Would you marry Paris Hilton or Oprah Winfrey? The role of inheritance and labor income in marital choices

Nicolas Frémeaux (PSE)[*]

February 2012[†]

Abstract

This paper investigates the relative importance of inheritance and labor income in marital choices. In France, there is clear evidence that people are sensitive to the source of wealth: heirs marry heiresses and top income men marry top income women. However, there are asymmetries in tastes. Assortative mating is higher along the inheritance dimension than along the labor income dimension. Top labor income women prefer top labor income men whereas the latter are indifferent between top heiresses and top labor income women. I discuss three explanations: the role of areas of socialization, marital instability, and the symbolic power of inheritance. These new results are crucial to deeply understand the dynamics of inequalities and more especially the consequences of the long-run evolution of inheritance as a fraction of aggregate wealth.

JEL classification: D10, J12, D31

Keywords: assortative mating, marriage market, inheritance.

1   Introduction

What is the role of the source of wealth in marital choices? If total wealth is the only determinant of marital choices, people should not care about the source of their spouse's wealth but only about their spouse's amount of wealth. However, if the origin of wealth matters because it acts as a signal for unobservable characteristics such as social prestige, then people should be sensitive to the source of their spouse's wealth. In particular, under complementarity assumptions, heirs should marry heiresses and top labor income men should marry top labor income women. This paper investigates this question from an empirical perspective for the first time. So far the existing literature has mostly looked at assortative mating with respect to labor income or education.

In this paper, I use the French wealth surveys (1992, 1998 and 2004). The empirical strategy I follow is divided into two parts. First, I measure the degree of assortative mating along the labor income and inheritance[1] dimensions separately by relying on correlations and risk ratios. Then I evaluate people's tastes towards top inheritors or top income earners depending on the source of their own wealth. Lastly I test the robustness of these results by modifying the definition of labor income (current, potential or permanent) and by dividing the sample by cohorts.

I find empirical evidence of positive assortative mating for inheritance and labor income after controlling for age effects. More importantly, there is clear proof that people are sensitive to the source of wealth. There is a partition between the two dimensions: heirs marry heiresses and top income men marry top income women. Nevertheless, there are asymmetries in tastes. First, individuals have a preference for people belonging to the same dimension, but the attraction of inheritors towards inheritance is much stronger than the income earners' taste for labor income. Second, whereas top income women seem to have a preference towards top income men, the latter are indifferent between top heiresses and top income women. The analysis by cohorts shows that the mutual attractiveness of inheritors has not varied over time. For income earners, tastes depend on cohorts. Only people born after 1960 exhibit a preference towards income earners. Besides an evolution in matching over time, another effect can explain this variation: younger couples may have less well-defined roles in the household so the effect of marriage on women's labor supply has not occurred yet. In that case, the attraction for labor income would be only transitory and this would hide an even stronger value attached to inheritance. Robustness tests

---

[1]Throughout the paper, the words "inheritance", "inherited wealth" or "bequest" will refer to the sum total of bequests and gifts, unless otherwise noted.

demonstrate that asymmetries between genders disappear when inherited wealth is compared to potential or permanent labor income. Heirs still prefer heiresses but top income earners, whatever their gender, significantly favor labor income. This last result confirms the division between the dimensions and the fact that social origins and social positions are not equally valued.

Three complementary ideas help to explain these results. First, areas of socialization and matrimonial strategies may cause preferences to differ according to people's social position. Second, in a context of marital instability, inheritors can be seen as a safe investment if individuals are risk-averse with regard to marital decisions. Last, the process of imitation of the dominant class may explain why inheritors are valuable for income earners. Being in couple with an inheritor can be perceived as a signal of entry into this dominant class, because of the symbolic power of inheritance.

These new results are crucial to deeply understand the dynamics of inequalities. Indeed, this paper relies on recent evidence about the long-run evolution of inheritance as a fraction of aggregate wealth. Piketty (2011) shows that "modern economic growth did not kill inheritance". In France, the annual flow of inheritance was about 20%-25% of national income between 1820 and 1910, down to less than 5% in 1950, and back up to about 15% by 2010. Whether this situation is important for the dynamics of inequalities over time depends, among other things, on marital decisions: do heirs marry heiresses? The family and even more the couple play a crucial role in the transmission of capital, whatever its nature: human, social or material. Atkinson (1975) gives a good illustration. Suppose that all households have two children (one boy and one girl) and that all the wealth is held by only 5% of the households. In the extreme case in which the rich marry the rich, the degree of wealth concentration will be extreme. In this case, class marriage, where wife and husband come from families with the same level of wealth, leads to the same situation as where all property is inherited by the sons; "it is equivalent to everyone marrying his sister".

