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The Enduring Importance of Family Wealth

Evidence from the Forbes 400, 1982 to 2013

Philipp Korom, Mark Lutter, and Jens Beckert



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Abstract

The social science literature proposes two competing explanatory frameworks for the existence and longevity of super-fortunes: superstar or winner-take-all mechanisms, suggesting an increased dominance of new self-made billionaires; and mechanisms focusing on inherited advantages, suggesting an enduring importance of old family fortunes. Using panel data from the USA's annual Forbes 400 ranking (1982-2013), this study analyzes factors that increase or decrease the likelihood of remaining listed among the American super-rich. We find initially that the percentages of self-made entrepreneurs among the highest wealth echelons of US society have increased significantly since 1982. Sectors that improved the most are finance (including hedge funds and private equity), new technology and mass retail. The decline of inheritance as a source of wealth and the rise of new tech and finance fortunes suggest low reproduction rates among superrich property owners. Family wealth, however, plays an important role if the longevity of fortunes is considered. While the literature predicts family fortunes to be taxed away, divided among a large number of heirs, or lost through incompetence, we find that scions of inherited great wealth (mostly up to the third generation) are more likely to remain listed in the Forbes 400 roster than self-made entrepreneurs. We conclude that even though entrepreneurship increasingly matters for becoming super-rich, it is first and foremost the ability of rich family dynasties to retain control over corporations and to access sophisticated financial advice that makes fortunes last.

Zusammenfassung

Die sozialwissenschaftliche Literatur zur Existenz und Langlebigkeit von Superreichtum bietet zwei konkurrierende Erklärungsansätze: zum einen Superstar- oder Winner-takeall-Mechanismen, die zu einer Zunahme von Selfmade-Milliardären führen; zum anderen aus ererbten Vorteilen entstehende Mechanismen, aus denen sich eine fortlaufende Konzentration alter Familienvermögen ergibt. Mithilfe eines Längsschnittdatensatzes aus den Forbes-400-Listen von 1982 bis 2013 untersucht das Papier, von welchen dieser Faktoren die Verweildauer im Forbes-Ranking abhängig ist. Dabei zeigt sich zunächst, dass der Anteil des Selfmade-Unternehmertums in den Rankings seit 1982 deutlich ansteigt. Die Branchen mit dem höchsten Wachstum sind die Finanzwirtschaft, insbesondere Hedge-Fonds und Private-Equity-Firmen, sowie neue Technologien und Handel. Auch wenn dies auf eine abnehmende Bedeutung ererbten Familienvermögens hinweist, zeigt sich bei der Analyse der Verweildauer, dass Erben großer Vermögen (meist in dritter Generation) deutlich länger in den Rankings verbleiben als Selfmade-Unternehmer. Wir schließen daraus, dass es trotz der Zunahme von Selfmade-Superstars in erster Linie Familiendynastien sind, denen es gelingt, durch Firmenbesitz und professionelle Vermögensberatung die Kontrolle über ihren Reichtum aufrechtzuerhalten.

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The Enduring Importance of Family Wealth: Evidence from the *Forbes 400,* 1982 to 2013

1 Introduction

During the last decades, American society has witnessed a pervasive trend towards an increasing concentration of income and wealth at the very top. The top decile income share equaled 50.4 percent in 2012 – a level higher than in any other year since 1917 (Atkinson/Piketty 2007; series updated by the same authors). Moreover, the gains of the top 10 percent were mostly the gains of the top 1 percent – and most of their gains, in turn, went to the top 0.01 percent (Piketty/Saez 2003). Growing wealth disparities were particularly fueled by the widening gap between the super-rich and the rest of society. The share of the national wealth of the top 0.01 percent – a mere 160,000 families with a wealth cut-off of \$20.6 million – increased from 7 percent in 1979 to 22 percent in 2012 and is almost as large as that of the bottom 90 percent (Saez/Zucman 2014). Today, it appears to some that the US is on the verge of a new Gilded Age (Bartels 2008; Krugman 2014).

Who are the multi-millionaires who move into, and stay in, the ultra-rich class in the US? While the super-rich have always attracted sociological attention (Mills [1956]2000; Veblen [1899]1994), the social processes that contribute to achieving and maintaining the status of being part of the top 0.01 percent remain largely a sociological lacuna.

The social science literature proposes two rather competing explanatory frameworks for the existence and longevity of super-fortunes (for an overview, see Keister 2014 and McCall/Percheski 2010: 338). At the risk of oversimplification, one can group the existing explanatory attempts conceptually according to the comparative weight given either to *achieved* or to *ascribed* traits in generating membership in top wealth positions. In the first framework, explanations center on the phenomenon of "superstars" and on winner-take-all markets. It is argued that (global) changes in technology, information, and communication are skill-biased, and likely to disproportionally reward the relative productivity of highly talented individuals who apply their talent to a larger pool of resources and reach a larger number of people than in the past (Frank/Cook 1995; Rosen 1981; Kaplan/Rauh 2013b). According to this logic, self-made entrepreneurs with exceptional talents in lucrative fields (e.g., hedge funds managers) increasingly populate the top of the wealth pyramid. As new money is supplanting old money, the importance of inheritance for staying in the highest wealth echelon is declining.

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The second framework, by contrast, does not focus on individual achievement, but emphasizes the importance of the families into which individuals are born. It postulates that intergenerational mobility is so slow that if ancestors made it to the top, their children, grand-children, and great-grandchildren will make it as well (Clark 2014; Lundberg 1937). Even if all wealthy elites are likely to be replaced by self-made elites, the process is assumed to happen only over the time frame of many generations. Where we fall within the social spectrum is largely fated at birth. Family lineage, not individual talent, is thus expected to determine who gets rich and who maintains great wealth over time.

In this study, we attempt to test these rivaling explanatory schemes by approaching the American *Forbes 400*, a relatively complete list of the super-rich in the United States. Drawing on unique panel data encompassing all the individuals listed in the yearly *Forbes 400* between 1982 and 2013, we probe factors that either increase or decrease the likelihood of remaining in the list of the super-rich. Moreover, we analyze whether self-made fortunes have become a dominant group in the *Forbes 400*, as the superstar explanation would predict, or whether a wealthy family background is still an important factor for explaining membership in the *Forbes 400*.

Our results indicate that the percentage of self-made multi-millionaires increased sharply over the course of time. In addition, the number of financiers and tech-derived super-rich within the *Forbes 400* has grown considerably over time. Both results lend partial support for theories emphasizing the importance of economic dynamism and winner-take-all markets for the generation of large fortunes. However, our analysis also reveals that inheritance and belonging to a rich family are the main predictors for staying on the list. We also find that having other family members listed among the *Forbes 400* – an indicator for the concentration of fortunes within rich corporate families – significantly lessens the risk of dropping off the list.

We therefore conclude that while the avenues to great wealth appear to have changed, and the ranks of the rich prove remarkably open to the incorporation of newcomers, family wealth remains key to the maintenance of membership in the list of the superrich. In the case of the superrich, the many advantages of kinship are enduring, even if the super-rich have become increasingly entrepreneurial.

2 Self-made wealth or family wealth? Theoretical considerations

It is commonly observed that today's super-rich are more global and diverse than ever (Khan 2012). Tech-derived billionaires ("digital rich," "dot.com billionaires") such as Mark Zuckerberg, CEO of the social-networking website Facebook and Google co-founder Larry Page, or hedge fund managers such as Steven A. Cohen, are obvious examples of entirely unprecedented types of billionaires. Common to these and

other classes of wealth possessors is that individuals need not be born into them, but can access them through extraordinary skill, talent, and profitable market conditions (Rosen 1981: 845). It is not lucky descendants whose capacities may be quite ordinary, but self-made "superstars" who come to dominate the market activities in which they engage and manage to earn enormous amounts of money (Frank/Cook 1995).

