The Wealth of Parents: Trends over Time in Assortative Mating Based on Parental Wealth

Abstract

This paper presents trends in parental wealth homogamy across union cohorts formed between 1987 and 2013 in Denmark. Using high-quality register data on the wealth of parents during the year of partnering, we show that the correlation between partners' levels of parental wealth is considerably lower compared to estimates from earlier research on other countries. Nonetheless, parental wealth homogamy is high at the very top of the parental wealth distribution, and individuals from wealthy families are relatively unlikely to partner with individuals from families with low wealth. Parental wealth correlations among partners are higher when looking only at parental assets rather than net wealth, implying that the former might be better suited to capture certain social stratification processes. While most specifications indicate that homogamy increased in the 2000s as compared to the 1990s, the trends we observe in parental wealth homogamy depend on methodological choices made. The increasing levels of parental wealth homogamy raise concerns that, over time, partnering behavior has become increasingly consequential for wealth inequality between couples.

Partnering behavior is a key determinant of various important aspects of well-being (Schwartz 2013). From an economic point of view, marriage and cohabitation create the foundation for the sharing of public goods and specialization in the family, risk pooling, credit and coordination of childcare (Browning et al. 2014). It is therefore unsurprising that partnering does not happen at random, and that marital sorting is a key feature of marriage models (Becker 1973, 1991; Lam 1988). Social scientists have long documented patterns of assortative mating based on ascribed characteristics such as parental occupation and ethnicity (Kalmijn 1998; Schwartz 2013), as well as on acquired characteristics like education and earnings (Blossfeld 2009; Pencavel 1998; Rosenfeld 2008; Schwartz and Mare 2005; Schwartz 2010).

Besides the impact of partnering on individual well-being, assortative mating has been of interest for research on social stratification as it potentially impacts the distribution of resources

across households and shapes boundaries between social groups (Kremer 1997; Schwartz 2010; 2013). In this article, we study partner selection based on parental wealth, a characteristic that is of particular interest for social stratification research for several reasons. First, a substantial amount of own wealth is the result of inheritance of parental wealth; a characteristic that is latent, but often not measured at the moment of couple formation, since parents are still alive. Kopczuk and Lupton's (2007) review of the literature estimates bequests to make up around 35-45% of overall wealth of an individual in the United States. High levels of parental wealth homogamy may therefore contribute to wealth inequality between households. Second, wealth homogamy can shed light on important questions about intergenerational mobility processes. Examples of such questions are: To what extent is it possible to marry out of poverty? Do rich families reproduce their accumulated wealth across generations through partnering choices? How many generations does it take until the current distribution of wealth does not affect life chances anymore?

To date, few studies have examined the extent to which partners match on parental wealth. To the best of our knowledge, the current literature is limited to a study of parental wealth homogamy using data from 1988 for the United States (Charles et al. 2013), and an article on the concentration of inheritances within couples in France during the 1990s and 2000s (Fremeaux 2014). Both studies indicate that people do tend to select partners who are similar to themselves in terms of parental wealth. Using the 1988 wave of the Panel Study of Income Dynamics, Charles et al. (2013) estimated the correlation between parents' (positive) wealth to be about .4 after controlling for age and race.

In this study, we contribute to this emerging literature by studying parental wealth homogamy in Denmark. We use registry data for marriage and union cohorts formed between 1986 and 2013. A major contribution of our work is that we are, to our knowledge, the first to study trends in parental wealth homogamy over time. Earlier research is limited to a finding by

Fremeaux (2014) showing that sorting on inheritances remained stable from 1992 to 2010 in France.

Besides presenting trends in parental wealth homogamy, a second focus of our study is on different ways of empirically estimating and interpreting trends in parental wealth homogamy. Studying parental wealth homogamy is fraught with conceptual and methodological challenges, which include the measurement of parental wealth, changes in the composition of wealth across time, parental partnering dynamics and selective mortality. Compared to earlier research, we believe that our study offers improvements to dealing with these challenges. First, we study cohorts in the year of union formation, instead of looking at a cross-section of unions with varying union durations. Second, we use intergenerationally linked registry data for the entire Danish population with precise measurement of parental wealth. Earlier studies used data on inheritances (Fremeaux 2014) or survey data based on respondents' recollected estimates of their own and spouses' living parents' wealth (Charles et al. 2013). Third, we are able to (partly) recover information on parental wealth for individuals whose parents passed away before union formation. Fourth, parental wealth is measured at the individual rather than the household level in our data, allowing for a more straightforward inclusion of re-married parents. Finally, the longitudinal data structure allows us to verify the sensitivity of estimates to the time at which parental wealth is measured.

Before turning to these empirical issues, we provide a brief theoretical discussion as to why partners might select each other based on parental wealth, and why the importance of such mechanisms might change over time.

Parental Wealth Homogamy: Mechanisms

According to Kalmijn (1998), partnering homogamy is influenced by i) preferences of individuals for partners with certain characteristics, ii) the interference of third parties in the selection process, and iii) constraints on the chances of meeting people due to structural factors. There are good reasons to expect people to have preferences for partners with high parental wealth. Parental wealth can have a positive influence on the attractiveness of potential partners not only directly, as parental wealth is likely to be transferred to children (Boserup et al. 2018; Killewald et al. 2017; Schneider, 2011; Spilerman 2000), but also indirectly, as wealth allows parents to invest more in their children's human capital and facilitates access to better health and education (Eads and Tach, 2016; Killewald et al. 2017; Pfeffer 2011; 2018; Pfeffer and Schoeni, 2016; Rauscher 2016; Thompson and Conley 2016).

Beyond its effect on the attractiveness of potential partners, family wealth is bound to also influence tastes, preferences and lifestyles that individuals develop and might therefore lead to higher degrees of partnering among individuals with similar parental wealth, even without an explicit preference for a partner with high parental wealth (Kalmijn 1991).

As regards the influence of third parties on partner choices, parents are the most obvious party interested in the partnering process of their children (Kalmijn 1998; Rosenfeld and Kim 2005). Parents are bound to be interested in the parental wealth of their child's partner for similar reasons as the ones outlined above. Parents might have direct preferences for seeing their children find a partner from a rich family, as this means that their child can potentially access partners' parental wealth at some point, as well as indirect reasons, as parents might have class and lifestyle preferences extending to their child's partner.

The last group of factors influencing partnering consists of opportunities for meeting individuals with similar characteristics. Even without any preferences for parental wealth and its related characteristics, homogamy might simply arise because individuals born into

wealthier or poorer families are more likely to be in contact with each other. The reasons for this lie in the effects of parental wealth on residential, educational and occupational segregation, lifestyle habits and social networks. That there is residential segregation due to parental wealth during childhood and potentially young adulthood is obvious. But even when offspring leave the parental home, parental wealth can enable offspring to rent or buy residences in richer areas than individuals without parental wealth (Charles and Hurst 2002). Because family wealth also influences the likelihood to go to certain schools and universities, social networks built during the educational trajectory will be relatively homogenous in terms of parental wealth as well (Blossfeld 2009).

Changes over Time

Theories about modernisation generally hypothesize that homogamy based on ascribed characteristics (such as parental wealth) declines over time, whereas acquired characteristics gain in importance (Kalmijn 1991). Educational expansion, the increasing length of educational careers and increasing geographical mobility are expected to have increased the importance of own socioeconomic standing, social networks, lifestyles and preferences relative to parental characteristics (Blossfeld 2009; Rosenfeld and Kim 2005; Schwartz 2013). Declining levels of homogamy have been observed for ascribed characteristics such as parental occupation (Henz and Mills 2018; Kalmijn 1991; Rosenfeld 2008). One might therefore expect this pattern to extend to parental wealth homogamy too.

A reason why parental wealth might, on the other hand, have become *more* important in partner searches is that wealth inequality has increased considerably in many Western countries (Piketty 2014). This higher inequality might have made the benefits related to wealth stronger and more salient. Studies have found some support for increased homogamy (Torche 2010;

Monaghan 2015) and longer partner searches (Gould and Passerman 2003) in contexts of high income inequality. Furthermore, increased wealth inequality can lead to more pronounced differences in tastes and behaviours and augment residential segregation, thus reducing opportunities of individuals from different family backgrounds to meet (Smith et al. 2014).

Our Study: Parental Wealth Homogamy in Denmark

In this paper we study trends in parental wealth homogamy in Denmark from 1987 to 2013. Not all mechanisms discussed above may apply to Denmark to the same extent. On the one hand, even though income inequality is relatively low in Denmark, wealth inequality is surprisingly high in comparison to other Western countries (Balestra and Tonkin 2018), potentially enhancing the role of wealth in the partnering process. Wealth inequality has been fairly stable in Denmark over the last decades, except for slightly increasing wealth shares among the top 1% (Jakobsen et al. 2018), so such considerations may have increased somewhat in importance. On the other hand, with a correlation in wealth across generations of around 0.4, the intergenerational transmission of wealth in Denmark is low compared to the United States (Boserup et al. 2013), which could reduce the preference for partners with high parental wealth. Even though the greatest expansion of tertiary education in Denmark took place before the 1980s, rates of tertiary education attendance have risen steadily between 1980 and 2010 (Barro and Lee 2015). Using Danish register data for 1987-2006, Breen and Andersen show that although income inequality increased over that period, assortative mating in education could only to a limited extent explain this development (Breen and Andersen, 2012). Nielsen and Svarer (2009) decompose correlations in partners' education, finding that roughly half of the sorting on education is due to marriages between partners who went to the same educational institution or to an institution near them. Educational expansion might thus have increased the

possibilities to date across parental wealth boundaries, as tertiary education became less restricted to a select group of individuals.

Data and Method

Our analysis is based on the Danish register data, which is available for researchers in anonymized form through Statistics Denmark. This comprehensive data on the complete population residing in Denmark in the years 1986-2013 come from several public administration registers, which are linked by Statistics Denmark through unique personal identification numbers provided to all individuals at birth. These unique longitudinal data are accessible to researchers in anonymized form through Statistics Denmark's secure servers. Information from the population registers allows us to link parents to children.

Our sample includes all different-sex co-residing unions formed during the period 1987-2013. Union formation is determined based on the entry into co-residence of two individuals who were either married, had a registered partnership, cohabited with children or cohabited without children (Drefahl 2012).[1] A requirement for inclusion in our sample is the presence of parental identification numbers of the father and the mother of both individuals, allowing us to link parents to children in the registry data. Such parental identification numbers have been systematically recorded for all individuals born after 1960, but are incomplete for earlier birth cohorts (Boserup et al. 2013).[2] We therefore restrict our sample to couples where both partners

[1] This latter category only includes households of two unrelated adults who had an age difference of less than 15 years and who were not related by family ties. A small minority of cases might therefore not regard romantically involved individuals. In robustness checks we exclude unions that lasted less than 3 years to filter out such possible arrangements as much as possible; see figure A1 in the Online Appendix, results do not change.

[2] Figure B1 in the Online Appendix shows the distribution of cases that had no parental identification numbers by age and year. There we also discuss various robustness checks that address concerns about whether a changing age composition of the sample affected results (e.g. including sample weights to compensate for possible unequal probabilities of inclusion by birth year)

are between 18 and 34 years old at the time of union formation. In robustness checks we expand this age range to 40, but restrict the period covered by our analysis to 1992-2013.[3] Finally, we exclude couples where one of the parents was not present in the registry data after 1980 (the first year we have information on wealth). Parents are not present in the registry data if they have passed away or live abroad.

Parental Wealth

Tax registries in Denmark collect data on the value of individuals' assets and liabilities, mostly provided by third parties (e.g. assessments of housing values are made by the tax authorities). Denmark taxed wealth until 1996, but the collection of wealth data continued with some slight modifications after its abolishment (Jakobsen et al., 2018). Following Boserup et al. 2013), we define net wealth as total assets (financial assets and housing) minus debts as retrieved by Statistics Denmark from data collected by the Danish Tax Agency. Wealth comprises a large variety of sources including the value of properties such as houses, boats and cars; bonds; stocks; cash in banks; value of businesses; loans; and mortgages. One component not included in the measurement of wealth is accumulated pension wealth. Most information is provided by third parties such as banks, financial institutions and other governmental bodies. The value of properties is assessed by tax authorities based on detailed information on their characteristics (Boserup et al. 2013).[4] During the observation period, there are changes in how some sources of wealth are reported, mainly due to the removal of the wealth tax in 1996. Specifically, the value of stocks was self-reported until 1996 but provided by financial institutions ever since,

[3] Online Appendix C1; Results are robust.

[4] Tax-assessed housing values have historically not always reflected fully the market values at the time. Following Boserup et al. (2013) and Browning et al. (2013), we adjust tax assessed housing values with a factor that reflects the average relationship between market values of traded houses and average tax assessed values, thus arriving at an imputed estimate of the market value of housing wealth.

some assets that were self-reported until 1996 were not recorded anymore after that (including cars, boats, caravans), and the registration of company values changed several times until 1997 (Jakobsen et al. 2018). Boserup and colleagues (2013) exploited an overlap in both ways of measuring wealth to show how the measurement of wealth from 1997 onward was well approximated by the measurement of wealth up to that point.

