



Self-Employment, Family-Business Ownership, and Economic Mobility

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Introduction

The American Dream has often included the idea of getting ahead by founding a successful small business. Upward mobility driven by entrepreneurship is a notion invoked by policymakers at the highest levels, most recently by President Obama who declared November 2013 National Entrepreneurship Month. Hundreds of government, nongovernmental, and foundation programs throughout the United States promote self-employment and small business ownership as a path out of unemployment or welfare rolls. While many Americans choose self-employment or start their own business in search of fortune, others are motivated by a desire for ownership, or independence, a better quality of life, or a more accommodating schedule. The choice to become self-employed or start a family business may have long-term consequences, but there is little evidence on the impacts of entrepreneurship on economic mobility.

The entrepreneurial risk-reward trade-off is well-known. Entrepreneurs can garner a higher average level of income but face a risk of business failure and ongoing uncertainty in family income associated with more volatile business income. Higher incomes and greater risk can both lead to greater economic mobility on average. But do higher-than-average incomes actually lead entrepreneurs to experience greater economic advancement relative to paid workers?

Previous studies that examine the effects of entrepreneurship and self-employment on income mobility find mixed results (Brown 2013). Using Panel Study of Income Dynamics (PSID) data from 1969 to 1990, Holtz-Eakin, Rosen, and Weathers (2000) characterize the income mobility of self-employed individuals over one-, two-, and five-year intervals. Their analysis shows a greater likelihood of new entrepreneurs to move both up and down the income distribution, relative to working individuals. Using data from the National Longitudinal Survey of Youth, Fairlie (2004) finds that young, less-educated self-employed individuals experience faster earnings growth in comparison to wage and salary workers. A subsequent paper reports mixed results by gender (Fairlie 2005).

We test the notion that entrepreneurship is a path to economic advancement in the United States by comparing the income mobility of self-employed and family-business owning entrepreneurs to the income mobility of wage and salary workers, using data from the PSID covering 1968–2007. In some models, we address selection into entrepreneurship using variation in the progressivity of state tax schedules to adjust for differential incentives for entrepreneurship.

One might suppose that people who become entrepreneurs are “positively selected,” meaning they have a drive and talent that would have led them to succeed had they not started a business. In that case, any observed advantage of entrepreneurs over wage-and-salary workers would overstate the true impact of entrepreneurship on outcomes. However, people who become entrepreneurs might be “negatively selected,” deciding to work for themselves only after discovering that their job prospects are more dismal than they had hoped. In this case their traits would have led them to fail had they not started a business. We find suggestive evidence of negative selection in examining both upward and downward mobility, using instrumental variables to address selection into entrepreneurship, meaning that those induced to work in family businesses would have had worse outcomes as wage-and-salary workers.

Family-business ownership is associated with faster upward mobility than observed in paid work once selection is addressed. In contrast to the regressions assuming exogeneity of business ownership, using state tax progressivity as an excluded instrument yields a positive and significant instrumental variables coefficient on family-business ownership, where the outcome is upward income mobility from 1980 to 1999. In separate tests of downward mobility, the instrumental variables coefficient is negative and significant, indicating that family-business ownership improved mobility prospects in both directions, after adjusting for selection.

Taken together, the instrumental variables regressions suggest that family-business ownership led to a higher level of economic advancement relative to working for someone else in the 1980s and 1990s. Owning or having a management stake in a small business had an unambiguously positive effect on upward income mobility during the 1980s and 1990s after controlling for resources in the 1970s.

In contrast, we find no evidence that self-employment provides any particular advantage in improving upward mobility or in protecting against downward mobility for the worker, but may improve outcomes for the worker's children. Analysis of intergenerational mobility suggests the children of self-employed fathers experience more upward income mobility, relative to the children of wage-and-salary workers. This effect is more pronounced among self-employed fathers with lower initial income, so self-employment may play an equalizing role. Long-run intergenerational differentials are small, and the evidence merely suggestive, however.