Kaplan and Rauh (2013a) find rather indirect evidence for the rise of "superstars" when exploiting data from the American *Forbes 400* for selected years between 1982 and 2011. First, when studying who grew up in families that were "wealthy," families that had "some wealth," or families that had "little or no wealth," they find that the percentage of people who grew up in a "wealthy family" has fallen since 1982 while the number of middle-class list members has grown steadily. Second, they show that the share of *Forbes 400* individuals who are the first generation in their family to run their businesses has risen from 40 percent in 1982 to 69 percent in 2011. Third, they complement these findings on individuals with an analysis of the wealth-generating firms. According to the authors, the share of the *Forbes 400* engaged in the technology business or businesses with a significant technology component increased from 7.3 percent in 1982 to 25.5 percent in 2011: thus, change in the profiles of the *Forbes 400* coincides with the rise of technology-based business.

While general economic theory (Goldin/Katz 2008) attributes rising wage inequality to skill-biased technical change (SBTC), Kaplan and Rauh also theorize that SBTC has powered the rise of the super-wealthy (Kaplan/Rauh 2013a, 2013b). The *Forbes 400*, they argue, comprises increasingly well-educated individuals "who accessed this education while young and then implemented their skills in the most scalable industries, where increasing technology and returns to skill allow for the greatest generation of wealth" (Kaplan/Rauh 2013a: 161). Jeffrey Bezos can be adduced as an example. In the retail sector, technology and the ability to scale up operations has helped players such as Amazon to transform the landscape and thereby generate billions for a handful of entrepreneurs. Such a line of argument follows the spirit of studies on CEO pay increases showing that a six-fold increase in CEO salaries can be fully explained by the growing market capitalization of large companies (Gabaix/Landier 2008). In another contribution the same authors concede, however, that it remains an open question to which degree super-fortunes are due to gains in skill compared to improved access to networks (Kaplan/Rauh 2013b: 49).

Arguments that attribute skyrocketing executive compensation to the power of managers to shape their own payments (Bebchuk/Fried/Walker 2002) or other explanations that do not conceptualize CEO pay as a function of what individual companies do (DiPrete/Eirich/Pittinsky 2010) are dismissed as they fail to explain why the ranks of the wealthiest US individuals are increasingly populated by technology entrepreneurs.

Others attribute the emergence of new fortunes to multiple forces, such as the rise of financial markets, technological innovations, and a freer flow of goods and information around the world (Frank 2007; Freeland 2012). It is argued that returns in a globalized world amplify the rewards for superstars, and that new liquidity opportunities for launching companies favor entrepreneurial talents (Frank 2007).

Within superstar explanations, accumulative advantages and better starting positions for heirs are of secondary importance. Technological change is expected to propel highly talented middle-class individuals, which should result in the top of the wealth distribution becoming less dynastic. Decline is implicitly assumed to be the normal dynamic of family fortunes, as money is divided among heirs who may not be talented and may feel no need to work. Heirs – above all, heirs in declining economic sectors – are therefore predicted to increasingly drop off the *Forbes 400* rich list and be replaced by the entrepreneurial rich.

In contrast, theories that center on inherited advantages see the intergenerational transmission of material wealth as an important determinant of being rich (Medeiros/Ferreira de Souza 2015: 875–877) and therefore postulate that the rich preserve their outstanding position at least in the short term of a few generations. While wealth mobility at the very top has not been studied for the US, empirical findings for the overall population speak in favor of wealth having a longer memory than just one generation. Investigating families with rare surnames, Clark and Cummins (2014) report substantial correlation between the wealth of families five generations apart. Studying three generations, Boserup, Kopczuk, and Kreiner (2013) find that grandparental wealth can predict grandchildren's wealth. Even when focusing on households that have not received bequests and drawing on survey evidence, similarities in net worth between parents and their children turn out to be substantial (Charles/Hurst 2003). Equally, case studies on the super-rich demonstrate that elite wealth clearly exceeds the life span of a particular individual (Lundberg 1937, 1968).

There are various explanations for the intergenerational persistence of family fortunes. The general literature on the rich tends to pay most attention to the transfer of wealth upon death (Hansen 2014). Studies of wealth research institutes reveal that preserving family-controlled companies and thus keeping fortunes in the family hinges on a subset of family members ("stewards") who feel obliged to preserve the family company for future generations and provide entrepreneurial spirit to maintain or even enhance the family legacy (Daniell/Hamilton 2010). Family offices, private companies that manage investments of a single family, as well as wealth and estate managers also generally play an important role as integrators and coordinators of all wealth affairs within multi-generational rich families (Harrington 2012). It is estimated that about 4,000 super-wealthy families in the US maintain family offices (Bernstein/Swan 2007: 250). A well-staffed family office has, for example, multiplied the Burden family fortune even six generations after Commodore Cornelius Vanderbilt built his wealth (Phillips 2002: 116). Moreover, anecdotal evidence suggests that the super-rich often succeed in perpetuating their

fortunes through the use of lifetime gifts or family holding companies (Allen 1987). It is also suggested that the familial inheritance of abilities matters as well (Clark 2014). The children of the rich inherit not only wealth, but also education, socialization, and connections (Khan 2012).

Regardless of which social mechanism they address, theories on inherited advantages refute the view that wealth is the product of merit and that fortunes are purely determined by market forces. Quite the contrary: it is argued that the rich are rich due to an inherited control of opportunities. Even if family fortunes are likely to eventually dissipate, this process is assumed to take many generations (Landes 2006), and recent history does show that the corporate super-rich can be expected to retain much of their wealth.

3 Empirical setting: The Forbes 400

The dissemination of rosters of wealthy families has a long history. At the height of the Gilded Age, social arbiter Ward McAllister organized balls of the season in the ball-rooms of Caroline Webster Astor, the self-crowned queen of New York society. At the last of these balls, held in 1891–92, McAllister leaked the official list of "Mrs. Astor's Four Hundred" to the *New York Times*, granting the public insights into society's highest circles. The term "The Four Hundred" instantly became part of the national vocabulary (Patterson 2000). Since McAllister's efforts, various rosters that identify the rich have been compiled (Lundberg 1937, 1968).

In 1982, *Forbes* magazine started to annually publish a list of America's richest four hundred persons. With regard to the inaugural year, the popular magazine reports that setting up the list required an investment of "over a quarter of a million dollars on staff and research" (Forbes 1983: 168, quoted from Capehart 2014). In the process of its research, *Forbes* combs through holdings of publicly traded companies, court and tax records, and print stories. Direct wealth estimates are established by considering stakes in public and privately held companies, real estate, yachts, car collections, and planes, and by also taking debt into account whenever possible. To determine the affluence of a person, privately held companies are valued by coupling estimates of revenues or profits with prevailing price-to-revenues or price-to-earnings ratios for similar public companies. Publicly traded stocks are valued at the closing on a particular day that can vary from year to year (Torgler/Piatti 2013). *Forbes* also reports that it relies on interviews with the listed persons and their "employees, handlers, rivals, peers, and attorneys."

For a description of the underlying methodology see: <www.forbes.com/sites/luisakroll/2013/09/16/inside-the-2013-forbes-400-facts-and-figures-on-americas-richest>.

The fact that the magazine does not provide details on how wealth estimates are constructed makes an independent replication impossible.

Of course, such an exercise finds many critics. The most vexing problems pointed out are the following:

- The assets covered in the estimates are likely to be restricted to those that can be easily identified in public records (Davies/Shorrocks 1999).
- In the case of entrepreneurs whose personal wealth is tied to companies, estimates are thus unlikely to be biased. In the case of more diversified portfolios, data accuracy is considerably lessened and even more so when assets have been acquired predominantly through inheritance (Blitz/Siegfried 1992; Piketty/Zucman 2015).
- Because of limited information, family fortunes might be attributed to individuals;
 and since assets are more visible than debts, net wealth estimators are likely to be biased (Atkinson 2008).

While the *Forbes 400* editors themselves concede that a precise valuation of assets of the rich is impossible, they make the strong argument that the list is the best available "scorecard of who the most important people are."

