Marriage, Assortative Mating and Wealth Inequality*

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Abstract

We use population data on capital income and wealth holdings for Norway to measure asset positions and wealth returns before individuals marry and after the household is formed. These data allow us to establish a number of novel facts. First, individuals sort on personal wealth rather than parental wealth. Second, people match also on their personal returns to wealth and assortative mating on returns is as strong as that on wealth. Third, post-marriage returns on family wealth reflect in equal part the pre-marriage returns of the two spouses. However, for households at the top of the wealth distribution at marriage, family wealth is largely managed by the spouse with the highest potential to grow it, providing a microfoundation for the scale dependence in wealth returns documented in several empirical papers. Fourth, marriage *lowers* the degree of wealth inequality as well as the heterogeneity in returns relative to the counterfactual case of no marriages. We use a simple framework to illustrate how the inequality-attenuating role of marriage is affected by assortative mating on wealth and returns and by wealth management task allocation between spouses.

Keywords: Wealth inequality, Returns to wealth, Assortative mating.
JEL codes: J12, E21, E24.

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1 Introduction

Understanding the determinants of wealth inequality and concentration is challenging. Some recent contributions have convincingly argued that heterogeneity in returns to human capital - i.e., labor income - is unlikely to account for the observed inequality in wealth holdings (see De Nardi and Fella 2016 for a review). In contrast, Benhabib et al. (2019) argue that if individuals differ persistently in their ability to generate higher returns to wealth, then it is possible to generate a thick tail in the wealth distribution even if labor income is equally distributed. This theoretical work has been complemented by a series of papers that study empirically the properties of individual returns to wealth and show that indeed individuals differ persistently and significantly in their returns to wealth (Fagereng et al., 2016, Fagereng et al., 2020; Bach et al., 2020).

In microeconomic data, where inequality or concentration statistics are computed and analyzed, wealth is always measured at the household level. This is due to legal and practical considerations; after marriage, individual wealth is typically pooled and, in most cases, owned jointly throughout the marriage. As a result, nationally representative surveys and administrative databases that collect information on wealth rarely, if ever, attempt to measure or track individually owned assets. While factors such as when and whom to marry clearly matter, the debate surrounding the determinants of wealth inequality and concentration has rarely focused on the marriage market and the extent of assortative mating (which determines inequality in wealth holdings across the newly formed families). In this paper we fill this gap. We use Norwegian population data to study the role of marriage and the extent of assortative mating on wealth and on returns to wealth as potentially important drivers of household wealth inequality and wealth concentration at the top. We first note that marriages, *per se*, should act as an equalizing force: the pooling of spouses' resources and the sharing of investment responsibilities that come with marriages lower inequality in both wealth and returns to wealth among married households compared to single individuals. Thus, societies where the marriage rate declines, the divorce rate increases, or people spend a larger portion of their life cycle as single will - *ceteris paribus* - experience more household wealth inequality.[1] The composition of marriages (i.e., who marries whom) also matters. Since people arrive at marriage with very heterogeneous asset levels, the nature of the marital matching process has a key bearing on how unequal and concentrated the distribution of wealth is in a

[1] In Norway, as in many other developed countries, the share of people who are married or cohabiting has declined steadily – from a high of 48% in 1972 to a low of 32% in 2023. Correspondingly, the share of people who classify themselves as never married (widowed/divorced/separated) has increased from 42% (10%) to 50% (17%) over the same time period (Source: Eurostat).

given marriage cohort. Moreover, wealth evolves over the life cycle of a household at a rate that depends on the household's return to wealth.[2] The latter, in turn, is affected by the matching process over the pre-marriage returns of the two spouses and by the post-marriage allocation of decision power among the spouses. The extent of heterogeneity in returns to wealth across households is the result of these forces, and affects, together with initial endowments, the degree of wealth inequality in a given marriage cohort as well as its evolution as the cohort ages. These forces can be very powerful.[3]

Surprisingly, all theoretical models of wealth inequality that focus on returns heterogeneity ignore family formation and hence the assortative mating process, including recent seminal contributions (Benhabib et al., 2024). The increasing recognition of the importance of return heterogeneity for explaining wealth concentration warrants an analysis of assortative mating on both wealth and returns to wealth (i.e., on both the level and the growth rate of assets at marriage).[4] This is because the matching process in the marriage market can amplify or attenuate the role of initial wealth conditions and the extent of heterogeneity in returns across households. On the flip side, the vast literature on assortative mating has focused mostly on income and permanent characteristics like education, but has ignored personal wealth and even more returns to wealth (see Eika et al., 2019; Fernandez et al., 2005; Fernandez and Rogerson, 2001; Greenwood et al., 2014). To our knowledge, the only papers that look at the empirical importance of wealth for explaining marriage patterns are Charles et al. (2013), Wagner et al. (2020), and Fremeaux (2009).[5] However, due to data limitations, these papers can only study assortative mating on the basis of parental wealth.[6] Whether people sort on parents' or on own wealth at the time of marriage is an open question. The answer may matter for a number of reasons. First, if people sort on own wealth rather than parents' wealth, measuring assortative mating with parental wealth may give a distorted view both of the extent of assortative mating and of its importance for wealth inequality. Second, while spouses' own wealth is pooled right after marriage, parents' wealth is only relevant when it is transferred, typically through bequests and thus

[2]As well as active saving rates out of wealth. The latter, however, do not seem to vary much across the wealth distribution (see Fagereng et al., 2021).

[3]As an extreme example, in a setting where the individual return distribution for males and females are identically normally distributed, perfect negative sorting on returns (coupled with an equally shared wealth management rule), may eliminate all heterogeneity in household returns.

[4]Matching on levels *and* growth rates is not unusual in other contexts. For example, in labor markets a worker may match with a firm not only because of the initial wage it pays, but also because of the advancement/career opportunities it offers.

[5]Eads and Tach (2016) study how wealth affects marriage stability.

[6]The importance of parental wealth may depend on the importance of bequests in the context studied (i.e., developing vs. developed countries) and on the age of the spouses. With the increase in the age at marriage, personal wealth may be more relevant than parents' wealth for explaining assortative mating patterns, and we indeed find this to be the case in our data.

at a late stage of the spouses' life cycle. Because heterogeneity in returns among newly formed families will start mattering only when assets are accrued to the family, sorting on own wealth or parents' wealth matters for the importance of return heterogeneity for the evolution of wealth inequality. Finally, while intergenerational wealth transfers (*in vivo* or through bequests) can change the amount of wealth people arrive with at marriage, it is still the choices of the children, not those of the parents, that determine observed patterns of assortative mating – assuming away arranged marriages, which are rare institutional features in most developed economies.

Unlike assortative mating based on individual-specific characteristics like education or income, which can be observed both before and after marriage, detecting assortative mating by personal wealth and returns to wealth requires observing these variables *before* marriage. After marriage, wealth and capital income are typically observed at the household level, making it hard to identify individual contributions. This poses a formidable data requirement which explains the lack of empirical evidence. In this paper we leverage the large sample size and the long time span of Norwegian administrative data, where people's wealth holdings and returns are observed both *before* and *after* marriage, to study the matching process on pre-marriage wealth and returns and its interplay with post-marriage management of the family assets.[7] To our knowledge, our paper is the first to do so. This allows us to advance the literature on wealth inequality by discussing and documenting how the share of marriages in the population and the type of matches between spouses contribute to shifts in the distribution of household wealth. Moreover, we contribute to the literature on assortative mating by studying matching patterns based on personal wealth and returns to wealth as independent forces beyond the well-documented matching on traits like personal income, education, or parental wealth. A valuable aspect of our data is the ability to match spouses to their parents (along with their wealth and returns). This allows us to study whether parental wealth is a significant factor that individuals consider when sorting (as argued by Charles et al., 2013), once allowance is made for sorting on personal pre-marriage wealth and returns to wealth.

There is a lively debate in the literature on the determinants of persistent return heterogeneity. Bach et al. (2020) argue that it mostly reflects risk-taking behavior; Fagereng et al. (2020), and Fagereng et al. (2026) while acknowledging the importance of risk taking, also stress the role of information and skill differences. The goal of this paper is not to resolve this debate. Instead, we argue that assortative mating on individual returns is potentially an important channel for the role of returns heterogeneity in explaining wealth

[7] As we explain below, the year of marriage is defined as the first year that we observe future couples (i.e., couples formally married or cohabiting with a common child) living at the same address.

inequality in the economy, regardless of its source. Marriage can affect the degree of heterogeneity in returns across families and thus the steady state concentration of wealth for two reasons: *a*) people can directly match on individual returns (besides sorting on assets, income or education - which can themselves contribute to wealth inequality), and *b*) spouses choose, post-marriage, who will be in charge of the management of the family wealth and thus whose pre-marriage return matters for the subsequent evolution of family wealth. How people match and how they allocate post-marriage wealth management responsibilities, determine how marriage impacts returns heterogeneity across families.

As an example, assume that the individual returns to wealth are normally distributed with mean 0.02 and s.d. 0.04 (similar to the mean and s.d. of returns to gross wealth in our data for singles). Men and women face the same distribution. Assume all individuals marry and that the couple's return is a weighted sum of the highest and lowest return, with weights q and $1-q$, respectively. Consider three assortative mating scenarios: random assortative mating (RAM, where the correlation between spouses' returns is 0), positive assortative mating (PAM, where the correlation is 0.5), and perfect (positive) assortative mating (PPAM, where the highest-return man marries the highest-return woman, and so on). Finally, consider three post-marriage wealth management allocations: (a) both spouses share equally household wealth management responsibilities ($q = 0.5$), so that the household return to wealth is the average of their pre-marriage returns, (b) partial specialization ($q = 0.75$), and (c) full specialization, ($q = 1$), where the spouse with the highest pre-marriage return takes full responsibility of the management of the family assets.

Suppose we measure the extent of return heterogeneity with the standard deviation of returns. In the table below, we report the value of this statistic among married couples in the different scenarios.

	Wealth Management		
	Equal	Partial	Full
Type of assortative mating	sharing	special.	special.
RAM	0.028	0.030	0.033
PAM	0.034	0.035	0.037
PPAM	0.040	0.040	0.040

The heterogeneity in household returns - a key determinant of wealth inequality in society - will reflect assortative mating as well as post-marriage financial decision rules. Random assortative mating tends to reduce return heterogeneity among couples relative to the case of positive assortative mating. Perfect positive assortative mating

reproduces among couples the same extent of return heterogeneity observed among singles, regardless of who manages household wealth. Outside this extreme case, moving from the equal sharing of financial responsibilities to full specialization increases the degree of return heterogeneity because selection forces dominate smoothing. Sharing financial responsibilities equally acts as a diversification mechanism that smooths idiosyncratic differences between partners, lowering the variance. In contrast, "specialization" is a convex mechanism that selects upper-tail returns, thereby stretching the distribution and increasing its dispersion (as well as its average).[8] The availability of pre- and post-marriage data in the Norwegian records allows us to investigate whether household returns on wealth reflect pre-marriage spouses' returns, thereby allowing us to infer the rules governing wealth management within the household. Finally, except when spouses sort perfectly on returns, return heterogeneity among couples will be lower than among singles, implying that return heterogeneity in the population of households increases with the share of single households in the population.

We find significant assortative mating on personal wealth. Importantly, once we control for personal wealth at marriage, there is no evidence of sorting based on parental wealth. Assortative mating on personal wealth is not a reflection of assortative mating on other traits emphasized in the literature, notably income and education, which tend to correlate with wealth. Rather, it emerges and remains quantitatively similar even when conditioning on individuals' matching on these traits. Additionally, we uncover significant assortative mating on *returns* to wealth, a finding previously undocumented. This result remains even after accounting for matching based on wealth, which is crucial given evidence indicating that returns are influenced by the scale of wealth (see Gabaix et al., 2016; Fagereng et al., 2020). Moreover, matching on returns is distinct from matching on education; we find similar levels of sorting on returns within narrowly defined educational groups.[9] We conclude that matching on personal wealth and returns are independent and so far neglected sources of wealth inequality.

To shed light on wealth management responsibility within the family, we study the relationship between post-marriage household returns on wealth and the spouses' pre-marriage individual returns. We establish four notable results. First, post-marriage returns depend on the spouses' pre-marriage returns, implying that spouses not only combine their

[8] To see a trivial example, consider three couples with paired returns $\{0.02, 0.02\}$, $\{0.01, 0.03\}$, and $\{0, 0.04\}$. If $q = 0.5$, the cross section standard deviation of household returns is 0; if $q = 1$, it is 0.006.

[9] We also find evidence of intergenerational correlation in wealth and returns. The intergenerational wealth elasticity is in the ballpark of existing estimates in the literature (see Boserup et al., 2014). The intergenerational return elasticity, while very precisely estimated, is quantitatively smaller than the intergenerational wealth elasticity, most likely a reflection of the fact that it is easier to transmit accumulated wealth than the ability to grow it larger across generations.

assets upon marriage, but also their wealth-management styles and abilities (as proxied by the average of their pre-marriage returns). Second, post-marriage returns on family wealth reflect in equal parts the two spouses' pre-marriage returns. This suggests that decision power in family wealth management is equally shared (at least during the initial post-marriage phase). Third, once we allow for heterogeneity by household characteristics, we find that husbands exert a larger influence than their pre-marriage return warrants. This may reflect social norms assigning greater decision power to males even when it would be economically efficient not to do so. Fourth, we find that the spouse with the lower pre-marriage return exerts no influence among wealthy households. Because this "specialization" result generates higher returns among top wealth households, it tends to magnify wealth concentration and it provides a micro-foundation for the documented phenomenon of scale dependence in wealth returns. Finally, we estimate that individuals who arrive at marriage with more wealth, more income, or more experience have a larger influence on the household's portfolio decisions.

The rest of the paper is as follows. In Section 2 we summarize a simple framework designed to illustrate how the main forces at play affect wealth inequality at marriage and over the life of the household. In Section 3 we illustrate the data sources and discuss how we measure wealth and returns. In Section 4 we discuss how we measure assortative mating, show basic properties of the distributions of pre- and post-marriage own wealth and returns for males and females, present formal tests of equality of these distributions, and test for assortative mating on own wealth and on returns. In Section 5 we discuss evidence on post-marriage wealth management rules. Section 6 concludes. An Online Appendix provides additional details about data construction, full details about the theoretical framework, as well as additional evidence and robustness checks.

2 An Illustrative Framework

To introduce the role of marriage and isolate the main forces linking assortative mating, wealth management task allocation and wealth inequality, consider the following illustrative framework (see Online Appendix A.2 for full details). Husband, m, and wife, f, arrive at marriage with individual wealth levels w_0^m and w_0^f, respectively. Upon marriage, the individual wealth of the spouses is pooled, so that household wealth is: $w_0^h = w_0^m + w_0^f$.

