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The role of entrepreneurship in rising wealth and income inequality

Arvid Malm[1] and Tino Sanandaji[2]

Abstract: Thomas Piketty has proposed a novel theory to explain increasing income inequality in the US: The growing bargaining power of "Supermanagers", increasingly well-paid managers in large firms. However, based on analysis of US income and wealth data we argue that Piketty´s claim that 60 percent of the top 0.1 percent earners are salaried "Supermanagers" is mistaken. Further analysis of research cited by Piketty shows that the share of salaried managers amongst top earners has declined from 38 to 20 percent since 1979, while managers in closely held corporations and other entrepreneurs have grown from 14 to 26 percent as a share of the same income category.

We also use data from the Survey of Consumer Finances to confirm that self-identified self-employed business owners constitute a significant share of US top earners, accounting for approximately half the of top 0.5 percent of earners and more than half of the top 0.5 percent wealth holders. We conclude that American top incomes and wealth holdings are concentrated among business owners to a very large extent and that the prominence of salaried managers amongst the highest earners is declining. This suggests that managerial bargaining power in hierarchical firms is unlikely to have been the primary driving force behind the increase in top incomes in recent decades. Meanwhile, increasing returns to entrepreneurship appears to be an important yet little-discussed potential factor in explaining increasing income inequality.

Keywords: wealth; income distribution; entrepreneurship

JEL code: D31; L26

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Introduction

The distribution of income in the United States was relatively stable during the first three post-war decades. Since approximately 1980 inequality has increased significantly, with the increase primarily being driven by the rapid growth of top incomes (Piketty and Saez, 2003 & 2006). Several competing theories have been proposed to account for this trend (Lemieux, 2008).

One of the latest contributions to this literature is the theory of the "Supermanager", proposed by economist Thomas Piketty. He argues that top income growth is largely driven by the increasing bargaining power of "Supermanagers" (Piketty 2014a, Piketty 2015a and Piketty 2015b).

Based on previous research on wage-setting in hierarchical firms, Piketty argues that rising compensation to top managers and supervisors in large firms is not explained by changes in productivity. Instead, citing cross-country differences in inequality trends as well as previous research into managerial power and wage setting (see Bebchuk & Fried 2004 for an overview of this literature), Piketty attributes increasing top incomes in the United States mainly to shifts in bargaining power in conjunction with changing social norms and lower top marginal tax rates.

In this paper, we attempt to test his theory by examining the relative prevalence of self-employed individuals who own and manage their own firms ("entrepreneurs") amongst those with high incomes or large wealth in the US.

Theoretical background

Several theories that can help explain increasing income inequality have been proposed by researchers. The ones most relevant to this article are skill-biased technological change (Krueger 1991 and Katz 1999), and increasing compensation to "Superstar" performers due to larger and more integrated markets (Rosen 1981). Other theories proposed to account for increasing income inequality touch on for instance the role of globalization and trade (see Ohlin, 1931 or Burtless, 1995), or ideology (Bjørnskov, 2008), but such theories are largely outside the scope of our investigation.

In "Capital in the twenty-first century" (Piketty 2014a), Thomas Piketty notes that skill-biased technological change and increasing compensation to superstar performers cannot explain why inequality and top income trends differ drastically across industrialized economies. After all, if there has indeed been a general increase in the returns to human capital investment and superstar status, this should be reflected in a general rise in top incomes and income inequality (Piketty 2014a, pp. 301-302). Piketty does not rule out an important role for technological change in explaining why inequality has increased. However, he posits that there must exist some additional important modulating factor that explains why inequality has increased so much more in the UK and the US compared to in other western economies.

This is where the concept of the "Supermanager" is introduced. Piketty notes that recent research into the occupational status of US top earners has established that "top managers" constitute more than 60 percent of the top 0.1 earners in the United States (Bakija, Cole & Heim, 2012). He combines this observation with a pre-existing research literature on top-level managerial compensation, what is termed the "managerial power literature". This line of inquiry is summarized in Bebchuk & Fried (2004)[3]. They explain how top-level managers and senior executives can use their organizational power, social ties and information advantages to extract rents from their organization.