When US federal tax authority researchers compared the tax data of deceased persons and the *Forbes* lists, it became apparent that *Forbes* magazine overestimated the individual net worth considerably (Raub/Johnson/Newcomb 2010). Differences most likely stem from the poor assessment of liabilities or the fact that *Forbes* considers the full value of trusts set up to distribute wealth to family members (even if, in fact, their creator retains control). Surprisingly, claims that the list is biased or incomplete are rarely made in public.³

According to *Forbes*, the total wealth of the richest 400 Americans rose dramatically between 1983 and 2013. As Figure 1 shows, their nominal wealth increased over 17-fold, from 0.12 trillion US dollars to about two trillion dollars. When their nominal wealth is deflated by the CPI or the CLEWI index, the trend is somewhat less dramatic. Unlike the categories in the CPI, the CLEWI's basket includes luxurious goods and services, and might therefore be a more appropriate deflator. The aggregate wealth did not increase every year and even decreased in some years. Peaks in 2000 and 2008, as well as subsequent declines, are associated with boom and bust cycles of the stock market (Capehart 2014). It is, for example, safe to assume that when the dot.com bubble burst, many Internet-based companies lost a large proportion of their market capitalization, causing a significant decline in the overall wealth of the *Forbes 400*.

³ *Bloomberg*, which set up a rival ranking of the world's richest people, only identified a very few international billionaires who were overlooked by *Forbes* magazine in its "World's Billionaires" ranking.

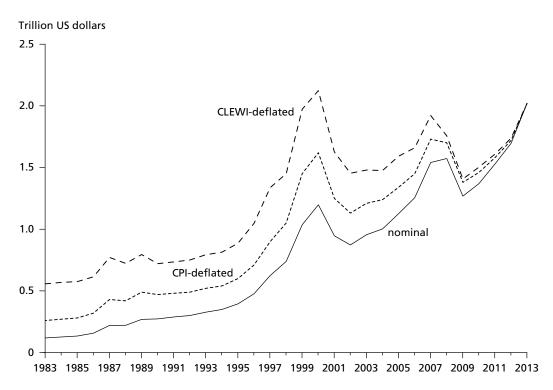


Figure 1 Wealth of the 400 wealthiest Americans, 1982–2013

Notes: The aggregate wealth of the 400 wealthiest Americans is shown in nominal dollars, CPI-deflated dollars, and CLEWI-deflated dollars, with 2013 as the base year. Figures are converted to constant dollars either on the basis of the CPI-U-RS series provided by the US Bureau of Labor Statistics or on the basis of the Cost of Living Extremely Well Index (CLEWI) provided by Forbes magazine. The CLEWI index tracks price fluctuations of items that are affordable to the ultra-wealthy.

Even if the *Forbes 400* have become the epitome of the super-rich in the US, their share of household wealth is, even at its largest point, much smaller than one would guess from media coverage. The two trillion US dollars held by the 400 wealthiest Americans in 2013 amount to only 2.19 percent of total household wealth as measured by the Flow of Funds Accounts (FOFA) developed by the Federal Reserve System. Of course, the small share can be explained by the *Forbes 400* being an infinitesimally small fraction of the total US population – roughly 50 times smaller than the top .01 percent wealth group (Kopczuk/Saez 2004). One therefore has to bear in mind that findings on the *Forbes 400* are only informative about wealth dynamics at the very highest affluence level. Generalizations to other top wealth holders are hardly possible.

The *Forbes 400* has never been just a list; it is also a celebration of wealth and capitalism. Similarly to other magazines that construct the rich rankings as a "measure of industry, businessman as heroes, and capitalism as a system which promotes opportunity and social mobility" (Gilding 1999: 174), *Forbes* magazine is obviously marked by an ideological bias in favor of entrepreneurs. Even though the magazine predominantly reports "rags-to-riches" stories, it does not, however, turn a blind eye to family lineage. In 2014,

the magazine published its first ranking of the richest families in the US (185 dynasties with fortunes of at least \$1 billion) and started to rank the members of the top 400 by how much they had overcome adversity on the path to access, reserving the lowest score for those who inherited all of their fortune. Since its inaugural year, the *Forbes 400* has proven to offer insights into the role of inheritance for the accumulation of great fortunes (Broom/Shay 2000; Blitz/Siegfried 1992; Canterberry/Nosari 1985).

Despite all their inherent limitations, the *Forbes 400* lists still provide the best available profile of super-wealth in the US, whose potential evidence on the importance of family wealth has not yet been fully exploited. We are highly aware of the uncertainty entailed in all wealth estimates and thus take all numbers simply as orders of magnitude. We argue, however, that the consistent manner in which *Forbes* tracks fortunes on a yearly basis allows us to investigate who stays at the top. Previously listed persons are not taken from the ranking without providing comprehensible reasons and a close re-examination of available evidence by *Forbes* wealth reporters. In the following analysis we give little weight to differences in estimated wealth but rather concentrate on the questions of who makes it onto the list and who stays ranked.

4 Data and methods

Data

Our sample consists of all persons listed by *Forbes* magazine as being among the 400 wealthiest Americans. We include information on all persons and for each year between 1982 and 2013, which yields an unbalanced panel dataset recording the complete duration of *Forbes* members in the list. In total, the sample consists of 1,487 persons in 12,800 person-years. Yearly information such as net worth, rank or source of wealth was taken from the tabulations in all print editions. We complemented these data with additional information mostly taken from Marquis *Who's Who in America* and online biography resources (e.g., <en.wikipedia.org>). Kaplan and Rauh (2013b) provided us with data for four years (1982, 1992, 2001, and 2011). We adopted some of the variables used in their study, recoded others to fit our research interests, and revised a few codings.

Methods

We use event history models to gauge factors that influence the number of years a person is listed ("survival time") until experiencing an event – that is, in our case, falling off the list ("failure"). "Failure" is a binary variable that takes the value 1 if a listed member drops out. As dropouts can re-enter the list in subsequent years, we deal with multiple

failure events. We right-censor the data, which implies that failures in the last year of observation (2013) are not counted as such. Table A1 (Appendix) provides an overview of the total number of failures. As can be seen, the majority of individuals listed experience one or two dropouts. Among the 1,487 people listed, 307 (20.65 percent) face no dropout; 894 (60.12 percent) one; and 234 (15.74 percent) two dropouts. The remaining 52 persons have three or four dropouts.

Cox regression is applied to estimate the factors that increase or decrease the likelihood that the failure event will occur. We fit proportional hazard models (Cox 1972) – as the literature suggests these as the most flexible procedures for estimating survival data (Cleves et al. 2010; Blossfeld/Rohwer 2002; Box-Steffensmeier/Jones 2004) – using robust standard errors clustered by persons (Lin/Wei 1989). For tied events, the Efron method is applied. To account for multiple failures, we employ the widely-used marginal risk set model (Wei/Lin/Weissfeld 1989). This approach estimates the Cox regression with stratified coefficients based on failure occurrence. In the model applied in this study, individuals are at risk for all events at all times prior to experiencing that event (for details, see Box-Steffensmeier/Zorn 2002: 1075).

Predictors

We use the following predictor variables for this study (see Table A2 for descriptive statistics of all variables):

Inherited. This is a dummy variable that takes the value 1 if the fortune was inherited and zero if it was self-made. We deem a fortune to be self-made only if the individual built it (more or less) from scratch. According to this logic, the founder of the retailer Walmart, Sam Walton, who was born to a farm family, qualifies as self-made. Donald Trump, who built on his father's real estate company, is categorized as an heir. The variable thus does not capture whether someone succeeded in increasing family fortunes and is furthermore insensitive to the actual size of inherited estates. When coding the variable, we only partly relied on information from *Forbes* magazine, as its designation of self-made fortunes appears to be overstretched (Elwood et al. 1997).

Number of family members. Individuals listed over the last thirty years often belong to family dynasties.⁴ Jay Arthur Pritzker (born 1922) and Robert Alan Pritzker (born 1926), for example, form part of a powerful Chicago family whose roots date back to Abraham Nicholas Pritzker (born 1896). To capture the importance of rich multigenerational families, this variable counts the number of a person's family members listed in each annual ranking.

Following Landes (2006: 294), we define "dynasty" as a "succession of at least three generations of a family business, marked by continuity of identity and interest."

