Rising Inequality and Declining Mobility in the Forbes 400

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Abstract

We examine the joint evolution of inequality and mobility from 1985-2020 using a novel data set of intergenerational family wealth dynamics constructed from the Forbes 400 list of wealthiest Americans. In recent decades, the concentration of wealth at the very top of the distribution has risen in the U.S. Over this same period, we show that mobility among the wealthiest American family dynasties has declined, with mobility measured either as family wealth-rank correlations over one-year and five-year periods or as the number of new entrants at the top of the distribution.

Keywords: inequality, mobility, power laws, Forbes 400 *JEL:* D31, D30, J62

1. Introduction

A large collection of recent research has documented rising income and wealth inequality in the U.S. and other countries over the past few decades. According to Saez and Zucman (2016), the top 1% of U.S. households increased their share of total wealth from less than 25% in the 1970s to more than 40% in 2012. Similarly, Piketty et al. (2018) find that from 1978-2014 the top 1% of U.S. households increased their share of pre-tax income from less than 10% to more than 15%.

At the same time, a growing literature has explored the link between inequality and mobility, with some empirical studies finding higher inequality associated with lower mobility. The "Great Gatsby curve" shows that countries with more income inequality also tend to have lower intergenerational income mobility (Krueger, 2012; Corak, 2013). Within the U.S., Chetty et al. (2014a) show that regions with more income inequality also

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tend to have lower mobility. (Fernholz, 2016) provides a theoretical model consistent with this link, and Gomez (2023) shows that a rise in inequality driven by a rise in the average wealth growth of top households lowers mobility. However, Gomez (2023) adds that a rise in inequality driven by larger idiosyncratic fluctuations in wealth for top households will actually raise mobility. Atkeson and Irie (2022) and Zheng (2020) also examine how heterogeneous returns and idiosyncratic risk among the wealthy can generate a positive link between inequality and mobility.

In this paper, we use the well-known Forbes 400 list of the wealthiest Americans published each year by *Forbes Magazine* to construct a data set of intergenerational wealth dynamics from 1985-2020. We link dynastic families in the Forbes 400 both within and across generations, allowing us to track the per capita and aggregate wealth holdings of family dynasties over time. Using this data set, we examine the joint evolution of wealth inequality and mobility at the very top of the U.S. wealth distribution from 1985-2020. Consistent with previous studies, such as Saez and Zucman (2016) and Smith et al. (2023), we show that there has been an increase in wealth concentration among the wealthiest Americans over the past three decades.

Although a number of studies use the Forbes 400 to examine some characteristic of wealth mobility (Arnott et al., 2015; Korom et al., 2017; Zheng, 2020; Atkeson and Irie, 2022; Gomez, 2023), to our knowledge, no previous work has consistently measured the change in mobility among these families in each year. Using our novel data set of intergenerational family dynasty wealth dynamics, we show that there has been a simultaneous rise in concentration and decline in mobility among the wealthiest U.S. family dynasties from 1985-2020. Over both one-year and five-year time intervals, we find that the wealth-rank correlations of the top 200 ranked dynastic families increased substantially in recent decades, indicating a decline in mobility. Similarly, over this same time period, we find that the number of new families entering the top 50 and top 100 ranks of our data set decreased dramatically.

2. Data

We consider data from the Forbes 400 list of wealthiest Americans from 1985-2020. Through careful investigation using the internet, we link the dynastic families in this list across generations to build a data set that tracks intergenerational wealth dynamics. Similarly, we determine the relationship between the various members of the Forbes 400 list and construct aggregate and per capita measures of total wealth for dynastic families. We use this novel data set of per capita and aggregate wealth holdings of the wealthiest American dynastic families to investigate the relationship between wealth inequality and mobility from 1985-2020.

To see how our data set was constructed, consider two examples. Steve Jobs, co-founder and CEO of Apple, enters the Forbes 400 in 1986 and then is consistently in the data set from 1996 to 2011, until his death. After the death of Steve Jobs, his wife, Laurene Powell Jobs, enters the Forbes 400 and remains in the data set from 2012-2020, having inherited a large fortune from her husband. In our constructed data set of dynastic family wealth, the Jobs family dynasty shows up as one continuous dynasty from 1996-2020 with no meaningful change between 2011 and 2012.