In keeping with the type of baseline regressions we consider in the empirical analysis, we assume that the degree of assortative mating in wealth can be measured by the Spearman rank correlation coefficient ρ_w; the analytical counterpart in Online Appendix A.2.2 uses the Pearson correlation under normality and delivers identical qualitative predic-

tions. Two extreme cases considered in the literature are random assortative mating (RAM), $\rho_w = 0$, and perfect, positive assortative mating, $\rho_w = 1$. Negative sorting (hypergamy/"marrying up" or its opposite, hypogamy/"marrying down") is also possible.

To measure wealth inequality, we use the Gini coefficient. This index obeys scale invariance (a desirable property also shared by popular concentration measures such as the top shares - see Cowell, 2016). While wealth inequality at marriage increases with the degree of assortative mating in wealth, an important question is whether and why wealth inequality increases over the life cycle of a marriage cohort. Ignoring differences in saving rates out of wealth after marriage, the answer depends, among other things, on the extent of return heterogeneity that exists among couples. Suppose that returns are heterogeneous and persistent (as found empirically by Fagereng et al., 2020, Bach et al., 2020, and others) and potentially correlated with wealth. Assume that spouses arrive at marriage with (average) returns given by R^m and R^f, respectively. Two key forces affect the extent of return heterogeneity among couples: the degree of assortative mating in returns (which can be measured by the Spearman correlation coefficient ρ_R) and how financial responsibilities are allocated among spouses. To capture these forces, we assume that the post-marriage household return is a weighted combination of the highest and lowest pre-marriage return:

$$R^h = q\max\{R^m, R^f\} + (1-q)\min\{R^m, R^f\} \tag{1}$$

where q is the weight placed on the highest-return spouse (a parameter that measures how financial responsibilities are allocated among spouses). In the equal weighting case, $q = 1/2$; in the "full specialization" case, where the person with the best pre-marriage return performance is in charge of managing household wealth, $q = 1$.

In the Online Appendix (using both simulations and an analytical example) we show that:

1. The higher the degree of assortative mating in wealth, the larger the level of inequality in wealth at the point of marriage.

2. Within any given cohort, wealth inequality is always lower (or at most as high as) among couples than among single individuals.

3. If wealth returns are identical for all households, the scale invariance of the Gini index ensures that wealth inequality remains constant over time.

4. Wealth inequality is increasing in the degree of return heterogeneity and the effect is exacerbated by the presence of scale dependence (a positive correlation between

wealth and returns).

5. For a given weight assigned to the higher of the pre-marriage returns (q), the extent of return heterogeneity (i.e., inequality in household returns) increases with the degree of assortative mating in returns (ρ_R). Symmetrically, for a given degree of assortative mating in returns (ρ_R), the extent of return heterogeneity increases with the weight assigned to the higher of the pre-marriage returns (q), i.e., with the degree of "specialization" in household portfolio management.

6. Within any given cohort, the extent of return heterogeneity among couples is lower than (or at most as high as) the extent of return heterogeneity among singles.

Result (1) indicates that societies with more assortative marriage markets are, *ceteris paribus*, more unequal than those with more random marriage patterns in wealth. Result (2) highlights that, nevertheless, marriage is an equalizing force. Hence, a decline in the marriage rate increases wealth inequality in the population of *households* (which is what is typically measured in the data). Result (3) states that, without return heterogeneity, the dynamics of wealth inequality for any given marriage cohort would be determined entirely by initial conditions, i.e., the level of wealth inequality among singles and the degree of assortative mating in wealth at marriage. Result (4) is a re-statement of results from Benhabib and Bisin (2018): type dependence (persistent return heterogeneity) and scale dependence (a positive correlation between wealth and the persistent component of wealth returns) in returns increase wealth inequality. Results (5) and (6) clarify how return heterogeneity for couples may differ for return heterogeneity among singles. It shows a different equalizing role of marriage: return heterogeneity shrinks at marriage, with the shrinkage factor being attenuated if people assort on returns (a simple consequence of the Cauchy-Schwarz inequality) or if there is more specialization in portfolio management at the household level (since this mechanism accentuates differences among couples, stretching the distribution of returns and increasing its cross-sectional variance).

These conclusions highlight that assessing the role of marriage in explaining wealth inequality and concentration requires documenting the importance of assortative mating in both wealth and returns, as well as the degree of specialization in portfolio choice of couples. These are precisely the goals of our empirical analysis below.

3 Data Description

3.1 Data Construction

Our analysis is based on several administrative registries maintained by Statistics Norway, which we link through unique (and pseudonymized) identifiers for individuals and households. In this section, we discuss the broad features of the data; more details are provided in the Online Appendix A.1, which draws from Fagereng et al. (2020). We start by using a rich longitudinal database that covers every Norwegian resident from 1967 to 2015. For each year, it provides relevant demographic information (gender, age, marital status, educational attainment), geographical identifiers, and (from a separate registry) information on social security income. For the period 1993-2015 we can link this database with several additional administrative registries: tax records containing detailed information about the individual's sources of income from labor and capital, asset and liabilities holdings, a housing transaction registry, and a registry detailing the address of residence of the individual (pseudonymized street ID). For the shorter 2004-2015 period we also have access to a shareholder registry with detailed information on listed and unlisted shares owned and to balance sheet data for the private businesses owned by the individual. In sum, the data span all components of the household balance sheet. The value of asset holdings and liabilities is measured as of December 31.

The data we assemble have several, noteworthy advantages for the purpose of our study. First, our income and wealth data cover all individuals in the population who are subject to income and wealth taxes, including people at the very top of the wealth distribution. This allows us to explore whether assortative mating on wealth variables differs across wealth groups. Because wealth measures are from administrative registries, they do not suffer from recall bias. Moreover, since the data cover the whole population, they are free from attrition, except the (unavoidable) one arising from mortality and emigration. Second, because most components of income and wealth are reported by a third party (e.g., employers, banks, and financial intermediaries) and recorded without any top- or bottom-coding, the data do not suffer from the standard measurement errors that plague household surveys and confidentiality considerations that lead to censorship of asset holdings.[10] Third, unique identifiers allow us to match parents with their children

[10]Clearly, if some assets are held abroad and not reported to the tax authority, there will be an understatement of wealth concentration since it is plausible that these assets are disproportionately held by the wealthy (Zucman, 2014). Using information on Norwegian taxpayers who disclosed assets held offshore following an amnesty in the early 2000's, Alstadsæter et al. (2018) show that the beneficiaries of the amnesty are indeed the very wealthy. Of the 1419 individuals who disclosed assets offshore, essentially none is below the 99th percentile and 50% are among the wealthiest 400. The chances of having assets offshore increase

which allows us to study whether people sort on parental or personal wealth. Unique identifiers also allow us to identify couples. In the administrative records, people are classified as single, legally married, or cohabiting with a common child. For the last two cases, each individual ID is assigned a spousal ID. Through the address file, we can also establish the year in which people who are later assigned a spousal ID start living together (this is similar to Løken et al., 2013). Finally, the Norwegian data have a long panel dimension, which is crucial to compute reliable pre- and post-marriage average returns to wealth.

Our sample is comprised of all couples that marry (or cohabit with one or more common children) between 2005 and 2014. We include both first and subsequent marriages.

3.2 Variables construction

3.2.1 Wealth Our baseline measure of wealth is net worth, w^n_{it}, which is defined as the difference between gross wealth w^g_{it} and outstanding debt b_{it}:

$$w^n_{it} = w^g_{it} - b_{it} \tag{2}$$

Gross wealth is the sum of financial (or liquid) wealth w^l_{it} (the sum of safe and risky liquid financial assets) and non-financial (or real) wealth w^r_{it} (the sum of housing and private business wealth). Debt is the sum of mortgage debt, student debt, and consumer loans. In some of the exercises below we also consider assortative mating on the components of net worth (e.g., financial wealth).

3.2.2 Return to wealth To study assortative mating on returns to wealth we need a measure that satisfies a simple monotonicity requirement: it should signal an improvement in one's net worth position when positive and a worsening when negative.[11]

We follow Fagereng et al. (2020) and use as baseline measure the *return on (total) assets* (ROA), defined as:

$$r^a_{it+1} = \frac{\sum_{j=\{l,r\}} \left(y^j_{it+1} + \delta^j_{it+1} \right) - y^b_{it+1}}{w^g_{it}} \tag{3}$$

sharply with wealth but are never larger than 12% (Zucman, 2015), suggesting that many wealthy may have no wealth offshore. Alstadsæter et al. (2018) show that accounting for hidden wealth can increase the top 0.1% wealth share by roughly 1 percentage point on average.

[11] In other words, when ranked by the return, individuals at the top of the distribution should be the ones with better net worth prospects and *vice versa* for people at the bottom of the distribution (independently of current net worth).

The numerator is the sum of interests and dividends on financial and real assets (y^l_{it+1} and y^r_{it+1}, respectively), accrued (i.e., realized and *unrealized*) capital gains/losses on the same assets (δ^l_{it+1} and δ^r_{it+1}, respectively), minus debt interest payments (y^b_{it+1}), all measured as flows in year $t+1$. The denominator is the stock of gross wealth at the end of period t. As explained in the Online Appendix A.1.2, this measure satisfies monotonicity because its sign depends only on the sign of the yield on the numerator (since the denominator $w^g_{it} \geq 0$). This is useful because it allows to rank spouses on their potential wealth growth prospects (the return to wealth) and hence test for assortative mating on this distinct dimension. In contrast, using the return to net worth would yield counterfactual implications (since it scales net yields by net worth rather than gross wealth). In particular, the return to net worth may be positive even when one's net worth positioning is worsening, and *vice versa*, a violation of monotonicity. In the Online Appendix we provide more details on these conceptual issues and justify our use of baseline measure (3).[12]

The baseline return measure (3) assumes that there is no active saving during the year. In reality, some of the asset yields (or debt payments) measured as flows during the year are generated by addition/subtraction of assets (or debt) that take place during the year. To account for this, and avoid understating or overstating returns, we follow Dietz (1968) and adjust the denominator of each return expression by an estimate of the asset or debt flows occurring during the year, assuming that these transactions take place, on average, at mid-year. The Online Appendix explains how we use information on asset holdings at the beginning and end of period, together with information on the income that is capitalized into wealth, to obtain estimates of these Dietz adjustment terms. It also provides a detailed description of the asset and capital income components that enter the different return definitions. All return measures are net of inflation (using the 2011 CPI) and gross of taxes/subsidies.

3.3 Assortative mating variables

We study assortative mating on wealth and on returns to wealth. The degree of assortative mating should be measured before people start pooling assets and making joint financial decisions, which may happen when they start cohabiting, even without a formal marriage contract. As said above, the records classify people as single (which includes never married,

[12]For robustness, we also consider assortative mating on alternative return measures that satisfy the monotonicity property: the return to absolute net worth, the return to gross wealth, and the return to liquid (financial) wealth. See the Online Appendix for formal definitions. All these return measures are initially constructed for the full adult population; we follow Fagereng et al. (2020) and trim the distribution of annual returns at the top and bottom 0.5%.

separated, divorced, and widowed individuals), legally married, or cohabiting with a common child. For the last two cases, each individual ID is assigned a spousal ID. This poses the problem of potential contamination coming from childless cohabitation being classified as singlehood. We thus use information on the address of residence and assume that future spouses (or cohabitors with a common child) start pooling their resources the first year we observe them living at the same address. For simplicity, from now on we use the term "marriage" to indicate a legal marriage or a cohabitation (with or without a common child), and use the term "spouses" to accord with this definition of marriage.[13,14]

Call t the year of marriage (as defined above), so that $t-1$ is the last year that spouses are observed living at separate addresses. To measure assortative mating on wealth, we consider the individual stock of wealth the year before marriage, i.e., use $w^{j,pre}_{i,t-1}$. For returns, we use the pre-marriage average return, defined as:

$$\bar{r}^{j,pre}_{i,t-1} = \frac{\sum_{s=1}^{t-1} r^{j}_{is}}{t-1}, \tag{4}$$

where $s=1$ is the first year in which individual i is observed in the data and j depends on the definition of return adopted.[15] Ideally, the pre-marriage average return should capture the permanent component of the return and hence be based on a long panel to average out transitory deviations from the mean. For these reasons, we measure assortative mating on returns using only individuals with at least 4 years of pre-marriage data on returns. In the robustness section we consider, as an alternative, a Bayesian-shrinkage estimator approach.

Our analysis also requires the computation of a post-marriage household return, which we define as:

$$\bar{r}^{j,post}_{h,t} = \frac{\sum_{s=t+1}^{T} r^{j}_{hs}}{T-t}, \tag{5}$$

where T is the last year in which the couple is observed, h is an index for the household, and we omit the year of marriage from the computation of the average since it may reflect

[13]This definition may overstate the number of years people share resources if (a) they start cohabiting as friends and only later become a couple, or (b) if they are a couple but pool resources only at a later stage. On the other hand, using the formal definition of marriage will understate the number of years people share resources if they start doing so when they start cohabiting. In Fagereng et al. (2022) we look at assortative mating statistics defined 2 or 4 years before a formal marriage and find qualitatively similar results.

[14]Our baseline definition of cohabitation is narrower than the address-based definition used by Statistics Norway, which classifies as cohabiting any two opposite-sex individuals living at the same address with an age difference below 16 years and no family ties. Our baseline is conservative: by requiring subsequent marriage or a common child, we reduce the risk that co-residence arrangements unrelated to genuine partnerships contaminate the matching sample.

[15]We use the same logic to construct wealth stocks and average wealth returns for the parents of the spouses (i.e., we measure them as of period $t-1$).

choices made when individuals were still single. Finally, to reduce the influence of extreme outliers, we drop implausible observations on returns to assets (below -100%).

3.4 Descriptive Statistics

Table 1 provides descriptive statistics on the individuals in our sample of couples. Median (average) age at marriage is 27 (30) for women and 30 (32) for men, reproducing the age gap observed in many countries and the fact that age at marriage has been steadily increasing. Since Norwegians get married in their late 20s/early 30s, they have already accumulated some wealth by the time they make their marital choices. Indeed, 57% of the men and 48% of the women are classified as homeowners. More than 80% of individuals in our sample are in their first marriage. Women have slightly more schooling than men, and they are more likely to have completed an Economics/Business degree, which one could take as a proxy for financial sophistication/knowledge. Approximately 1/6 of individuals live in Oslo.

Table 2 shows some descriptive statistics about income, assets, and portfolio composition. We convert original NOK figures into constant 2011 USD. Statistics for individual income and assets refer to the year before marriage, while statistics for household wealth refer to the year following marriage. We also present statistics about parents' wealth (for the year preceding their children's marriage). The main feature is that men have higher income and more wealth than women (both net worth, gross wealth, and financial wealth). In contrast, there is little difference between the average net worth of their parents. Men's financial portfolio is also slightly riskier. Around 40% of single men and women have negative net worth in the year before marriage. This reflects mostly student and credit card debt.