Wealth is measured at the individual level, and we therefore sum the wealth of parents regardless of parents' marital status. Parental wealth is measured separately for male and female partners. Following earlier research (Solon 2004), we average parental wealth across three years. [5] So far, our theoretical discussion, as well as existing research on parental wealth homogamy (Charles et al. 2013; Fremeaux 2014), has treated parental wealth as a stable characteristic of individuals. In reality, however, parental wealth changes over time. This poses conceptual as well as methodological challenges on when and how to best measure parental wealth. Wealth depends on time-varying processes such as housing prices, stock market fluctuations, individual earnings and consumption patterns, as well as windfalls or unlucky events. A family's position in the wealth distribution therefore depends on the time of measurement. Our response to the question of when to measure parental wealth has been to compare measurements at different points in time. We show the implications of varying time of measurement in the Online Appendix F.

If one considers parental wealth as an economic resource that children signal directly to future partners and which holds the potential of joint future consumption, parents' wealth at the time of union formation will be the important factor for partnering. We therefore introduce *parental wealth in the year of union formation* as our first and primary measure. To construct the measure $pw1_i$ capturing parental wealth of individual i in the year of union formation $y=u$ let

[5] All wealth and income components are deflated with a GDP deflator to the 2010 price level.

$R_{y=u,sex(i)}$ be an operator assigning the percentile rank based on the distribution of parental wealth of all individuals that formed a union in the same year $y=u$ and that are of the same $sex(i)$ as individual i, which means we separately look at the parental wealth distribution of all daughters and of all sons that formed a union in year y.[6] Parental wealth $w_p = w_f + w_m$ is calculated as being the sum of the wealth of fathers w_f and mothers w_m.[7]

(1) $pw1_i = R_{y=u,sex(i)}\ (w_{p,i,y=u})$

In robustness checks, we log transform the total sum of parental wealth in the year of union formation, instead of using a rank-based measure.

A problem with measuring parental wealth at union formation is that it is highly dependent on age. Wealth is generally accumulated throughout adulthood and peaks around age 60, after which levels of wealth start declining (Killewald et al. 2017). An individual with young parents might therefore have low parental wealth at union formation, but this might be a poor predictor of parents' future wealth and hence of the volume of expected transfers and inheritances. The second measure we employ therefore indicates *parental wealth in the year of union formation normalized by father's age.* In this case, before calculating the rank of parental wealth within a given union cohort, parental wealth is normalized separately by father's age. As this measure reflects wealth of parents relative to peers from their specific birth cohorts, it also accounts, to some extent, for the distribution of children's age at union formation, as older individuals are likely to have older parents on average. Normalization is done by subtracting the average μ and

[6] Robustness checks calculating percentiles based on the wealth rank of all parents with children between ages 18 and 35 produced practically identical results, see Online Appendix D. This wealth rank is also used for our description of partnering probabilities by parental wealth (See Figure 4).

[7] In reality we calculate the percentiles on the distribution of year normalized wealth, so instead of $w_{pi,y=u}$ we calculate $(w_{pi,y=u} - \mu_{y=u}(w_p))/sd_{y=u}(w_p)$, meaning we substract the average of parental wealth in the year of union formation and divide by its standard deviation. This results in the same distribution, except that it allows us to pull forward the wealth of deceased parents in a comparable way and integrate it into the wealth distribution of the year that their child formed a union.

calculating the standard deviation sd of the wealth of all parents where the father has the same age as the father of individual i $age(f) = age(fi)$ and where union formation took place in year u.

$$(2)\ pw2_i = R_{y=u,sex(i)} \left[{w_{p,i} - \mu_{age(f)=age(fi)}(w_p)} \Big/ {sd_{age(f)=age(fi)}(w_p)} \right]$$

A third and final alternative is to consider parental wealth as a socialization factor that shapes individuals' preferences and lifestyles and determines interpersonal networks while growing up. In this case, a parents' relative wealth position during childhood and adolescence is the best indicator to use. Our third measure employed, *parental wealth at age 18*, therefore used parental wealth from the year when respondents were aged 18, which is denoted as $w_{p,y=(y|age=18)}$. We subsequently normalized individuals' wealth by subtracting the average of parental wealth at age 18 and dividing by the standard deviation. The sample from which we calculated the mean and standard deviation were all individuals who are of the same age $age = age(i)$ and sex as i and also formed a union in year u.

$$(3)\ pw3_i = R_{y=u,sex(i)} \left[{w_{p,i,y=(y|age(i)=18)} - \mu_{age=age(i),}(w_{p,y=(y|age=18)})} \Big/ {sd_{age=age(i)}(w_{p,y=(y|age=18)})} \right]$$

Due to the stricter data requirements, the sample used for this measure is smaller than the sample used with the two other wealth measures. In additional analysis, we reproduce the three parental wealth measures based on the total value of owned assets only (i.e. without subtracting debt).

Besides choosing at which point in time to measure parental wealth, two other important issues complicate the measurement of parental wealth. Firstly, parents might have passed away before

wealth is measured. Fremeaux (2014) tackled this issue in his study on inheritance homogamy by combining information on inheritances received with estimates of expected inheritances. Charles and colleagues (2013) did not have information on the wealth of parents who passed away. Our solution is to measure parental wealth in the last wave before union formation where both parents were still alive.[8] In robustness checks, we exclude cases where a parent passed away before union formation. Our measure of parental wealth at age 18 excludes cases where parents had passed away before age 18.

Secondly, parents might not be together anymore at the time of union formation. If parents re-partner, household-based measures of wealth might complicate arriving at a comparable measure of parental wealth for individuals whose parents did and did not form new families. Charles and colleagues (2013) therefore excluded individuals with re-married parents. Danish registry data allow for the measurement of wealth at the individual level, enabling us to sum parents' individual wealth and to disregard the wealth of eventual new partners of the parents. In robustness checks, couples with one or more re-married parents are excluded from the analysis.

Sample Description

Table 1 provides descriptive statistics for the overall sample of 803,185 couples with full information on parental wealth in the year of union formation. Besides descriptive statistics for the sample overall, averages are presented for unions formed in 1987 and 2013 to monitor changes over time in the composition of the sample of unions. The descriptive statistics show that men are on average older than women at union formation, and the same applies to their

[8] Parental wealth is in these cases normalized in the year both parents were still alive and this value is subsequently used in the calculation of the parental wealth rank for each annual union cohort.

parents. Ages of all individuals involved have slightly increased during the observation period. We treat married and cohabiting couples as one group because cohabitation as an alternative to marriage is widespread in Denmark: in our sample only 6% of unions started as a marriage.[9] Parental wealth is higher for men's parents as compared to women's parents. 25% of men's parents report negative wealth and this share increased with time from 18% in 1987 to 35% in 2013. Negative wealth can arise due to recent investments made, accumulated debts, or due to a mismatch between the value of houses as estimated by the authorities and the real market value of a property.[10] We pay particular attention to cases with negative parental wealth in the analysis. Due to the precise measurement of wealth, very few couples had zero wealth (less than 0.2% of cases).

-Table 1 about here-

Figure 1 breaks down the wealth of the male partners' parents into housing assets, financial assets, and debt. Housing assets make up most of wealth across the distribution, even though financial assets become more visible at the top of the wealth distribution.[11] Figure 1 also shows high levels of debt *and* assets at the very bottom of the distribution. Very low levels of wealth might therefore indicate recent investments made rather than an economically difficult situation (Killewald 2013).

[9] In 2018, one in four Danish couples were cohabiting rather than married, and the same cohabitation rate applies to couples with children, according to own calculations based on data from Statistics Denmark, www.statistikbanken.dk.

[10] Information on tax assessed housing values should in principle reflect market values for comparable traded houses. However, as the majority of houses are not traded each year, the tax authorities' estimated market values of houses may be too low (high), which can happen because specific unobserved characteristics such as e.g. interior design (new kitchen or bathrooms) are not taken into account by valuation authorities. Thus, the higher actual market values can translate into higher mortgages as compared to the value of the house as indicated by the taxable values available in the data.

[11] With financial deregulation and various reforms through the 1990s and early 2000s, house owners access to e.g. refinancing their mortgage debt implied on average an increase in debt in relation to housing values (Browning et al. 2013).

Figure 2 shows trends in median and mean absolute deflated wealth over time. Median and mean wealth declined very slightly until the mid-1990s, took off dramatically after that, and decreased considerably after the onset of the financial crisis. Figure 3 documents how inequality measured by the Gini coefficient in parental wealth followed a reverse pattern with increasing inequality until the early 1990s, a brief decline followed by stabilization and a subsequent increase in recent years. On average, the Gini coefficient in wealth over the period observed is around .7, which is in accordance with other studies of wealth inequality (Danish Economic Council, 2016; Balestra and Tonkin 2018).

-Figures 1-3 about here-

Procedure

Since the main aim of this article is descriptive in nature, most of our analysis concentrates on describing and interpreting trends in parental homogamy in detail. We consider explaining why parental homogamy changed to be out of the scope of the current paper. We thus leave the exploration of factors, such as changes in educational homogamy or residential sorting, that might drive levels and trends in parental wealth homogamy up to future research.

We commence the analysis by giving an indication of the likelihood to partner based on parental wealth. Subsequently, we focus on describing how individuals who do partner select each other based on parental wealth. Firstly, we document the relative frequency of couple combinations based on men's and women's parental wealth percentiles using a heatmap. Secondly, we show average male partner's parental wealth according to the female partner's parental wealth. This will give insights into whether there are non-linearities in how wealth rank affects partnering behavior. Following this detailed descriptive effort, we summarize the overall strength of assortative mating using correlations in partners' parental wealth and show

how this measure changes over time. Finally, we test the robustness of these trends by using different measures and sample restrictions

Results

We start by describing how the probability of forming a new partnership differs by parental wealth. The grey line of Figure 4 represents the probability that an individual aged 18 to 34 forms a new union in a given year depending on the wealth percentile of the parents, while the black line shows the same measure but for first partnership observed only.[12] We can conclude that individuals from wealthier backgrounds are somewhat more likely to enter into a union at all and at the same time slightly less likely to form a new partnership at any point in time. This suggests that re-partnering is more common among individuals with lower parental wealth, but overall differences in first partnering and overall partnering by family background are very small.

-Figure 4 about here-

Figure 5 shows how frequently men and women with given levels of parental wealth form a union together. The graph depicts the joint distribution of parental wealth by percentiles, showing wealth percentiles of the parents of men's in couples on the x-axis and those of their women partners on the y-axis. A distribution of marriages that is random with respect to parental wealth would imply that partnering is relatively homogeneously distributed across parental wealth percentiles. Both men and women in each percentile should partner at a rate of approximately 1% with members of each percentile of the opposite sex. The graph displays the

[12] Note that for part of the sample we do not observe all partnerships as partners are only recorded from 1986 onward, some of the 'first partnerships' we observe in the data might therefore in fact be a second, third or higher order partner of an individual.

empirical joint partnering distribution by displaying the estimated proportions of couples found in each of the 100*100 cells. A value of 1 in Figure 5 indicates an observed frequency that would be expected if partnering were to be at random, a value of 2 indicates a relative frequency that is twice greater than expected. Dark areas indicate relatively common combinations (up to 2.5 times the probability of the random match), whereas lighter areas are relatively less common (less than the probability of the random match).

-Figure 5 about here-

We observe high relative frequencies along the diagonal, indicating positive assortative mating, and a concentration of couples in the top-right corner, indicating couples where both his and her parents are among the wealthiest of their union cohorts. At the same time, the clustering of lighter areas in the top-left and bottom-right corners shows that individuals from the wealthiest families are relatively unlikely to partner with individuals from families in the bottom 30% of the wealth distributions. Summing up, individuals from the wealthiest families are the most likely to form homogenous partnerships and especially avoid partnering with individuals from families with low levels of wealth.

Figure E1 in the Online Appendix shows yearly versions of the heatmap displayed in Figure 1. These figures show the tendency of the wealthy to marry amongst each other and to avoid families with little wealth strengthening over time.[13] This would suggest an increase in parental wealth homogamy during our observation period. One peculiarity in Figures 4 and E1 are the relatively dark areas observed along the x- and y-axes which indicate the likelihood to partner

[13] An animated version is available at https://media.giphy.com/media/64anFirdCTXZYWRirY/giphy.gif
Online Appendix E also provides estimates of changes over time in the chances of partnering. The relationship between parental wealth and forming a first partnership during the observation period is relatively stable across union cohorts; whereas the chances of forming a new partnership in any given year slightly declined for individuals with wealthy parents as compared to individuals with less parental wealth due to increases in re-partnering over time.

with an individual from the very bottom of the parental wealth distribution. These individuals have parents with (large amounts of) negative wealth, an issue we address later.

Figure 6 serves to further illustrate the joint parental wealth distribution of partners' parental wealth and its evolution over time. It shows the average parental wealth percentile of male partners according to female partners' parental wealth percentile for three groups of union cohorts. In general, the more parental wealth female partners have, the higher the parental wealth of their partner. The tendency of partners' parental wealth to increase with own parental wealth appears to be stronger for more recent union cohorts, again indicating a rise in homogamy over time. The largest differences in average parental wealth observed amount to a difference of 12 percentiles in the average parental wealth rank of male partners.

