55
Entrepreneur Has a Network	7,272	0.67	0.47	0	1	1
Entrepreneur Is Black	7,272	0.12	0.33	0	0	1
Entrepreneur's Self Assessed Skills	7,272	0.97	0.18	1	1	1
Entrepreneur's Parents Ran Their Own Business	7,242	0.52	0.50	0	1	1
State and County Characteristics						
County Population	7,272	860,313	1,701,000	25,855	259,650	2,009,000
County Catholic to Protestant Ratio	7,254	3.91	6.00	0.11	1.71	11.27
County Land Area	7,272	1,606	2,421	323	798	4,526
County Votes for Democrats to Total Votes Ratio	7,272	0.47	0.13	0.31	0.46	0.64
County Personal Income per Capita	7,272	33,981	9,697	24,051	32,502	45,759
County Nonfarm Establishments per Capita	7,272	0.03	0.01	0.02	0.03	0.03
County Whites to Total Population Ratio	7,272	0.82	0.14	0.64	0.85	0.96
County Federal Government Expenditures per Capita	7,272	7.37	4.76	4.17	6.45	11.07

NOTES. The table provides the number of observations, mean, standard deviation, 10th percentile, the median (50th percentile) and the 90th percentile of all variables used in the empirical analysis.

TABLE IX

MAIN SPECIFICATIONS EXPLAINING ENTREPRENEURIAL DYNAMISM

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent Variable	*Enjoy Uncertainty*		*Working on Another Start-Up*		*Not Engaging in Product Innovation*	*Many Other Businesses Offer a Similar Product*	*Technological Start-Up*
County Inequality in 1890	-0.638*	-0.619*	-1.889**	-2.765***	0.103	-0.497	0.017
	(0.401)	(0.393)	(0.782)	(1.044)	(0.297)	(0.338)	(0.373)
Entrepreneur Is Male	0.366***	0.356***	-0.261	-0.505*	-0.075	-0.025	0.056
	(0.101)	(0.098)	(0.214)	(0.269)	(0.085)	(0.076)	(0.097)
Entrepreneur Is Head of Household	0.04	0.061	0.395	0.807*	-0.023	0.053	-0.376*
	(0.138)	(0.140)	(0.280)	(0.420)	(0.131)	(0.168)	(0.192)
Entrepreneur Is Married	-0.088	-0.098	-0.507***	-0.881***	0.116	0.116*	-0.145*
	(0.088)	(0.095)	(0.167)	(0.301)	(0.086)	(0.069)	(0.083)
Entrepreneur Has a College Degree	-0.125*	-0.114	0.154	0.098	0.029	0.065	-0.173**
	(0.075)	(0.074)	(0.172)	(0.226)	(0.093)	(0.087)	(0.077)
Entrepreneur's Age	0.071	0.079	-0.508*	-0.674*	0.004	-0.305**	0.025
	(0.100)	(0.101)	(0.262)	(0.381)	(0.087)	(0.126)	(0.121)
Entrepreneur Has a Network	0.088	0.097	0.422***	0.929***	-0.030	-0.004	0.100
	(0.085)	(0.085)	(0.154)	(0.327)	(0.069)	(0.082)	(0.116)
Entrepreneur Is Black	-0.159	-0.157	0.150	0.048	-0.249**	-0.280**	0.630***
	(0.130)	(0.128)	(0.254)	(0.460)	(0.116)	(0.114)	(0.108)
Entrepreneur's Self Assessed Skills	0.093	0.092	0.814**	0.689*	0.188	-0.162	0.191
	(0.251)	(0.246)	(0.320)	(0.418)	(0.271)	(0.136)	(0.248)
Entrepreneur's Parents Ran Their Own Business	-0.053	-0.062	-0.143	-0.281	-0.104	-0.015	0.116
	(0.092)	(0.090)	(0.185)	(0.279)	(0.078)	(0.080)	(0.099)
County Population	0.025	0.015	-0.030	-0.087	0.042	0.131***	-0.066
	(0.026)	(0.027)	(0.083)	(0.107)	(0.029)	(0.027)	(0.045)
County Catholic to Protestant Ratio	-0.008	-0.010	0.037	0.084**	0.000	-0.001	-0.007
	(0.009)	(0.009)	(0.036)	(0.042)	(0.010)	(0.011)	(0.010)
County Land Area	-0.120**	-0.121**	0.291*	0.421**	-0.022	-0.047	-0.008
	(0.058)	(0.057)	(0.150)	(0.211)	(0.060)	(0.066)	(0.071)
County Votes for Democrats to Total Votes Ratio	0.013***	0.014***	0.010	-0.006	-0.003	0.000	0.005
	(0.005)	(0.005)	(0.008)	(0.012)	(0.006)	(0.005)	(0.005)
County Personal Income per Capita	0.019	0.027	-0.454	-1.493**	0.043	0.086**	0.026
	(0.019)	(0.019)	(0.405)	(0.667)	(0.027)	(0.040)	(0.033)
County Nonfarm Establishments per Capita	-4.655	-4.487	21.214	60.057**	-2.479	1.801	-1.594
	(6.228)	(6.385)	(19.447)	(29.209)	(5.134)	(6.528)	(6.656)
County Whites to Total Population Ratio	0.006	0.006	-0.012	-0.035*	0.004	0.006	-0.001
	(0.005)	(0.005)	(0.012)	(0.018)	(0.006)	(0.005)	(0.004)
County Federal Government Expenditures per Capita	-0.016*	-0.019**	-0.072***	-0.117***	0.007	0.018*	-0.021*
	(0.010)	(0.010)	(0.025)	(0.036)	(0.009)	(0.010)	(0.013)
State Fixed Effects	Yes (48)	Yes (48)	Yes (35)	No	Yes (47)	Yes (47)	Yes (47)
Year Fixed Effects	No	No	Yes (5)	Yes (5)	Yes (6)	Yes (6)	Yes (6)
1-digit Industry Fixed Effects	Yes (8)	No	No	No	No	No	No
2-digit Industry Fixed Effects	No	Yes (22)	Yes (17)	Yes (17)	Yes (22)	Yes (22)	Yes (22)
State*Year Fixed Effects	No	No	No	Yes (68)	No	No	No
2-digit Industry*Year Fixed Effects	No	No	No	No	No	No	No
Number of Observations	1,185	1,185	533	346	2,156	2,160	2,168
Semi-Elasticity for a St. Dev. Change in County Inequality	-8.21%	*-7.97%*	*-39.30%*	*-57.20%*	0.65%	-8.28%	0.22%