Wealthy family background. A further central variable of this analysis measures the affluence level of the families of origin by differentiating between rich and all other families. The measure takes the value 1 if the person being considered has a wealthy family background. It is zero in all other cases. Wherever possible, we used the "wealthy" category applied in Kaplan and Rauh (2013b) for coding the variable. This measure considers as "wealthy" families who own at least one large and prosperous corporation and derive their fortunes from its stockholdings, or have amassed amounts of assets (e.g., land) which, if inherited, are (almost) sufficient to make it onto the list. Examples of descendants from rich families are Alice L. Walton, Charles G. Koch, and Edward Perry Bass.

Sectors. Again partly adopting a coding from Kaplan and Rauh (2013a), we identify the industry in which the wealth of each individual *originated* by categorizing the relevant wealth-generating firms into three broad categories (industrial, finance/investments, and real estate) and further differentiating the first two into eleven categories that indicate business sectors. Heirs to the Rockefeller family, for example, are thus assigned the category "industrial/energy," because its vast fortune was first made from oil. The fact that the Rockefeller group has branched out into other sectors such as real estate and even sells its investments in fossil fuels is not captured by the variable.

Year of origin. This measure captures the approximate age of fortunes by considering the founding year of the corporation that generated the individual's wealth (for a smiliar approach, see Blitz/Siegfried 1992). To give some illustrations:

- The chemicals empire that delivered sufficient profits to keep Du Pont heirs on the Forbes 400 list until 1998 dates back to 1802, when the company was founded by Éleuthère Irénée Du Pont in Delaware to produce black powder.
- The foundation of Wal-Mart Stores in 1962 laid the groundwork for the family's ascendancy to economic power.
- In cases of executives and lawyers who became rich due to astronomically high salaries, the origination date is defined by the year in which the person took up a particular job position that was key to his/her private wealth generation. Maurice Raymond Greenberg, former CEO of American International Group (AIG), for example, took over responsibilities for the company's domestic operations in 1962.

One might ask what actually constitutes a "large business" or what exactly is the inherited fortune required to make the list. We resorted to a broad definition as we were not able to reliably implement more exact selection criteria such as "inherited wealth in excess of \$... million" as suggested by Moriarty et al. (2012).

Controls

We use the following control variables:

Age. The age information, measured in years, is taken from the birth years of the listed persons. In cases where there was no birth year indicated in *Forbes* magazine, we used information given in other sources (such as *Who's Who in America*). If no data on age was available, we used the average for all persons (which we did in 0.3 percent of all cases).

Female. The person's gender is derived from the list member's first name.

Worth. This variable, measured in millions of US dollars, is the amount of wealth that is given in each of the *Forbes 400* yearly issues.⁶

Deceased. Persons who die obviously lose their wealth and necessarily drop off the list. Over a quarter of the four hundred people who were first listed in 1982 eventually fell off the list because they died. Having registered the year of death, we are able to control for such occurrences. Sample exits are coded as "exit by death" if the person died in the year of publication of the respective ranking or in the subsequent year.

Residence. Even though Forbes members may have global fortunes and multiple (unoccupied trophy) homes, their fortunes are mostly located in specific sites such the Silicon Valley on the West Coast. For most listed individuals Forbes magazine includes information on the location of the main residence. We categorize the residence information into four census regions – Northeast, Midwest, South and West – and one residual category for unclassified, other or missing locations. We include this variable in order to take account of the geographical diversity of the super-rich in the US.

Number of failures per year. As the years differ in terms of the number of total exits, the risk of failure most likely differs across years as well (due to the business cycle or global macroeconomic trends, such as recessions or financial crises). To factor this time-varying risk into the model, we control for the total number of dropouts in each year.

In the years 1982 to 1989, *Forbes* magazine did not report an estimate for Malcolm Stevenson Forbes, who was editor-in-chief of the magazine *and* on the *Forbes 400* list. We imputed his wealth in a given year as the median wealth of all other 399 wealthiest Americans of the same year.

Table 1 Forbes 400, 1983–2013: The rise of self-made fortunes

	Year of origin	Family back	ground %	Forbes rank	k (median)	Ir	heritance '	%
Year	median	wealthy	other	wealthy	other	total	women	men
1982	1927	56.0	41.0	180.0	180.0	58.5	17.50	41.0
1983	1927	54.2	41.2	194.0	178.0	59.8	18.50	41.2
1984	1929	54.0	43.3	195.0	188.0	58.5	16.80	41.5
1985	1929	53.7	40.7	206.0	168.0	58.5	19.50	39.0
1986	1932	50.7	43.5	197.0	154.0	56.5	19.00	37.5
1987	1940	44.5	49.2	199.0	192.0	50.2	14.20	36.0
1988	1944	43.0	49.5	179.5	199.5	49.5	11.70	37.8
1989	1944	44.3	50.2	166.0	218.0	49.5	13.00	36.5
1990	1941	44.3	49.5	165.0	209.0	50.2	15.00	35.2
1991	1944	44.0	51.2	185.0	190.0	50.0	14.00	36.0
1992	1945	42.5	54.7	169.0	212.0	49.0	15.00	34.0
1993	1946	43.0	51.7	168.0	204.0	49.8	15.50	34.3
1994	1946	42.7	52.5	179.0	204.0	49.5	14.70	34.7
1995	1950	42.0	53.2	160.0	216.5	48.0	15.30	32.8
1996	1956	40.3	52.7	149.5	206.0	47.2	14.20	33.0
1997	1957	39.3	54.5	140.0	216.0	47.5	14.70	32.8
1998	1958	38.0	57.5	157.0	203.0	45.8	14.00	31.8
1999	1962	34.5	60.0	159.0	199.0	40.7	11.30	29.5
2000	1968	31.3	61.0	175.0	189.0	37.0	10.00	27.0
2001	1963	33.3	64.0	172.0	189.0	39.3	9.75	29.5
2002	1962	35.2	62.3	164.0	182.0	40.7	10.80	30.0
2003	1963	35.7	61.8	179.0	195.0	41.0	11.00	30.0
2004	1963	36.5	60.5	165.0	215.0	42.0	11.70	30.2
2005	1965	33.5	62.0	164.0	207.0	38.8	11.00	27.8
2006	1969	32.3	62.7	160.0	204.0	36.5	10.50	26.0
2007	1971	31.5	64.5	135.0	220.0	34.5	9.25	25.3
2008	1971	31.8	64.2	147.0	215.0	34.7	9.75	25.0
2009	1971	32.0	65.0	158.0	212.0	34.5	9.50	25.0
2010	1972	32.0	66.7	144.0	221.0	33.8	9.25	24.5
2011	1973	31.0	68.5	150.0	212.0	32.5	9.25	23.3
2012	1973	30.0	67.5	142.0	218.0	32.0	9.75	22.3
2013	1972	30.0	64.0	154.0	209.0	32.8	10.50	22.3

5 Results

The rise of self-made entrepreneurs

Table 1 shows the median of the origination date of fortunes, the proportion of listed persons with rich family backgrounds, as well as the proportion of heirs for all years between 1982 and 2013. It can be seen that the median origination date rises from 1927 to 1972, suggesting that old money (Burris 2000) becomes increasingly supplanted by new money. In a similar vein, the share of persons who grew up wealthy drops from 56 to 30 percent. Consistent with these findings, listed individuals who inherited account

for only 33 percent in 2013 compared to 59 percent in 1982. Increasing numbers of entrepreneurs are to be found, especially among men (Edlund/Kopczuk 2009). Taken at face value, the descendants of wealthy families occupy higher ranks especially in more recent years (see Table 1). Even if the role of inheritance appears to be diminishing with time, and old money such as the inherited family fortune of Forrest Edward Mars, Jr. (born 1931) tends to fall gradually behind, a shrinking number of heirs continue to claim top positions.

Throughout all years, heirs tend to belong to the second generation in their family to run their business (Kaplan/Rauh 2013a). Zooming in on the *Forbes* data, the number of list members from wealthy family backgrounds decreases over time. The Du Pont fortune, for example, generated the wealth of thirty different individuals on the 1982 *Forbes 400* list. By 1998, no Du Pont made the list. Similarly, the number of Fords, Mellons, Hunts, and Rockefellers plummets considerably.