Data

The data for this study come from the 1968 through 2009 interview years of the PSID, corresponding to 1967 through 2008 calendar years. The sample contains about 6,600

respondents in each year in the 1968–2009 period, for a total of 237,163 observation-years. The number of observations ranged from 5,225 in 1997 to 7,494 in 1994. The sample was 53 percent female, and 16 percent of respondents were nonwhite (all reported statistics and estimates are weighted using the PSID core individual weight).

Self-employment and family-business ownership are annual indicators of entrepreneurial status derived from PSID survey questions. The question determining self-employment status: “(Are/Were) you (HEAD) self-employed, (are/were) you employed by someone else, or what?” captures individuals who report being self-employed exclusively and those who report both working for someone else and being self-employed. However, individuals who report they do not currently work for money have been removed from the sample of self-employed individuals—about 20 percent of those responding.

The question determining family-business ownership is generated from the question: “Did you (or anyone else in the family there) own a business at any time in (year X) or have a financial interest in any business enterprise?” This could include a side business owned by a wage-and-salary worker. In contrast, self-employed business owners are defined by their main job activity rather than by the activities of others in the household.

The percentage of individuals reporting self-employment or family-business ownership varies from year to year. On average, about 14 percent of the sample respondents reported self-employment; the lowest estimated fraction was 12.5 percent in 1999, and the reported peak was 15.5 percent in 1983. On average, 15 percent of individuals reported family-business ownership, with a low of 10.6 percent in 1968 and a high of 18.3 percent in 1997. Fourteen percent of self-employed respondents indicated they had not achieved a high school degree, whereas 9 percent of family-business owners did.

The families of the self-employed and family-business owners are similar along other observed dimensions such as gender, family composition change, race, age, marital status, and numbers of children. A substantial percentage of respondents (57 percent) in our sample report having participated in either self-employment or family-business ownership for as little as one year at any point during 1968–2009. Those ever entrepreneurs are less likely to be nonwhite and unmarried, and more likely to be college-educated and to have no children.

Transition Matrix Results

One common way of measuring income or status mobility uses a transition matrix. It shows the proportion of people starting out in one segment of the distribution (for example, the bottom fifth or the middle third) who wind up in the same segment, a higher segment, or a lower segment. We estimate a large number of matrices using thirds of the needs-adjusted income distribution. If movements into self-employment or business operation are correlated with family change, then adjusting for family structure may conflate changes in income and changes in need. But the broad pattern of results holds without adjusting for changing family composition, so we present only results using needs-adjusted income here.

The transition matrix showing income and occupational mobility over 1980 to 1984 is roughly representative of the full transition matrices for each period. Of course, businesses may develop over a longer period, but transitions across five years already show very different mobility out of the bottom third of the distribution among those who transition out of wage-and-salary work into entrepreneurship. Table 1 was developed using data for family-business owners. Tables for the self-employed show comparable but not identical transition rates. Individuals are classified by their position in the 1980 income distribution, and estimates are presented separately according to their starting period and ending occupations:

- *Staying worker*: Start and end as wage-and-salary worker
- *Staying entrepreneur*: Start and end as entrepreneur
- *Switching worker*: Start as entrepreneur and end as wage-and-salary worker
- *Switching entrepreneur*: Start as wage-and-salary worker and end as entrepreneur

The cell percentages represent the proportion of individuals transitioning between different levels of the income distribution over the five-year time step. For example, 75 percent of staying workers remained at the bottom of the income distribution, 22 percent moved from the bottom to the middle, and 4 percent moved from the bottom to the top.

In short, simple trends with few controls suggest that the self-employed experience no greater chance of upward mobility than their working counterparts, in sharp contrast to those operating family businesses. In addition, those switching from work to self-employment experienced some of the highest levels of downward mobility over the five years.