NOTES. Models (1),(2), (5) and (6) are estimated with an ordered probit model. Models (3), (4) and (7) are estimated with a probit model. The definition of the variables can be found in Table VII. "Yes" indicates that the set of fixed effects is included. "No" indicates that the set of fixed effects is not included. "--" indicates that the indicated set of characteristics or fixed effects are comprised in the wider included set of fixed effects. Standard errors are clustered at the state level. P-values are given in parentheses. The *Semi-Elasticity for a St. Dev. Change in County Inequality* is calculated as the percent change in the dependent variable for a change of one standard deviation (i.e., 0.16) in County Inequality divided by a one standard deviation in the dependent variable (with all independent variables set at their mean). For the ordered probit models we use the marginal effects from equivalent linear models to make the estimated semi-elasticity independent of the transitions between the ordered categories of the dependent variable. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

TABLE X

EXPLAINING ENTREPRENEURIAL DYNAMISM INCLUDING INTERACTION EFFECTS

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dependent Variable	*Not Engaging in Product Innovation*				*Many Other Businesses Offer a Similar Product*				*Technological Start-Up*			
Panel A: Entrepreneur Takes an Opportunity												
County Inequality in 1890	-0.349	-0.293	-0.342	-0.469	-0.754**	-0.653**	-0.676*	-0.752*	0.111	0.034	0.090	0.039
	(0.264)	(0.253)	(0.266)	(0.303)	(0.334)	(0.318)	(0.348)	(0.442)	(0.272)	(0.231)	(0.228)	(0.278)
Entrepreneur Takes an Opportunity	-0.207	-0.199	-0.191	-0.251*	-0.233*	-0.229*	-0.223*	-0.233	0.031	0.024	0.031	0.026
	(0.129)	(0.119)	(0.126)	(0.142)	(0.124)	(0.121)	(0.128)	(0.166)	(0.103)	(0.091)	(0.090)	(0.105)
Entrepreneur Takes an Opportunity * County Inequality 1890	0.476*	0.464*	0.463*	0.737**	0.483	0.468	0.497	0.555	-0.115	-0.112	-0.184	-0.157
	(0.261)	(0.244)	(0.250)	(0.302)	(0.315)	(0.302)	(0.346)	(0.472)	(0.261)	(0.213)	(0.209)	(0.239)
Semi-Elasticity of the Interaction Term for a St. Dev. Change in County Inequality and												
Entrepreneur Takes an Opportunity = 0	-7.83%	-6.58%	-7.67%	-10.52%	-17.19%	-14.88%	-15.41%	-17.14%	3.58%	1.10%	2.90%	1.26%
Entrepreneur Takes an Opportunity = 1	2.85%	3.84%	2.72%	6.01%	-6.18%	-4.22%	-4.08%	-4.49%	-0.13%	-2.52%	-3.03%	-3.81%
Panel B: Entrepreneur's Expectation of Number of Employees												
County Inequality in 1890	0.170	0.179	0.118	0.116	-0.370	-0.300	-0.307	-0.319	-0.016	-0.066	-0.074	-0.088
	(0.221)	(0.224)	(0.221)	(0.203)	(0.262)	(0.262)	(0.279)	(0.312)	(0.166)	(0.145)	(0.149)	(0.161)
Entrepreneur's Expectation of Number of Employees	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001**	-0.001**	0.001**	0.001**	0.001**	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Entrepreneur's Expectation of Number of Employees * County Inequality 1890	0.002***	0.002***	0.002***	0.002***	0.001***	0.001***	0.001**	0.001**	-0.001**	-0.001**	-0.001***	-0.001***
	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Semi-Elasticity of the Interaction Term for a St. Dev. Change in County Inequality and												
Entrepreneur's Expectation Of Number Of Employees = Mean - One Standard Deviation	-21.48%	-21.28%	-22.65%	-22.69%	-21.28%	-19.68%	-19.84%	-20.12%	17.67%	16.05%	15.80%	15.34%
Entrepreneur's Expectation Of Number Of Employees = Mean + One Standard Deviation	30.74%	30.94%	29.57%	29.53%	5.24%	6.84%	6.68%	6.40%	-19.87%	-21.48%	-21.74%	-22.19%
Panel C: Entrepreneur's Expectation of Total Revenue												