An exception to the generally positive association in parental wealth is observed for women with very low parental wealth whose partners' average parental wealth is not as low as one might expect. This could be because debt can indicate access to credit rather than a severely disadvantaged economic situation (Killewald 2013). Given that a large portion of debt is mortgage debt or other debt requiring collateral, these might be parents who made an investment in a business or bought a new house, or whose existing house value has fallen due to the recession or house price development. Moreover, as previously mentioned, negative wealth might also reflect that housing values in the data sometimes underestimate actual market values. To check whether it is these factors that lead very low wealth percentile ranks to not be in line with the overall wealth homogamy trend, we exclude debt from the analysis for the right panel of Figure 6. Recalculating parental wealth percentiles based only on assets makes the non-linear relationship between partners' parental wealth disappear[14] and shows generally

[14] Part of the non-linearity persists for the unions formed before 1997. This likely reflects changes in how some business assets were recorded. Before 1997 business assets were reported net of debts, and our indicator of assets only could therefore still take on negative values before 1997.

stronger levels of homogamy than our measure based on parental wealth (i.e. assets minus debts).

-Figure 6 about here-

Correlation in ranks

Figure 7 provides the main result of our paper: trends in the correlation between partners' parental wealth by yearly union cohort; the right pane reproduces the same correlations based on assets only. Correlations for all three parental wealth measures considered are relatively small across the period and range between 0.04 and 0.19. Correlations in parental assets are slightly higher and range between 0.10 and 0.23 over the period.

-Figure 7 about here-

Correlations are highest for parental wealth measured at union formation and ranking by union cohort only. Once the parental wealth rank is calculated by union cohort after normalizing by father's age, correlations are systematically lower. We previously argued that ranking parental wealth by union cohort only is the best measure of the amount of parental wealth available at the time of union formation. Normalizing by father's age provides a better indicator of a family's long-term wealth. If future inheritances and financial support play an important role in partner selection, homogamy based on expected parental wealth in the future might be stronger than partner selection based on current parental wealth. The consistently lower correlations once normalizing parental wealth by father's age do not support that expectation. The fact that correlations are lower once accounting for father's age is likely due to age homogamy. Young parents have less wealth on average compared to older parents, and if

partners select each other based on own age, a certain level of parental age homogamy will arise as a consequence.[15]

If parental wealth primarily influences partnering through socialization during childhood and adolescence, we would expect to see that parental wealth measured when the child is aged 18 is more important for partner selection. However, we observe that correlations of parental wealth at age 18 are mostly lower than those of our main measure of parental wealth at union formation. One reason for this might be that measuring parental wealth at age 18 partly accounts for parents' age. But, given that correlations are similar to those for parental wealth at union formation accounting for father's age, it appears unlikely that parental wealth during adolescence plays a substantively more (or less) important role in the partnering process than parental wealth at union formation. Trends over time in the parental wealth correlation are relatively consistent across the different measures used. Both measures of parental wealth at union formation show a slight decline in homogamy in the early 1990s, with the lowest correlations observed between 0.04 and 0.08. This is followed by steady increases observed for all three measures thereafter and correlations peak at around 0.15-0.19 depending on the measure considered. For parental wealth at union formation in both its forms, the correlation declines after the financial crisis, even though it keeps increasing for parental wealth measured at age 18. One interpretation of this result is that wealth during childhood has become increasingly important over time relative to parental wealth at the time of union formation. However, correlations in parental assets keep increasing after the financial crisis for all three measures alike. This raises the question whether periodical changes in the composition of wealth, such as the share of parents with negative wealth, are driving this divergence in results across measures. We scrutinize this issue further in the next section.

[15] Robustness checks including controls for all parents' and partners' ages led to similar results; see Online Appendix G.

Changing partner selection or changing distribution of wealth?

A major question is whether changes in parental wealth homogamy are driven by changes in partnering behavior or by periodic changes in the composition and distribution of wealth. Compositional changes can affect the wealth correlation even if partnering behavior does not change. Periodic increases in the share of parents with negative wealth due to changing asset values could for example drive down the correlation in parental wealth. Figure 5 has shown that the parental wealth correlation is weaker at the part of the distribution where parents have negative wealth.

We tested for this possibility through additional analysis reported in detail in Online Appendix F. In these checks we focused on parental wealth at union formation and investigated whether time trends in the parental wealth correlation change once measuring parental wealth five years before union formation. If our results are driven by actual partnering behavior, the time of measurement should not matter for trends in parental wealth correlations over time. Conversely, if changes in the distribution of wealth drive changes in parental wealth homogamy, measuring wealth five years before union formation should lead to a postponement of the original time trend observed for correlations in parental wealth at union formation.

As shown in Figure F1 in the Online Appendix, the importance of time of measurement varies depending on the observation period and measure chosen (net wealth or assets only). Even though the homogamy trend is very similar once using parental wealth lagged by five years, we observe that the trend is postponed by several years during most of the observation period. This indicates that changes in parental wealth homogamy are not necessarily driven by changes in partner selection. Instead, periodic changes in the distribution of wealth across society also

drive trends in parental wealth correlations. This is especially the case for increases in parental wealth homogamy observed during the 2000s.

Substantively, this means that changes in the distribution of wealth appear to benefit or penalize the parents of both partners in similar ways. In other words, if the parental wealth rank of a certain individual went up in the wealth distribution during the 2000s, it is likely that the parents of this individual's partner also went up in the wealth distribution during the 2000s. Societal gains and losses in wealth appear concentrated within given social circles, and part of the correlation between partners' parental wealth therefore changes in tandem with the changing distribution of wealth in society at large.

Robustness checks and comparison with Charles and colleagues' estimates

The main results documented so far lead to two substantive conclusions: 1) estimates of parental wealth homogamy appear much lower in Denmark as compared to earlier estimates for the United States (Charles and colleagues found a correlation of 0.4), but 2) parental wealth homogamy has become stronger over time. We performed various robustness checks that simultaneously made our results more comparable to those of Charles and co-authors' (2013) estimates for the United States (see Online Appendix G). These robustness checks included: a) Excluding cases where a parent had passed away before union formation (but for whom we had recovered information on parental wealth from earlier waves); results did not change. b) Excluding cases with negative parental wealth led to a drop in the correlation for recent periods, and trends over time became less pronounced. Individuals from wealthy families avoid partnering with individuals with the lowest levels of family wealth (i.e. those with negative wealth; see Figure 1), and this tendency has been increasing over time driving up the correlation in partners' parental wealth. Excluding negative wealth therefore flattens the trend in parental

wealth homogamy over time. c) Instead of normalizing and calculating the rank of parental wealth at union formation, we log transform 3-year average wealth at union formation. Results are consistent, but the drop observed during the crisis years now becomes less pronounced. d) Excluding cases with re-married parents leads to slightly stronger increases in parental wealth correlations over time. e) Switching from correlations to regression does not affect estimates, but the inclusion of age controls (father's age, mother's age, her age, his age) reduces correlations across the period studied in ways that are similar to ranking parental wealth at union formation by father's age (Figure 7).

Applying all these changes simultaneously leads to a set of estimates that are comparable to those of Charles and colleagues (2013). These estimates show a robust picture of relatively low but increasing parental wealth homogamy over time in Denmark. Compared to the estimate of 0.4 for the United States (Charles et al. 2013), parental wealth correlation in Denmark is low across all specifications. It has to be noted, however, that we are not able to gauge the possible influence of different data sources (survey data instead of registry data) and differences in sample selection (union cohorts versus a cross-section of unions intact at a given point in time).

Discussion

Who partners whom has long been a central question of the social sciences. Over the last decades, quantitative studies repeatedly showed that partners match based on a variety of ascribed and acquired characteristics (Becker 1973, 1991; Blossfeld 2009; Browning et al. 2014; Kalmijn 1998; Lam 1988; Schwartz 2013; Weiss and Willis 1998). So far, surprisingly little attention has been paid to assortative mating based on parental wealth. Previous research on survey data from the United States estimated that parental wealth homogamy is quite strong (Charles et al. 2013). High levels of parental wealth homogamy are likely to be consequential for wealth inequality between households, the transmission of family wealth across

generations, and might be an indication of family wealth shaping boundaries between social groups. A major open question is therefore whether earlier findings of strong parental wealth homogamy hold once applied to a different setting and once using more accurate data.

In this paper, we show that the correlation in partners' parental wealth in Denmark is relatively weak. Correlations range between 0.04 and 0.19, depending on the measure employed and the time period considered. This result contrasts the 0.4 correlation found by Charles and colleagues (2013) for the United States. In general, it is perhaps unsurprising that parental wealth homogamy is lower in Denmark than in the US, due to the relatively high levels of intergenerational wealth mobility in Denmark (indeed, low parental wealth homogamy might be a possible mechanism increasing mobility). However, the difference in the estimates between both countries is much larger than the difference found in cross-national comparisons of intergenerational wealth mobility (Boserup et al. 2013: 17).

Another possibility is that the large difference in correlations in Denmark and the US reflects different research designs. Our methodological approach specifically aims at making our estimates comparable to those of Charles and colleagues (2013) – which actually led to even lower estimates of parental wealth homogamy. However, remaining differences include the use of registry data instead of survey data and the study of unions in the year of formation rather than a cross-sectional selection of unions intact at a given point in time. More research is needed to understand whether the different types of data and empirical strategies employed affect results or not. Nevertheless, the main take-away point from our analysis is that parental wealth homogamy in Denmark is considerably lower than in the US.

Nonetheless, even if levels of parental wealth homogamy are relatively low, this does not mean that assortative mating based on parental wealth is of little concern. Firstly, we found parental wealth homogamy to be particularly strong among partners from the wealthiest families.

Around half of total household wealth is owned by the top 10% of wealthiest households, and around one fifth of total household wealth is owned by the top 1% of households (Jakobsen et al. 2018). A concentration of parental wealth homogamy at the top can be consequential for intergenerational wealth inequality, even if parental wealth homogamy is relatively low for the parental wealth distribution overall. Future research should further explore how consequential patterns of assortative mating based on parental wealth are for the distribution and transmission of wealth across households.

Secondly, even though levels of parental wealth homogamy were relatively low in the early 1990s in Denmark, our results indicate a modest but steady increase in homogamy during the late 1990s and the 2000s. Our preferred estimates suggest such an increase and show a strengthening of homogamy tendencies among the very wealthy combined with a decreasing likelihood of these individuals from very wealthy families to partner with those from families with low wealth. These developments might lead to increasing social distances between the very wealthy (e.g. the "one per-cent") and those with little wealth in society.

A main question for future research is: Why is parental wealth homogamy increasing over time in Denmark? This paper is primarily concerned with establishing how to measure parental wealth homogamy across the distribution and with showing trends in time. However, our analysis does provide some starting points for future research on the mechanisms at play. Additional analysis suggested that the increases in homogamy observed for the 2000s are not necessarily driven by changes in partner selection. Instead, periodic changes in the distribution of wealth appear to benefit or penalize certain groups in society in such ways that if the parental wealth rank of a given individual goes up, the parents of that same individual's partner are likely to go up in the wealth ranking too. An example of such a process would be geographically selective increases in housing prices. For instance, if housing values surged in Copenhagen during the 2000s, and less so in other parts of Denmark, individuals with parents who live in

Copenhagen (or with parents who have real estate there) will have experienced increases in their parental wealth rank over time. If there is a certain level of partnering homogamy based on parents' place of residence, such selective surges in housing prices will drive up parental wealth homogamy, even if partnering behavior does not change.

The increases in parental wealth homogamy in Denmark might therefore be an indication of selective changes in the distribution of wealth in society rather than changes in partnering behavior. This does not make the increases in parental wealth homogamy less concerning from an inequality perspective. Even though partnering behavior might have remained relatively stable over time, existing homogamy on other unobserved characteristics seems to lead to an increased concentration of parental wealth within couples under the current development of the wealth distribution. In other words, partnering has become more consequential for the distribution of parental wealth across couples over time, with consequences for the intergenerational transmission of wealth and its concentration in society. Our recommendation for future research is to investigate whether and which selective periodic changes in wealth are driving parental wealth homogamy and to quantify the consequences of parental wealth homogamy for wealth inequality and its transmission more generally.

Another hint pointing towards the underlying mechanisms comes from the observation that homogamy based on parental assets has been increasing steadily over time, whereas homogamy in parental net wealth (including liabilities) fluctuates more. In addition, homogamy based purely on assets is consistently stronger (See Figure 7). This suggests that assets may be a better indicator of the social circles and groups that individuals belong to and interact with than net wealth. For example, it could be that owning a home in a certain neighborhood conditions social circles. Whether a home is mortgaged or owned outright might matter relatively less for partnering, conditional on living in that area. In other words, partner homogamy in parental wealth might to a larger extent be ascribed to how parental assets structure the opportunities to

meet certain partners rather than being a result of explicit preferences for individuals with wealthy parents (Kalmijn, 1998). This opens up interesting questions for further research on indicators of social stratification.