Piketty thus combines four key observations:

- Most top earners in the US are high-level managers.
- These managers can (according to the managerial power literature) influence their own compensation to a significant degree.
- Given the magnitude of the increase in compensation to top managers, it is highly unlikely that this income increase has been caused by an actual productivity increase.
- Inequality trends differ starkly across countries, with inequality increases being larger in the US and UK than in most European countries.

From this he concludes that top income growth in the US is driven by the increasing capacity and willingness of "Supermanagers" to extract rents from their organizations. Piketty hypothesizes that this

[3] Bebchuk & Fried (2004) is referenced in "Capital in the twenty-first century" as well as in Piketty, Saez and Stantcheva (2014) as the relevant summary of the literature on the topic of executive compensation.

trend has partially been caused by a shift in norms. He cites a relaxed "outrage constraint" as well as lower top marginal tax rates as contributing factors to growing managerial power and to strengthened incentives to engage in rent seeking (Piketty (2014b).

Our contribution is the use of self-employment status as a tool for testing whether or not an increase in the bargaining power of "Supermanagers" is the driving force behind increasing US income inequality. To the best of our knowledge, Piketty´s theory of manager-driven income inequality has not previously been tested using this approach.

Method

The executive compensation literature is by definition focused on how employees (managers and supervisors) are paid by owners, usually represented by a board of directors. The earnings of self-employed business owners meanwhile are mainly determined by market forces and firm performance, not through negotiations with hierarchical superiors, whom the self-employed by definition lack.

Business owners negotiate with suppliers, clients or financers, but we argue that this type of negotiation is best viewed as being conducted in an at least somewhat competitive market. Self-employment is a different institutional context compared to a large organization where it is far more plausible that negotiations are influenced by hierarchical power relations. Theories relying on rent extraction through the application of managerial power in large organizations are therefore of limited use when analyzing the incomes of self-employed business owners.

Hence, we can use the absolute and relative prevalence of the self-employed amongst those with high incomes and high wealth for gauging the usefulness of the Supermanager theory in explaining income inequality. For instance, if the prevalence of the self-employed amongst those with high incomes is high and increasing while the prevalence of salaried managers is low and decreasing, this would make it far less likely that "exploding top managerial compensation" driven by rent seeking is the key explanatory factor behind increasing US income inequality.

We also use previous research (Henrekson and Sanandaji, 2014) regarding the origins of top wealth to gain an understanding of the origins of large fortunes. This allows us to test for the possibility that wealthy entrepreneurs originally achieved their current position through salaried work.

Data

Tax records

The data source used by Piketty (2014a) for analyzing the professional makeup of top US earners is Bakija, Cole & Heim (2012). It offers the only detailed breakdown of the professional status of US high income earners that is based on tax returns. We use the more detailed imputed breakdown of categories of earners provided by Bakija, Cole & Heim in order to separate managers in closely held firms from salaried managers. By comparing their relative prevalence and examining the development of their shares of national income over time, we can test if increasing managerial compensation is a key driver of US income inequality.

The Survey of Consumer Finances

A potential weakness of Bakija, Cole and Heim (2012) is the reliance on an imputed categorization (based on the structure of personal income) of who is and who is not an active manager of a closely held business.

We therefore use the Federal Reserve´s Survey of Consumer Finances (SCF) to compare the prevalence of the self-employed relative to other groups amongst high earners. The SCF is a triennial survey of the economic situation of US households. It is based on interviews with a sample of households, with sample sizes ranging from 3 143 in the 1989 SCF to 6 500 in the 2013 survey. As we are analyzing the incomes of high-income households in particular, it is useful to note that the SCF significantly oversamples high-income households. However, as noted by Kopczuk and Saez (2004), wealth and income estimates based on the SCF for groups smaller than the top 0.5 percent of earners are likely to be unreliable (deriving exact measures of the standard errors for our point estimates is difficult however, due to the complex sampling methodology employed by the SCF).