To be sure, these findings do not imply that vast family fortunes that figured high in the initial years of the *Forbes 400* rankings dissipated within three decades. On the contrary, established rich families tend to increase their holdings (Phillips 2002). For example, it is documented that the fortune of the Hearst family increased from \$800 million in 1982 to \$10.1 billion in 2006, implying an annualized increase of about 11 percent (Bernstein/Swan 2007: 231). Piketty (2014: 439) suggests that "all large fortunes, whether inherited or entrepreneurial in origin, grow at extremely high rates, regardless of whether the owner of the fortune works or not." Even Arnott, Bernstein, and Wu (2015: 1), who develop an argument that is diametrically opposed to Piketty's view, claiming that the rich get relentlessly and inevitably poorer, find that the 69 inaugural families who were also listed in the 2014 list of the global *Forbes 400* grew their wealth 13-fold. The authors, however, attribute the growth in wealth between 1982 and 2014 primarily to entrepreneurial ventures and innovations and not to high rates of return thanks to access to sophisticated financial advice.

In many cases, however, even growing fortunes become divided with each generation and start to spread thinly over a fast-growing family tree. The amount of money required to make the list thus easily becomes a considerable hurdle, even more so as the cut-off value to make the list was considerably raised. The least wealthy person on the 1982 list, Mike Markkula (former CEO of Apple Computer, Inc.), was reported as having a net worth of \$921 million, thus only one-sixth of the cut-off in 2014, taking into account the greater purchasing power of the dollar in 1982.

To provide perspective on the origins of the industries behind the *Forbes 400*, we have aggregated different businesses into twelve broad categories following a classification scheme developed by Kaplan and Rauh (2013a). The results are reported in Table 2, which reveals the growing importance of technology-based businesses, finance, and

retail.⁷ While finance was the primary wealth sector for only 4.6 percent of all multimillionaires in 1982, three decades later, in 2012, it surpassed all other areas, representing the main source of wealth for 20.7 percent of the *Forbes 400*, which was interpreted as indicating the "financialisation of the capitalist class" (Foster/Holleman 2010). The sectors of energy, diversified business, media, and consumer goods have not managed to maintain their overall shares over the last decades. The shares of technology (computer/medical) and retail grew by about 11 percent and became the closest competitors to finance.

Table 2 Sectoral distribution of wealth-creating businesses behind the Forbes 400

	1982	1992	2002	2012	Change 1982 to 2012
	%	%	%	%	%
Industrial					
Retail/restaurant	5.5	11.4	12.8	16.3	10.8
Technology – computer	3.0	5.1	10.2	12.0	9.0
Technology – medical	0.5	1.8	2.3	2.8	2.3
Consumer goods	13.5	18.4	13.8	11.3	-2.2
Media	14.2	13.9	16.0	8.8	-6.0
Diversified	19.8	18.7	15.3	11.3	-8.5
Energy	21.8	9.9	6.8	9.8	-12.1
Total	78.3	79.2	77.2	72.3	-6.7
Finance and investments					
Hedge funds	0.5	1.0	2.5	8.3	7.8
Private equity/LBO	1.8	3.3	4.5	6.8	5.0
Money management	2.0	6.1	6.0	4.3	2.3
Venture capital	0.3	0.5	1.0	1.3	1.0
Total	4.6	10.9	14.0	20.7	16.1
Real estate	17.2	10.1	8.8	7.3	-9.9

The technology and finance sectors are clearly dominated by self-made entrepreneurs. Jon Stryker, heir to the Stryker Corporation medical supply company fortunes of his grandfather Homer Stryker, and William A. Fickling Jr., former chairman of Charter Medical Corporation ("Charter"), are rare examples of wealthy descendants leading large corporations with a technology component. Similarly, hedge fund managers such as George Soros, Ray Dalio, James Simons, and John Paulson tend not to originate from wealthy families. The retail industry, however, is one of the most lucrative sectors in which a considerable number of the super-rich inherited their wealth. The Waltons or the Pritzkers are just two prominent examples of family empires with profitable companies creating consumer goods.

Table 2 is constructed on the basis of the information on the primary source of wealth given by Forbes magazine. If we were to adopt a broader definition of finance and consider multiple sources of wealth, the great majority of listed individuals would classify as being connected to the field of finance, in the sense that they participate in financial markets (Shiller 2012). Steven Spielberg, for example, is not only a film producer but also the co-founder of DreamWorks Studios, which financed films and was sold to Paramount Pictures for \$ 1.6 billion.

Taken together, the reported findings suggest that at the top level, America is a mobile society without a hereditary upper caste. Longitudinal evidence from the *Forbes 400* clearly suggests that wealthy family background and inheritance have lost importance over time. This supports the key findings of Kaplan and Rauh (Kaplan/Rauh 2013a, 2013b).

Furthermore, changes in the basis for the acquisition of enormous wealth reflect changes in the economy and technology, such as the advent of personal computers and the Internet, of new medical devices or financial products – a finding that speaks in favor of the declining importance of old money. The question that remains, however, is which fortunes tend to last and which tend to be edged off easily by others.

The enduring importance of inheritance and family structure

What commentators regularly observe is a different lineup of people from year to year. New faces appear; lots of people move up and down or drop off the list. If the super-rich do not dedicate their wealth to philanthropy or die, they either fall short of the *Forbes 400* because of falling stock prices of their companies and/or they do not manage to keep pace with the other members of the list. When publishing the "drop-offs," Forbes reporters often give explanations for why they perceived fortunes to fall or to underperform. What has not yet been systematically investigated is what actually determines an individual's chances of retaining a position within the ranking. In order to understand whether self-made entrepreneurs and scions of inherited wealth are equally likely to remain on the list, we analyze the factors that influence the duration of being listed.

Table 3 presents results of a set of nested model estimations. We begin with a baseline model in which we enter the basic controls age, female, worth, and the deceased variable. Rather self-explanatory, the occurrence of death turns out to be the strongest predictor of failure. The reported amount of assets in each year lowers the risk of falling off the list, suggesting that those who move into higher ranks also stay in the segment of the richest Americans for a longer time. Interestingly, age has a significant negative effect. Older multi-millionaires are more likely to repeatedly make the list than younger multi-millionaires. While women tend to inherit fortunes, as our descriptive analysis suggests (see Table 1), survival chances do not significantly differ between men and

The justifications given are often not very elaborated on. Usually one finds arguments similar to the following: "Among this year's biggest percent losers is 5-hour Energy drink creator Manoj Bhargava. After debuting on the *Forbes 400* list last year with a net worth of \$1.5 billion, Bhargava saw his net worth more than halved to \$800 million. Sales of 5-hour Energy drinks have been falling, leading *Forbes* to slash our valuation of Bhargava's Living Essentials, the 5-hour Energy parent firm, which is also being hit with a class-action lawsuit for wrongful advertising" (see <www.forbes.com/sites/ryanmac/2013/09/16/falling-fortunes-the-ones-that-dropped-off-the-forbes-400>).