To sum up our results, this study has shown that parental wealth homogamy in Denmark is lower than previous research on the US has shown it to be, but disproportionately strong at the top of the parental wealth distribution, which might be particularly consequential for wealth inequality across households and intergenerational transmission of wealth. Furthermore, we provide indications that parental wealth homogamy has been increasing over time. We thereby shed light on how one of major processes generating wealth inequality between households has been evolving. Finally, we think that important insights are to be gained from a continued study of homogamy in parental wealth as wealth inequality continues to rise in many places and as we try to understand how social boundaries between groups co-evolve with inequality trends.

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Tables

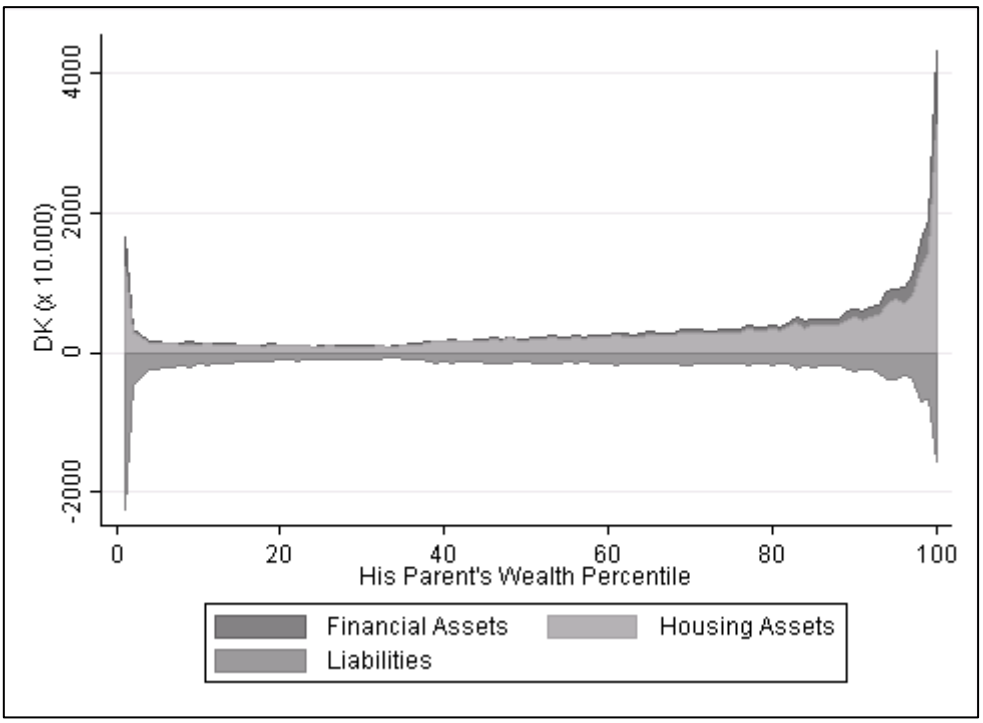
Table 1. *Descriptive Statistics of Couples at Union Formation; N = 803,185*

	All Sample		1987	2013
Variable	Mean	SD	Mean	Mean
Female Partners' Characteristics				
Age	24.3	3.6	23.3	24.4
Education: *ISCED 1-2*	.32	.47	.44	.29
ISCED 3-4	.54	.50	.47	.51
ISCED 5-6	.14	.34	.09	.20
Mother's Age	50.7	6.1	49.0	52.4
Father's Age	53.5	6.7	52.4	55.0
Married at Union Formation	.06	.23	.09	.04
Foreign Born	.01	.09	.00	.02
Parents' Annual Wealth at Offspring Union Formation (x10000 kr.)	91.5	422.7	59.9	72.9
Parents' 3-year Average Wealth at Union Formation (x10000 kr.)	87.6	496.4	70.1	74.8
Parents' 3-year Average Wealth at Union Formation Negative	.27	.45	0.20	0.39
Male Partners' Characteristics				
Age	26.1	3.7	25.3	26.1
Education: *ISCED 1-2*	.27	.45	.33	.27
ISCED 3-4	.58	.49	.57	.55
ISCED 5-6	.14	.35	.10	.19
Mother's Age	52.4	6.1	51.3	54.7
Father's Age	55.2	6.7	53.7	56.4
Married at Union Formation	.05	.22	.08	.04
Foreign Born	.01	.10	.00	.02
Parents' Annual Wealth at Offspring Union Formation (x10000 kr.)	99.2	470.7	68.5	87.6
Parents' 3-year Average Wealth at Union Formation (x10000 kr.)	95.4	422.1	78.9	88.9
Parents' 3-year Average Wealth at Union Formation Negative	.25	.43	.18	.35
Parents' Characteristics				
Married to Other Parent at Offspring Union Formation	.67	.35	.77	.56
Cohabiting with Other Parent at Offspring Union Formation	.02	.09	.01	.03
Single or Widow(er) at Offspring Union Formation	.16	.23	.12	.21
Re-Partnered at Offspring Union Formation	.05	.12	.04	.07
Re-Married at Offspring Union Formation	.10	.18	.07	.12

Note. Descriptive statistics for sample with information on 3-year average wealth at union formation. Both male and female partner aged between 18 and 34 at union formation. Data for the year 2013 is missing for education, the value in the 2013 column is for 2012.

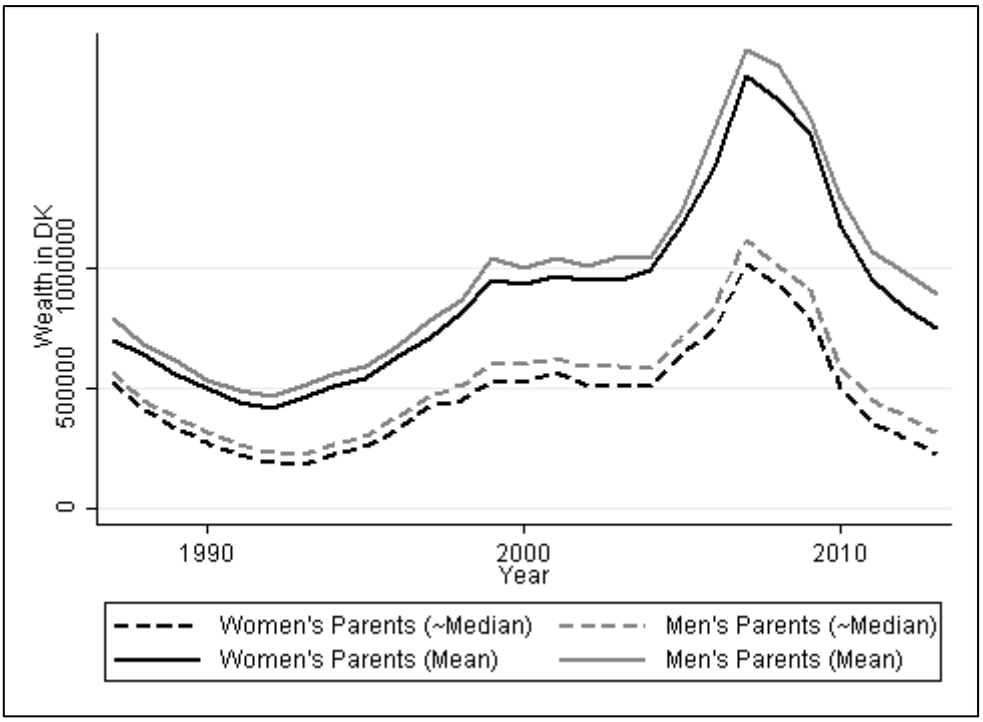
Figures

Figure 1. Composition of wealth by parental wealth percentile



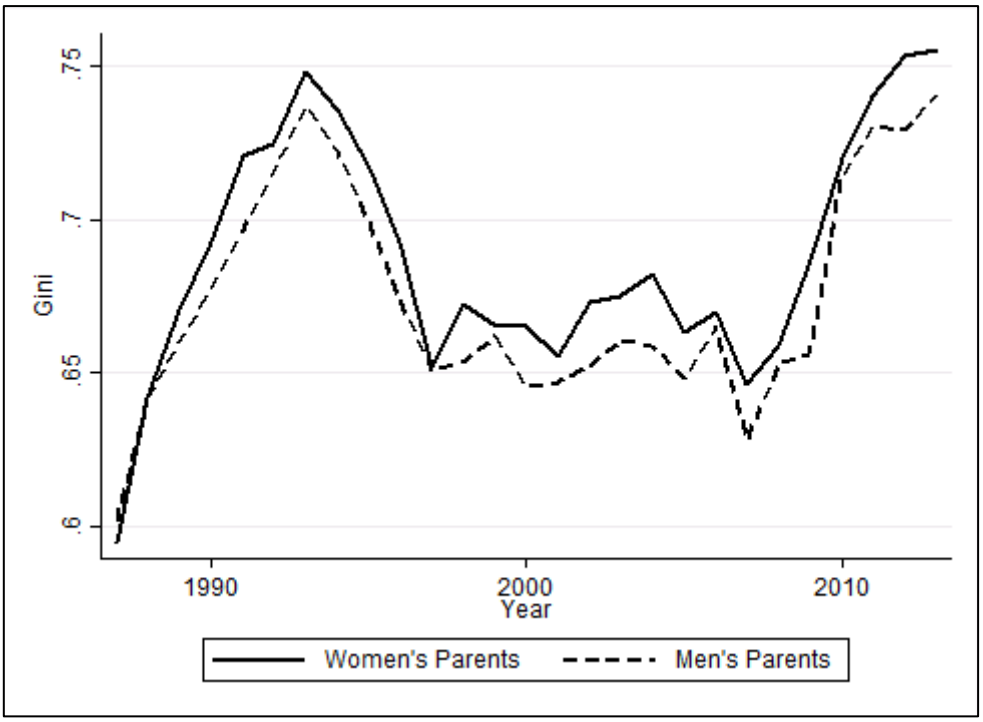
Note. Pooled sample 1987-2013; Within-cohort wealth percentiles of the male partner in the year of union formation. N = 803,185

Figure 2. Median and average parental wealth by year



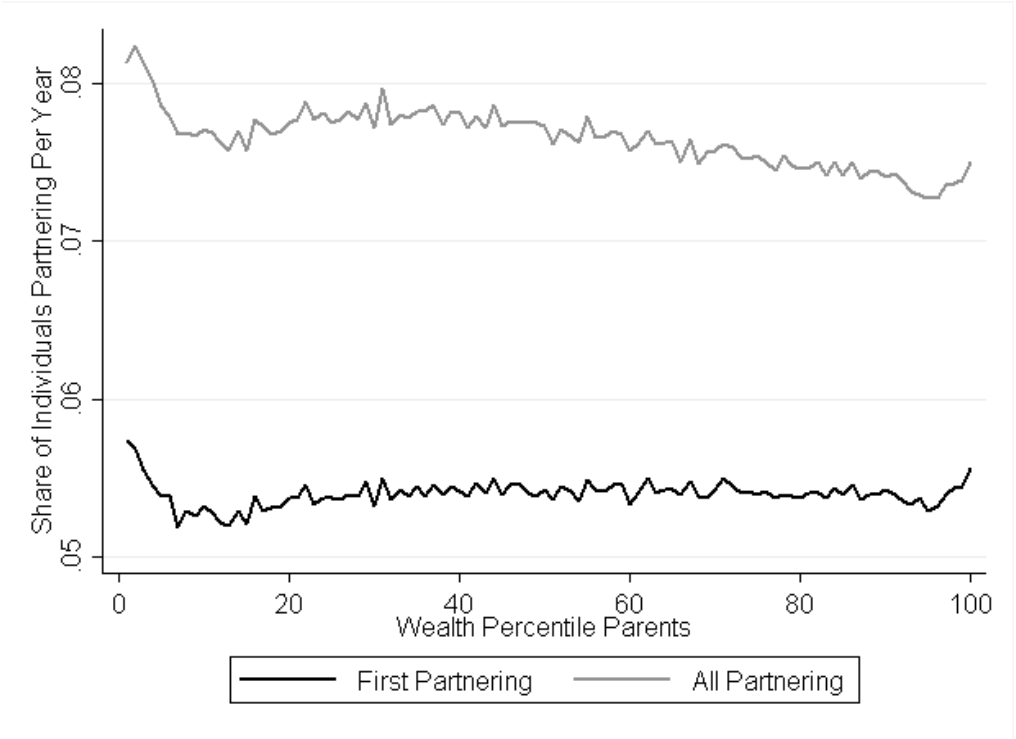
Note. Average (solid lines) and median (dashed lines) sum of parental wealth at year of union formation. N = 803,185. Due to data restrictions set by Statistics Denmark, the median is approximated by taking the sum of the 48th to 52nd percentile divided by five; Wealth is measured in 2010 price levels.