Effect of Self-Employment and Family-Business Ownership on Income Mobility

We next separately estimate the effects of self-employment and family-business ownership on various outcome measures of income mobility using nonlinear panel data regression. The key outcome measures are family rank in the income distribution and relative mobility indicators for the movement across tenths of the family income distribution. Each outcome is regressed on a vector of individual controls including self-employment, family business, and worker status using a generalized linear model with a logit link.

The primary relationship of interest pertains to the two measures of entrepreneurship \mathbf{entrep}^T_{it} where T indicates the type of entrepreneurship: either self-employment or family-business ownership. The vector of individual characteristics \mathbf{X}_{it} includes a constant, the individual's initial income-to-needs rank or category, gender, age, squared-age, mean lagged family income (averaged over three years and lagged 10 years), the individual's highest level of educational attainment, household head's marital status, household head's race, and an indicator of whether the family's composition has changed over the prior year.

Rank

The outcome \mathbf{rank}_{it} indexes the individual's relative position in the annual distribution of family incomes, scaled to the unit interval (0,1); i indexes individuals and t indexes years. The primary coefficients in table 2 report the mean difference in the relative position of self-employed and family-business owners versus wage-and-salary workers in the income distribution over the measurement period. The coefficients on each regressor reflect its marginal impact on individual rank in the income distribution (as measured in deciles) over the estimated period.

On average, self-employed individuals were positioned 19.8 percentage points lower in the income distribution in relation to workers with similar starting incomes during 1980–2007. The trend is also negative, and significant income differences persisted in each of the observed ten-

year periods. However, there was some evidence that the gap in self-employed and worker incomes reduced somewhat in 1996–2005, when self-employed incomes were 9.2 percentage points below that of workers with similar starting incomes.

The experience of family-business owners was more variable, with significant and positive differences in some years and no statistically detectable difference in others. On average, family-business owners' incomes ranked 7.3 percentage points above those reported by workers in 1980–2007, a significant result. Positive and significant coefficients in 1980–89 and 1996–2005 indicate that family-business owners held a higher position relative to workers in some periods. However, coefficients in 1985–94 and 1990–99 were not significant, indicating that we cannot statistically distinguish the observed differences from zero in those periods.

Table 2. Difference in Entrepreneur and Wage-and-Salary Worker Income-to-Needs Rank

Outcome: $rank_{it}$		1980–2007	1980–89	1985–94	1990–99	1996–2005
Family-business ownership	coef.	0.073***	0.093*	0.064	0.013	0.084*
	z	[3.494]	[2.156]	[1.906]	[0.394]	[2.457]
	N	94,945	38,609	40,448	34,668	19,969
Self-employment	coef.	-0.198***	-0.226***	-0.280***	-0.257***	-0.092*
	z	[-7.697]	[-5.028]	[-7.456]	[-7.111]	[-2.496]
	N	74,529	29,456	31,448	27,333	16,544

* Significant at 10%; ** significant at 5%; *** significant at 1%. Robust z-statistics in brackets.

Upward and Downward Mobility

Mobility outcomes include binary indicators of upward and downward income mobility across deciles (e.g., up from one tenth of the distribution to a higher tenth, or down from one tenth to another tenth), with regression results in tables 3 and 4, respectively. The upward mobility outcome up_{it} is 1 if the individual i is in a higher tenth of the family-income-to-needs distribution in year t than in year $t-10$, and 0 otherwise, an indicator of crossing a decile in an upward direction. The downward mobility outcome $down_{it}$ is 1 if the individual i is in a lower tenth of the family-income-to-needs distribution in year t than in year $t-10$, and 0 otherwise.

Family-business ownership was found to be associated with significantly increased log odds of upward mobility (table 3, column 1) with a coefficient of 0.16, which translates to a 17 percent higher odds of upward mobility over 1980–2007, relative to salaried workers. Estimates are positive and significant in 1980–89 and in 1996–2005 but cannot be differentiated from zero in the intervening years. Associations of family-business ownership with downward mobility (table 4) are less clear, with some negative and some positive associations shown.