County Inequality in 1890	0.076	0.101	0.076	0.130	-0.257	-0.207	-0.230	-0.267	-0.084	-0.135	-0.146	-0.146
	(0.215)	(0.215)	(0.217)	(0.207)	(0.263)	(0.268)	(0.285)	(0.343)	(0.169)	(0.146)	(0.147)	(0.154)
Entrepreneur's Expectation of Total Revenue	-0.004*	-0.004*	-0.004*	-0.004*	-0.003	-0.003	-0.003	-0.002	0.003***	0.002***	0.002**	0.002**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Entrepreneur's Expectation of Total Revenue * County Inequality 1890	0.006*	0.006*	0.006*	0.007*	0.003	0.003	0.003	0.002	-0.004***	-0.003***	-0.003**	-0.003**
	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.001)	(0.001)	(0.001)	(0.001)
Semi-Elasticity of the Interaction Term for a St. Dev. Change in County Inequality and												
Entrepreneur's Expectation of Total Revenue = Mean - One Standard Deviation	-4.33%	-3.76%	-4.33%	-4.12%	-8.92%	-7.78%	-8.30%	-8.13%	3.07%	-0.02%	-0.38%	-0.38%
Entrepreneur's Expectation Of Total Revenue = Mean + One Standard Deviation	9.23%	9.79%	9.23%	10.44%	-2.04%	-0.90%	-1.42%	-3.54%	-9.92%	-9.76%	-10.12%	-10.12%
Panel D: Entrepreneur's Number of Hours Devoted to New Business												
County Inequality in 1890	-0.065	0.016	-0.059	0.055	-0.434*	-0.333*	-0.385*	-0.356	0.108	0.047	0.037	-0.016
	(0.207)	(0.192)	(0.214)	(0.227)	(0.217)	(0.189)	(0.203)	(0.306)	(0.160)	(0.144)	(0.162)	(0.163)
Entrepreneur's Number of Hours Devoted to New Business	0.002*	0.002**	0.002*	0.002*	-0.000	0.000	-0.000	-0.000	-0.000	-0.000	-0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
Entrepreneur's Number of Hours Devoted to New Business* County Inequality 1890	-0.005	-0.005**	-0.005	-0.007*	0.002	0.001	0.002	0.002	0.001	0.001	0.001	-0.000
	(0.003)	(0.003)	(0.003)	(0.003)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Semi-Elasticity of the Interaction Term for a St. Dev. Change in County Inequality and												
Entrepreneur's Number Of Hours Devoted To New Business = Mean - One Standard Deviation	2.05%	3.87%	2.19%	6.15%	-11.32%	-8.30%	-10.20%	-9.54%	2.47%	0.51%	0.18%	-0.52%
Entrepreneur's Number Of Hours Devoted To New Business = Mean + One Standard Deviation	-8.51%	-6.69%	-8.38%	-8.64%	-7.03%	-6.16%	-5.91%	-5.25%	-9.46%	-9.46%	-9.46%	-11.48%
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	No	--	Yes	Yes	No	--	Yes	Yes	No	--
Year Fixed Effects	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No
1-digit Industry Fixed Effects	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No
2-digit Industry Fixed Effects	No	Yes	Yes	--	No	Yes	Yes	--	No	Yes	Yes	--
State*Year Fixed Effects	No	No	Yes	Yes (140)	No	No	Yes	Yes (140)	No	No	Yes	Yes (116)
2-digit Industry*Year Fixed Effects	No	No	No	Yes (138)	No	No	No	Yes (138)	No	No	No	Yes (20)
Number of Observations	1,737	1,737	1,737	1,175	1,746	1,746	1,746	1,183	1,749	1,749	1,749	1,186

NOTES. All models are estimated with ordinary least squares. The definition of the variables can be found in Table VII. "Yes" indicates that the set of fixed effects is included. "No" indicates that the set of fixed effects is not included. "--" indicates that the indicated set of characteristics or fixed effects are comprised in the wider included set of fixed effects. Standard errors are clustered at the state level. P-values are given in parentheses. The *Semi-Elasticity of the Interaction Term for a St. Dev. Change in County Inequality* is calculated as the percent change in the dependent variable for a change of one standard deviation (i.e., 0.16) in County Inequality times the indicated value for the second variable in the interaction term divided by a one standard deviation in the dependent variable. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.