To gain some insight into the shape of the distribution of returns, Figure 1 plots the kernel density of the individuals' pre-marriage average return on assets. Interestingly, the shape of the two distributions looks quite similar; both are unimodal, centered approximately at around zero and both reveal excess kurtosis. The distribution among males has less probability mass around the mode and slightly more dispersion. A formal Kolmogorov-Smirnov test of the equality of male and females returns distribution rejects the null. The figure also shows the distribution of the post-marriage returns; it is strikingly clear that, compared to pre-marriage returns it has more probability mass in the center, consistently with marriage shrinking the extent of return heterogeneity among singles. The salient moments for these three distributions (as well as for other return measures) are

in the Online Appendix, Table A.1.[16]

The simple illustrative framework of Section 2 predicts that marriages should reduce wealth inequality and concentration and the extent of return heterogeneity. We find that this is indeed the case in our data. The Gini coefficient for net worth (gross wealth) among couples is 81% (74%) of the one among single households; the top 1% share declines by a similar amount. The extent of return heterogeneity among couples (as measured by the variance of household returns) is 25% of the variance of returns among single households.

4 Assortative Mating: Empirical Evidence

In this section, we document assortative mating patterns by wealth and returns to wealth.

4.1 Measuring assortative mating

There are many ways to measure the degree of assortative mating in wealth or returns to wealth in a given marriage cohort. A traditional approach is to simply look at measures of association. A popular measure is the Pearson correlation on wealth levels, which estimates the linear association in cardinal units (monetary terms). Another is the Spearman rank correlation, which captures the concordance of the matching pattern, independently of the shape of the marginal wealth distributions.

In our setting, the distinction matters because the Norwegian wealth distribution is approximately Pareto in the right tail.[17] The Pearson index may be driven by a handful of extreme observations: a couple in which one spouse is at the 99.9th percentile and the other at the 99th percentile generates a large "miss" in levels even though both spouses are in the upper tail and sorting is strong. Indeed, we find that the Pearson correlation on net worth levels is 0.011, an order of magnitude below the Spearman index (0.196). This gap is entirely attributable to heavy tails: a trimming exercise (see Table A.2 in the Appendix) reveals that merely removing the top and bottom 0.05% of observations (less than 200 individuals out of roughly 368,000) causes the Pearson to rise to 0.156, a value similar to the Spearman index. On log gross wealth, both are high and close (Pearson

[16] In the Online Appendix, Figure A.6, we plot the empirical densities for the return to financial wealth (pre- and post-marriage). The distributions are unimodal, with a long right tail and excess kurtosis. The mode is the same for males and females while male returns are somewhat more spread-out with a slightly higher density both on the left and right tails. Also in this case, a formal Kolmogorov-Smirnov test of the equality of male and females pre-marriage returns distribution rejects the null, while heterogeneity falls after marriage.

[17] The Hill tail index of the net worth distribution is approximately 1.9 (Hill, 1975). This implies that the population variance of wealth is unbounded, and hence the population Pearson correlation on levels is undefined.

0.322, Spearman 0.360). The Spearman remains around 0.196 independently of the amount of trimming, confirming that it is measuring a stationary feature of the matching pattern unaffected by the tails.

For these reasons, our analysis below uses rank-based measures to characterize sorting patterns. To isolate the contribution of assortative mating itself (as distinct from the mechanical diversification effect of pooling two wealth draws), in the Online Appendix A.3 we present a direct non-parametric test: we randomly reshuffle female pre-marriage wealth across all observed couples in our data 1,000 times and compare the Gini of household wealth under observed vs. random matching. This exercise assesses the inequality consequences of marital sorting independently of any specific correlation index and using the distribution of singles' wealth, including the tails. We find that the assortative mating we observe in the data produces a value of the Gini of gross household wealth which is approximately 10% higher than with random matching ($p < 0.001$). Hence, marital sorting has a quantitatively meaningful effect on the distribution of household wealth at marriage. See Table A.3.

Simple correlation coefficients have two drawbacks. The first is that they cannot clarify whether the association between wealth levels or returns to wealth varies in different parts of the distribution. Our solution is to present heatplots and binscatters. The second drawback is that the relationship between the two variables could be spurious. For instance, if people primarily sort into marriages based on education, and higher education is associated with greater wealth, then assortative mating on wealth may be an indirect consequence rather than a direct sorting mechanism. Our solution is to present "conditional heatplots/binscatters", as well as multivariate regression of q_{w_m} on q_{w_f} (and *vice versa*), where we control for covariates that may potentially drive the association between q_{w_m} and q_{w_f}.[18] The advantage of the multivariate regression is that we can test additional hypotheses of interest, such as the role of intergenerational factors or of assortative mating on parental wealth.

4.2 Assortative mating on wealth

As explained above, we consider assortative mating on wealth the year before marriage, defined as the last year in which future couples (individuals who are later observed in

[18] In this case, by simple application of the Frisch-Waugh-Lovell theorem, the coefficient of the multivariate regression of q_{w_m} on q_{w_f}, controlling for covariates x, can be interpreted as the Pearson correlation between $u_{q_{w_m}|x}$ (the residual of a regression of q_{w_m} onto the x's) and $u_{q_{w_f}|x}$ (the residual of a regression of q_{w_f} onto the x's), as long as these residuals have the same variance. We show that none of our findings depend on whether we run multivariate regression of q_{w_m} on q_{w_f} or the reverse.

a formal marriage or cohabitation with a common child) are observed living at different addresses. Pulling data for all years, we estimate the Spearman rank correlation between the man' and the woman's wealth to be 0.196, which implies positive assortative mating.

A useful benchmark for measuring the degree of assortative mating is to consider deviations from random matching. Suppose that there are N single men and N single women to assort and that we allocate them to q wealth quantiles. It follows that under random matching there should be N/q^2 couples in each cell of the "matching matrix". This matrix is particularly useful because, given that we observe wealth for the whole population, we can study whether assortative mating on wealth varies with the position in the wealth distribution, something that cannot be done with simple correlation indexes. If the actual number of marriages in cell $\{i, j\}$ is n_{ij}, the variable $\tilde{n}_{ij} = \frac{n_{ij}}{N/q^2} - 1$ measures the percentage deviation from the random assortative mating (RAM) benchmark. If $\tilde{n}_{ij} = 0$, there are no excess marriages relative to the RAM case; if $\tilde{n}_{ij} = -0.5$ there are half as many marriages as predicted by RAM; if $\tilde{n}_{ij} = 1$ there are twice as many marriages as predicted by RAM; etc.

Figure 2 shows a heatplot of who marries whom. We allocate individuals to wealth ventiles using values observed in the year preceding marriage. These distributions are computed separately by gender and marriage year. The numbers in Figure 2 are the $\tilde{n}_{ij}$ values for each of the 400 possible cells (Figure A.7 in the Appendix reports the number of observed marriages in each cell). Darker colors represent stronger deviations from RAM and towards positive assortative mating. Quite evidently, there is more mass along the diagonal that runs from the bottom-left to the top-right cell than elsewhere, consistent with a significant degree of assortative mating on wealth. Interestingly, there are also some non-linearities (a local negative association): people at the top of the distribution are more likely to marry people at the bottom than people in the middle of the distribution.[19]

An alternative analysis of assortative mating is a binscatter or rank-rank plot (which also paves the way to the more formal regression analysis that follows). In Figure 3 we report the average percentile rank of the wife's (husband's) net worth (on the y-axis) for each percentile rank of the husband's (wife's) net worth (the x-axis). Under random matching, the rank-rank plot would be a horizontal line centered at the median, while perfectly positive assortative mating would generate a 45-degree line (a slope of 1). In the picture we also report the Pearson correlation for wealth percentiles as well as the

[19]This may reflect decreasing marginal utility of wealth, i.e., very wealthy individuals may find it more valuable to match on non-wealth characteristics of potential partners, such as intelligence, physical attractiveness, etc. Alternatively, it may reflect forward-looking sorting: people at the bottom of the net worth distribution may be investing in human capital and, as a consequence, have accumulated student debt. We consider this possibility in Section 4.5.

Spearman correlation for the wealth levels; the numbers are similar (around 0.2), consistent with positive but far from perfect assortative mating.[20] However, one key property of the data is that there are strong non-linearities in assortative mating on wealth. At the very bottom (bottom quintile), net worth is negative and matching is, if anything, negative (people with debt do not match with people with debt). Hypergamy ("marrying up") appears stronger for men than for women. Above the 20th percentile, assortative mating is positive, and it is strongest in the top two deciles.[21]

Does assortative mating on wealth simply reflect assortative mating on other traits the literature has focused on, such as education or income? Below, we present formal controlled regressions; however, it is useful to start with some visual evidence. In Figure 4 we consider the following exercise. We start by selecting individuals who are perfectly assorted on higher education (i.e., both spouses have a college education or more). We then allocate them to wealth ventiles using information on wealth in the last year in which they are observed living apart. The top panel is the heatplot, the bottom panel is the binscatter. Clearly, even in a narrow group of people perfectly assorted on education, we continue to see assortative mating on personal wealth (in fact, even more so than in the full sample). In the Online Appendix (Figure A.11), we repeat the same exercise by selecting individuals who are perfectly assorted on their income at the time of marriage (i.e., both spouses are in the top income quartile). The evidence is similar.

While these exercises are informal ways to ensure that the assortative mating on wealth is not spuriously driven by assortative mating on other key individual attributes that the literature has emphasized (such as education or income), it is still an incomplete approach, since there may be other attributes that also matter. For this reason, we turn to analyses that incorporate an extremely rich set of controls, including all pairwise combinations of male and female education or income percentiles.

In Tables 3 and 4 we consider regressions of the form:

$$P(w^{pre}_{m,t-1}) = \lambda^w P(w^{pre}_{f,t-1}) + Z'\theta^w + u^w$$

where $P(w^{pre}_{j,t-1})$ is the net worth percentile occupied by spouse $j = m, f$ (or by the spouse's

[20] As documented in Table A.2, the Pearson correlation on net worth *levels* is much lower due to the heavy-tailed nature of the wealth distribution; the concordance between Spearman and Pearson on ranks reflects the fact that ranking neutralizes the influence of extreme observations.

[21] Figure A.8 in the Online Appendix shows the rank-rank plot for parental wealth. The assortative mating is still positive, but much more attenuated than that based on personal wealth (a linear regression slope of 0.14). Moreover, the relationship is more stable over the wealth scale because debt is much less of an issue in the sample of parents who, being much older than their kids, may have paid out all (or almost all) of their debt. Rank-rank plots using own and parents' financial wealth reveal similar patterns (see Online Appendix, Figure A.9).

parents) in the year preceding marriage, Z a vector of controls and u^w an i.i.d. error component. These percentiles are computed separately by gender and marriage year.[22] We also present an analysis that measures assortative mating based on log (gross) wealth, rather than percentile ranks.

To test whether people sort on parents' wealth, in column (1) of Table 3 we replicate Charles et al. (2013), and regress the man's parents' wealth percentile against the woman's parents' wealth percentile (again, using values recorded in the year before marriage). The slope estimate is 0.13 (s.e. 0.0025). Controlling for a rich set of demographics (age, years of schooling, whether the spouse has an economics or business degree, county fixed effects, and whether it is the first marriage) reduces the slope significantly (to 0.047, s.e. 0.003, column (2)).

Next (Table 4), we focus on matching on own wealth, regressing the man's own wealth percentile on the woman's own wealth percentile, both measured in the year before marriage. The coefficient on this variable measures the intra-marital wealth elasticity, or the extent of assortative mating on wealth. Column (1) does not condition on covariates, and shows a slope estimate of 0.2 (s.e. 0.003); in the sample of singles whose parents were alive at the time of marriage (column (2)), the estimate is 0.18. The regressions reported in columns (3)-(5) consider richer specifications. In column (3) we add the same demographics mentioned above (age, years of schooling, whether the spouse has an economics or business degree, county fixed effects, whether it is the first marriage, and year of marriage dummies). Adding demographics reduces the elasticity (slope 0.12, s.e. 0.003). In column (4), we test whether it is the spouse's parents' wealth or the spouse's personal wealth that drives assortative mating, and confirm that it is only the latter: compared to Table 3, parents wealth coefficient drops to a value close to zero and loses significance. We also control for the man's parents' wealth, which hence allows us to estimate an intergenerational wealth elasticity. The degree of intergenerational persistence is as large as that of assortative mating on own wealth (0.11 vs. 0.12) and in the ballpark of estimates in other papers, such as Boserup et al. (2014). Together, these results show that assortative mating on parental wealth emerges only because the latter tends to proxy for

[22] Eika et al. (2019) criticize assortative mating regressions where one spouse's outcome is regressed on the other spouse's outcome because the evolution of the "assortative mating" coefficient over time does not accurately measure the changes in assortative mating, as it confounds changes in the assortativeness of marriages with shifts in the marginal distributions of the outcome variable. See Gihleb and Kevin (2020) for a similar point. This criticism does not apply here, since we are using percentiles of the outcome variables (and are more interested in steady-state assortative mating rather than its evolution over time). However, it may still be relevant in a setting with covariates, since in that case the order of the regression (i.e., whether we regress the man's percentile on the woman's or the reverse) matters. Nonetheless, in Appendix Table A.6 we show that it is immaterial whether we regress the man's percentile on the woman's percentile or the reverse (both for wealth and returns).

assortative mating on personal wealth. Moreover, since controlling for the man's parents' wealth percentile leaves the degree of assortative mating on own wealth unaffected, one can conclude that intergenerational persistence in wealth and assortative mating on wealth are distinct phenomena.[23]

In column (5) we check more formally that assortative mating on wealth does not originate merely from assortative mating on traits (such as education) that correlate with wealth. In particular, we control for all the possible interactions of the wife's and husband's education groups. Remarkably, the results remain economically and statistically similar. Results are similarly unaffected if we replace controls for assortative mating on education with controls for assortative mating on income (interaction of the husband's and wife's income percentiles), see Table A.4 in the Online Appendix. This confirms that even among couples that are highly assorted on the basis of education or income, there is additional sorting on wealth similar to that found if no control for assortative mating on education (income) is included. An important concern is that assortative mating on own wealth may reflect assortative mating on parents' wealth for those who have received an inheritance. In column (6) we consider an augmented measure of wealth that includes expected bequests. The latter are constructed by dividing current parental wealth by the number of siblings. This is similar to the way inheritances are allocated when there is no surviving spouse and no specific will.[24] The intramarital elasticity is slightly smaller but still in the same ballpark (0.103 vs 0.119). Finally, we address the concern that regressions involving percentiles (or ranks) are difficult to interpret, since a 10 percentile increase implies dramatically different wealth changes depending on the initial evaluation point. We hence move to a log-log specification which has the advantage of offering a simple elasticity interpretation (last column). Since the log of a negative (or zero) quantity is not defined, we look at assortative mating on the log of (one plus) gross wealth. The qualitative aspects of the analysis remain unchanged. The estimated elasticity is 0.21, implying that women with 10% higher gross wealth marry, on average, a man with a 2% higher gross wealth.