Table 3 Cox regression on hazards of dropping out of the Forbes 400 list

	(1)	(2)	(3)	(4)	(5)	(6)
Age	-0.016*** (-5.849)	-0.017*** (-5.927)	-0.022*** (-7.147)	-0.026*** (-8.028)	-0.028*** (-8.118)	-0.025*** (-6.850)
Female	0.125 (1.224)	0.028 (0.298)	-0.105 (-0.943)	-0.029 (-0.241)	0.025 (0.217)	-0.046 (-0.402)
Worth	-0.003*** (-8.508)	-0.002*** (-7.076)	-0.002*** (-6.876)	-0.002*** (-6.773)	-0.002*** (-6.674)	-0.002*** (-6.280)
Deceased	1.559*** (17.067)	1.645*** (17.134)	1.654*** (16.825)	1.649*** (16.730)	1.647*** (16.405)	1.724*** (16.428)
Sector #1. Industrial: retail/restaurant		(reference category)				
Sector #2. Industrial: technology – computer		0.124 (0.738)	0.271 (1.493)	0.174 (0.982)	0.181 (1.011)	0.156 (0.835)
Sector #3. Industrial: technology – medical		0.037 (0.100)	0.050 (0.119)	0.016 (0.041)	0.052 (0.130)	-0.043 (-0.098)
Sector #4. Industrial: consumer goods		0.096 (0.625)	0.009 (0.054)	-0.049 (-0.297)	-0.005 (-0.032)	-0.034 (-0.195)
Sector #5. Industrial: media		0.220 (1.364)	0.203 (1.135)	0.185 (1.094)	0.193 (1.127)	0.126 (0.703)
Sector #6. Industrial: diversified/other		0.225 (1.451)	0.275 (1.605)	0.219 (1.332)	0.206 (1.240)	0.181 (1.036)
Sector #7. Industrial: energy		0.456* (2.525)	0.388* (1.982)	0.316 ⁺ (1.650)	0.335 ⁺ (1.724)	0.307 (1.522)
Sector #8. Finance: other		0.271 (1.308)	0.477* (2.208)	0.424* (2.033)	0.465* (2.240)	0.583** (2.879)
Sector #9. Finance: hedge funds		0.069 (0.272)	0.239 (0.910)	0.194 (0.722)	0.217 (0.805)	0.094 (0.373)
Sector #10. Finance: private equity/LBO		-0.119 (-0.544)	0.017 (0.075)	-0.045 (-0.199)	-0.016 (-0.072)	0.021 (0.092)
Sector #11. Finance: money management		0.086 (0.484)	0.150 (0.816)	0.067 (0.382)	0.100 (0.567)	0.138 (0.759)
Sector #12. Finance: venture capital		-0.373 (-1.194)	-0.277 (-0.939)	-0.374 (-1.239)	-0.374 (-1.232)	-0.271 (-0.943)
Sector #13. Real estate		0.277 ⁺ (1.722)	0.273 (1.569)	0.181 (1.067)	0.158 (0.912)	0.147 (0.806)
Region #1. Northeast		(reference category)				
Region #2. Midwest		-0.065 (-0.552)	-0.085 (-0.688)	-0.097 (-0.776)	-0.079 (-0.638)	-0.034 (-0.251)
Region #3. South		-0.170 ⁺ (-1.747)	-0.142 (-1.358)	-0.124 (-1.173)	-0.114 (-1.070)	-0.134 (-1.190)
Region #4. West		-0.280** (-2.818)	-0.254* (-2.434)	-0.220* (-2.110)	-0.185 ⁺ (-1.796)	-0.208 ⁺ (-1.955)
Region #5. Other		0.043 (0.294)	0.062 (0.406)	0.070 (0.455)	0.106 (0.717)	0.173 (1.144)
Number of failures per year		0.064*** (24.507)	0.063*** (24.020) 0.174**	0.062*** (23.656) 0.262***	0.062*** (23.640) 0.374***	0.063*** (22.365) 0.295***
Year of origin Year of origin (squared)			(3.073) -0.000**	(4.245) -0.000***	(5.541) -0.000***	(4.499) -0.000***
Inherited			(-3.129)	(-4.328) -0.444***	-0.000 (-5.623) -0.416***	(-4.574)
Number of family members				(-3.915)	(-3.637) -0.059*	-0.064**
Number of family members (squared) Wealthy family background					(-2.564) 0.004*** (5.700)	(-2.707) 0.004*** (5.570) -0.243* (-2.016)
Pseudo R ² AIC BIC Log likelihood Number of failures N (persons) N (person-years)	0.101 18602.466 18632.295 -9297.233 1524 1487 12800	0.138 17680.724 17837.248 -8819.362 1509 1476 12753	0.139 16878.402 17049.460 -8416.201 1449 1425 12548	0.141 16853.305 17031.800 -8402.652 1449 1425 12548	0.143 16810.511 17003.882 -8379.256 1449 1425 12548	0.152 13976.287 14168.561 -6962.144 1237 1209 12030

Notes: t statistics in parentheses; p<0.1, p<0.05, p<0.01, p<0.00, p<0.00, two-tailed tests).

women. Models 2 and 3 add further control variables to the model. Model 2 enters three sets of predictors: the sectors in which fortunes originated (with retail/restaurant as reference category), the region of the multi-millionaire's residence (with Northeast as reference category), and the number of failures per year. The results show that fortunes generated in the energy sector increase the likelihood of failure, merely reflecting the fact that the oil business, which used to dominate the *Forbes 400*, experienced a steep decline as a source of wealth as early as the 1990s (see Table 2). Interestingly, West Coast money shows a negative sign, i.e., fortunes located in the West have significantly lower dropout rates than the reference category Northeast. The *Forbes 400* increasingly featured Californians, most notably Bill Gates, who started to dominate the list. The number of failures per year has a positive impact. As expected, the more volatile the whole list in a given year, the more likely an individual dropout will be.

How does the effect vary between old and more recently established fortunes? Model 3 includes the year of origination and its squared term. The first term is positive-significant, the second negative-significant, which suggests a nonlinear, inversely U-shaped effect. In general, established fortunes fare better. Dropout hazards increase with newness of the fortune, but at a decreasing rate - i.e., the effect is less pronounced for the most recently established fortunes.

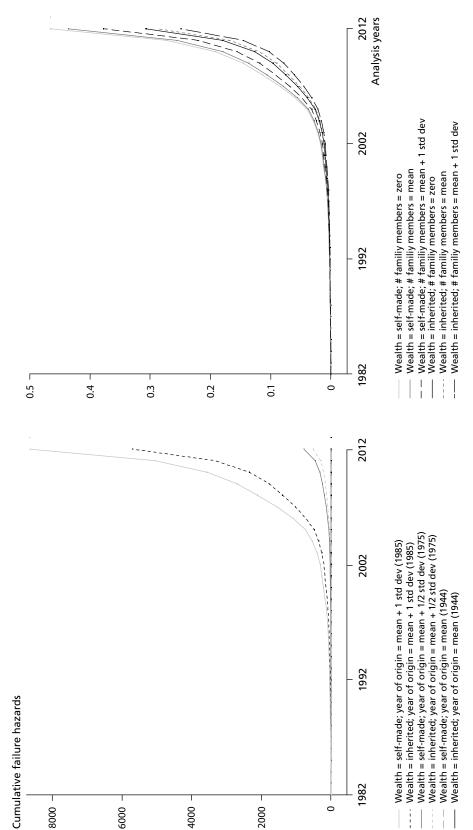
Model 4 adds the inheritance variable. As can be seen, inheriting assets increases chances of survival. Model 5 enters the number of family members into the model. We include a squared term in order to account for diminishing returns. The results suggest a nonlinear effect, i.e., with an increasingly larger number of family members, the dropout hazard decreases. However, for the largest number of family members – think, for example, of the Du Pont dynasty – the effect is reversed. Finally, Model 6 includes the family wealth variable as an alternative to the inheritance dummy. As both variables measure essentially the same, we include them separately into the models. As can be seen, descendants of great wealth have better prospects for remaining on the list.

To facilitate the interpretation of these results, Figure 2 displays the model-predicted cumulative failure hazards for inherited vs. self-made fortunes and selected values for the year of origin (left panel) and the number of listed family members (right panel). The left panel shows that individuals whose fortunes are of the most recent origin (1985) are marked by much higher failure hazards than others. Among fortunes that either date back to 1975 or 1985, self-made multi-millionaires are more often subject to replacement than inheritors. The graph emphasizes the importance of the origin of the

⁹ This is supported by Table A1, which shows cross-tabulations and a significant correlation between source of wealth and number of failure events.

¹⁰ Probably the best indicator for being born into a rich family is having inherited substantial wealth during one's lifetime. Such wealth transfers are often mentioned in the online biography resources we used and in the various editions of the *Forbes 400* magazine. In most cases, the wealth transfers mentioned indicate that the fortune comes from a business created by ancestors.