Figure 3. Inequality in untransformed parental wealth (at union formation) by year (Gini)



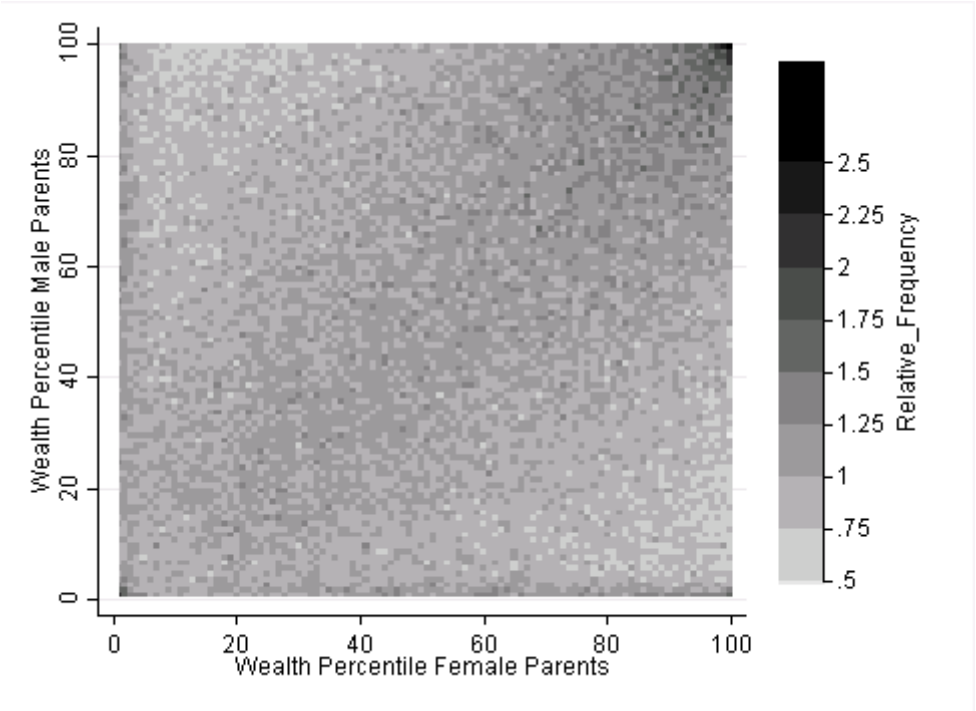
Note. Three-year averaged parental wealth at year of union formation. N = 803,185

Figure 4. Annual probability of partnering by parental wealth percentile



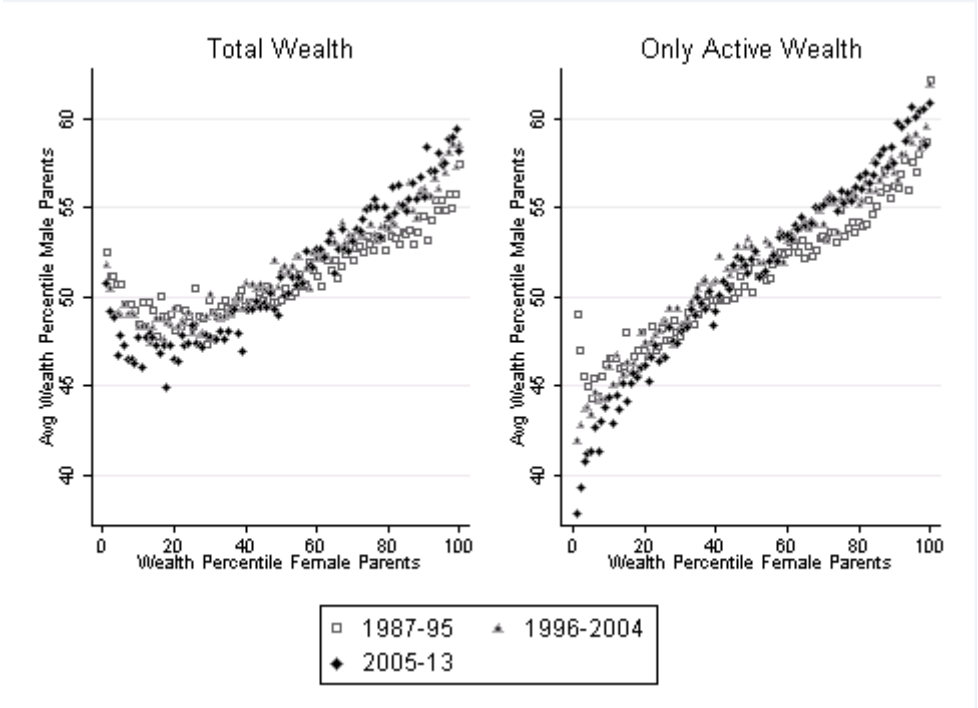
Note. Calculates for each year of the observation period (1986-2013) the share of individuals aged 18-35 that forms a cohabiting union/marries depending on parental wealth percentile. First partnering only includes the first union formation observed for each individual, whereas all partnering allows for repeated events.

Figure 5. Heatmap of relative frequency of couple combinations based on parental wealth 1987-2013



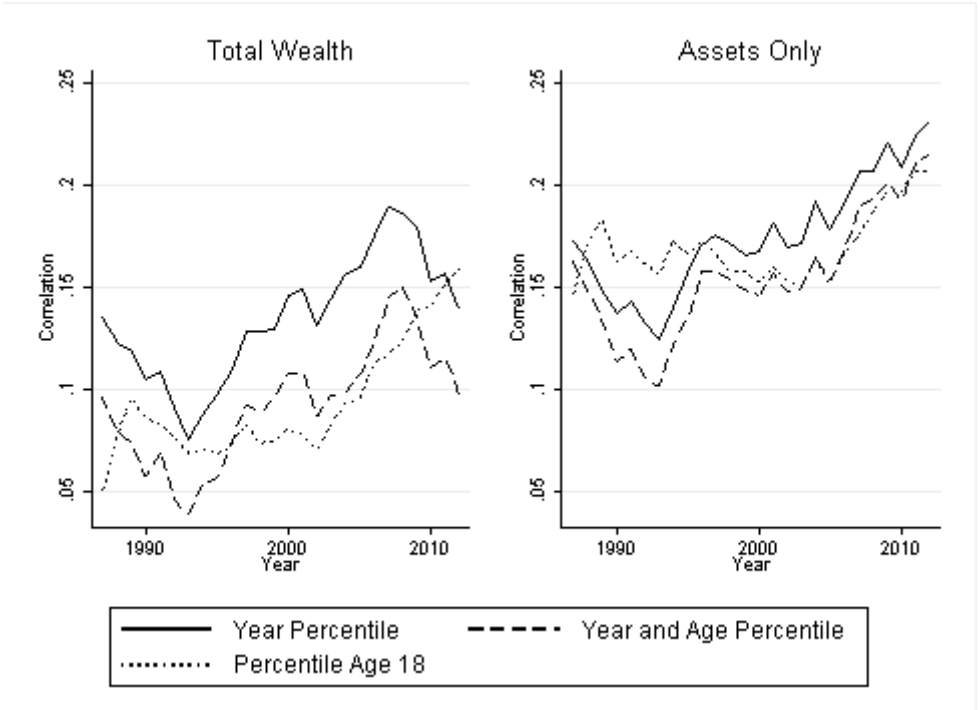
Note. Parental wealth percentile at union formation within union cohort. Frequency indicates relative frequency of combination of parental wealth percentiles; a value of one indicates relative frequency as expected based on random mating. Pooled results for complete period 1987-2013. N = 803,185

Figure 6. Average Men's Parental Wealth/Assets Percentile at Union Formation by Women's Parental Wealth/Assets Percentile at Union Formation



Note. Left pane: Average wealth percentile of male parents calculated separately for each percentile of female partners' parental wealth. Right pane: Equivalent to left pane but based on assets only (i.e. debts are not subtracted).

Figure 7. Correlation between her and his parental wealth at union formation by year

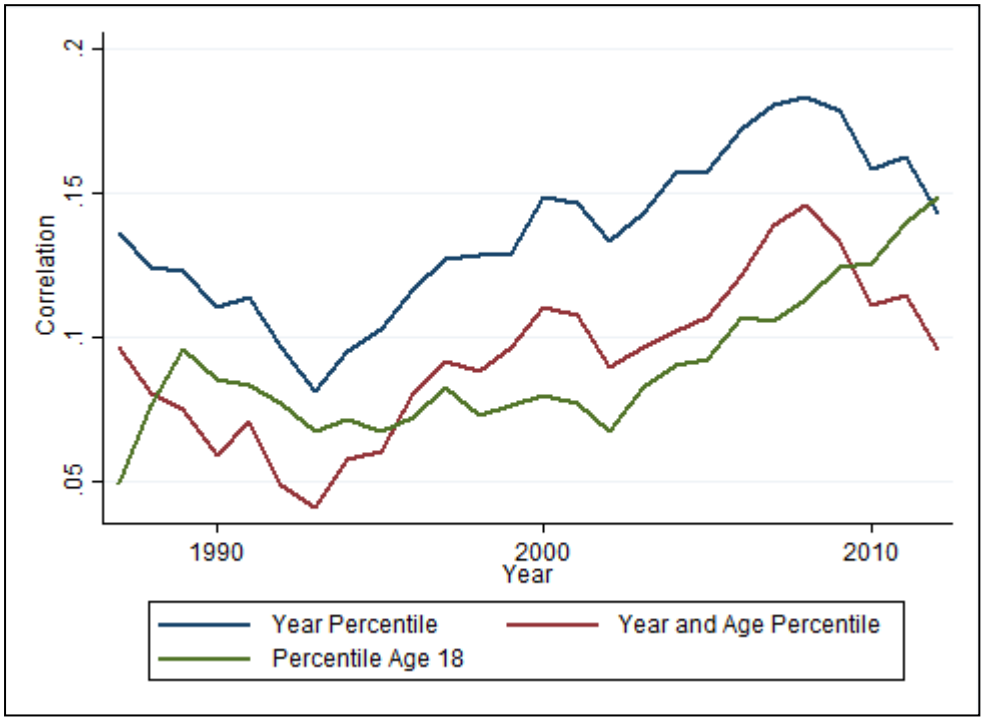


Note. Year Percentile = pw1: Parental Wealth Measured at Union Formation, rank within union cohort; Year and age percentile = pw2: Parental Wealth Measured at Union Formation, normalized by paternal age within a given union cohort, and subsequently ranked within union cohort; Percentile Age 18 = pw3: Parental wealth measured at age 18, normalized for age cohort, ranked within union cohort. Right pane is equivalent numbers based on assets only (i.e. not subtracting debt). N = 803,185

Online Appendix

Appendix A. Extending age range considered to 18-39 years.

Figure A1. Replication of main result with different age cut-off



Note. Replication of Figure 6 expanding age range of partners included in the sample to 18-39 years

Appendix B. *Presence of Parental Identification Numbers and Parents in the Registry Data*

The requirement for inclusion in the sample of our study was the identification of both parents in the wealth data. Parents were not identified in the data if: 1) Parental identification numbers were not available that allowed us to link parents to children in the registry data. Such parental identification numbers were provided for all individuals born after 1960, but were incomplete for earlier birth cohorts (Boserup et al. 2013). 2) Parents had passed away before 1980, moved away from Denmark before 1980, or never lived in Denmark. Given that our information on wealth is available for the period 1980-2013, we do not have information on parental wealth in such cases.

In this Online Appendix we present robustness checks that reduced concerns that the exclusion of these cases affected our conclusions. Figure B1 shows the percentage of unions formed in each year for which we did not identify all four parents in the dataset. The thick blue line represents the final sample used in the main analysis. The non-identification of parents can arise due to two main reasons:

1) Parental identification numbers are not available for one of the four parents involved. The red dashed line indicates the share of cases that has parental id's available for all parents. Between 12 and 21 percent of cases do not have parental identification numbers, and this is relatively stable across calendar time.
2) Parents might have passed away or do not live in Denmark, and we did not manage to recover information on parental wealth from earlier years. The dashed blue line indicates cases where parents were not present in the data in the year of union formation. This applies to a bit less than 20% of the overall sample (difference between red and blue dashed lines). Whenever we were able to recover parental wealth from earlier waves (the last wave both parents were still alive), we pulled this wealth information forward after normalizing wealth within the distribution of the original year and included it in our wealth rank at union formation. This applies to less than 5% of cases. Robustness checks including these cases generated identical results (Figure 7).

Even though the distribution of cases where parents were not identified is relatively stable across calendar time, this is not the case once looking at the distribution according to age. The left panes of Figures B2-B4 show how the availability of parental identification numbers declines steadily with age. Given that parental identification numbers were available for all individuals born after 1961 only, the age profile of missing parent id's changes with calendar time. Especially in 1987, the start of our observation window, availability of parent id's declines steeply with age. Given that availability of parent id's drops to practically zero after age 35, we restricted our sample to unions formed before age 35. Things look a bit better in 1993, where we also have cases aged 40 with parental identification numbers available. Robustness checks extending the analysis to unions formed before age 40 (See Figure A1) should are therefore most reliable from 1993 onward. The changing age profile of missing parental identification numbers might influence our estimates of correlations in parental wealth

across time. If older (or younger) couples are more likely to be homogomous, their underrepresentation in older cohorts might drive down (or up) the parental wealth correlation. To check whether this was of concern we re-ran our analysis where we reweighted couples based on the probability that the couple had all four parent identification numbers available in the data. This probability was calculated based on the percentage of individuals of a given birth cohort (by year) that had both parental identification numbers available. For each union formed, we multiplied the probability of both partners with each other and divided 1 by that quantity (i.e. 1/(probability male*probability female). These results were used to reweight the analysis in robustness checks. The second panes of Figures B1-B4 show how missing parental identification numbers are more equally distributed across calendar time and age once reweighting. Figure B5 shows how including these weights in our analysis reproduces our main results of Figure 7 very well.