We employ a categorization scheme for the SCF developed by Cagetti and De Nardi (2006) in order to identify self-employed business owners with an "active management role" in the firm. Note that while the SCF is a household-level survey, we will generally discuss our results in terms individuals in order to simplify presentation.

The most stringent categorization of an active business owner using this methodology is based on the head of the household being self-employed as well as someone in the respondent´s family owning a business, while the respondent also reports that someone in their household has an "active management role" in the aforementioned firm. This category is then termed the "Self-employed business owner". We refer to this group interchangeably as 'Self-employed business owners' or merely 'entrepreneurs' for short. See Appendix 1 for a detailed breakdown of how self-employment categories are constructed from SCF variables.

We use this categorization to assess the share of self-employed individuals and entrepreneurs in various income and wealth segments for total personal income and net worth using the SCF for 1989 to 2013. We do not use data from the 1983 and 1986 surveys as these differ significantly from later surveys with regards to question structure and the availability of aggregate variables.

The Forbes 400

Self-employment and business ownership are not static states, as people move in and out of business ownership and self-employment freely. Hence, gaining some understanding of the origins of top wealth on the individual level is a useful complement to charting the aggregate professional status of top earners. For instance, it is possible that one´s position as a business owner was established via previous employment, perhaps as a high level manager, and that entrepreneurial status is hence more of a marker of success rather than a cause of economic status.

One of the most-used sources of data on top wealth is the Forbes list of billionaires. It offers a list of the 400 wealthiest individuals in the United States. Furthermore, Forbes compiles a list of billionaires worldwide. We use data from the Forbes 400 summarized in Henrekson and Sanandaji (2014) in order to examine the origins of top wealth.

The Forbes magazine list of billionaires has several limitations. Most importantly, it is not a precision estimate. Forbes itself refers to its estimates as "highly educated guesses". However, researchers working for the IRS have matched the Forbes billionaire list with estate tax data available to the Internal Revenue Service. One such study by Raub, Johnson and Newcomb (2010) compares the tax returns of the wealthy and their families with the Forbes list and are only able to find a small number of billionaires who were mistakenly omitted from the Forbes list.

Results

Tax records

The overall tabulation provided by Bakija, Cole & Heim confirms that the group "executives, managers, supervisors and financial professionals" constitutes roughly 60 percent of the top 0.1 percent of US income earners in the period 2000-2005. Furthermore, 67 percent of the increase in the share of national income received by the top 0.1 percent of earners between 1979 and 2005 has accrued to this group. Hence, the study appears to lend considerable support to the Supermanager theory of wage inequality.

However, the analysis in Bakija, Cole & Heim (2012) provides greater detail than this broad categorization. As noted in Kaplan and Rauh (2013), Bakija, Cole & Heim also decompose the managerial and executive category by the imputed ownership structure of the firm where the taxpayer works. This further subdivision shows that the category "executives, managers and supervisors" classified as being active in closely held businesses together with other earners classified as "entrepreneurs" account for 26 percent of the top 0.1 percent of income earners, compared to the 20 percent who are classified as "salaried". Managers and executives in closely held corporations have grown from constituting 14 percent of the top 0.1 percent of earners in 1979 to 26 percent in 2005. During the same period, the share of "salaried" executives, managers and supervisors among high earners has nearly shrunk by half (see table 1).

Furthermore, by decomposing the income gains of the top 0.1 percent it is clear that it is executives, managers and supervisors in closely held non-financial corporations and other top earners classified as "entrepreneurs" that have experienced the largest increase in their share of national income. Since 1979, 30 percent of the increase in the top 0.1 percent income share can be explained by the gains of this group, while 23 percent of the increase is explained by the gains of financial professionals and only 14 percent by the gains of salaried executives, managers and supervisors. The picture is similar for the period of 1993-2005 (table 3).

The Survey of Consumer Finances

The SCF data confirms that the self-employed as well as entrepreneurs consistently account for a very high share of those with high incomes and high wealth also when examining self-reported rather than imputed employment status (tables 6-9).