Table 3. Probability of Experiencing Upward Mobility of One-Tenth or More, 1980–2007

Outcome: up_{it}		1980–2007	1980–89	1985–94	1990–99	1996–2005
Family-business ownership	coef.	0.160***	0.200**	0.049	0.009	0.221***
	z	[3.985]	[2.845]	[0.797]	[0.143]	[3.632]
	N	85,378	34,770	36,393	31,089	17,822
Self-employment	coef.	-0.173***	-0.209***	-0.358***	-0.308***	-0.003
	z	[-4.390]	[-3.291]	[-6.012]	[-4.022]	[-0.044]
	N	66,564	26,285	28,118	24,366	14,677

* Significant at 10%; ** significant at 5%; *** significant at 1%. Robust z-statistics in brackets.

Table 4. Probability of Experiencing Downward Mobility of One-Tenth or More, 1980–2007

Outcome: $down_{it}$		1980–2007	1980–89	1985–94	1990–99	1996–2005
Family-business ownership	coef.	-0.012	-0.076	0.081	0.128*	-0.046
	z	[-0.294]	[-0.976]	[1.365]	[2.187]	[-0.766]
	N	86,594	35,317	36,935	31,580	18,235
Self-employment	coef.	0.397***	0.392***	0.597***	0.539***	0.244***
	z	[8.940]	[5.333]	[11.090]	[8.161]	[3.498]
	N	70,228	27,944	29,692	25,700	15,514

* Significant at 10%; ** significant at 5%; *** significant at 1%. Robust z-statistics in brackets.

Self-employment is associated with decreased odds of upward mobility with a coefficient of -0.173, which corresponds to a 16 percent decline in the odds of upward mobility, relative to salaried workers (table 3, column 1). The estimated coefficients are each significant and negative in all but the last period (1996–2005), when the difference was zero. Self-employment is also associated with greater odds of downward mobility, suggesting either that self-employment has deleterious impacts on relative mobility, or that people who would have experienced worse mobility selected into self-employment.

Mobility from the Bottom of the Distribution

In addition, we estimate the upward mobility of those starting from the bottom of the distribution, using logit regression with cluster robust standard errors at the state level, controlling for initial position in the income distribution. For initial incomes in the lowest fifth (the lowest two deciles), $uplow_{it}$ is equal to 1 for a positive change in the income decile relative to 10 years before.

Neither form of entrepreneurship seems to enable individuals to achieve greater upward mobility from the lowest levels of the income distribution. The log odds moving up the income distribution when starting from the lowest ladder rungs are significantly lower (the coefficient of -0.477 represents about a 37 percent decline in the odds) among the self-employed than among salaried workers (table 5).

Likewise, family-business owners have rates of upward income mobility from the bottom that are statistically indistinguishable from salaried workers in all but 1996–2005, when upward income mobility was greater among family-business owners.

Table 5. Upward Mobility from the Bottom of the Income Distribution

Outcome: $uplow_{it}$		1980–2007	1980–89	1985–94	1990–99	1996–2005
Family-business ownership	coef.	0.285	0.163	-0.069	0.319	0.589*
	z	[1.436]	[0.385]	[-0.216]	[1.283]	[2.034]
	N	9,017	3,393	3,744	3,307	2,005
Self-employment	coef.	-0.477**	-0.441	-0.557	-0.630**	-0.527*
	z	[-3.204]	[-1.316]	[-1.837]	[-2.908]	[-1.974]
	N	9,017	3,393	3,744	3,307	2,005

* Significant at 10%; ** significant at 5%; *** significant at 1%. Robust z-statistics in brackets.

Mobility of Two Deciles or More

To examine upward and downward mobility across two deciles, we develop two additional mobility outcomes. The upward mobility outcome $farup_{it}$ is 1 if the individual i is in a decile of the family-income-to-needs distribution in year t at least two higher than in year $t-10$, and 0 otherwise. The downward mobility outcome $fardown_{it}$ is 1 if the individual i is in a decile of the family-income-to-needs distribution in year t at least two lower than in year $t-10$, and 0 otherwise. Only those at risk of making such a transition are included in the model.