Another instructive example is the Mars family dynasty. Forrest Edward Mars Sr., who took over the well-known candy company Mars, Inc. from his father in the 1960s, appears in the Forbes 400 from 1985-1998, before his death the following year. However, from 1985-2020, John Franklyn Mars, Forrest Edward Mars Jr., Jacqueline Badger Mars, Marijke Mars, Valerie Mars, Pamela Mars, and Victoria Mars, all of whom are children or grand-children of Forrest Edward Mars Sr., also show up in the Forbes 400 in various years. In our data set, all members of the Mars family are treated as one dynastic family with aggregate family wealth holdings in each year equal to the sum of the wealth of each family member included in the Forbes 400 in that year. In order to convert the aggregate wealth holdings of the Mars family dynasty into per capita wealth, we simply divide the aggregate family wealth holdings in each year.

In the first year that we cover, 1985, we treat siblings as separate dynastic families. For example, the Forbes 400 in 1985 contains both Charles Koch and David Koch, who are brothers that inherited their father's business, and these two are counted as separate dynastic families in every year that they appear in the data set. It is only in subsequent years when new immediate family members (children and spouses) enter the list, usually via inter- or intra-generational wealth transfers, that we start to form dynastic families that may contain more than one member.

In contrast, we count all parents, spouses, and children as part of the same dynastic family starting in 1985. The reason we treat parents and children at the start of our data set differently from lone siblings is that often parents in the Forbes 400 transfer wealth to their children after death. This type of intergenerational wealth transfer is an important part of family wealth dynamics, and hence must be properly accounted for. Siblings in the Forbes 400 without their parents, in contrast, will not receive such wealth transfers, and hence no distortion occurs when treating them as separate dynasties.

Note that because some members of the Forbes 400 are related and hence are grouped into the same dynastic family, like the example of the Mars family described above, the list of aggregate and per capita wealth holdings that we construct covers fewer than 400 total families in each year. Furthermore, because the wealth holdings reported in the Forbes 400 are approximations that are rounded, there are a number of dynastic families in our data set with equal per capita or aggregate wealth holdings in each year. When constructing wealth ranks, we break such ties by ranking those dynastic families with equal wealth alphabetically by last name.

3. Results

In Figure 1, we present a log-log plot of shares of total wealth versus rank using per capita dynastic family wealth holdings of the top 200 dynasties in each decade from 1990-2020. In this figure, a steeper line corresponds to more wealth concentration and inequality. The figure clearly shows a steeper slope after 1990. A relatively straight line such as those in Figure 1 corresponds to a power law, or Pareto distribution, for top wealth holdings (Klass et al., 2006; Chan et al., 2017; Fernholz, 2017).

Figure 2 plots estimates of the slopes of the log-log plots of wealth versus rank for the top 200 families in the Forbes 400 (Figure 1) for each year from 1985-2020. The figure presents two different estimates of the absolute value of the slope in each year. The "Rank - 1/2" estimator is from Gabaix and Ibragimov (2011), and makes an adjustment to standard OLS power law slope estimates that can reduce bias, particularly in small samples. The second estimator, the Theil median estimator, is calculated as the median of all slopes generated by pairs of data points (Theil, 1950). Figure 2 shows a clear pattern of rising steepness in the log-log plot of wealth versus rank according to both estimators, consistent with rising inequality and wealth concentration among the top families of the Forbes 400.

Figure 3 shows the share of the total wealth in our data set owned by the top 50 and top 100 wealthiest families from 1985-2020. According to the figure, the top 50 and top 100 wealth shares both increased dramatically over time, with the top 50 share rising from approximately 35% in 1985 to almost



Figure 1: Log-log plot of the top 200 dynastic family wealth shares versus rank, 1990-2020.



Figure 2: Estimates of the absolute value of the slope of the log-log plot of wealth shares versus rank for the top 200 dynastic families, 1985-2020.



Figure 3: Shares of total wealth held by the top 50 and top 100 dynastic families, 1985-2020.

55% in 2020. This finding is consistent with the rising inequality shown in Figures 1 and 2.