In 2013 59 percent in the top 0.5 percent of the income distribution reported being entrepreneurs. The share of entrepreneurs in the net worth top 0.5 percent was a similarly high 58 percent. Over time, the share of entrepreneurs in the highest income and wealth quantiles fluctuates significantly, with a high of 67 percent in 1989 and a low of 34 percent in 2001 with regards to income. The corresponding figures for wealth are a high of 57% (1989 and 2013) and a low of 51% (2001). As noted above, this volatility is most likely due to the small sample size for this group, and also in part due to the volatility of firm earnings and other sources of income over the business cycle.

Turning our attention to the broader measure of self-employment status, the share of self-employed in the top 0.5 percent of earners fluctuates between a high of 75 percent (1989) and a low of 48 percent (1998). For wealth, a high of 69 percent is recorded in 1989 and a low of 51 percent is reached in 2001.

What is clear from the SCF data is that US high earners are to a highly disproportionate degree self-employed business owners, confirming the overall picture painted by tax records.

The Forbes 400

Previous research has investigated the origins of top wealth based on the Forbes list (Kaplan and Rauh 2013b, Henrekson and Sanandaji, 2014). Based on Forbes' classification, around 70 percent of American billionaires can be defined as "self-made" in the sense that they did not inherit large fortunes (Table 8).

Inherited wealth and family firms continue to play an important role in American business (Zellwerger and Kammerlander 2015), but does not account for the majority of wealth. Kaplan and Rauh (2013b) investigate the family background of billionaires and find that only approximately one third of the individuals on the 2011 Forbes list had an upbringing that can be classified as "wealthy". Their study also concludes that the main route to wealth for those on the list that did not inherit a fortune was the establishment of a successful company.

These conclusions are not uncontroversial, however. Piketty (2014a) argues against the hypothesis that most billionaires are self-made and instead postulates that 60 to 70 percent of billionaires have in fact primarily inherited their fortune. Piketty suggests that estimates based on the Forbes list are methodologically biased due to billionaire entrepreneurs being easier to find than those who have inherited their wealth.

As previously noted above however IRS research indicates that the Forbes list paints a fairly accurate picture of the US billionaire population. In addition, we note that Piketty himself indirectly suggests another method for testing whether or not the Forbes list systematically misses inherited wealth. He notes that fortunes above 10 billion dollars are hard to hide while there is potentially a larger bias in detecting smaller fortunes, due to the larger potential for diversified and hence less conspicuous investment (Piketty 2014a, p. 441)

If this hypothesis is correct we could expect the share of inherited wealth to be higher above the $10 billion range, where Forbes estimates are according to Piketty´s hypothesis more accurate. This is not the case. According to Henrekson & Sanandaji (2014) on the 2013 Forbes 400 list 31.7 percent of billionaires with fortunes at or above 10 billion dollar had inherited their wealth. Among those with fortunes in the $1–10 billion range, the share of inherited wealth was a virtually identical 31.8 percent (table 10).

It is furthermore worth noting that Forbes has no difficulty in detecting inherited wealth in societies which other data sources designate as having a high share of inherited wealth. In France for instance Forbes estimates that 70 percent of the wealth of billionaires is owned by heirs. This estimate is close to Piketty's own estimates of the aggregate inherited wealth share in France (Piketty & Zucman, 2014).

Conclusions

Self-identified self-employed business owners constitute a consistently large share of top income earners and wealth holders in the United States during the period 1989-2013. Meanwhile, tax records show that the share of salaried managers amongst top earners in the US during 1979-2005 is shrinking. During the same period managers in closely held firms and other entrepreneurs have increased as a share of top earners and now constitute a significantly larger group than salaried managers. Available data on top wealth also suggests that most US top wealth has entrepreneurial origins.

Taken together, these facts considerably weaken the case for the Supermanager theory of increasing US income inequality.

Furthermore, this state of affairs opens the possibility that returns to entrepreneurship may be an important driving factor behind trends in income inequality in its own right, a potential area of future research. With the exception of notable studies such as Quadrini 1999 and Cagetti and De Nardi 2006, most studies have focused primarily on the impact of entrepreneurship on poverty (e.g Scott et al. 2012, Bruton et al. 2013) rather than on the effect of entrepreneurship and self-employment on top incomes and wealth holdings.