Figure B1. Percentage of couples with at least one parent not identified; split by reason (missing parent id, parent not present in data in year of union formation)

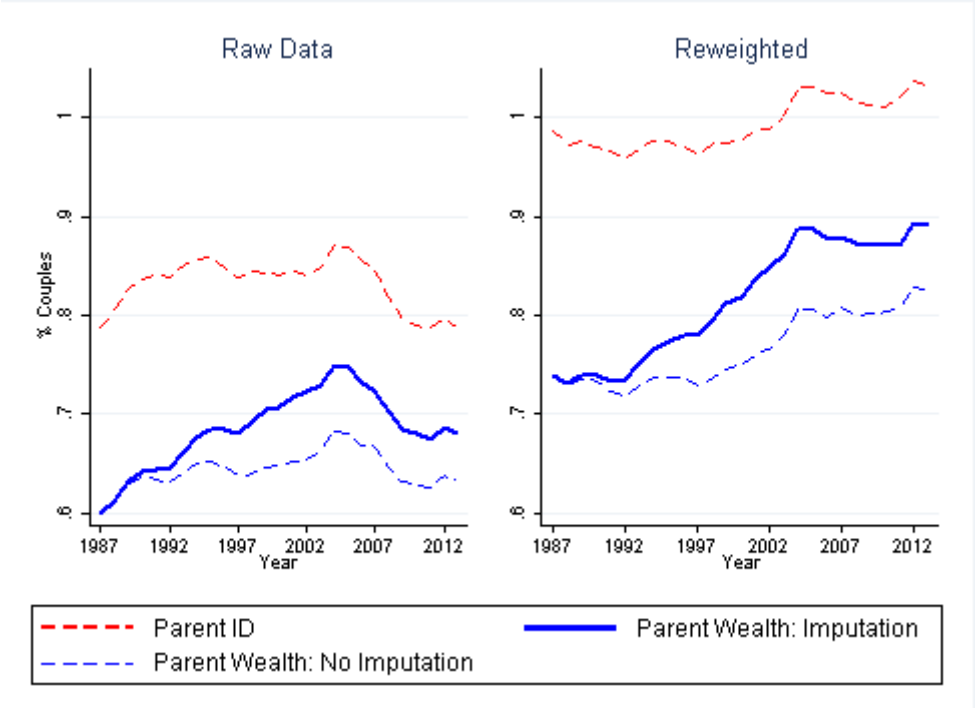
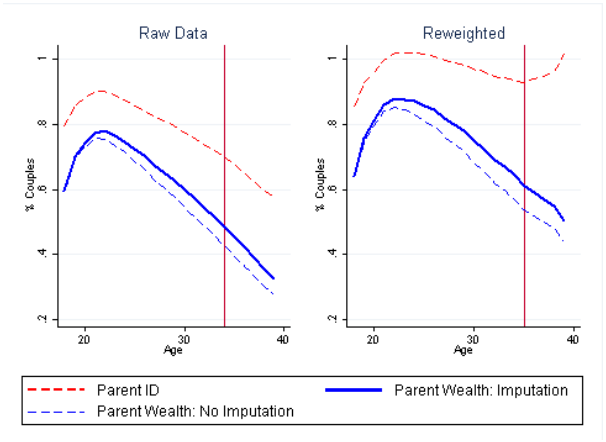
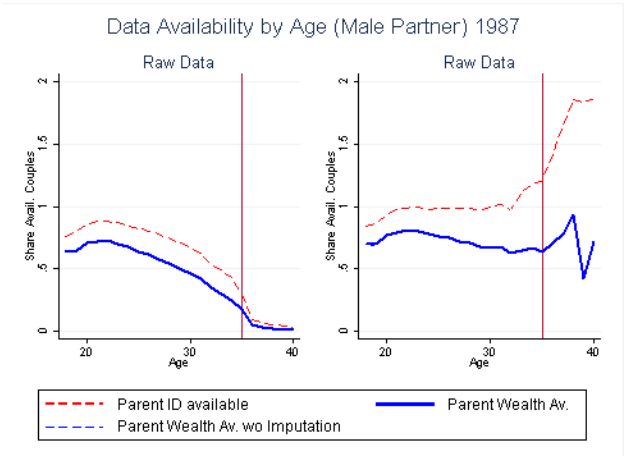


Figure B2-B4. Percentage of couples with at least one parent not identified; split by reason (missing parent id, parent not present in data in year of union formation). By age for all sample, 87 and 1993.





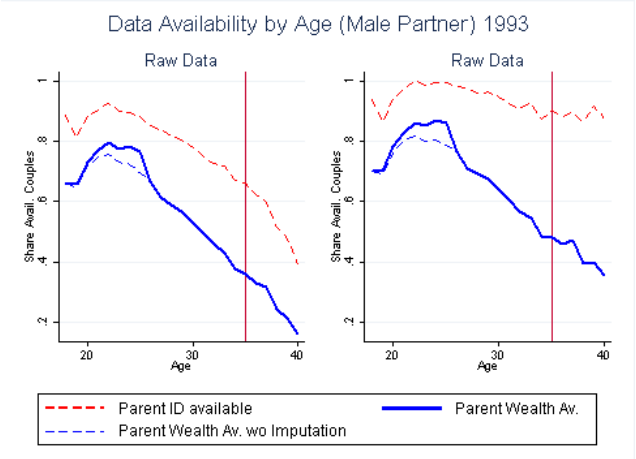
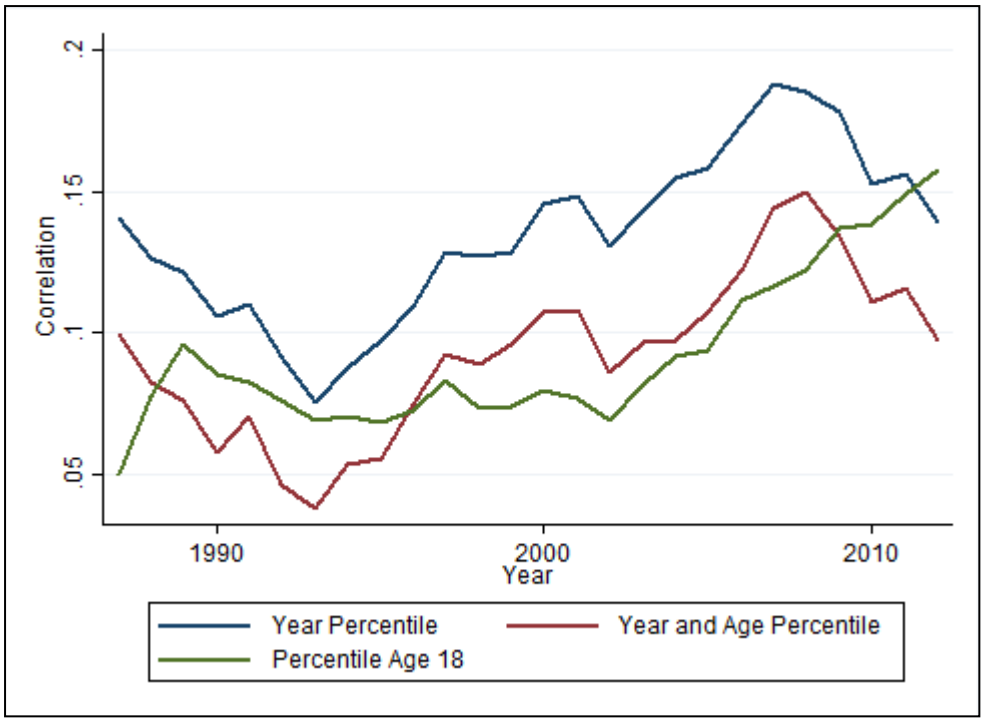
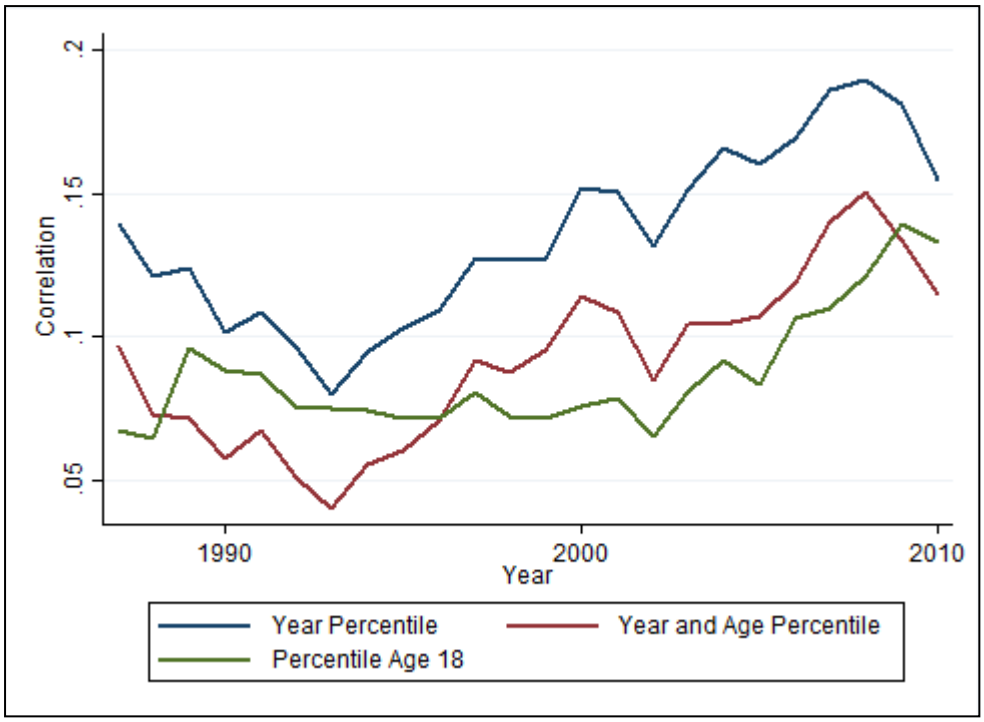


Figure B5. Replication of Figure 7 including weights



Appendix C. Exclusion of cohabiting unions of short duration (<3 years)

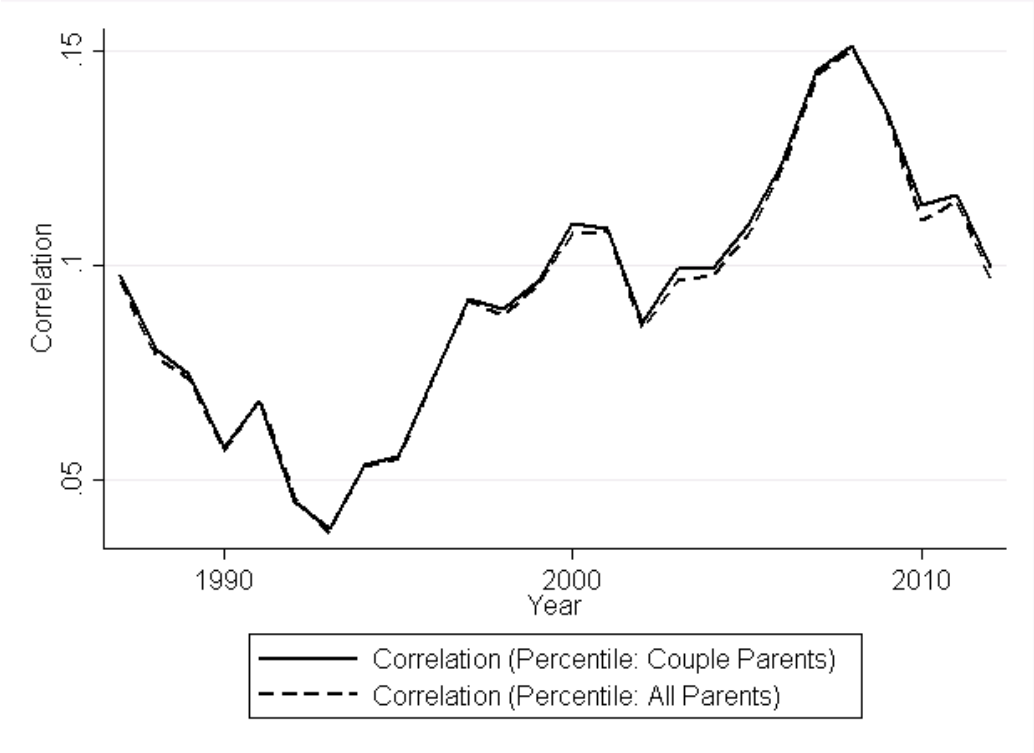
Figure C1. Replication of main result excluding short-lived relationships



Note. Replication of Figure 7 excluding cohabiting unions that lasted less than three years

Appendix D. Alternative calculation of parental wealth percentile

Figure D1. Robustness check calculating parental wealth as percentile of all parents with children aged 18-34