In the Online Appendix (Table A.4), we conduct additional empirical exercises. First (column 2), we control for assortative mating on income (instead of education), with virtually identical results. Next (column 3), we focus on a sample of individuals with non-negative net worth. The sample is smaller because younger individuals are more likely to have debt (due to student loans, mortgages, and credit card debt). In this sample

[23]One caveat is that own wealth measured at e.g. age 25 may partly reflect inter-vivo transfers received during childhood and early adulthood (for instance, parental support for education or housing investments). To the extent that such transfers are correlated with parental wealth, the distinction between sorting on "own" wealth and sorting on "parental" wealth may be partly blurred.

[24]Even with a will, children are entitled to 2/3 of the parent's wealth.

there is more positive assortative mating because (as visible from Figure 3), individuals with negative net worth are *negatively* assorted. We also look at assortative mating on financial wealth (column 4). We do this to address the concern that assortative mating on net worth is driven by people owning houses with very homogeneous values due to strong geographical components in house prices. However, the degree of assortative mating on financial wealth replicates closely that for net worth. The only notable difference is that the intergenerational component is stronger than for net worth (perhaps reflecting the fact that parents do not transfer debt to their kids).

In principle, our results could be driven by people having more wealth when entering second and higher-order marriages. In column (5) of Table A.4 we show that the results are similar to the baseline, if not stronger, if we limit our analysis to first marriages. That relatively young people have any wealth to sort on may seem surprising. However, consider that the vast majority of Norwegians leave their parental home when going to college. Hence, by the time they marry (in their early 30s), they have already saved (or been financially active) for about 10-15 years. A different concern is that assortative mating on own wealth may reflect assortative mating on parents' wealth for those who have *already* received an inheritance. In column (6) we thus focus on a sample of individuals who have both parents alive the year before marriage, which thus attenuates concerns about own wealth partly reflecting bequests. The results are unchanged. Since the intergenerational correlation is unchanged, this suggests that our results do not reflect bequests (although inter-vivos transfers could be a potential factor). A final concern is that age at marriage can be endogenous. To address this, we look at assortative mating on the basis of wealth at age 25 (we average wealth between age 24 and age 26 to smooth out outliers), similar to Wagner et al. (2020). We can only do this for people who are not yet married by age 25. The results are reported in column (7) of Table A.4. The coefficient is remarkably similar to the one for the baseline sample (0.13, s.e. 0.006).

4.3 Assortative mating on returns to wealth

Conditional on marriage, assortative mating on wealth is a potential important amplification mechanism of wealth inequality at marriage. However, how much assortative mating on wealth amplifies wealth inequality among couples depends importantly on what happens to wealth *after* marriage. Wealth grows over time for two reasons: active saving choices and high returns. Since returns are systematically heterogeneous across individuals, as documented in Section 3, how people sort on pre-marriage returns to wealth and who manages the family assets after marriage are key for assessing the importance of assortative mating as a mechanism for perpetuating wealth inequality after marriage.

In this section, we study assortative mating on returns to wealth. Our variable of interest is the average return on total assets (ROA) defined in equation (4). Assortative mating on returns, as measured by the Spearman rank correlation coefficient, is 0.16, statistically significant, and of the same order of magnitude as that on net worth: on this metric, sorting on returns is hence as strong as sorting on wealth. The heatplot of the data is shown in Figure 5 (we again plot excess marriages relative to the random assortative mating case). Note that, similarly to what was done for wealth, we allocate individuals to ventiles based on their gender and year of marriage. This is important because it means that we compare individuals who have been exposed to the same history of aggregate shocks potentially affecting their wealth accumulation process and hence returns. The heatplot shows again more mass along the main diagonal, consistent with assortative mating on returns; interestingly, and unlike the case of wealth, we do not find any evidence of negative sorting. The rank-rank plot in Figure 6 shows a fairly linear relationship between percentiles except for the very top, where there is a tendency for the relationship to flat out or even mean-revert.

One important concern is that scale dependence (i.e., a positive correlation between wealth and returns) may create spurious evidence of assortative mating on returns simply reflecting assortative mating on wealth. Before looking at this issue more formally through controlled regressions, we start by presenting some simple visual evidence (similar to that reported above for assortative mating on wealth and education). We start by selecting individuals who are highly positively assorted on wealth (namely, where both spouses are in the top quartile of the net worth distribution in the year before marriage). We then allocate them to ventiles using their pre-marriage average return on assets. The top panel of Figure 7 shows a heatplot, the bottom panel a binscatter. Strikingly, even in a narrow group of people strongly assorted on wealth, assortative mating on return on assets continues to hold (in fact, even more so than in the full sample).

In Table 5 we report formal regressions. In particular, we estimate the following model:

$$P(\bar{r}^{pre}_{m,t-1}) = \lambda^r P(\bar{r}^{pre}_{f,t-1}) + Z'\mu^r + \psi^r \tag{6}$$

where $P(\bar{r}^{pre}_{j,t-1})$ is the pre-marriage average return percentile occupied by spouse $j = \{m, f\}$; the return $\bar{r}^{pre}_{j,t-1}$ is the average return on assets for spouse j measured in the year before marriage (equation (4)). Z is a vector of controls (age, years of schooling, whether the spouse has an economics or business degree, county fixed effects, whether it is the first marriage, separately for husband and wife, and year of marriage dummies) and ψ^r an i.i.d. error term.

Column (1) includes no controls, and produces a slope estimate of 0.15 (s.e. 0.004).[25] Controlling for observable characteristics (column (2)) lowers the intramarital wealth return coefficient to 0.12 but does not affect its significance. A comparison with the estimates in Table 4, shows that there is as much assortative mating on returns as on wealth itself. In columns (3) and (4) we address more formally the issue of whether it is assortative mating on wealth that drives assortative mating on returns to wealth. In column (3) we control for all the possible interactions between the woman's and men's position in the wealth distribution (as measured by its deciles); in column (4) we consider even more granular controls, adding 10,000 dummies for percentile interactions. The intramarital wealth return elasticity remains in a similar ballpark (to 0.11) and is highly statistically significant (s.e.: 0.005). This implies that even within a narrow wealth pairing (say, husband and wife both in the top percentile), the husband's pre-marriage return to wealth is positively associated with the wife's pre-marriage return. In column (4) we add two additional controls: the woman's parents' return percentile - which plays no statistically or economically significant role - and the man's parents' return percentile, which allows us to estimate an intergenerational wealth return elasticity. Interestingly, while this elasticity is positive and significant, it is rather small (0.04, se: 0.004)), and clearly smaller than the intergenerational wealth elasticity (which we estimated to be 0.11, see Table 3). This suggests that it is much easier for parents to transfer wealth than to transfer the ability to grow it faster.

In column (5) we consider an additional exercise, which can be used to answer the important question of how much of the assortative mating on returns is explained by assortative mating on similar preference traits, such as tolerance for risk. To measure the latter, we use as a proxy for the pre-marriage individual risk tolerance the share of financial wealth held in risky assets in the year preceding marriage. Since the distribution is highly skewed towards zero, we construct six categories for the share held in risky assets: 0, (0-0.05], (0.05,0.1], (0.1-0.25], (0.25,0.5] and (0.5,1]. We then add as a control the interaction of the share groupings (corresponding to 36 dummies). The results remain basically unchanged.

Ideally, the pre-marriage average return should capture the permanent component of the return and hence be based on a long panel to average out transitory deviations from the mean. Our sample period covers only 11 years of data. To capture a truly persistent component and average out some of the noise, our baseline return measure only considers

[25]Note that we have fewer observations than in Table 4 because we only use observations with at least four years of pre-marriage returns data; moreover, returns require data on the flow of capital income in year $t+1$ and the stock of wealth for year t, see equation (3), resulting in the loss of an additional year of data.

individuals who have at least four years of pre-marriage return data. A different approach is to construct a Bayesian-shrinkage estimate of the return.[26] The results obtained using this different return measure are show in column (6) and are identical to the ones we obtain using our preferred measure.

In the Appendix, Table A.5, we consider additional robustness exercises. Column (2) use a time de-meaned return measure (to account for the fact that people of different ages at marriage have been exposed to different aggregate shocks). The results are similar to the baseline of column (1). In column (3) we consider risk-adjusted returns. To do so, we use pre-marriage data and compute individual Sharpe ratios (the ratio of the average of pre-marriage returns and the standard deviation of the pre-marriage returns). The results of sorting on risk-adjusted returns are qualitatively similar to those for the baseline specification. Finally, since regressions involving percentiles may be difficult to interpret, in the final column (4) we consider regressions where we replace percentiles with log factor returns (i.e., $\log(1+\bar{r})$). The results are qualitatively similar once we account for the change in units.[27]

4.4 Discussion

In this section we have documented statistically and economically significant assortative mating on wealth and on returns to wealth. These findings are robust to conditioning on assortative mating on parental wealth, education, other measures of permanent income, as well as allowing for scale dependence and rich forms of heterogeneity. While assortative mating on own wealth is perhaps not surprising (although to our knowledge has not been documented before), assortative mating on returns to wealth is a novel finding which raises some important conceptual issues: What is causing it?

A first consideration is that, absent active saving or dissaving, the return to wealth can be interpreted as the rate at which wealth grows over time. Matching on levels *and* growth rates is not unusual in other contexts. For example, in labor markets a worker may match with a firm not only because of the initial wage it pays, but also because of the advancement/career opportunities it offers. In our context, a wealthy individual may prefer marrying someone with better wealth growth prospects (for example, a highly financially educated individual) even if their current wealth is low due to factors such as

[26] We consider the following mixed linear model: $r_{it} = f_i + \mu_t + e_{it}$. The Bayesian-shrinkage estimate of the pre-marriage average return of spouse i is: $\hat{f}_i = \frac{\tau^2}{(\sigma^2/T_i)+\tau^2}\bar{r}_i$, where $\bar{r}_i = T_i^{-1}\sum_{t=1}^{T_i}(r_{it}-\mu_t)$, T_i is the number of pre-marriage observations for spouse i, τ^2 is an estimate of the variance of f_i, and σ^2 an estimate of the variance of the error term e_{it}.

[27] In the Online Appendix, Table A.7, we replicate the baseline specification using different return measures, including returns on absolute net worth, gross wealth, and financial wealth.

having poor parents, rather than someone with low financial education but high current wealth due to receiving a substantial bequest. We will explore this "forward-looking" behavior in the next sub-section, albeit from a different angle (human capital).

Second, the return to wealth can be seen as a proxy for individual preferences for risk or for abilities to generate fast asset accumulation in general. Research in sociology and economics has argued and documented assortative mating on the basis of preference traits (Arrondel and Fremeaux, 2016) and skills (van Leeuwen et al., 2008). In the Online Appendix, Figure A.12, we show that there is indeed evidence of assortative mating on risk tolerance (as proxied by the share of financial wealth held in risky assets four years before marriage).

Finally, post-marriage heterogeneity in household returns on wealth may be related to how wealth management tasks are allocated within the household and the latter may interact with assortative mating on returns. In section 5 we discuss this channel in more detail and provide empirical evidence on post-marriage wealth management choices.

4.5 Human Capital

The fact that we see some negative sorting in wealth but not in returns may capture forward-looking sorting patterns. In unreported analyses, we find that negatively assorted marriages are, in most cases, associated with individuals who are temporarily in the bottom part of the net worth distribution because of human capital investment (which, because of student debt, lowers their net worth). To capture more formally this idea, we construct a measure of total wealth, defined as the sum of net worth (equation (2)) and human wealth at the point of marriage, i.e., we examine patterns of assortative mating on the variable:

$$A_{it-1} = w^n_{it-1} + h_{it-1}$$

where $t-1$ is the year before marriage. Human wealth h_{it-1} is the PDV of expected future earnings:

$$h_{it-1} = \sum_{s=t}^{R} \frac{p_s E_{t-1}(y_{is}|y_{is} > 0)}{(1+\delta)^{s-t}}$$

where p_s is the probability of being employed in year (age) s, δ is the discount rate (which we assume to be 5%), and R is retirement age, which we assume to be 65.

From the social security registry, we observe income for the years 1967-2019. We use

the entire Norwegian population aged 18-65 and consider the regression:

$$\log(y_{is}) = \alpha^e + \sum_{a=18}^{65} \beta_a^e \mathbf{1}\{age_i = a\} + g_i + u_{is}$$

These regressions are run separately by education level e (compulsory education, corresponding to 10 or less years of schooling; intermediate education, 11 to 14; and tertiary education, 15 or more). From these regressions we obtain estimates of α^e, β_a^e, and g_i and can form an estimate of $E_{t-1}(y_{is}|y_{is} > 0) = \kappa \exp(\hat{\alpha^e} + \hat{\beta_s^e} + \hat{g_i})$ for all $s \geq t$.[28] We use average employment rates (positive earnings) by age, gender and education level to construct an estimate of p_s. Note that our measure of human capital accounts for unobserved ability (as captured by the individual fixed effect g_i, which also include the contribution of time invariant factors such as gender, type of education, etc.).

The assortative mating heatplot and binscatter for this total wealth measure are shown in Figure 8. Clearly, we no longer see evidence of local negative sorting: any "Cinderella" or "Barry Lyndon" story (i.e., a poor woman marrying a rich man, or a poor man marrying a rich woman) that was visible when examining net worth disappears once we consider a measure of wealth that includes both non-human and human components. More precisely, only Cinderellas and Barry Lyndons who have high expected permanent income manage to "marry up". Another interesting finding from the heatplot is the fanning out when moving towards higher percentiles: Individuals with low total wealth have more restricted "marriage market" options. The binscatter shows that assortative mating is positive but non-linear in wealth: high at the bottom, flatter in the middle, and high again at the top. In Table A.4, column (8), we find that (controlling for covariates) assortative mating on the total wealth measure is stronger than on net worth, which is expected given that local negative sorting is absent for the total wealth measure.

5 Post-marriage wealth management choices

The illustrative example of Section 2 shows that one of the key parameters for determining the extent of return heterogeneity – and hence the dynamics of wealth inequality – is q, the weight placed on the return of the highest-return spouse. Implicitly, this parameter measures how wealth management tasks are allocated within the household. Spouses arrive at marriage with their own preferences for risk and ability to manage assets that are reflected in their pre-marriage average return: more skilled individuals and those

[28] Assuming homoskedasticity, the term $\kappa = \exp(\sigma^2/2)$ is constant and has no bearing on rank measurements.

with higher tolerance for risk have higher returns on average. Post-marriage, the financial choices of the household will reflect the wealth management styles and capabilities of the two spouses - proxied by their pre-marriage return - and the role (or weight) of each spouse in the management of the family wealth.[29] One way of capturing this idea is to assume that the post-marriage average return can be written as:

$$\bar{r}_h^{post} = Z_{h,t}^{'}\theta + \beta d(\bar{r}_m^{pre}, \bar{r}_f^{pre}, x_m^{pre}, x_f^{pre}) + \nu_{h,t} \tag{7}$$

where $\bar{r}_{h,t}^{post}$ denotes the post-marriage household h return, Z is a vector of controls (such as scale effects, etc.), ν an error term, and $d(.)$ a function of how financial management tasks are allocated within the household. We assume that this allocation depends on the pre-marriage average returns of the two spouses, $\bar{r}_{m,t}^{pre}$ and $\bar{r}_{f,t}^{pre}$, and on other pre-marriage factors x_m^{pre} and x_f^{pre}. From now on, we omit the pre-marriage superscripts to reduce cluttering.