The log odds of moving farther up the income distribution were significantly larger among the self-employed than among workers in some, but not all, periods (table 6). Self-employment significantly increased the log odds (0.247) of moving far up the distribution over the course of 1980–2007 (roughly a 28 percent increase in the odds of upward mobility). In 1996–2005, log odds of moving far up were (0.430) or about a 54 percent increase over the baseline odds. However, log odds of moving far up in the intervening years were no different for the self-employed than they were for workers.

At the same time, the log odds of far downward mobility were considerably higher for the self-employed than they were for workers, as shown in table 7. The log odds that a self-employed individual moved down two deciles or more were (0.73) times greater than the log odds for workers.

Table 6. Ten-Year Lagged Upward Mobility, Up Two or More Deciles

Outcome: <i>farup_{it}</i>		1980–2007	1980–89	1985–94	1990–99	1996–2005
Family-business ownership	coef.	0.408***	0.383***	0.277***	0.278***	0.475***
	z	[8.923]	[4.980]	[3.538]	[3.901]	[6.539]
	N	85,378	34,770	36,393	31,089	17,822
Self-employment	coef.	0.247***	0.128	0.08	0.158	0.430***
	z	[4.588]	[1.577]	[1.002]	[1.848]	[5.023]
	N	66,564	26,285	28,118	24,366	14,677

* Significant at 10%; ** significant at 5%; *** significant at 1%. Robust z-statistics in brackets.

Table 7. Ten-Year Lagged Upward Mobility, Down Two or More Deciles

Outcome: <i>far_{down}_{it}</i>		1980–2007	1980–89	1985–94	1990–99	1996–2005
Family-business ownership	coef.	0.159*	0.084	0.174	0.278**	0.127
	z	[2.440]	[0.811]	[1.748]	[3.244]	[1.616]
	N	78,350	31,916	33,490	28,691	16,595
Self-employment	coef.	0.733***	0.843***	0.899***	0.811***	0.475***
	z	[12.285]	[9.078]	[10.719]	[9.804]	[5.376]
	N	64,903	25,843	27,476	23,812	14,382

* Significant at 10%; ** significant at 5%; *** significant at 1%. Robust z-statistics in brackets.

Instrumental Variables Specification

As Domar and Musgrave (1944) famously pointed out, higher tax rates may discourage economic activity more broadly, but they also increase the government's participation in risky ventures, and therefore encourage more risk-taking, indicating that higher tax rates may encourage entrepreneurship relative to wage and salary jobs. More progressive taxes, however, tend to discourage risk-taking. We use the progressivity of the state tax schedule as an excluded instrument to adjust for differential selection into entrepreneurship, while adjusting both selection and outcomes using average tax rates.

A progressive tax schedule implies lower expected returns for riskier ventures, discouraging entry (Gentry and Hubbard 2005). Businesses, however, can more easily shift income from labor to capital income tax schedules, and when capital income is taxed more favorably, there is greater incentive to be an entrepreneur, in various forms. Entrepreneurship is also encouraged by the option to incorporate (Cullen and Gordon 2007; Gordon and Slemrod 2000), essentially choosing to shift income between personal and corporate tax schedules. Entrepreneurs may also reinvest retained earnings in expensable investments and defer or avoid taxes, perhaps employing international tax avoidance strategies.

We take state marginal tax rates on earnings at average real wages in 2000, and the difference between state marginal tax rates on labor and capital income of that amount, as two indicators of the policies affecting entrepreneurship, namely tax rates and the gap between labor and capital income taxes. We take measures of progressivity due to Kakwani (1976) and Domar and Musgrave (1944) based on state taxes applied to the 1996 distribution of family-size-adjusted income as measured in the 1997 March Current Population Survey, inflated using the consumer price index to reflect changes over time due to inflation only. This approach holds income and population shifts constant over time, allowing us to look only at shifts in state tax policy (noting that measures of progressivity are sensitive to the distribution of pretax income).