Model-predicted cumulative failure hazards for source of wealth, conditional on year of origin (left panel), and number of family members listed (right panel) Figure 2



Note: All covariates fixed at their means.

fortune: if the fortune is "old" enough (below the mean, which is 1944), it matters only a little whether it is inherited or self-made. In the cases of recently established fortunes, however, self-made millionaires have a slightly higher risk of falling off the list.

The importance of inheritance and family structure is shown in the right panel of Figure 1. As can be seen, the cumulative failure hazard is always higher for self-made millionaires than for heirs, independent of whether or not other family members listed. The hazard is highest for self-mades whose family members do not belong to the richest 400 Americans; it is lowest for inheritors who have many other family members on the same list.

When interpreting these results, one has to bear in mind that even though the scions of the rich may owe the bulk of their wealth to gifts and bequests from relatives, they nevertheless might have an entrepreneurial drive. Richard Mellon Scaife (born 1932), reclusive heir to the Mellon banking fortune, grew a suburban paper into today's *Pittsburgh Tribune-Review*. Forbes lists him among the 400 richest individuals for all years between 1982 and 2013. Edgar M. Bronfman Sr. (born 1929), a second-generation heir in the Bronfman family that made a fortune in the beverage business during the 20th century, took the Seagram company into the oil business when liquor profits began to falter. His son, Edgar Bronfman Jr. (born 1955) transformed Seagram into a major player in Hollywood. Forbes magazine listed Edgar M. Bronfman Sr. for 28 years. One can thus not assume that all scions of wealthy families become coupon-clipping rentiers. In many cases, heirs actively manage the family wealth with the objective of not only preserving the fortune but accumulating even more wealth.

To test the robustness of these findings, we conducted further estimations using information on family background instead of the inheritance variable (see Figure A1 in the Appendix). As it turns out, the results are essentially the same. Once again, the foundation year is key for understanding who survives. Wealth holders whose fortunes were created around 1975 or 1985 prove to have significantly lower survival chances than competitors who build on fortunes established around 1944 or earlier.

Most of the wealth considered by *Forbes* reporters was derived, at least initially, from the ownership of corporate stock. By and large, old business is associated with rich corporate families such as the Mellon, Bass, Getty, and Cargill families, who owe the bulk of their fortunes to stockholdings in a single large corporation that started as a small firm (see Table 4). Even if the historical evolution of wealthy capitalist families differs greatly, family fortunes turn out not to be transitory phenomena.

Despite feuds being commonplace, most of the corporations listed in Table 4 are still at least partly controlled by their respective families (Lundberg 1937, 1968). More than a century after John T. Dorrance invented the formula for condensed soup and turned Campbell Soup Co. into a global food empire, his heirs are still the company's largest shareholders. In the case of S. C. Johnson & Son, the management has even passed down

Table 4 All companies that make up the primary source of wealth of at least five wealth holders listed in the Forbes 400 ranking between 1982 and 2013

Company	Year founded	Corporate families	Number of listed wealth holders	Years listed (mean)	Years listed (min)	Years listed (max)
Du Pont	1802	Du Pont	36	8.0	1 (Marion Du Pont)	17 (Alice Francis Du Pont Mills)
Hyatt Hotels	1957	Pritzer	15	10.5	1 (Jennifer Pritzker)	22 (Robert A. Pritzker)
Standard Oil	1870	Rockefeller	14	8.8	3 (Steven Clark Rockefeller)	32 (David Rockefeller. Sr.)
Cargill Inc.	1865	Cargill/MacMillan	13	18.4	2 (Gwendolyn Sontheim Meyer)	30 (Whitney MacMillan)
Hearst Corporation	1887	Hearst	12	15.4	1 (W.R. Hearst grandchildren)	30 (George R. Hearst, Jr.)
Levi Strauss & Co.	1853	Haas	1	6.5	1 (Phyllis Koshland Friedman)	17 (Peter E. Haas, Sr. and family)
Campbell Soup Co.	1869	Dorrance		18.5	2 (Marie Ingersoll Hamilton)	29 (Charlotte Colket Weber)
Wal-Mart	1962	Walton	10	17.2	9 (Christy Walton & family)	25 (Alice L. Walton)
S. C. Johnson & Son, Inc.	1886	S.C. Johnson	10	10.1	1 (John S. Johnson)	32 (Samuel C. Johnson)
T. Mellon & Sons Bank	1869	Mellon	6	15.2	8 (Lavinia M. Currier)	32 (Richard Mellon Scaife)
Hunt Oil Co	1921	Hunt	6	12.0	5 (Lamar Hunt)	32 (Ray Lee Hunt)
Sid Richardson Gasoline Co.	1919	Bass	2	26.0	7 (Anne Hendricks Bass)	32 (Sid Richardson Bass)
The Walt Disney Company	1923	Disney	9	8.2	1 (Diane Disney Miller)	26 (Roy E. Disney)
Microsoft	1975	/	9	15.5	1 (Jeffrey Raikes)	28 (Bill Gates)
Getty Oil Co.	1919	Getty	9	13.7	1 (Ariadne Getty Williams)	32 (Gordon Petter Getty)
Belridge Oil Co.	1911	Whittier	9	3.3	1 (Leland K. Whittier)	7 (Dolly Green)
McCaw Cellular	1986	McCaw	2	16.6	2 (Wendy McCaw)	27 (Craig O. McCaw)
The Coca-Cola Company	1892	/	2	9.2	3 (Robert Winship Woodruff)	15 (Elizabeth L. Davenport)
Stryker Corporation	1941	Stryker	2	10.4	1 (Lloyd Stryker)	13 (Ronda Stryker)
MBNA Corporation	1982	Lerner	2	7.2	2 (Nancy Beck)	15 (Alfred Lerner)
Koch Industries	1940	Koch	2	23.6	1 (Elaine Marshall & family)	31 (Charles G. Koch)
Enterprise Products	1968	Duncan	5	4.4	4 (Scott Duncan)	6 (Dan Duncan)

through five generations of the corporate family. The Cargill family is reported to own an estimated 88 percent of the largest private company in America, making at least six family members individual billionaires. Nearly a century and a half after Bavarian-born Levi Strauss invented the first pair of blue jeans, Levi Strauss & Co., the world's largest maker of pants, is still controlled by the Haas family.

In other cases, the descendants of the corporate rich stayed super-rich even if the original ownership became increasingly diluted. The Pritzker business empire, which included the Hyatt hotel chain, was broken up when the family patriarch left the empire to eleven cousins who decided to go their separate ways. The Texas oil tycoon Haroldson L. Hunt, having three families at once, split his fortune among them prior to his death. Gordon Peter Getty sold the family's Getty Oil in the late 1980s for \$10 billion.

It is only in a very few cases that the enduring quality of family fortunes is not explained by the inheritance of great wealth. Sid W. Richardson, for example, left the four Bass brothers only \$2.8 million each. Their father, Perry, pooled his sons' \$11.2 million inheritance into the Bass Brothers Enterprises investment management firm. As investment managers, the Bass brothers succeeded in multiplying their fortune about 80-fold to \$5 billion within few years.

6 Conclusion

Applying survival models to individual panel data from the annual *Forbes 400*, this study analyzed the factors that increase or decrease the duration a person remains on the list of super-rich Americans. Existing theoretical and empirical research suggests that today's rich are entrepreneurs who have earned their wealth (Weicher 1997; Wolff 2000), profiting from winner-take-all mechanisms (Rosen 1981; Frank/Cook 1995). *Forbes* magazine itself has repeatedly announced the decline of the "silver spooners" and the rise of the "bootstrappers." Similarly, we find that the top of the wealth distribution has been changing in the direction of self-made wealth. The observation that vast new fortunes are increasingly made in sectors such as technology, finance, or retail, which particularly allow talented individuals to expand the scale of their performance, lends partial support to theories that conceptualize the very rich as superstars (Kaplan/Rauh 2013a, 2013b). It remains unclear, however, to which degree these results are biased due to the fact that journalists can track entrepreneurial fortunes more easily than inheritance (Piketty/Zucman 2015).