We adopt the following functional form for $d(.)$:

$$d(.) = q\bar{r}_{\max\{x_m, x_f\}} + (1-q)\bar{r}_{\min\{x_m, x_f\}} \tag{8}$$

where q is the weight assigned to the average pre-marriage return of the person with the highest value of characteristics x.[30]

One possible interpretation of the weight q is that it reflects the bargaining power of each spouse at marriage. For example, q could be higher for people who arrive at marriage with more wealth, more income, or more portfolio management experience. The latter could also measure financial skills. Thus if x is pre-marriage wealth, q measures the weight assigned to the wealthiest individual's pre-marriage average return.

The functional form (8) is general enough to encompass the special case considered in Section 2, where q is the weight assigned to the spouse with the better return performance in the pre-marriage period, i.e., $d(.) = q\bar{r}_{\max\{\bar{r}_m, \bar{r}_f\}} + (1-q)\bar{r}_{\min\{\bar{r}_m, \bar{r}_f\}}$. One way of interpreting this case is that q may depend on efficiency considerations (in the sense of expected wealth maximization). Consider for simplicity the case of perfectly positive assortative mating on wealth. A wealthy individual with a high return, matched with another wealthy individual, can choose between matching also on returns (and hence marry a high-return

[29] In studies of household portfolio choices, the household is typically treated as a unitary decision-maker (e.g., Parker et al., 2025). The benefit of having access to both pre- and post-marriage portfolio choices is that one can enrich the existing framework by modeling how spouses allocate financial management responsibilities within the household, as we do here.

[30] Note that: $\bar{r}_{\max\{x_m, x_f\}} = \bar{r}_m \times \mathbb{1}\{x_m = \max\{x_m, x_f\}\} + \bar{r}_f \times \mathbb{1}\{x_f = \max\{x_m, x_f\}\}$, and symmetrically for $\bar{r}_{\min\{x_m, x_f\}}$. Ties are broken by randomization.

individual) or disregarding that form of matching, and hence facing the prospect of marrying a low-return individual. Suppose that the objective is the maximization of expected household future wealth. Would assortative mating on returns matter?

If the management of household wealth is always left to the person best equipped to do it (i.e., the spouse with the highest return), then there would be no incentive to sort *also* on returns to wealth. Full specialization, i.e., a rule that allocates all decision power in portfolio choices to the spouse who generates the highest return - i.e setting $d(.) = \max\{\bar{r}_m, \bar{r}_f\}$ or $q = 1$ – is an "efficient" solution, as it maximizes wealth growth. However, the weight q may deviate from the full specialization case for many reasons, in which case $0 \leq q < 1$. Because under this rule even the spouse with the lowest return affects the pace of family wealth accumulation, we would expect some assortative mating on returns, and increasingly so for people who arrive at marriage with some wealth to preserve (or have the ambition to increment). In the Online Appendix we set up a simple model of the allocation of wealth management tasks that trades off efficiency versus bargaining power (or representation) and show that it gives rise to the above allocation rule. It predicts that the weight q assigned to the spouse with the highest pre-marriage return is bounded between 1/2 and 1, may vary with the bargaining power of males and females, and is closer to 1 for households with higher levels of assets to manage.

To explore empirically how wealth management power is allocated to spouses, we use the functional form (8) and rewrite equation (7) as:

$$\begin{aligned} \bar{r}_{h,t}^{post} &= Z'_{h,t}\theta + \beta \left[q\bar{r}_{\max\{x_m,x_f\}} + (1-q)\bar{r}_{\min\{x_m,x_f\}} \right] + \nu_{h,t} \\ &= Z'_{h,t}\theta + \beta_1 \bar{r}_{\max\{x_m,x_f\}} + \beta_2 \bar{r}_{\min\{x_m,x_f\}} + \nu_{h,t} \end{aligned} \tag{9}$$

where $x = \{\bar{r}, w, y, Age, D\}$ at the time of marriage. When $x = \bar{r}$, q is the weight assigned to the return of the person who had the best average return performance in the pre-marriage years; when $x = \{w, y, Age\}$, q is the weight placed on the return of the person who comes to marriage with more wealth, income, experience (as measured by age) - independently of return performance. This person may have a larger influence on the financial decision of the household in account of his/her larger bargaining weight. Finally, when $x = D$, we can test for gender norms by controlling for the man's and the woman's pre-marriage average returns separately.[31]

[31]This is done by constructing the constant terms $D_m = 1$ and $D_f = 0$. This way, $\bar{r}_{\max\{D_m,D_f\}} \equiv \bar{r}_m$ and $\bar{r}_{\min\{D_m,D_f\}} \equiv \bar{r}_f$.

Table 6 reports the results of estimating equation (5).[32] Column (1) is the baseline regression, where we test the portfolio specialization hypothesis, which assigns a larger weight to the return of the person with the best pre-marriage return performance. Our controls include the household's risky share at the beginning of the period, net worth percentile of the two spouses before marriage, the age at marriage, year of marriage dummies, and the same demographics included in the previous regressions. The first key result is that post-marriage returns on family wealth reflect in equal part the pre-marriage returns of the two spouses, or $q \approx 0.5$ (this weight is computed as $q = \beta_1/(\beta_1 + \beta_2)$). On this basis, assortative mating on returns would be justified by wealth preservation (or growth) strategies.

In column (2) we test whether wealthier couples place a larger weight on the "efficient" allocation of decision power. We focus on couples where both spouses are from the top decile of the wealth distribution at marriage. We find that in the sample where both spouses come to marriage with considerable wealth, the weight of the low-return spouse drops to zero so that wealth management is (statistically) all in the hands of the high-return spouse. This result implies that wealthier households earn on average higher returns to wealth, providing one rationale for the positive correlation between wealth and returns documented empirically by e.g. Fagereng et al. (2020) and Bach et al. (2020), and whose importance for wealth inequality dynamics is emphasized by Gabaix et al. (2016).[33]

Columns (3)-(6) test for the presence of heterogeneity in the weight q. In the specification of column (3), we regress post-marriage household return on the pre-marriage return of the man and the pre-marriage return of the woman. One reason for this heterogeneity would be gender-biased social norms. We find that men receive a higher weight than would be warranted by their pre-marriage return alone ($q = 0.63$). This result is consistent with a male-biased gender norm that grants more power to men even when they have lower skills than women (see e.g. Ke, 2021, Guiso and Zaccaria, 2023, Gu et al., 2026). In the remaining columns (4)-(6) we test whether the weight q depends on pre-marriage characteristics such as wealth, income, or experience, and find support for the hypothesis. This is consistent with some key pre-marriage characteristics providing partners with more bargaining weight in how financial tasks are allocated within a household.[34]

[32]The sample we use in Table 6 is smaller than in Table 5 because not all couples have post-marriage returns defined (as discussed in Section 3.3, we omit the year of marriage from the computation of the post-marriage average return since it may reflect choices made when individuals were still single).

[33]If average returns for single men and women are i.i.d. normal with mean μ and standard deviation σ, the average return of non-wealthy couples is μ, while the average return of wealthy couples is $\mu + \pi^{-\frac{1}{2}}\sigma$. This shows not only that wealthy households have higher returns due to "specialization", but also that their return is increasing in the extent of return heterogeneity.

[34]In Appendix Table A.8 we replicate the baseline regression for other return measures.

6 Conclusions

In this paper, we use administrative data from Norway to study how, at marriage, individuals sort by wealth and returns and how they allocate wealth-management responsibilities within the newly formed household. We show that the interaction between these forces determines how much marriage contributes to wealth inequality within a given marriage cohort. We document assortative mating both on personal wealth and on individual returns to wealth. We also show that post-marriage returns on family wealth reflect the pre-marriage returns of the two spouses in roughly equal proportions. This suggests that decision power in family wealth management is shared equally—at least during the initial post-marriage phase. Among wealthy couples, however, decision power appears to be assigned almost entirely to the spouse with the stronger pre-marriage return performance. This efficiency-driven allocation generates higher returns among top-wealth households, thereby amplifying wealth concentration. It thus provides a micro-foundation for the observed "scale dependence" of wealth returns.

All these findings are novel. Previous literature has focused on assortative mating on parental wealth (or on spouses' income or education), while largely ignoring assortative mating on returns and how wealth-management responsibility is allocated within the household. Our paper thus brings together traditional themes from household finance and family economics to inform the debate on the determinants of wealth inequality and wealth concentration. We show that sorting on parental wealth largely proxies for assortative mating on individuals' own wealth and that the latter plays a key role in understanding wealth inequality at the point of marriage. Sorting on returns, along with the allocation of wealth management responsibility, affects returns heterogeneity within a marriage cohort and shapes how wealth inequality evolves over the life cycle of newly formed couples. Indeed, the matching process may preserve or attenuate the degree of return heterogeneity when moving from a cross-section of singles to one of couples.

Our evidence on assortative mating is relevant both for the debate around the causes of extreme wealth concentration as well as its dynamics over time. As for the first, the simple framework of Section 2 implies that, holding constant across cohorts the degree of sorting on wealth and returns and the allocation of wealth-management responsibilities, these features help explain the extent of wealth concentration in steady state. As shown in recent work, persistent return heterogeneity and "scale dependence" are very likely to be the driving forces behind the extreme concentration of wealth that characterizes our societies (e.g. Benhabib et al., 2019).

Of course, these qualitative predictions come from a simple framework that ignores

several realistic features that would need to be incorporated to assess their quantitative importance. First, we abstract from the dynamics of marriage. Marital dissolution—through divorce, separation, or widowhood—may affect the evolution of wealth concentration. Since divorce destroys and partitions wealth, the degree of wealth concentration among continuously married couples is likely to be higher than in a population that includes divorced households. Second, we ignore heterogeneity in marginal propensities to save. Third, we abstract from the progressivity of the wealth tax, which can distort optimal accumulation choices and discourage saving, especially at the top of the wealth distribution. Finally, the framework does not incorporate idiosyncratic components of returns. A proper account of these features would require the setup and calibration of a full-fledged life cycle model extended to incorporate household formation based on multidimensional sorting (see Chiappori et al., 2018), family dissolution, as well as the process of allocation of wealth management decisions in the family in a world of heterogeneous individual returns and initial wealth holdings. Our paper provides some of the key moments to conduct this exercise which not only deserves but also requires a completely separate research effort. It also requires data with a very long longitudinal dimension in order to follow couples as they go through different stages of their marriages, including dissolution - a feature that even our high-quality data lack (given our sample selections, most couples are followed for a very small share of their life as married couples).

Our findings may also contribute to the debate on what explains changes over time in the degree of wealth concentration. Matching patterns and wealth-management arrangements are likely to evolve—for example, because shifts in social norms or changes in relative gender-specific skills affect how couples sort and manage wealth. On the extensive margin, new cohorts spend a larger share of their life cycle as single-person households. Hence, evolving trends in assortative mating, in the allocation of wealth-management responsibilities, and in the demographic composition and living arrangements of households may constitute independent and previously overlooked drivers of changes in wealth inequality over time. Appendix Figure A.13 shows that in Norway assortative mating on wealth and returns to wealth decline for most of the period covered by our data, with a slight uptick in the last two years. The figure also plots the time evolution of the Gini coefficient for wealth at marriage, and documents that it also has declined (evidence for the top 1% share is similar, see Figure A.14 in the Appendix). The association between the indexes in the two panels, albeit crude, is suggestive of the potential importance of changes in the degree of assortative mating for the time evolution of wealth inequality. Extending the calibration exercise mentioned above to account also for these forces would allow to quantify their relevance.

Data Availability Statement

The data and code underlying this research is available on Zenodo at `https://doi.org/10.5281/zenodo.20447227`.

References

Afonja, B. (1972). The moments of the maximum of correlated normal and t-variates. *Journal of the Royal Statistical Society. Series B (Methodological) 34*(2), 251–262.

Alstadsæter, A., N. Johannesen, and G. Zucman (2018). Who owns the wealth in the tax heavens? Macro evidence and implications for global inequality. *Journal of Public Economics 162*, 89–100.

Arrondel, L. and N. Fremeaux (2016). For richer, for poorer: Assortative mating and savings preferences. *Economica 83*(331), 518–543.

Bach, L., L. E. Calvet, and P. Sodini (2020). Rich pickings? Risk, return, and skill in the portfolios of the wealthy. *American Economic Review 110*(9), 2703–47.

Benhabib, J. and A. Bisin (2018). Skewed wealth distributions: Theory and empirics. *Journal of Economic Literature 56*(4), 1261–91.

Benhabib, J., A. Bisin, and M. Luo (2019). Wealth distribution and social mobility in the US: A quantitative approach. *American Economic Review 109*(5), 1623–1647.

Benhabib, J., W. Cui, and J. Miao (2024). Capital return jumps and wealth distribution. *Quantitative Economics 15*, 1197–1247.

Boserup, S. H., W. Kopczuk, and C. T. Kreiner (2014). Stability and persistence of intergenerational wealth formation: Evidence from Danish wealth records of three generations. Working paper.

Charles, K. K., E. Hurst, and A. Killewald (2013). Marital sorting and parental wealth. *Demography 50*(1), 51–70.

Chiappori, P.-A., S. Oreffice, and C. Quintana-Domeque (2018). Bidimensional matching with heterogeneous preferences in the marriage market. *Journal of the European Economic Association 16*(1), 161–98.

Cowell, F. (2016). Inequality and poverty measures. In M. D. Adler and M. Fleurbaey (Eds.), *The Oxford Handbook of Well-Being and Public Policy*. Oxford University Press.

De Nardi, M. C. and G. Fella (2016). Saving and wealth inequality. *Review of Economic Dynamics 26*, 280–300.

Dietz, P. O. (1968). Components of a measurement model: rate of return, risk, and timing. *The Journal of Finance 23*(2), 267–275.

Eads, A. and L. Tach (2016). Wealth and inequality in the stability of romantic relationships. *The Russell Sage Foundation Journal of the Social Sciences 2*(6), 197–224.

Eika, L., M. Mogstad, and B. Zafar (2019). Educational assortative mating and household income inequality. *Journal of Political Economy 127*(6), 2795–2835.

Fagereng, A., L. Guiso, M. B. Holm, and L. Pistaferri (2026). K-returns to education.

European Economic Review 186, 105304.

Fagereng, A., L. Guiso, D. Malacrino, and L. Pistaferri (2016). Heterogeneity in returns to wealth and the measurement of wealth inequality. *The American Economic Review Papers & Proceedings 106*(5), 651–655.