The estimated effects of excluded instruments on participation in family-business ownership are shown in table 8 for two samples used in regression in table 9. Income tax policies may also have general equilibrium effects that result in violations of the exclusion restrictions justifying instrumental variables, if the progressivity of taxes affects not only differential selection into entrepreneurship but outcomes as well. Our results pass overidentification tests indicating exclusion restrictions are satisfied, but instrument strength may not be great enough in many cases for such tests to have good power to reject the null. As a result of these limitations, instrumental variable results should be interpreted with some caution.

This linear instrumental variable strategy makes very few assumptions about the error structure, aside from imposing that the effect of excluded instruments on outcomes operates only through the influence on entrepreneurship. Since tax rates and progressivity could have effects on individuals and state economies aside from their impact on entrepreneurship, we try several alternative specifications using different excluded instruments to assess the quality of identification.

Table 8. First-Stage Results for Family-Business Ownership

	Outcome is <i>entrep</i> (Sample UP)	Outcome is <i>entrep</i> (Sample DOWN)
10-year lag income	.09*** [5.42]	.11*** [6.66]
Female	-0.02* [-2.73]	-0.02* [-2.07]
Nonwhite	-0.07*** [-5.41]	-0.07*** [-5.42]
Below high school education	-0.11*** [-6.66]	-0.11*** [-6.37]
High school education	-0.06*** [-4.86]	-0.06*** [-4.53]
Some college education	-0.03 [-1.39]	-0.02 [-1.24]
Change: Other	0.01 [1.63]	0.01 [1.34]
Change: Head	0 [0.18]	0.01 [0.81]
Age	0.02*** [3.21]	0.02*** [3.99]
Age squared	-0.00*** [-3.29]	-0.00*** [-4.07]
Unmarried	-0.02*** [-6.75]	-0.01*** [-7.14]
Dependents: 1	0.02* [2.28]	0.02 [1.79]
Dependents: 2	0.03* [2.46]	0.038 [2.23]
Dependents: > 2	0.03 [1.63]	0.03 [1.59]
Starting decile	0 [-0.86]	0 [0]
Tax progressivity	-1,472.47*** [-3.43]	-1,579.89*** [-3.7]
Intercept	-0.22 [-1.57]	-0.31 [-2.45]
N	60,990	62,963

* Significant at 10%; ** significant at 5%; *** significant at 1%. Robust t-statistics in brackets.

Table 9. Linear Regression (LR) and Instrumental Variables (IV) Results

	Outcome: Upward Mobility across Deciles		Outcome: Downward Mobility across Deciles	
	LR	IV	LR	IV
Family-business ownership	0.02 [1.92]	1.26** [2.96]	0.01 [0.42]	-0.90** [-2.63]
10-year lag income	-0.21 [-11.25]	-0.33*** [-6.19]	0.15 [8.40]	0.25*** [5.62]
Female	-0.01 [-1.42]	0.01 [0.97]	0.014* [2.345]	0 [0.13]
Nonwhite	-0.05* [-2.56]	0.03 [1.01]	0.03 [1.24]	-0.03 [-1.18]
Below high school education	-0.20*** [-12.31]	-0.05 [-0.80]	0.18*** [11.14]	0.08 [1.6]
High school education	-0.13*** [-9.66]	-0.05 [-1.39]	0.12*** [9.20]	0.06* [2.34]
Some college education	-0.07*** [-5.40]	-0.04 [-1.32]	0.07*** [5.53]	0.05* [2.4]
Change: Other	0.08*** [9.16]	0.08*** [6.12]	-0.06*** [-7.45]	-0.06*** [-5.59]
Change: Head	0.02 [1.89]	0.02 [1.04]	0.01 [0.23]	0.01 [0.46]
Age	0.10*** [22.63]	0.08*** [7.71]	-0.11*** [-22.04]	-0.09*** [-8.78]
Age squared	-0.00*** [-23.42]	-0.00*** [-7.79]	0.00*** [22.70]	0.00*** [8.81]
Unmarried	-0.04*** [-16.25]	-0.02* [-1.97]	0.04*** [19.91]	0.02*** [3.42]
Dependents: 1	-0.03** [-2.79]	-0.06*** [-3.57]	0.03** [3.01]	0.05*** [3.44]
Dependents: 2	-0.16*** [-11.59]	-0.19*** [-9.05]	0.15*** [11.14]	0.18*** [8.4]
Dependents: > 2	-0.24*** [-15.17]	-0.27*** [-10.85]	0.22*** [15.59]	0.24*** [12.24]
Starting decile	0 [0.50]	0 [-0.82]	0 [0.34]	0 [0.27]
Intercept	-1.44*** [-14.03]	-1.26*** [-6.04]	2.49*** [22.37]	2.28*** [12.07]
<i>N</i>	65,859	60,990	66,897	62,963