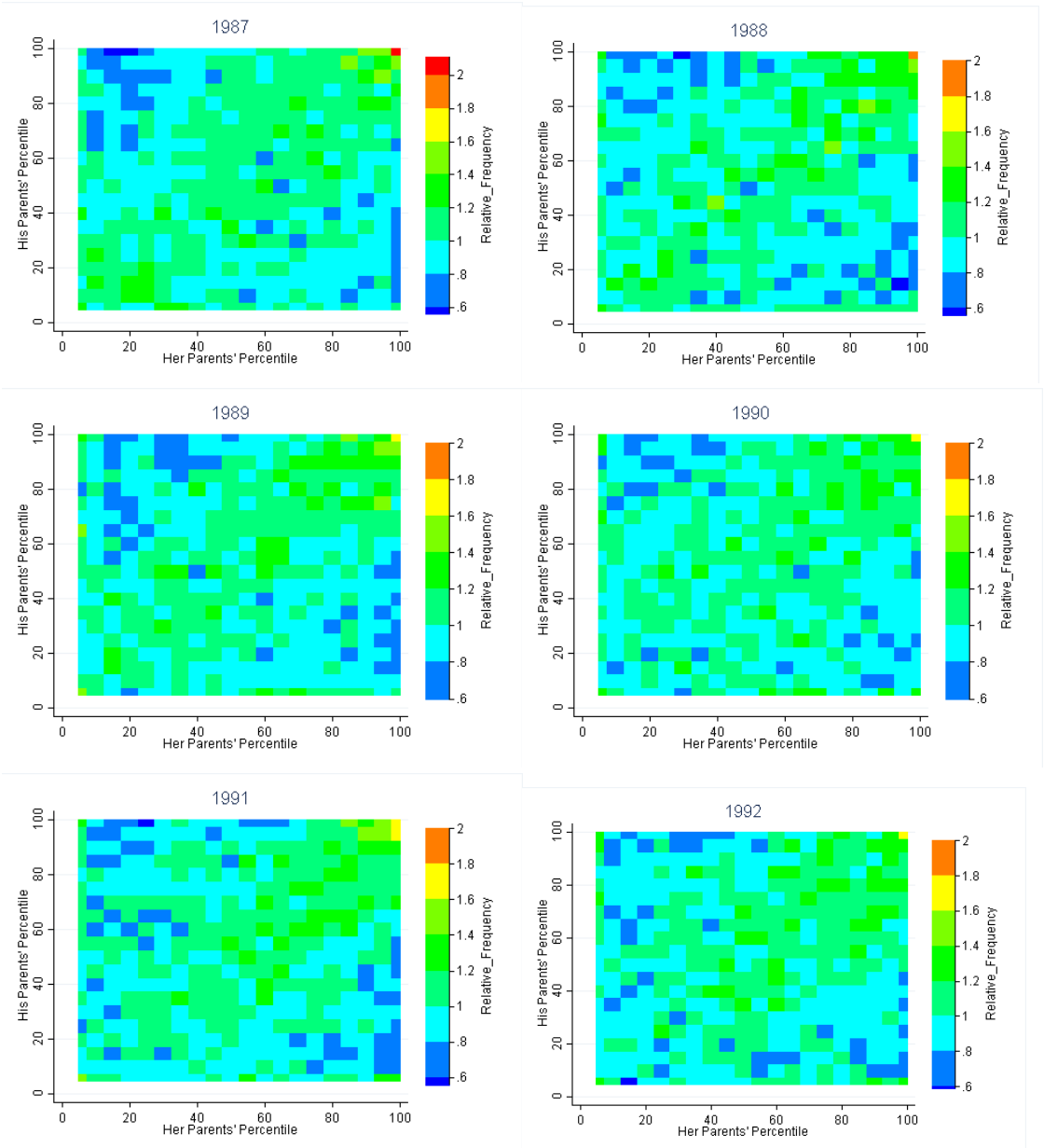
Note. Solid line reproduces dashed line of Figure 7 indicating the correlation in parental wealth at union formation (percentile calculated by union cohort and father's age). Dashed line is equivalent but this time the percentile of parents' wealth is calculated based on the distribution of wealth among all parents of the same age with children between ages 18 and 34 (and not only among those whose child formed a new union in that year).

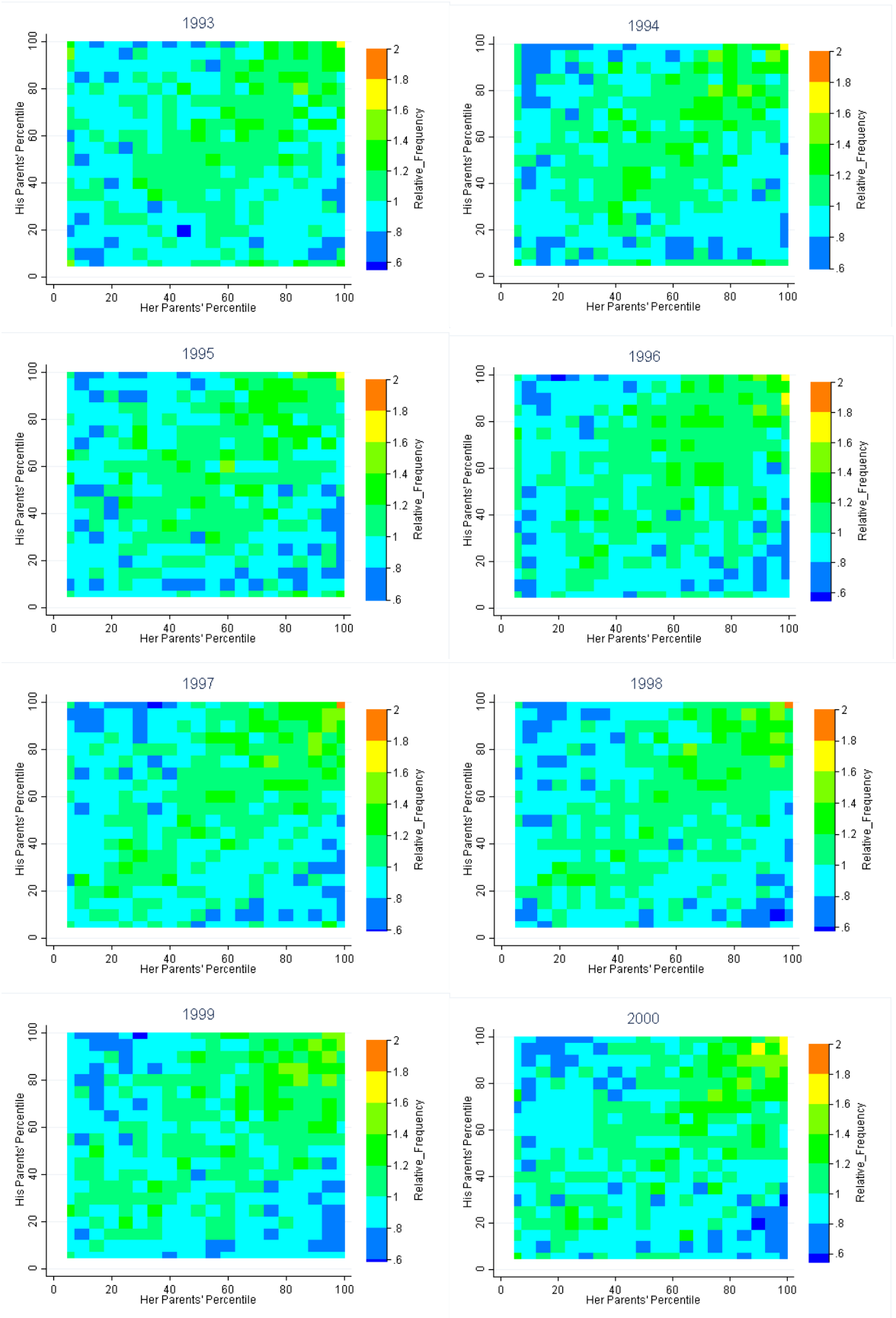
Appendix E. Changes over time

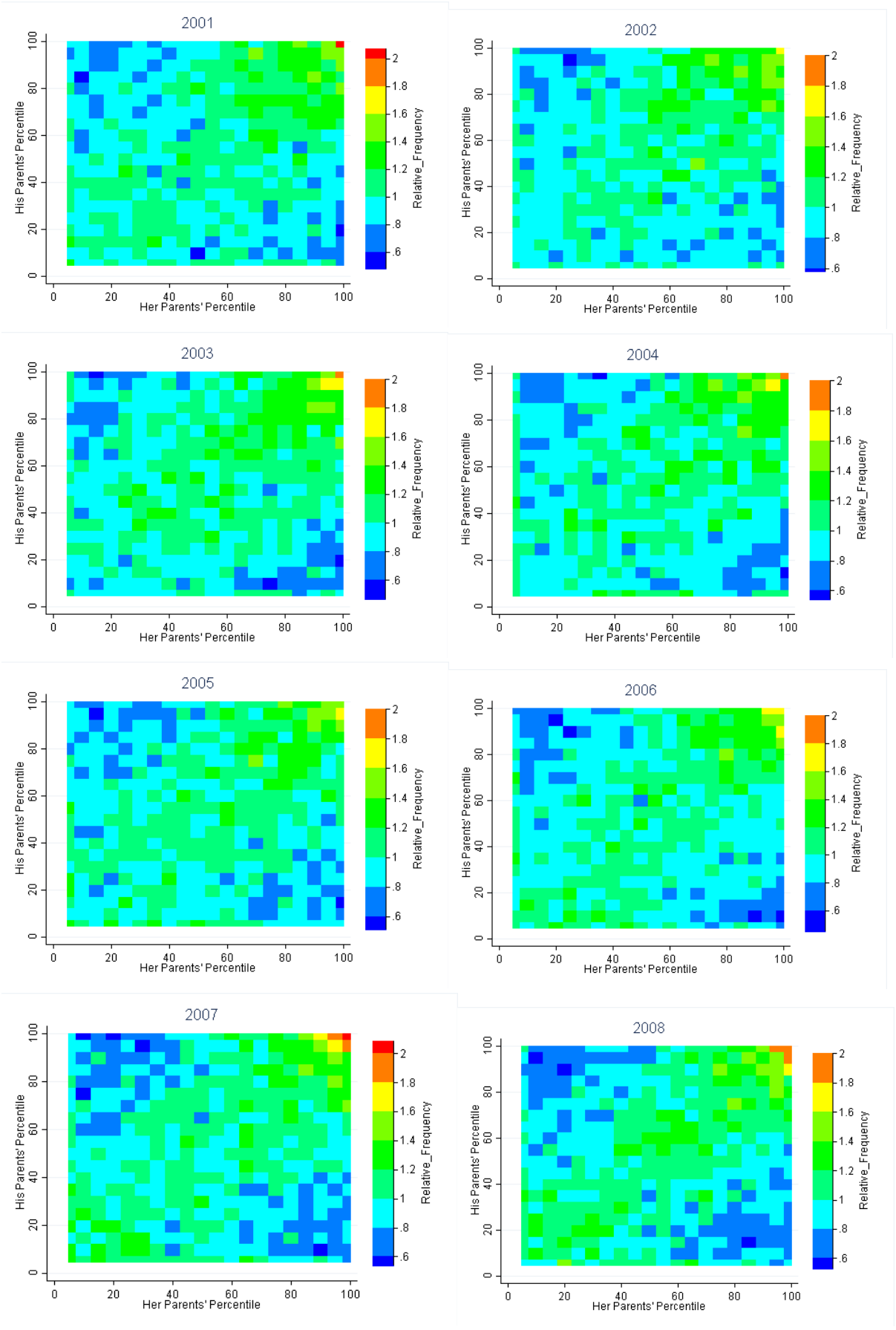
Figure E1. Animated heatmap of relative frequency of particular couple combinations based on parental wealth 1987-2013