Fagereng, A., L. Guiso, D. Malacrino, and L. Pistaferri (2020). Heterogeneity and Persistence in Returns to Wealth. *Econometrica 88*(1), 115–170.

Fagereng, A., L. Guiso, and L. Pistaferri (2022, April). Assortative mating and wealth inequality. Working Paper 29903, National Bureau of Economic Research.

Fagereng, A., M. B. Holm, B. Moll, and G. Natvik (2021). Saving behavior across the wealth distribution: The importance of capital gains. Working paper.

Fagereng, A., M. B. Holm, and K. N. Torstensen (2020). Housing wealth in Norway, 1993 - 2015. *Journal of Economic and Social Measurement*, *45*(1), 65–81.

Fernandez, R., N. Guner, and J. Knowles (2005). Love and money: A theoretical and empirical analysis of household sorting and inequality. *Quarterly Journal of Economics 120*(1), 273–344.

Fernandez, R. and R. Rogerson (2001). Sorting and long-run inequality. *The Quarterly Journal of Economics 116*(4), 1305–1341.

Fremeaux, N. (2009). The role of inheritance and labour income in marital choices. *Population 69*(4), 495–530.

Gabaix, X., J.-M. Lasry, P.-L. Lions, and B. Moll (2016). The dynamics of inequality. *Econometrica 84*(6), 2071–2111.

Gihleb, R. and L. Kevin (2020). Educational homogamy and assortative mating have not increased. *Research in Labor Economics 48*, 1–26.

Greenwood, J., N. Guner, G. Kocharkov, and C. Santos (2014, May). Marry your like: Assortative mating and income inequality. *American Economic Review 104*(5), 348–53.

Gu, R., C. Peng, and W. Zhang (2026). The gender gap in household bargaining power: A revealed-preference approach. *The Review of Financial Studies 39*(6), 1611–1653.

Guiso, L. and L. Zaccaria (2023). From patriarchy to partnership: Gender equality and household finance. *Journal of Financial Economics 147*(3), 573–95.

Hill, B. M. (1975). A simple general approach to inference about the tail of a distribution. *The Annals of Statistics 3*(5), 1163–1174.

Ke, D. (2021). Who wears the pants? gender identity norms and intrahousehold financial decision-making. *Journal of Finance 76*(3), 1389–1425.

Lam, D. (1997). Chapter 18 demographic variables and income inequality. In *Handbook of Population and Family Economics*, Volume 1 of *Handbook of Population and Family Economics*, pp. 1015 – 1059. Elsevier.

Løken, K. V., K. E. Lommerud, and S. Lundberg (2013). Your place or mine? On the residence choice of young couples in Norway. *Demography 50*(1), 285–310.

Nadarajah, S. and S. Kotz (2008). Exact distribution of the max/min of two gaussian random variables. *IEEE Transactions on Very Large Scale Integration Systems 16*(2), 210–12.

Parker, J. A., A. Schoar, A. Cole, and D. Simester (2025). Household portfolios and retirement saving over the life cycle. *The Journal of Finance 80*(5), 2739–2787.

van Leeuwen, M., S. M. den Berg, and D. I. Boomsmaand (2008). A twin-family study of general iq. *Learning and Individual Differences 18*(1), 76–88.

Wagner, S., D. Boertien, and M. Gørtz (2020). The wealth of parents: Trends over time in assortative mating based on parental wealth. *Demography 57*(5), 1809–1831.

Zucman, G. (2014). Taxing across borders: Tracking personal wealth and corporate profits. *Journal of Economic Perspectives 28*(4), 121–148.

Zucman, G. (2015). *The Hidden Wealth of Nations*. University of Chicago Press.

TABLE 1. Descriptive statistics: Demographics

	Woman					*Man*				
	Mean	SD	P10	Median	P90	Mean	SD	P10	Median	P90
Age	29.48	8.03	22	27	40	32.17	8.88	23	30	44
First marriage	0.81	0.39	0	1	1	0.81	0.40	0	1	1
Years of schooling	15.05	3.33	10	17	19	14.41	3.28	10	13	19
Econ./Bus. degree	0.13	0.33	0	0	1	0.11	0.31	0	0	1
Oslo resident	0.17	0.37	0	0	1	0.17	0.37	0	0	1
Homeowner	0.48	0.50	0	0	1	0.57	0.49	0	1	1

Notes: All the variables refer to the year preceding a marriage event (defined as the first year in which future spouses or cohabitors with a common child are observed living at the same address). Data are for individuals in 183,870 couples formed between 2005 and 2014.

TABLE 2. Descriptive statistics: Income, Wealth and Portfolio Composition

	Mean	SD	P10	Median	P90
Income, year before marriage, w.	45,955	34,537	5,427	44,012	85,018
Income, year before marriage, m.	72,722	193,705	13,769	69,532	123,163
Net worth, year before marriage, w.	101,699	1,797,883	-57,049	7,665	311,185
Net worth, year before marriage, m.	121,076	1,962,543	-127,428	15,968	378,615
Net worth after marriage	239,527	2,497,913	-177,371	79,009	665,003
Fin. wealth, year before marriage, w.	20,883	92,183	939	7,786	45,009
Fin. wealth, year before marriage, m.	36,075	217,658	1,122	11,049	71,993
Fin. wealth after marriage	66,606	303,642	4,953	29,489	136,118
Gross wealth, year before marriage, w.	201,797	1,809,276	1,733	58,852	490,422
Gross wealth, year before marriage, m.	296,780	2,034,331	2,809	165,415	633,573
Gross wealth after marriage	572,954	2,542,361	18,248	406,761	1,109,383
Net worth, woman's parents	667,745	3,915,035	52,033	452,745	1,227,443
Net worth, man's parents	676,980	3,102,881	68,543	469,335	1,250,041
Negative net worth, w.	0.39	0.49	0	0	1
Negative net worth, m.	0.41	0.49	0	0	1
Risky share FW, year before marriage, w.	5.2%	15.7%	0%	0%	16.5%
Risky share FW, year before marriage, m.	7.9%	19.2%	0%	0%	30.4%
Risky share FW, 1 year after marriage	8.6%	14.6%	0%	1.0%	28.3%

Notes: All the variables refer to the year preceding a marriage event (defined as the first year in which future spouses or cohabitors with a common child are observed living at the same address). All monetary values are expressed in US 2011 dollars. Data are for individuals in 183,870 couples formed between 2005 and 2014.

TABLE 3. Assortative mating on parental net worth

Dep.var.	Man's parents' wealth perc.	
	(1)	(2)
Woman's parents' wealth percentile	0.1334	0.0469
	(0.0025)	(0.0026)
Demographics	N	Y
First marriage	N	Y
Year of marriage dummies	N	Y
Adj. R^2	0.0181	0.1012
N	154,025	154,025

Notes: The dependent variable is the man's parents' wealth percentile the year before marriage. Robust SE in parenthesis. Demographics include age, years of schooling, econ/bus. degree, county fixed effects. The sample consists of couples formed between 2005 and 2014 whose parents were alive at the time of marriage.

TABLE 4. Assortative mating on personal net worth

Dep.var.	Man's wealth percentile						$\log(w_m^g)$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Woman's own w. perc.	0.1955	0.1778	0.1236	0.1213	0.1191		
	(0.0024)	(0.0027)	(0.0028)	(0.0028)	(0.0028)		
Woman's parents' w. perc.				−0.0012	−0.0006		
				(0.0026)	(0.0026)		
Man's parents' w. perc.				0.1079	0.1072		
				(0.0026)	(0.0026)		
Woman's own augm. w. perc.						0.1026	
						(0.0024)	
$\log(w_f^g)$							0.2060
							(0.0028)
$\log(w_{pf}^g)$							0.0003
							(0.0049)
$\log(w_{pm}^g)$							0.1955
							(0.0055)
Demographics	N	N	Y	Y	Y	Y	Y
First marriage	N	N	Y	Y	Y	Y	Y
Year of marriage dummies	N	N	Y	Y	Y	Y	Y
Schooling$_m$ × Schooling$_w$	N	N	N	N	Y	Y	Y
Adj. R^2	0.0382	0.0319	0.0821	0.0927	0.0960	0.0763	0.2290
N	183,870	154,025	154,025	154,025	154,025	183,870	154,025

Notes: The dependent variable is the man's wealth percentile in the year before marriage. Column (1) uses the full sample, columns (2)-(5) the sample of singles whose parents were alive at the time of marriage. In column (6) we consider an augmented measure of wealth that includes expected bequests. In column (7) we focus on the log of gross wealth (w_{pm}^g is the gross wealth of the man's parents, and symmetrically for w_{pf}^g). Robust SE in parenthesis. Demographics include age, years of schooling, econ/bus. degree, county fixed effects.

TABLE 5. Assortative mating on return on assets

Dep.var.	Man's return percentile					
	(1)	(2)	(3)	(4)	(5)	(6)
Woman's return percentile	0.1518	0.1160	0.1083	0.1106	0.1106	0.1118
	(0.0039)	(0.0039)	(0.0039)	(0.0045)	(0.0045)	(0.0046)
Woman's parents' return percentile				0.0007	0.0010	0.0014
				(0.0044)	(0.0044)	(0.0044)
Man's parents' return percentile				0.0423	0.0424	0.0445
				(0.0044)	(0.0044)	(0.0045)
Risky share$_m$ × Risky share$_f$	N	N	N	N	Y	Y
Net worth decile$_m$×Net worth decile$_w$	N	N	Y	N	N	N
Net worth pctile$_m$×Net worth pctile$_w$	N	N	N	Y	Y	Y
Demographics	N	Y	Y	Y	Y	Y
First marriage	N	Y	Y	Y	Y	Y
Year of marriage dummies	N	Y	Y	Y	Y	Y
Adj. R^2	0.0231	0.0944	0.1632	0.1606	0.1608	0.1568
N	69,035	69,035	69,035	61,517	61,517	61,517

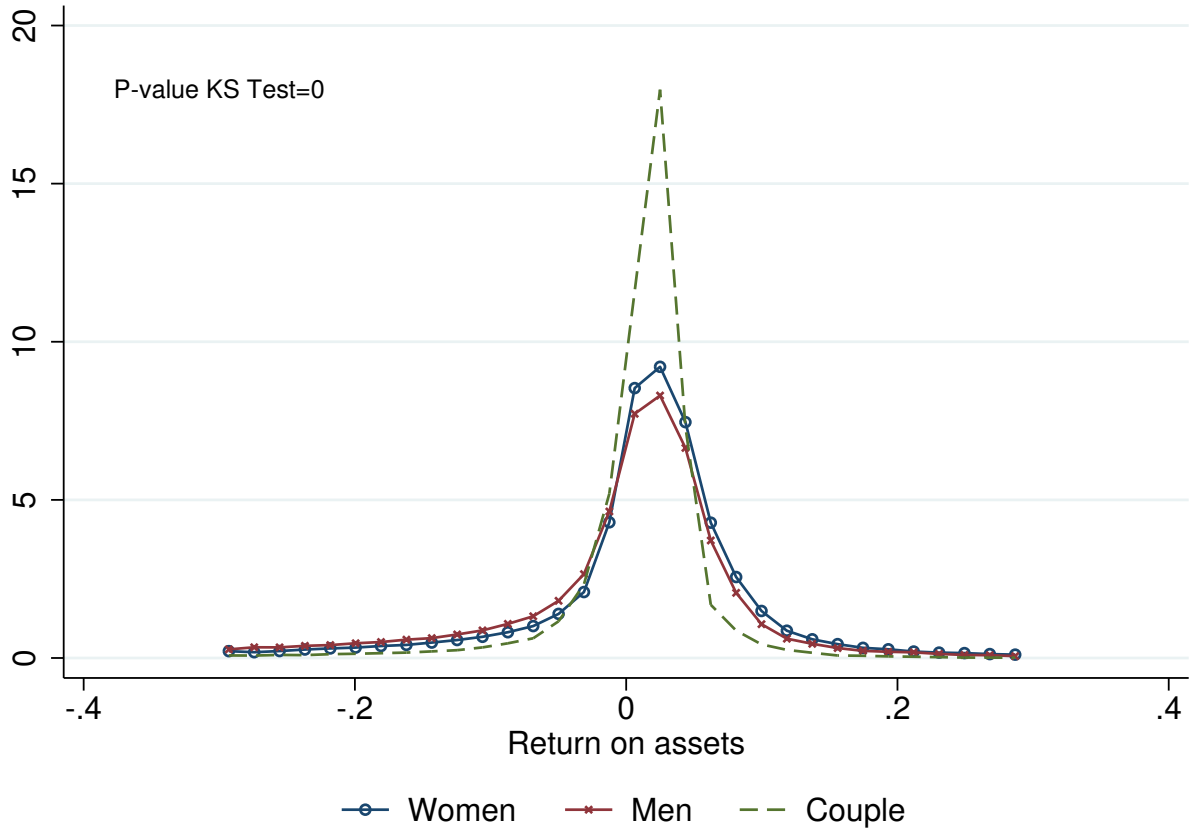
Notes: The regressions utilize data for individuals in the main sample (Table 4) for which we observe a sufficient number of years of pre-marriage returns data (Subsection 4.3). Robust SE in parenthesis. Demographics include age, years of schooling, econ/bus. degree, county fixed effects. In column (6) return percentiles are based on a Bayes-shrinkage estimate of pre-marriage returns.