A more general examination of how entrepreneurship directly contributes to the shaping of the distribution of income could hence be an important contribution to explaining recent inequality trends. Our results could also lend support to the usefulness of theoretically modelling the impact of entrepreneurship on the distribution of income. A recent example of such an effort is put forward in Jones and Kim (2014).

It should be noted that there are several limitations associated with our results.. First, our argument with regards to the origins of top wealth is mostly based on a very small sample of the very wealthiest in the US. It is far from certain that this pattern holds in lower segments of the wealth and income distribution.

Second, all of our results are based on broad aggregate measures, each with their own practical limitations. The division of individuals into salaried managers and managers in closely held firms based on tax records is an imputed categorization based on the structure of income. Our SCF estimates for the share of self-employed individuals in the top 0.1 percent of the income distribution are not reliable due to low sample size (Kopczuk and Saez, 2004). Also, while individuals may self-identify as self-employed and report self-employment income, it is conceivable that they are still tied to a larger organization in a fashion that enables rent-seeking behavior of the kind hypothesized by Thomas Piketty.

Third, it is important to note that our results in no way invalidate the hypothesis that rent-seeking in large organizations as outlined in the managerial power literature contributes to increasing income inequality. Even as salaried managers have declined in prominence amongst those with high incomes, their share of national income in the US has increased. However the earnings gains of salaried managers have been outpaced significantly by the gains of managers in closely held corporations and financial professionals (tables 3 and 4).

Tables

Table 1 - Percentage share of top 0.1 percent primary taxpayers (including capital gains), by profession and change 1979-2005 and 1993-2005

	1979	1993	1997	1999	2001	2002	2003	2004	2005	1979-2005	1993-2005
Managers in closely held corporations & entrepreneurs	14 %	21 %	24 %	23 %	23 %	23 %	23 %	24 %	26 %	12 %	4 %
Salaried executives, managers and supervisors	38 %	28 %	28 %	27 %	22 %	21 %	21 %	21 %	20 %	- 18 %	- 8 %
Financial professions, incl. Management	11 %	15 %	15 %	17 %	19 %	19 %	18 %	18 %	18 %	7 %	3 %
All other professions	38 %	36 %	33 %	34 %	36 %	37 %	38 %	37 %	37 %	- 1 %	1 %

Source: Based on Bakija, Cole & Heim (2012), table 3a

Table 2 - Percentage share of top 1 percent primary taxpayers (including capital gains), by profession and change 1979-2005 and 1993-2005

	1979	1993	1997	1999	2001	2002	2003	2004	2005	1979-2005	1993-2005
Managers in closely held corporations & entrepreneurs	9 %	10 %	12 %	12 %	11 %	11 %	12 %	12 %	13 %	5 %	3 %
Salaried executives, managers and supervisors	29 %	26 %	24 %	24 %	22 %	22 %	21 %	20 %	20 %	- 10 %	- 6 %
Financial professions, incl. Management	8 %	11 %	12 %	13 %	13 %	13 %	13 %	13 %	13 %	6 %	2 %
All other professions	54 %	53 %	52 %	52 %	54 %	54 %	55 %	54 %	54 %	0 %	1 %

Source: Based on Bakija, Cole & Heim (2012), table 2a

Table 3 - Percentage share of national income (including capital gains) received by top 0.1%