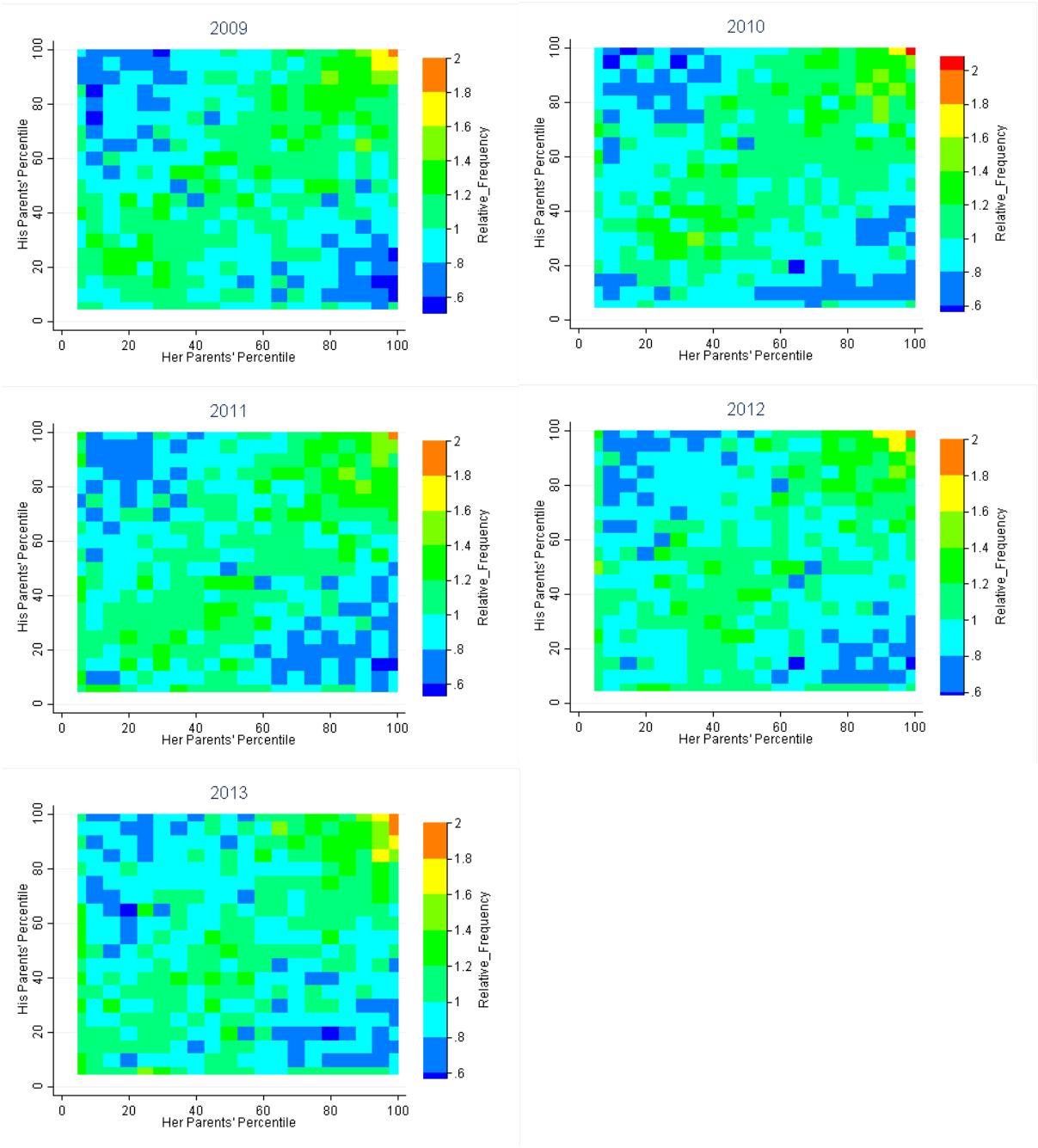
Animation: https://media.giphy.com/media/64anFirdCTXZYWRirY/giphy.gif

Yearly graphs not animated (in color):




1993
1994
1995
1996
1997
1998
1999
2000
His Parents' Percentile
Her Parents' Percentile
Relative_Frequency
0
20
40
60
80
100
.6
.8
1
1.2
1.4
1.6
1.8
2

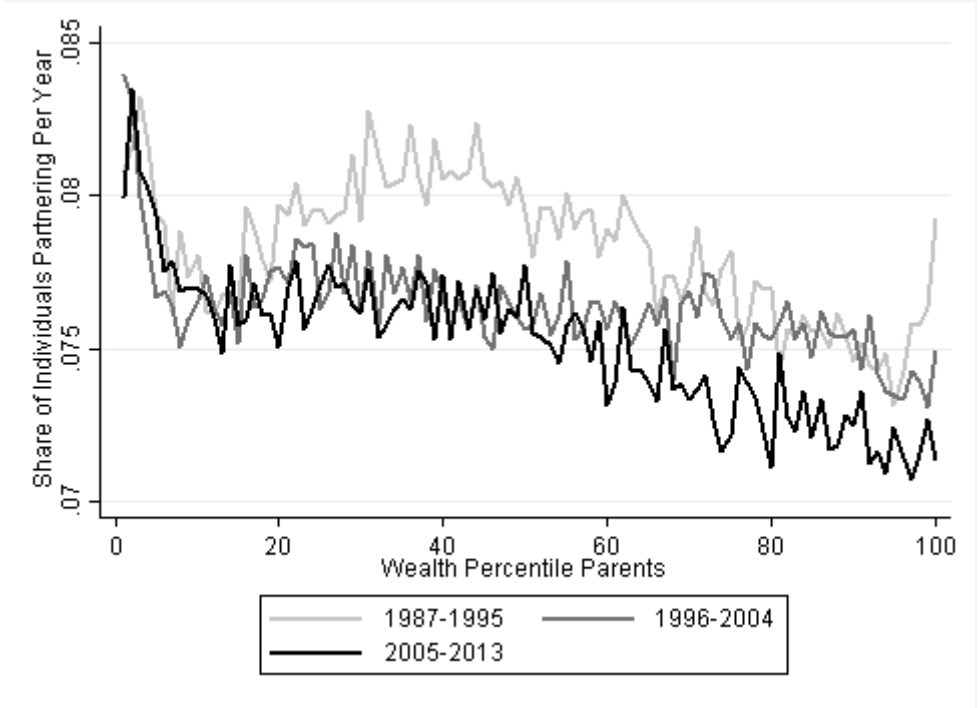

2001
2002
2003
2004
2005
2006
2007
2008
His Parents' Percentile
Her Parents' Percentile
Relative_Frequency
0
20
40
60
80
100
2
1.8
1.6
1.4
1.2
1
.8
.6



Note. Parental wealth percentile at union formation within union cohort. Frequency indicates relative frequency of combination of parental wealth percentiles; a value of one indicates relative frequency as expected based on random mating.

Figure E2. Annual probability of partnering by parental wealth percentile

All partners observed



Only first partners observed

Note. Calculates for each year of the observation period (1986-2013) the share of individuals aged 18-35 that forms a cohabiting union/marries depending on parental wealth percentile. First partnering only includes the first union formation observed for each individual, whereas all partnering allows for repeated events. Shares averaged across three union formation periods (depicted by three different lines).

Online Appendix F. Sensitivity of parental wealth correlations to the time of measurement

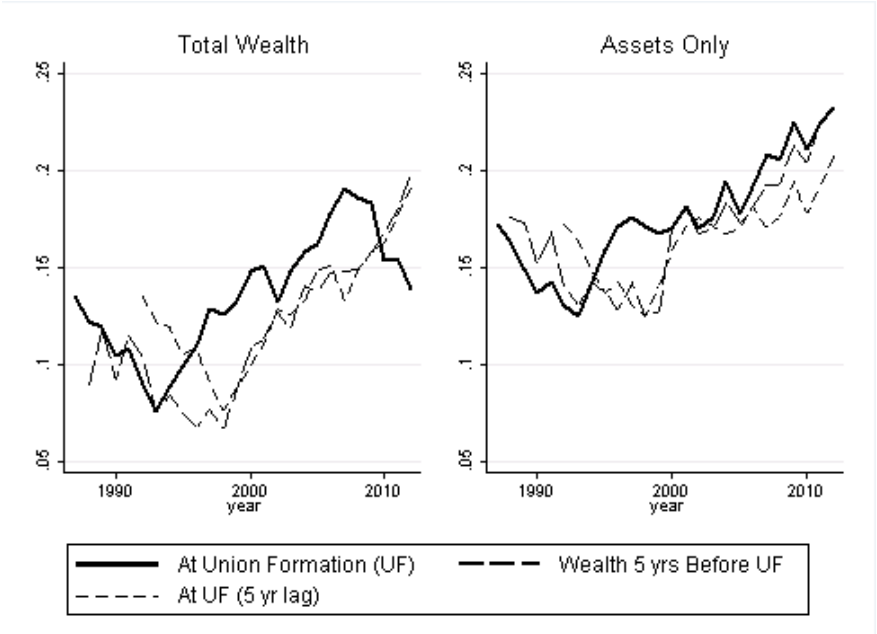
Figure F1 presents the analysis scrutinizing the sensitivity of our results to the time at which parental wealth is measured. The solid line reproduces our original correlations of parental wealth measured at union formation (as observed in Figure 7 in the paper; normalized by union cohort only). The long-dashed line displays parental wealth homogamy, but instead of measuring parental wealth at union formation, parental wealth is measured 5 years before union formation. If partnering behavior drives trends in parental wealth homogamy, the time of measurement should not change results and both lines should overlap. Instead, if trends in parental wealth homogamy are not driven by changes in partnering, but rather by other processes such as periodic changes in the distribution of wealth in society, measuring parental wealth five years earlier should lead to a postponement of the trends in parental wealth homogamy by about five years. The short-dashed line in Figure F1 lags to original correlation of parental wealth homogamy measured at union formation by five years. If changes in the distribution of wealth (or other processes not captured by who partners whom) do not drive trends in parental wealth homogamy at all, we should observe a postponement of the time trend by exactly five years (i.e. both dashed lines should overlap).

It can be observed that for parts of the observation period measuring parental wealth five years before union formation does not change results. These are the decline in parental wealth homogamy during the early 1990s and the increases in parental asset homogamy during the 2000s (and 2010s). These trends are therefore driven by actual changes in partnering behavior and robust to the time of measuring parental wealth. For other parts of the observation period the time of measurement does have an impact on results. The increases in parental wealth homogamy observed during the 2000s and the subsequent decline during the crisis or not robust to the time of measurement. Once measuring parental wealth five years earlier, the time trend gets postponed by almost exactly 5 years. This suggests that increases in parental wealth

homogamy during the 2000s are not driven by changes in partnering behavior but rather by changes in the distribution of wealth in society. In the discussion of the paper we give the following example of such a process:

.. periodic changes in the distribution of wealth appear to benefit or penalize certain groups in society in such ways that if the parental wealth rank of a given individual goes up, the parents of that same individual's partner are likely to go up in the wealth ranking too. An example of such a process would be geographically selective increases in housing prices. For instance, if housing values surged in Copenhagen during the 2000s, and less so in other parts of Denmark, individuals with parents who live in Copenhagen (or with parents who have real estate there) will have experienced increases in their parental wealth rank over time. If there is a certain level of partnering homogamy based on parents' place of residence, such selective surges in housing prices will drive up parental wealth homogamy, even if partnering behavior does not change.

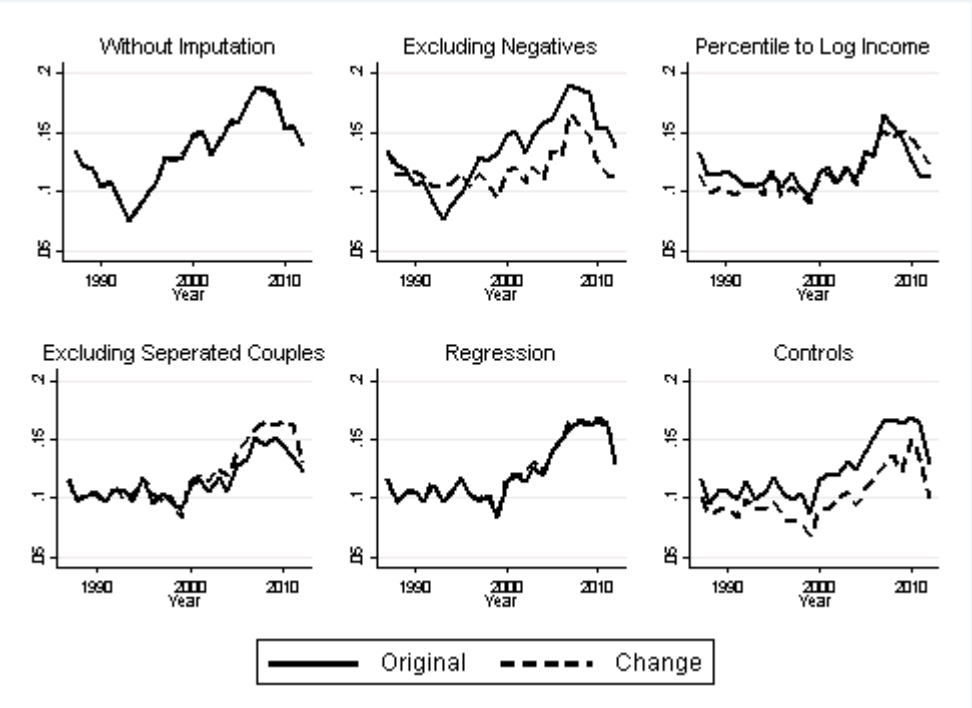
Figure F1. Sensitivity of parental wealth correlation to time of measurement



Note. Solid line = Correlation in parental wealth measured at union formation, rank within union cohort; Short dashed line = Solid line lagged by five years; Long dashed line = Correlation in "parental wealth five years before union formation"

Online Appendix G. Further robustness checks

Figure G1. Replication of main results (Figure 6) using various specifications and sample restrictions



Note. Graphs gradually add sample restrictions or model specifications. Each graph displays reproduces the dashed line of the previous graph as a solid line, and shows the additional change in estimates once adding the sample restriction/model specification referred to through the dashed line. Without Imputation = Solid line is correlation in parental wealth measured at union formation, rank within union cohort; Dashed line is as solid line but excluding cases where a parent passed away before union formation; Excluding negatives = Dashed line as without imputation but also excludes individuals with negative wealth from the sample; Percentile to Log Income = As Excluding Negatives but uses logged absolute parental wealth rather than parental wealth rank. Excluding Separated Couples = As Percentile to Log Income but excluding individuals whose parents re-married before union formation. Regression = As excluding separated couples but OLS regression coefficients rather than correlations. Controls = As Regression but including controls for mothers' age, fathers' age, his age, her age