TABLE 6. Household return and pre-marriage returns

	(1)	(2)	(3)	(4)	(5)	(6)
$\bar{r}_{\max\{\bar{r}_m,\bar{r}_f\}}$	0.033	0.122				
	(0.006)	(0.032)				
$\bar{r}_{\min\{\bar{r}_m,\bar{r}_f\}}$	0.032	−0.011				
	(0.002)	(0.011)				
$\bar{r}_{\max\{D_m,D_f\}} \equiv \bar{r}_m$			0.039			
			(0.003)			
$\bar{r}_{\min\{D_m,D_f\}} \equiv \bar{r}_f$			0.023			
			(0.003)			
$\bar{r}_{\max\{y_m,y_f\}}$				0.041		
				(0.003)		
$\bar{r}_{\min\{y_m,y_f\}}$				0.023		
				(0.003)		
$\bar{r}_{\max\{w_m,w_f\}}$					0.040	
					(0.004)	
$\bar{r}_{\min\{w_m,w_f\}}$					0.028	
					(0.002)	
$\bar{r}_{\max\{Age_m,Age_f\}}$						0.038
						(0.003)
$\bar{r}_{\min\{Age_m,Age_f\}}$						0.025
						(0.003)
Implied q	0.505	1.102	0.628	0.638	0.584	0.606
	(0.051)	(0.109)	(0.035)	(0.032)	(0.030)	(0.033)
Adj. R^2	0.111	0.173	0.112	0.112	0.112	0.112
N	63,939	1,963	63,939	63,939	63,939	63,939

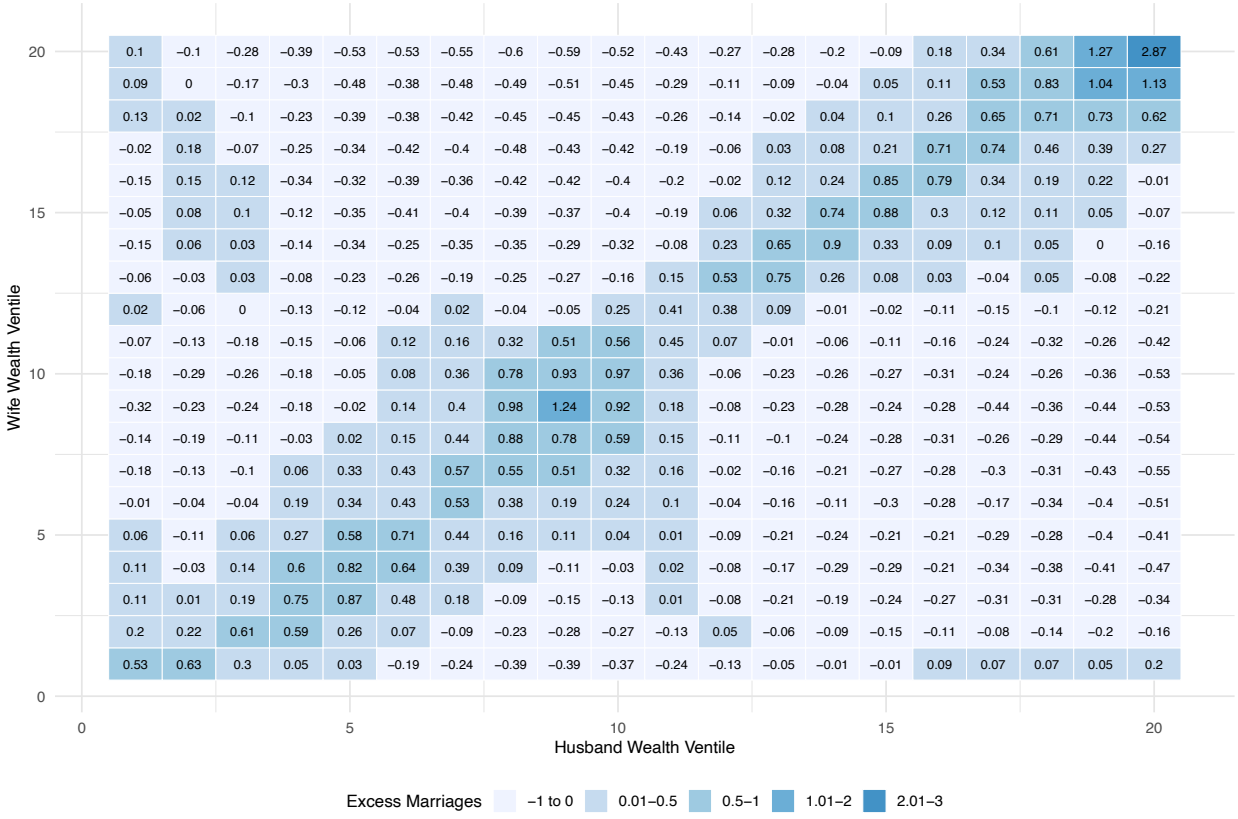
Notes: The regressions utilize data for individuals in the main sample for which we observe a sufficient number of years of pre-marriage and post-marriage returns data (Section 5). In column (2) we restrict the sample to couples where both spouses had wealth in the top decile of the distribution in the year preceding marriage. $\bar{r}_m$ ($\bar{r}_f$) is the average pre-marriage return of the man (woman). Note that: $\bar{r}_{\max\{x_m,x_f\}} = \bar{r}_m \times \mathbb{1}\{x_m = \max\{x_m, x_f\}\} + \bar{r}_f \times \mathbb{1}\{x_f = \max\{x_m, x_f\}\}$.

FIGURE 1. Cross sectional distribution of pre- and post-marriage returns



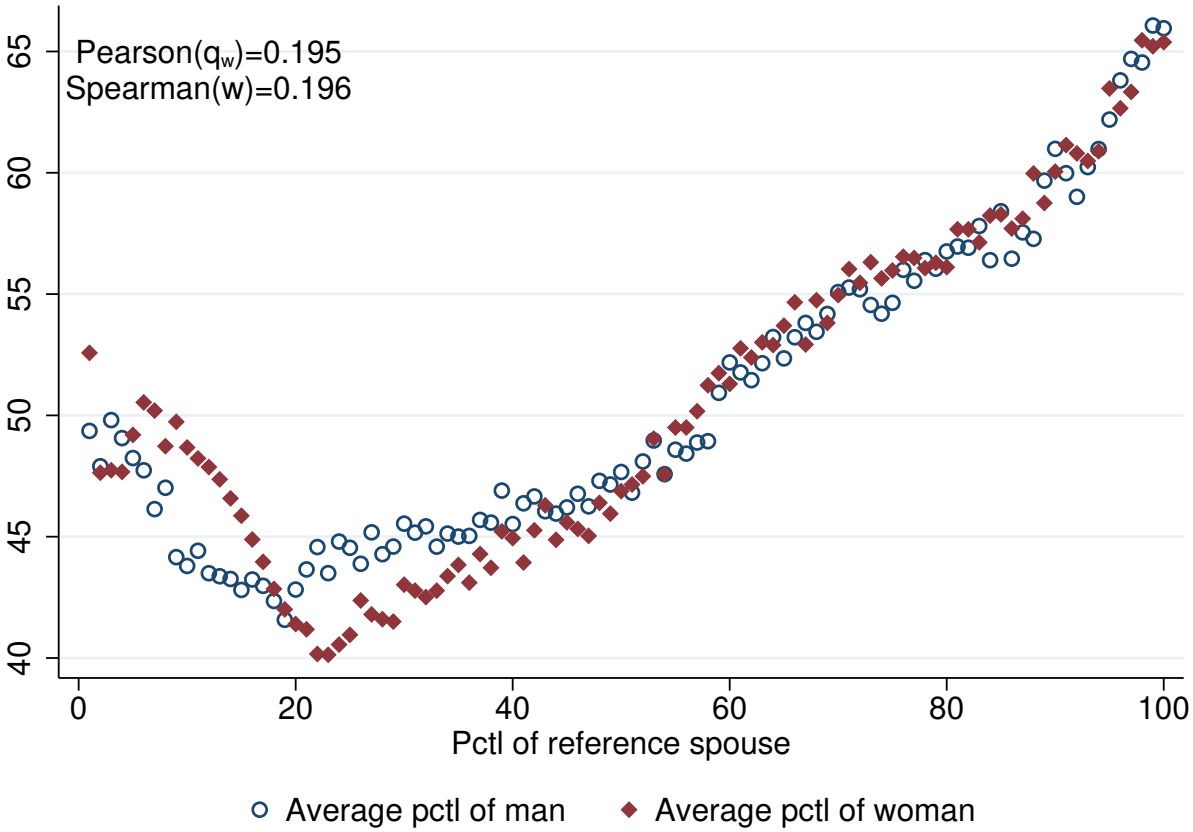
Notes: This figure plots the cross-sectional distribution of the pre-marriage average return on assets for the two spouses and the post-marriage average return for the couple. The pre-marriage average returns are only for individuals with at least four years of pre-marriage records; the post-marriage average returns exclude the year of marriage.

FIGURE 2. Assortative mating on net worth: Heatplot



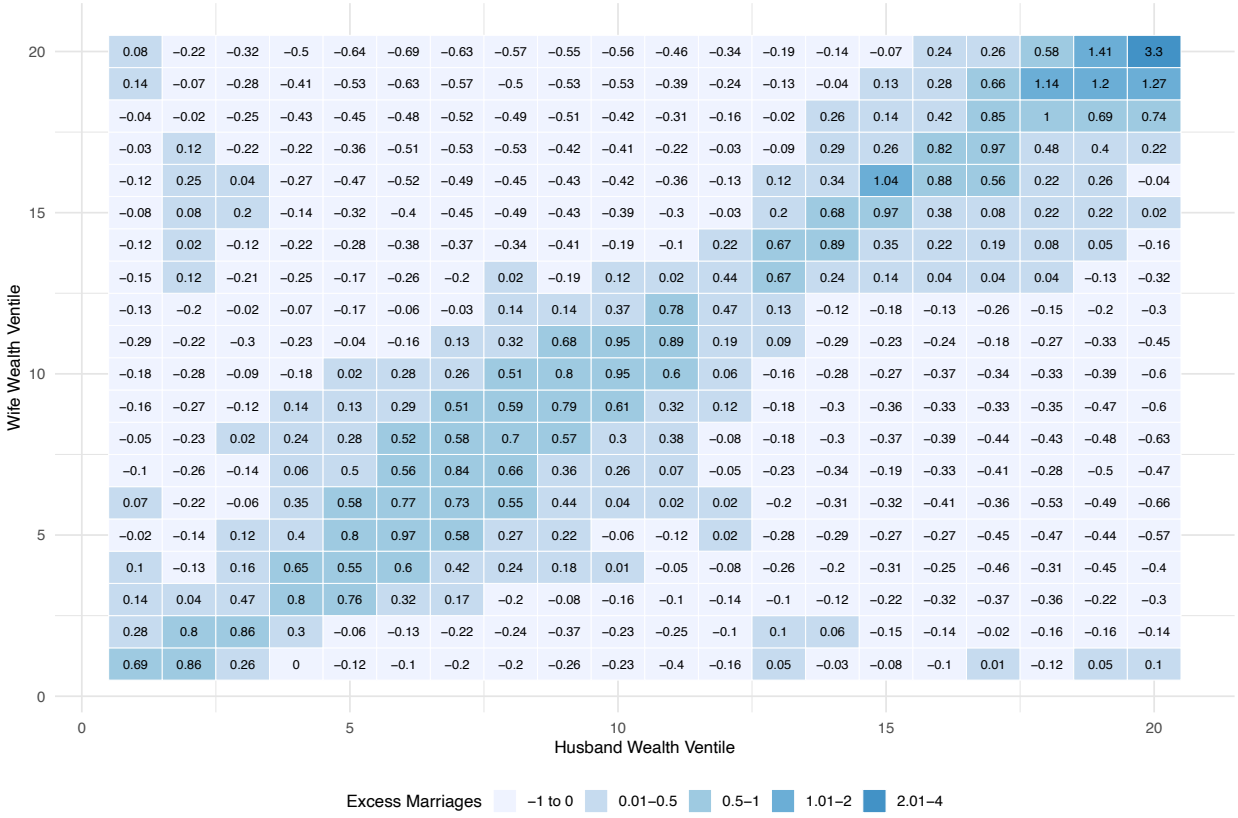
Notes: In each cell we report the excess number of marriages relative to the random assortative mating case. Net worth ventiles are computed for the year before marriage, by gender and marriage year.

FIGURE 3. Assortative mating on personal net worth: Binscatter

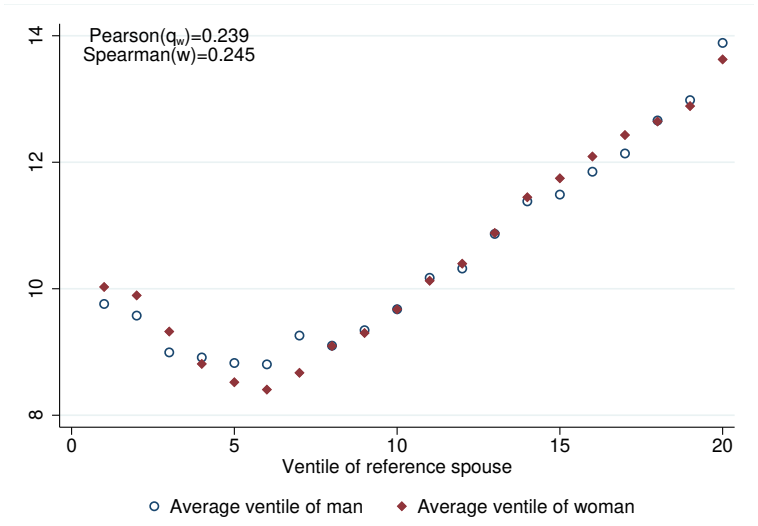


Notes: The figure plots the average percentile of the wife's (husband's) net worth for each percentile of the husband's (wife's) net worth distribution, computed for the year before marriage. The Pearson correlation coefficient is for the wealth percentiles; the Spearman correlation coefficient is for net worth.