* Significant at 10%; ** significant at 5%; *** significant at 1%. Robust *t*-statistics in brackets.

The excluded instrumental variable was suitably strong in the first stage, with an *F* statistic in excess of 11.7. In contrast to the regressions assuming exogeneity of business ownership, we find that the IV coefficient on family-business ownership is positive and significant where the outcome is upward income mobility over 1980–99. In separate tests of downward mobility, the instrumental variables coefficient is negative and significant, indicating that family-business ownership improved mobility prospects in both directions, after addressing selection into entrepreneurship.

Taken together, the instrumental variables regressions (table 9) suggest that owning or having a management stake in a small business had a positive effect on incremental upward income mobility during the 1980s and 1990s after controlling for resources in the 1970s. This result implies family-business ownership led to a higher level of economic advancement relative to wage-and-salary work in the 1980s and 1990s.

The IV results are consistent with the story that ordinary linear regression suffers from selection bias, where some workers who select into running a family business (and out of wage-and-salary work) would have had much worse outcomes in wage-and-salary work had they not had the option of running a family business. This kind of “negative selection” on unobservable potential upward mobility means that the observed mobility rates turn out to be similar for both groups, but the causal impact of running a family business is increased upward mobility and decreased downward mobility.

The causal impact, in the case of heterogeneous impacts of running a family business, is a “local average treatment effect,” capturing the mean gain in mobility among those who were induced to become entrepreneurs by a shift in the excluded instrument—that is, by a decrease in the progressivity of the state tax schedule. There are various plausible objections to the exclusion restriction, but either the negative selection story or measurement error implies ordinary linear regression estimates are biased toward zero (equivalent mobility outcomes for entrepreneurs and wage-and-salary workers), and it is possible that IV solves both problems.

Intergenerational Comparisons

When thinking about family income, we care about not only economic mobility over a decade or even several decades, but also the prospects faced by a worker and entrepreneur’s children. That is, we want to compare economic mobility across generations to see if the choice to become an entrepreneur affects economic prospects of children as well. We compare intergenerational income mobility using regressions estimating the percentage gain in a child’s needs-adjusted income for a given gain in a parent’s needs-adjusted income or “intergenerational elasticity” of income. That is, we regress children’s log average family needs-adjusted income on parents’ log average family needs-adjusted income, for both working and entrepreneurial parents. We take a rolling average of income over a five-year period. The means of parent and child incomes are computed during the same age range, when each was between 25 and 40 years old.

We estimate that the intergenerational elasticity of father and child’s income is 0.47 in the absence of covariates. Controlling for father’s self-employment gives 0.51 as the

intergenerational elasticity of wage-and-salary worker father and child's income, indicating that the children of self-employed fathers have incomes less highly correlated with that of their fathers, relative to the children of wage and salary workers. In addition, we interact father's income and self-employment to estimate how they work in concert. The coefficient on the interaction term is negative and significant at the 1 percent level.