	1979	1993	1997	1999	2001	2002	2003	2004	2005
Total income share to top 0.1%	3.30 %	5.54 %	7.91 %	9.28 %	7.91 %	7.13 %	7.64 %	9.27 %	10.34 %
Of which to managers in closely held corporations & entrepreneurs	0,52 %	1,44 %	2,08 %	2,18 %	1,82 %	1,85 %	1,94 %	2,31 %	2,9 %
Of which to Salaried executives, managers and supervisors	1.23 %	1.58 %	2.33 %	2.73 %	1.98 %	1.59 %	1.77 %	2.2 %	2.21 %
Of which to Financial professions, incl. Management	0.42 %	0.89 %	1.37 %	1.77 %	1.71 %	1.47 %	1.55 %	1.99 %	2.05 %
Of which to Other professions	1.31 %	1.84 %	2.42 %	3 %	2.7 %	2.5 %	2.68 %	3.14 %	3.62 %
% of increase since 1979 explained by:									
Managers in closely held corporations & other entrepreneurs		41%	34%	28%	28%	35%	33%	30%	34%
Salaried executives, managers and supervisors		16%	24%	25%	16%	9%	12%	16%	14%
Financial professions, incl. Management		21%	21%	23%	28%	27%	26%	26%	23%
Other professions		22%	22%	25%	28%	28%	29%	27%	29%
% of increase since 1993 explained by:									
Managers in closely held corporations & other entrepreneurs			27%	20%	16%	26%	24%	23%	30%
Salaried executives, managers and supervisors			32%	31%	17%	1%	9%	17%	13%
Financial professions, incl. Management			20%	24%	35%	36%	31%	29%	24%
Other professions			21%	26%	32%	37%	36%	31%	32%

Source: Based on Bakija, Cole & Heim (2012), table 7a

Table 4 - Percentage share of national income (including capital gains) received by top 1%

	1979	1993	1997	1999	2001	2002	2003	2004	2005
Total income share to top 1%	9,72	14	17,45	19,34	17,48	16,49	17,25	19,51	20,95
Of which to managers in closely held corporations & entrepreneurs	1,06	2,25	3,16	3,36	2,88	2,89	3,03	3,54	4,32
Of which to Salaried executives, managers and supervisors	3,12	3,75	4,62	5,1	4,1	3,6	3,78	4,24	4,27
Of which to Financial professions, incl. Management	0,91	1,8	2,5	3,05	2,97	2,66	2,79	3,36	3,44
Of which to Other professions	4,63	6,2	7,17	7,83	7,53	7,34	7,65	8,37	8,92
% of increase since 1979 explained by:									
Managers in closely held corporations & other entrepreneurs		28%	27%	24%	23%	27%	26%	25%	29%
Salaried executives, managers and supervisors		15%	19%	21%	13%	7%	9%	11%	10%
Financial professions, incl. Management		21%	21%	22%	27%	26%	25%	25%	23%
Other professions		37%	33%	33%	37%	40%	40%	38%	38%
% of increase since 1993 explained by:			26%	21%	18%	26%	24%	23%	30%
Managers in closely held corporations & other entrepreneurs			25%	25%	10%	-6%	1%	9%	7%
Salaried executives, managers and supervisors			20%	23%	34%	35%	30%	28%	24%
Financial professions, incl. Management			28%	31%	38%	46%	45%	39%	39%
Other professions									

Source: Based on Bakija, Cole & Heim (2012), table 7a

Table 5 – Self-employment definitions and wealth percentiles in 1989

	1 %	5 %	10 %	20 %
Business owners or self-employed	81 %	68 %	54 %	39 %
All business owners	76 %	62 %	49 %	36 %
Active business owners	65 %	51 %	42 %	30 %
Self-employed*	62 %	47 %	38 %	26 %
Self-employed business owners*	54 %	39 %	32 %	22 %
** Categories used in this article*				

Source: Excerpted from Cagetti & De Nardi (2006), table 3, p. 840

Table 6 - Income distribution - shares of self-employed in income percentile

Percentile	1989	1992	1995	1998	2001	2004	2007	2010	2013
0,10 %	79 %	65 %	56 %	54 %	32 %	60 %	40 %	43 %	73 %
0,50 %	75 %	62 %	59 %	48 %	50 %	56 %	54 %	52 %	58 %
1 %	65 %	56 %	50 %	52 %	51 %	55 %	51 %	44 %	49 %
5 %	40 %	38 %	30 %	40 %	42 %	36 %	37 %	36 %	35 %
10 %	30 %	31 %	21 %	29 %	31 %	30 %	29 %	26 %	25 %
20 %	22 %	22 %	16 %	23 %	24 %	22 %	20 %	20 %	18 %
21-99%	9 %	8 %	9 %	8 %	9 %	9 %	8 %	9 %	8 %
Total	11 %	11 %	10 %	11 %	12 %	12 %	10 %	11 %	10 %