FIGURE 4. Assortative mating on wealth, conditional on education



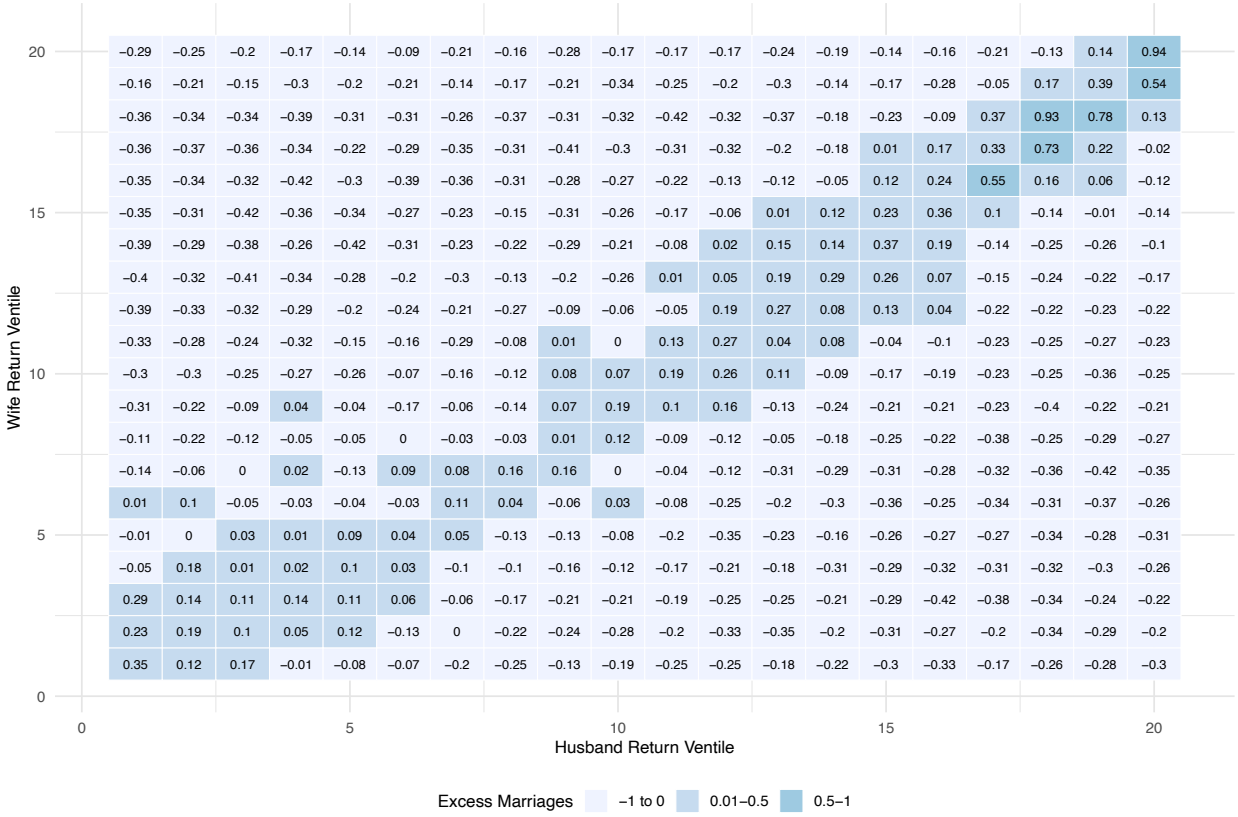
Panel A: Heatplot



Panel B: Binscatter

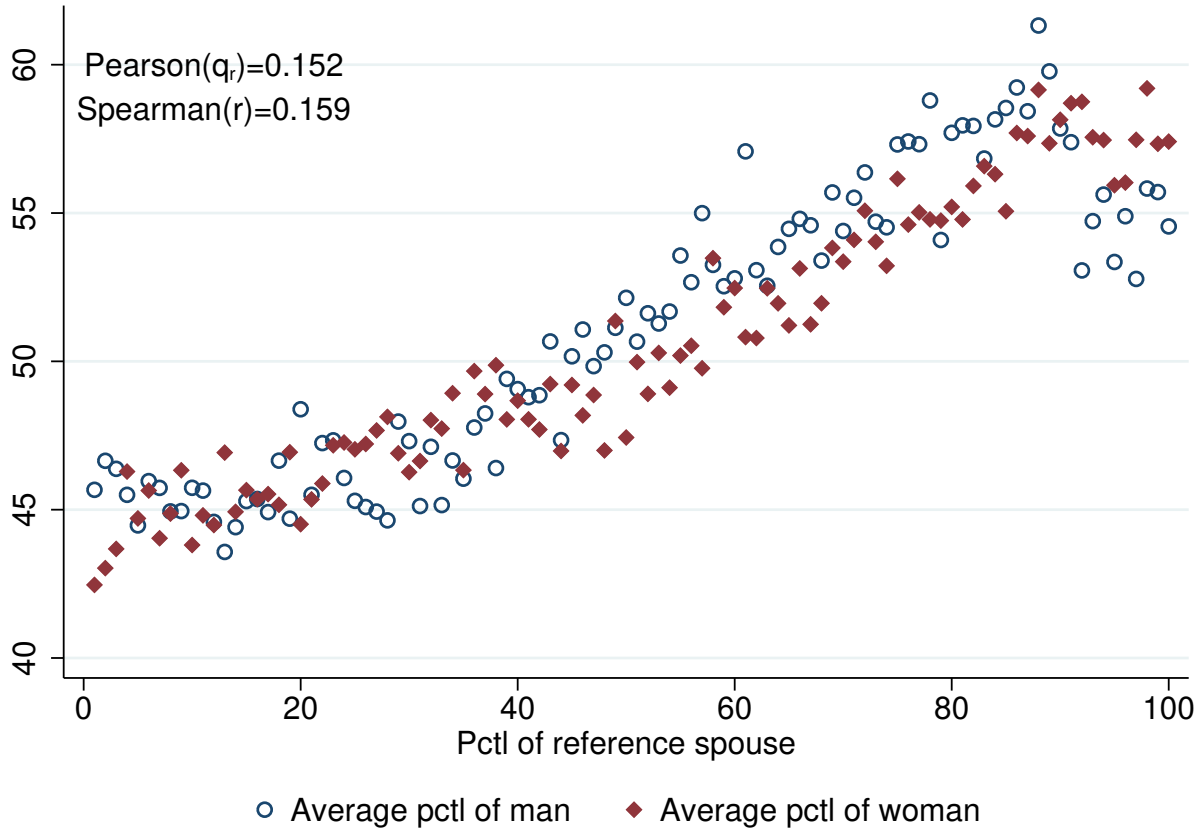
Notes: For both pictures the sample are married couples where both individuals have college education or more. Panel A is the heatplot (excess marriages relative to the RAM case); panel B is the binscatter. The Pearson correlation coefficient is for the wealth percentiles; the Spearman correlation coefficient is for net worth.

FIGURE 5. Assortative mating by return on assets: Heatplot



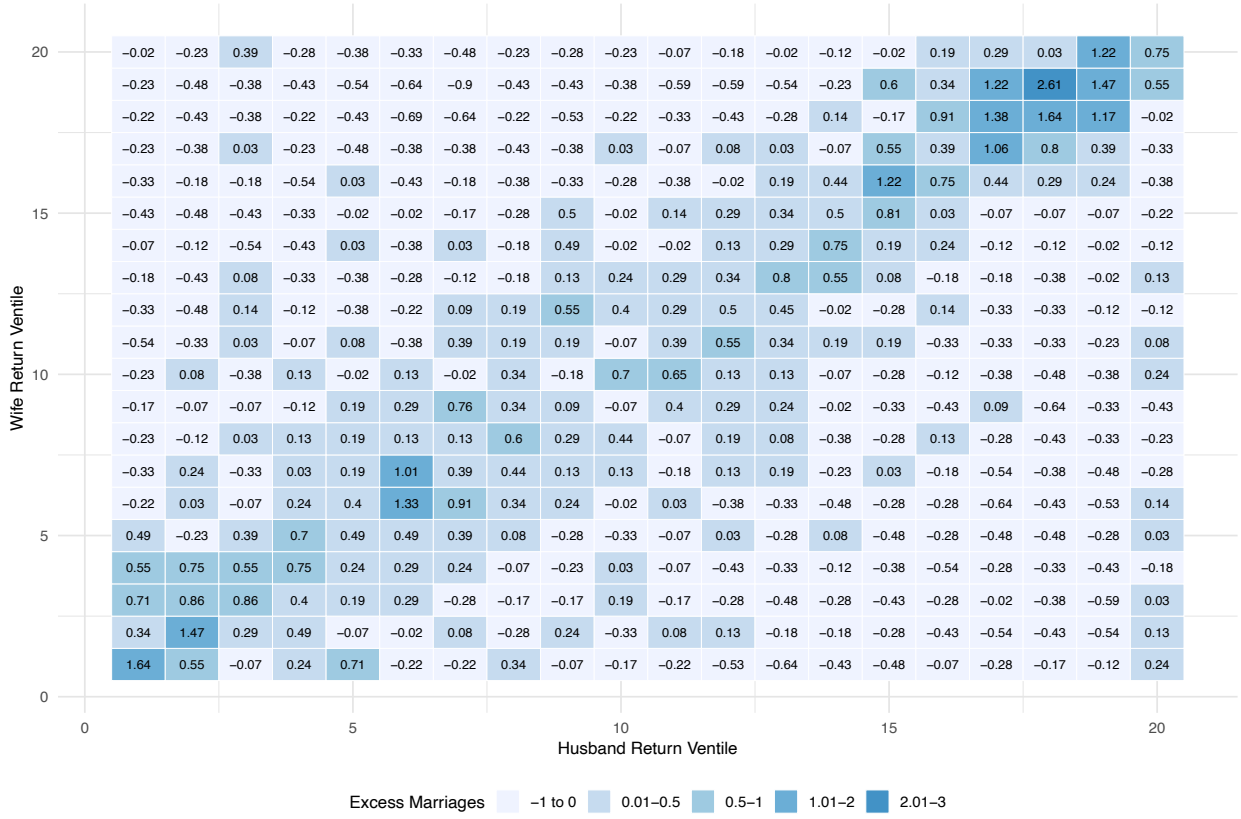
Notes: In each cell we report the excess number of marriages relative to the random assortative mating case. Average return ventiles are computed for the year before marriage, by gender and marriage year. Average returns are computed using only individuals with at least four years of pre-marriage data.

FIGURE 6. Assortative mating by return on assets: Binscatter

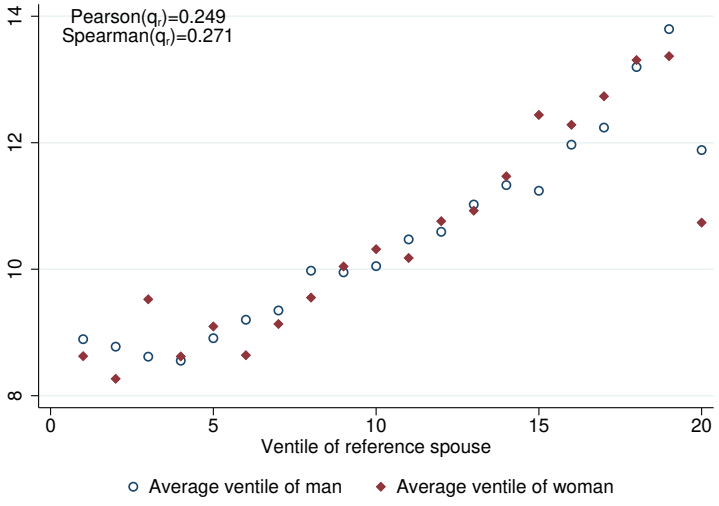


Notes: The figure plots the average percentile of the wife's pre-marriage average return to assets for each percentile of the husband's pre-marriage average return on assets. Average returns are computed using only individuals with at least four years of pre-marriage return data. The Pearson correlation coefficient is for the return percentiles; the Spearman correlation coefficient is for returns.

FIGURE 7. Assortative mating by return on assets, conditional on assortative mating on wealth



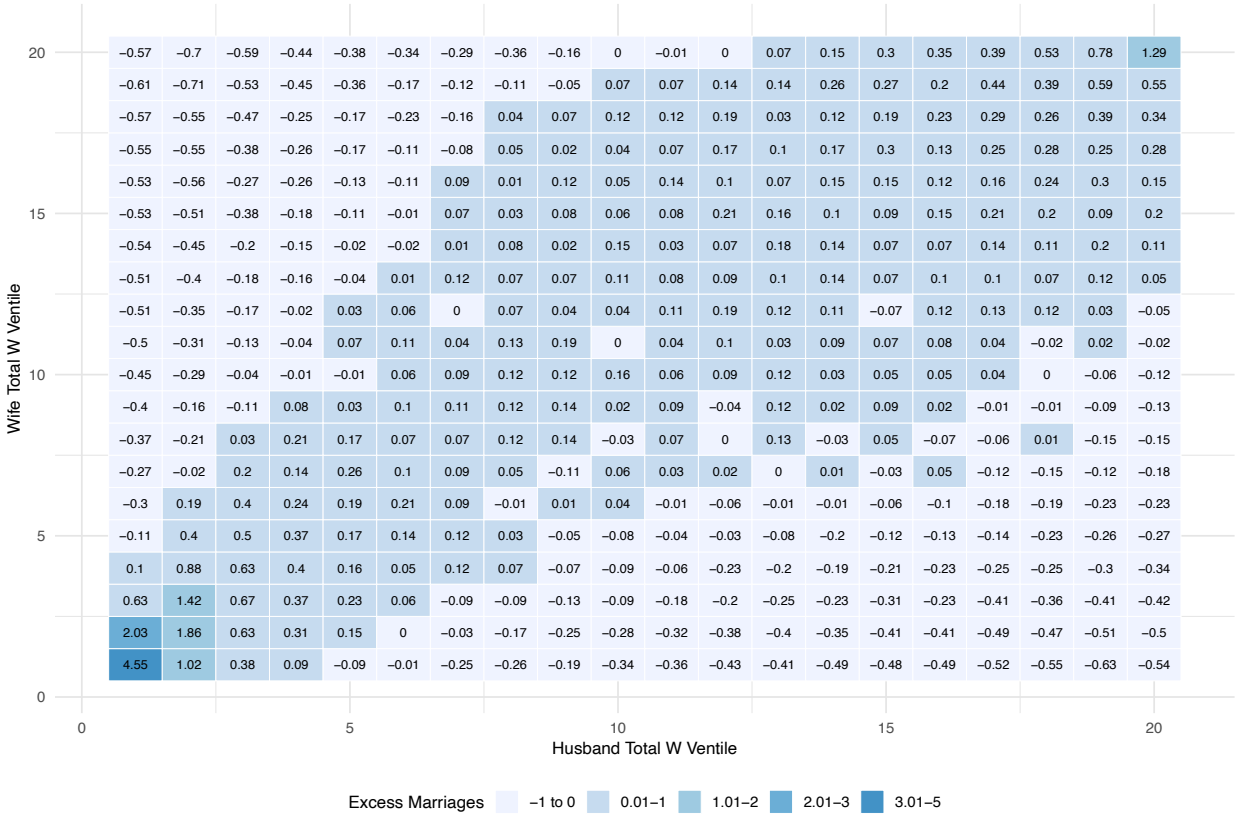
Panel A: Heatplot



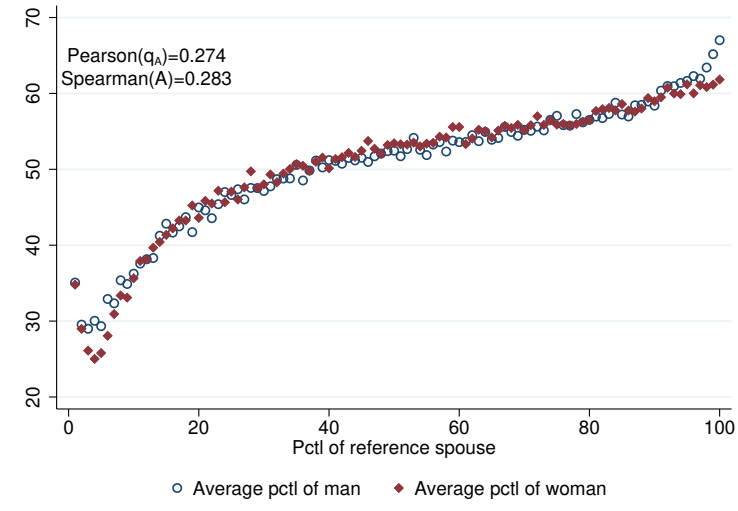
Panel B: Binscatter

Notes: For both pictures the sample are married couples where both individuals have net worth at marriage in the top quartile of the distribution. Panel A is the heatplot (excess marriages relative to the RAM case); panel B is the binscatter. The Pearson correlation coefficient is for the return percentiles; the Spearman correlation coefficient is for returns.

FIGURE 8. Assortative mating on Total Wealth



Panel A: Heatplot



Panel B: Binscatter

Notes: We report excess marriages relative to the RAM case. Total wealth is the sum of net worth and human wealth, computed as explained in the text. The Pearson correlation coefficient is for the total wealth percentiles; the Spearman correlation coefficient is for total wealth.