This evidence is suggestive that the children of lower-income self-employed fathers experience greater levels of upward mobility than the children of wage-and-salary workers with comparable incomes, up to a crossing point at about 4.7 times the poverty level (the ratio of 0.31 to 0.2, exponentiated). The children of richer self-employed dads, above 4.7 times the poverty level, seem to experience lower levels of upward mobility than children of wage-and-salary workers with comparable incomes. Thus, self-employment may play an equalizing role over a generation.

However, the role of self-employment in equalizing outcomes over generations may be largely the effect of increased variance in earnings. Because of bankruptcy protections, lower-income entrepreneurs face less intrinsic risk from new business ventures, all else equal; they have smaller stores of resources to invest in a new venture. For this and other reasons, greater variance in business incomes will have relatively larger effects on the incomes of the poor relative to the rich and will therefore be more meaningful to their long-run mobility.

The evidence on family-business ownership is different. The intergenerational coefficient remains at .47 after controlling for father's family-business ownership. Although the interaction term is negative, its effect size is much smaller. As with self-employment, the children of more resource-constrained family-business owners did better than those whose business-owning fathers had higher incomes, but the coefficient on this interaction term was not significant.

Table 10. Intergenerational Correlations

	Outcome: Log child's income-to-needs	Elasticity
Average	Log father's income-to-needs	0.47*** (0.015)
Family-business ownership	Log father's income-to-needs	0.47*** (0.01)
	Father's family-business ownership	0.14* (0.05)
	Log F. income-to-needs * family-business	-0.07 (0.03)
Self-employment	Log father's income-to-needs	0.51*** (0.028)
	Father's self-employment	0.31** (0.067)
	Log F. income-to-needs * self-employment	-0.20** (0.051)

* Significant at 10%; ** significant at 5%; *** significant at 1%. Cluster robust standard errors.

Conclusions

Small businesses are risky ventures, and only the lucky few see mobility gains. However, there may be policies that would both promote access to self-employment and family businesses and improve mean outcomes and reduce risk, such as training programs designed to address common pitfalls.

Evidence concerning self-employment is mixed, and missing instrumental variables estimates, but evidence for family-business ownership is less ambiguous. Family-business ownership is associated with faster upward mobility than observed in paid work, and the findings exhibit the same pattern using state tax progressivity as an excluded instrument affecting business ownership. Should the government identify and support family business with the greatest potential for economic advancement? It is unclear how a policymaker would choose characteristics to identify businesses with the greatest potential for economic advancement. Even if such “tagging” were possible, it is unclear that there is an externality to be corrected via a subsidy or other preferential treatment.

We find no evidence in support of self-employment providing an advantage in achieving upward mobility. In comparison to wage-and-salary workers, the self-employed are far more likely to experience downward income mobility. Self-employment both significantly lowers the probability of upward mobility and significantly increases the probability of downward mobility in comparison to paid work. However, self-employment may produce an intergenerational benefit, at least for those with weaker wage and salary prospects. In particular, the children of

more income-constrained self-employed fathers experience relatively greater levels of upward mobility than the children of wage-and-salary workers, and in relation to the children of richer self-employed fathers. This finding implies that self-employment may play an equalizing role over the course of a generation.

Even though the case for increasing self-employment as a means of promoting economic mobility is weak in our data and the case for family business promoting economic mobility is strong, there is no clear evidence that any family is better off on average from pursuing either option, since variability of outcomes are greater as well. Further, while we may suspect that society as a whole benefits from risky ventures, substantial preferential treatment is already available to entrepreneurs and small business owners, and it is unclear that further encouragement is indicated in the absence of clear evidence of still-uncorrected externalities.

Cost-benefit calculations for new policies promoting entrepreneurship or the operation of small businesses should take into account both changes in mean outcomes for the current generation and their children and the risks of increased volatility in incomes associated with entrepreneurship. However, some policies could improve outcomes for those already on track to become entrepreneurs, especially around improving financial literacy and budgeting, and understanding the risks of entrepreneurship so that families can make informed decisions in their own economic interest.

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