Source: Survey of consumer finances (2014), Federal Reserve

Table 7 - Income distribution - shares of self-employed business owners in income percentile

Percentile	1989	1992	1995	1998	2001	2004	2007	2010	2013
0,10 %	68 %	59 %	52 %	52 %	22 %	53 %	40 %	43 %	70 %
0,50 %	67 %	55 %	49 %	39 %	34 %	45 %	46 %	47 %	58 %
1 %	51 %	47 %	39 %	39 %	40 %	45 %	47 %	40 %	46 %
5 %	33 %	33 %	24 %	31 %	36 %	30 %	34 %	32 %	33 %
10 %	24 %	27 %	18 %	22 %	26 %	23 %	26 %	23 %	22 %
20 %	18 %	19 %	12 %	17 %	19 %	17 %	17 %	17 %	15 %
21-99%	5 %	6 %	5 %	5 %	5 %	5 %	5 %	6 %	5 %
Total	8 %	8 %	7 %	7 %	8 %	7 %	8 %	8 %	7 %

Source: Survey of consumer finances (2014), Federal Reserve

Table 8 - Wealth distribution - shares of self-employed in wealth percentile

Percentile	1989	1992	1995	1998	2001	2004	2007	2010	2013
0,10 %	82 %	63 %	58 %	51 %	55 %	62 %	59 %	77 %	60 %
0,50 %	69 %	59 %	57 %	55 %	51 %	55 %	61 %	58 %	59 %
1 %	62 %	50 %	54 %	54 %	52 %	60 %	49 %	56 %	59 %
5 %	47 %	45 %	38 %	45 %	45 %	41 %	46 %	44 %	43 %
10 %	39 %	35 %	30 %	36 %	36 %	34 %	35 %	35 %	32 %
20 %	26 %	24 %	23 %	27 %	28 %	27 %	24 %	25 %	22 %
21-99%	7 %	8 %	7 %	7 %	8 %	8 %	7 %	8 %	7 %
Total	11 %	11 %	10 %	11 %	12 %	12 %	10 %	11 %	10 %

Source: Survey of consumer finances (2014), Federal Reserve

Table 9 - Wealth distribution – shares of self-employed business owners in wealth percentile

Percentile	1989	1992	1995	1998	2001	2004	2007	2010	2013
0,10 %	62 %	55 %	50 %	45 %	49 %	59 %	58 %	68 %	57 %
0,50 %	57 %	53 %	52 %	51 %	47 %	48 %	58 %	55 %	57 %
1 %	54 %	45 %	49 %	47 %	47 %	54 %	47 %	52 %	57 %
5 %	39 %	41 %	31 %	36 %	36 %	34 %	42 %	40 %	39 %
10 %	33 %	31 %	24 %	29 %	29 %	28 %	31 %	31 %	28 %
20 %	22 %	21 %	18 %	21 %	23 %	21 %	21 %	22 %	19 %
21-99%	4 %	5 %	4 %	4 %	4 %	4 %	4 %	5 %	4 %
Total	8 %	8 %	7 %	7 %	8 %	7 %	8 %	8 %	7 %

Source: Survey of consumer finances (2014), Federal Reserve

Table 10 - Inherited vs. self-made wealth on the Forbes 400

	Self-made (Individuals)	Inherited (Individuals)	Self-made (Share)	Inherited (Share)
Fortunes over 10 bn USD	28	13	68.3%	31.7%
Fortunes under 10 bn USD	245	114	68.2%	31.8%

Source: Henrekson and Sanandaji (2014)

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Appendix 1: The construction of SCF occupational status:

Category	**Variable name(s) - concerns individual(s)**	**Variable names, values required for inclusion & source SCF dataset**
Self-employed	OCCAT1 - Head of household	OCCAT1=2 (Summary extract data)
Self-employed business owner (with an active management role)	OCCAT1 – Head of household hbus – Any family member X3104 – Any family member	OCCAT1=2 (Summary extract data) & hbus=1 (Public extract data) & X3104=1 (Full public data)