Even though the avenues to great wealth may have changed, the main results of our study rather point to the limitations of depicting the very rich only as self-made superstars. Previous research has shown that the wealthiest global businesses rarely pull themselves up by their frayed bootstraps, accumulating their great wealth instead through

dishonorable practices (Villette/Vuillermot 2009). We contribute to the literature that takes a critical stance towards superstar theories by demonstrating that inherited fortunes are more likely to last than self-made fortunes, all other things being equal.

Our data does not allow us to draw firm conclusions about what exactly explains the enduring importance of family wealth. Much suggests that the phenomenon can only be fully understood when at least three survival strategies are considered: preservation of capital through professional management of assets, tax avoidance, and the continuing control over family companies. At the same time, owners of self-made fortunes might be inexperienced in wealth management, and their assets might be less diversified, resulting in higher vulnerability to bubbles and other market dynamics.

Wealthy families, by contrast, transfer their market experience over generations and have become increasingly businesslike in running their private affairs, employing family offices to look after their personal finances, staffed by wealth managers, accountants, and lawyers. Thanks to sophisticated financial advice and the magnitude of their fortunes, some may succeed in drawing a better rate of return, which appears to be a critical condition for staying on the *Forbes 400* list. Unfortunately, there is no solid empirical basis to test such an alleged comparative advantage.

To prevent their fortunes from shrinking, families have to overcome the obstacles presented by taxes. The greatest threat to the fortune of a corporate rich family is that posed by the highly progressive gift and estate taxes that were specifically designed to impede the perpetuation of dynastic wealth (Beckert 2008). Much suggests that the richest family dynasties have developed elaborate strategies to reduce taxes on their property, such as lifetime gifts or the foundation of generation-skipping (offshore) funds or of family holding companies that provide the rich with considerable tax advantages (Allen 1987).

Given the fact that Forbes reporters predominantly derive wealth estimates from publicly available records on the values of business assets owned, the continuing importance of family businesses appears key for understanding how wealthy heirs manage to stay super-rich. If, in general, family fortunes are typically split and heirs continue to build their fortunes with a fraction of what the previous generation had, the fortunes of families that retain some control over their family corporations is kept together. Corporate wealth controlled (at least partly) by family members is likely to grow continuously within a generation and between generations. Mars Inc., S. C. Johnson & Son, Bechtel, Hyatt, Cargill, and the Hearst Corporation are all prominent examples of firms that not only turned into third, fourth, or even fifth generation businesses but also continue to be among the most prosperous corporations in America. Heirs are often reported to be unprepared for managing family wealth (Williams/Preisser 2003). Our findings, however, suggest that the richest families are successful in estate and succession planning.

A lot more research, especially case-study research, is needed to determine exactly why family wealth remains an important feature of the successful super-rich. The main contribution of our study lies in demonstrating that even though the typical avenues into the highest echelons of wealth have changed in favor of entrepreneurs, *lasting* fortunes are likely to be embedded in the institution of "family." All family fortunes eventually hit a cliff, but if professionally managed, they do not erode as easily as the fortunes of self-made superstars.

Appendix

Table A1 Number of failures: Total and by source of wealth

	Source o				
_	Self-made	Inherited	Total		
Number of failure events	Frequency	Frequency	Frequency		
	(expected frequency)	(expected frequency)	(expected frequency)		
	(row percentage)	(row percentage)	(row percentage)		
	(column percentage)	(column percentage)	(column percentage)		
0	198.0	109.0	307.0		
	(187.7)	(119.3)	(307.0)		
	(64.5)	(35.5)	(100.0)		
1	(21.78)	(18.86)	(20.65) 894.0		
	(546.5)	(347.5)	(894.0)		
	(62.53)	(37.47)	(100.0)		
	(61.5)	(57.96)	(60.12)		
2	121.0	113.0	234.0		
	(143.0)	(91.0)	(234.0)		
	(51.71)	(48.29)	(100.0)		
	(13.31)	(19.55)	(15.74)		
3	27.0	19.0	46.0		
	(28.1)	(17.9)	(46.0)		
	(58.7)	(41.3)	(100.0)		
	(2.97)	(3.29)	(3.09)		
4	4.0	2.0	6.0		
	(3.7)	(2.3)	(6.0)		
	(66.67)	(33.33)	(100.0)		
	(0.44)	(0.35)	(0.4)		
Total	909.0	578.0	1487.0		
	(909.0)	(578.0)	(1487.0)		
	(61.13)	(38.87)	(100.0)		
	(100.0)	(100.0)	(100.0)		
Mean # failures	0.988	1.083	1.025		

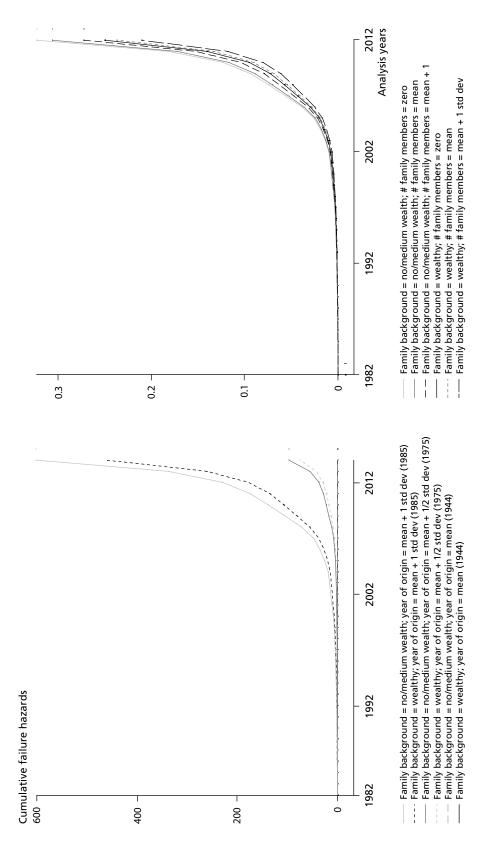
Notes: Pearson Chi²(4) = 11.13, p < 0.05; Pearson correlation = 0.0641, p < 0.05.

Table A2 Descriptive statistics for variables used in this study

	N	Mean	Std dev	Min	Max
Age	12800	63.83	12.97	22	99
Female	12800	0.14	0.35	0	1
Worth	12800	1913.24	3882.71	75	85000
Deceased	12800	0.18	0.13	0	1
Sector #1. Industrial: retail/restaurant	12753	0.12	0.32	0	1
Sector #2. Industrial: technology – computer	12753	0.08	0.28	0	1
Sector #3. Industrial: technology – medical	12753	0.02	0.13	0	1
Sector #4. Industrial: consumer goods	12753	0.14	0.35	0	1
Sector #5. Industrial: media	12753	0.13	0.34	0	1
Sector #6. Industrial: diversified/other	12753	0.17	0.37	0	1
Sector #7. Industrial: energy	12753	0.10	0.30	0	1
Sector #8. Finance: other	12753	0.01	0.09	0	1
Sector #9. Finance: hedge funds	12753	0.03	0.17	0	1
Sector #10. Finance: private equity/LBO	12753	0.04	0.20	0	1
Sector #11. Finance: money management	12753	0.05	0.21	0	1
Sector #12. Finance: venture capital	12753	0.01	0.07	0	1
Sector #13. Real estate	12753	0.11	0.31	0	1
Region #1. Northeast	12800	0.26	0.44	0	1
Region #2. Midwest	12800	0.16	0.37	0	1
Region #3. South	12800	0.27	0.44	0	1
Region #4. West	12800	0.27	0.45	0	1
Region #5. Other	12800	0.04	0.20	0	1
Number of failures per year	12800	47.63	14.82	0	79
Year of origin	12590	1943.75	41.31	1798	2008
Year of origin (squared)	12590	3779864	158504	3232804	4032064
Inherited	12800	0.45	0.50	0	1
Number of family members	12800	1.68	3.74	0	33
Number of family members (squared)	12800	16.76	83.76	0	1089
Wealthy family background	12233	0.41	0.49	0	1

Note: All covariates fixed at their means.

Model-predicted cumulative failure hazards for family background conditional on the year of origin (left panel), and the number of family members listed (right panel) Figure A1



Note: All covariates fixed at their means.

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