The finding that inequality started to increase after 1985 among the wealthiest American families is consistent with findings for the broader U.S., including studies that use the Forbes 400 to measure very top wealth inequality (Saez and Zucman, 2016; Smith et al., 2023). However, to our knowledge, no previous work has examined how mobility among these top dynastic families has changed over this time period. In Figure 4, we plot the wealth-rank correlations between the top 200 dynastic families in our data set over one-year and five-year time intervals from 1985-2020. Rank correlations such as those plotted in Figure 4 are a common measure of mobility, with a higher correlation corresponding to lower mobility (Kopczuk et al., 2010; Chetty et al., 2014b).

Figure 4 shows that, while mobility within our data set of the wealthiest family dynasties in the U.S. is volatile and moves in conjunction with asset price fluctuations, there is a clear downward trend in mobility from 1985-2020 as the correlation between family wealth-ranks over one- and five-year horizons rose over this period. Indeed, the five-year rank correlation went from around 0.55 in the late 1980s to more than 0.7 after 2010.



Figure 4: One-year and five-year wealth-rank correlations for the top 200 dynastic families, 1985-2020.



Figure 5: Number of new entrants and corresponding exits from the top 50 and top 100 dynastic families, 1985-2020.

Another way to measure mobility at the very top of the U.S. wealth distribution is to examine the rate of new entrants into top wealth subsets such as the top 50 or top 100 wealthiest family dynasties. In Figure 5, we plot the number of new entrants into the top 50 and top 100 wealth-ranked family dynasties from 1985-2020. Note that each new family that enters a top subset must displace a previous member of that top subset, so the number of new entrants into a top subset in a given year is equal to the number of exits from that subset in the same year.

Figure 5 shows a sizable decline in the number of new entrants and corresponding exits from both the top 50 and top 100 wealthiest family dynasties in our data set from 1985-2020. A decrease in entry and exit from these top subsets corresponds to a decrease in wealth mobility, so the result in Figure 5 implies a decline in mobility consistent with the rise in rank correlations shown in Figure 4. This finding extends the results of Arnott et al. (2015), who measure mobility within the Forbes 400 from 1982-2014 but not changes in mobility over time, and Gomez (2023), who finds lower entry and exit rates in the Forbes 400 in each decade from 1983-2017.

Taken together, Figures 3 and 4 show a simultaneous rise in wealth concentration and decline in mobility among the wealthiest U.S. families from 1985-2020. This result is consistent with the empirical findings of Krueger (2012), Corak (2013), and Chetty et al. (2014a), and extends the scope of this negative link between inequality and mobility to the Forbes 400. Furthermore, Figures 2-4 reveal that mobility declined consistently from 1985-2020, even as inequality grew less rapidly after 2000.

Our findings could be driven by an increase in the average return for the wealthiest U.S. families, which would tend to raise inequality and lower mobility (Gomez, 2023). Other potential explanations include higher death rates among the members of the Forbes 400 in earlier years, or even bias as the list likely grew more reliable over time and may have become more static in later years. An analysis of the drivers of our results is likely a promising direction for future research.

Appendix A. Aggregate Family Wealth Data

In this appendix, we recreate Figures 1-5 using aggregate rather than per capita family wealth holdings from 1985-2020. These intergenerational dynastic aggregate family wealth holdings are identical to the wealth holdings used to construct the figures in the main paper except that we no longer divide by the number of dynastic family members in each year. The results using aggregate wealth holdings over time are reported in Figures A.6-A.10. As these figures show, the results using aggregate dynastic wealth data are qualitatively and quantitatively similar to those using per capita dynastic wealth data.



Figure A.6: Log-log plot of the top 200 dynastic aggregate family wealth shares versus rank, 1990-2020.



Figure A.7: Estimates of the absolute value of the slope of the log-log plot of aggregate wealth shares versus rank for the top 200 dynastic families, 1985-2020.



Figure A.8: Shares of aggregate total wealth held by the top 50 and top 100 dynastic families, 1985-2020.



Figure A.9: One-year and five-year wealth-rank correlations for the top 200 dynastic families ranked using aggregate wealth holdings, 1985-2020.



Figure A.10: Number of new entrants and corresponding exits from the top 50 and top 100 dynastic families ranked using aggregate wealth holdings, 1985-2020.

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