This article is also related to the literature about marital decisions. Becker's (1973, 1974) seminal work has inspired a vast literature about the economics of marriage. Among other topics, Gary Becker initiated a debate about the substitutability/complementarity of spouses' characteristics with a focus on income. He argued that optimizing behavior on the marriage market leads to negative assortative mating with respect to labor income because of the specialization of spouses resulting from comparative advantages of market and non-market productivities. On the other hand, Lam (1988) invoked the maximization of a household's common good as a

source of complementarity between spouses. Several papers try to resolve this debate by measuring the correlation of traits. Smith (1979), Becker (1981) or Zimmer (1996) find a positive correlation between spouses' earnings after controlling for variables like education and age.[2]. In France, Bozon and Héran (2006) or Thélot (1982) compare the social positions and origins of the spouses and come to similar conclusions. More recently, using panel data in Sweden, Nakosteen, Westerlund and Zimmer (2004) obtain a higher earnings correlation before marriage than after. They conclude that comparing individuals several years after the formation of the couple leads to a severe underestimation of the matching at work at the time. After accounting for sample censoring and cross-productivity effect, Zhang and Liu (2003) find a weak evidence that the partial correlation between spouses' wages can be negative. A recent paper by Charles et al (2011) uses information about parental wealth to compare spouses. They find evidence of a positive assortative mating. Some articles study directly the role of inheritance in marriages but they focus either on the role of dowries in the bargaining process between spouses (Zhang and Chan (1999)) or on the rationales of dowries (Botticini and Siow (2003)). Therefore, this paper investigates the importance of inherited wealth in the choice of spouse for the first time and also provides new evidence on assortative mating with respect to labor income in France.

Lastly, this article is closely linked to studies about intergenerational mobility inspired by Gary Solon's works. Several recent papers try to estimate the role of assortative mating in the persistence of inequalities. Kremer (1997), Fernandez and Knowles (2005), Ermisch et al. (2006) and Raaum et al. (2007) use different different methods but agree wholeheartedly with the crucial role played by marriage. To be concrete, Ermisch and al. (2006) conclude that about 40% of family income persistence in the U.K. and Germany results from assortative mating.

The remainder of the paper is organized as follows. Section 2 describes the theoretical framework. Section 3 presents the data. Section 4 details the empirical results. Section 5 and 6 give economic interpretations to the results and conclude.

2 Theoretical framework

2.1 Assortative mating

To model the intuition about monetary equivalence described above, I use a simple model of assortative mating. As in Becker's model, each couple's goal is the maximization of an output defined as the production of a dynasty (accumulation and transmission of wealth or

---

[2]The correlations range from 0.1 to 0.3, but they are difficult to compare because they are based on different samples and/or with different control variables.

human capital, children's education, etc.). Here we take into consideration the monetary inputs brought by each spouse. The way these inputs are used (consumption or savings) is not taken into account by the model.

The monetary inputs I^s transformed by the household can come from two different sources: inheritance or labor income (Eq. 1). The input from inheritance is defined as the capitalized sum of all the bequests and *inter vivos* gifts received by someone. Similarly, the input from labor income is the capitalized sum of the labor income, whatever the source (wages, mixed income, pensions, etc.). The two sources are capitalized at an interest rate r which does not vary over time but their timing is different. Labor income is accumulated and capitalized over the whole working life and after retirement, whereas the capitalization of inheritance only starts once the bequest is received. Spouses meet in year $t = 0$ and we observe them after a given period of time n.

$$I^s = \underbrace{\sum_{t=0}^{n} Y_t^s * (1+r)^{n-t}}_{Y^s} + \underbrace{\sum_{t=0}^{n} B_t^s * (1+r)^{n-t}}_{B^s} \tag{1}$$

with $s = m$ (male) or f (female); Y_t^s = labor income perceived at time t by individual s; B_t^s = *inter vivos* gifts and bequests received at time t by individual s; r = interest rate; n = end of the period of observation and t = time indicator.

Spouses are characterized by two general traits: the sum of their inputs I^s and an idiosyncratic parameter ε, which is a synthesis of non-economic traits (which may vary over time, but not necessarily). The predictions of this model strongly depend on the distribution of ε. The monetary equivalence hypothesis implies that it should not differ from one category of individuals to another. ε is randomly distributed in the population and therefore between the two categories. However, a partition between the two dimensions means that the distribution of ε is correlated to the source of wealth. In this case, some non-economic traits may differ from one dimension to another.

For each individual, we obtain the synthesis of their traits:

$$A^s = Y^s + B^s + \varepsilon \tag{2}$$

with ε an idiosyncratic parameter capturing the non-economic traits.

The variable A represents the traits of individuals. It is strongly correlated with monetary inputs, but with ε I introduce a variance between individuals.

I consider that spouses are complementary in the sense that their aim is to maximize the input of their household and the amount that will be transmitted to the next generation. The transformation of this input is modeled by a production function Z. Mathematically, the household's goal can be written as a maximization of Z. The personal interest of each individual is to find the spouse that allows him/her to fulfill this goal. It is close to a simple maximization of the input, but the parameter ε allows to consider certain unobservables that may influence individuals' choices. I apply spouses' complementarity to income and inherited wealth. Thus, I obtain complementarity between the spouses on total inputs:

$$\partial^2 Z/\partial I^m \partial I^f > 0 \tag{3}$$

And on both sources:

$$\partial^2 Z/\partial Y^m \partial Y^f > 0 \tag{4}$$

and

$$\partial^2 Z/\partial B_m \partial B_f > 0 \tag{5}$$

These different predictions will be tested in the first part of the empirical analysis.

2.2 Sensitivity to the source of wealth

The bi-dimensionality of the analysis allows us to go further by looking at the sensitivity to the source of wealth. Using the above notation, we want to find the sign of the following cross derivatives:

$$\partial^2 Z/\partial B^m \partial Y^f \tag{6}$$

and

$$\partial^2 Z/\partial Y^m \partial B^f \tag{7}$$

Concretely, the idea is to consider the weight of each dimension in the individuals' wealth and to study their impact on the choice of spouses. In the end, we want to observe if top heirs

marry top income women and inversely if top income men marry top heiresses. Of course we will switch genders in the tests we will run.

However, in this approach there is an issue about the size of the input that is crucial for the interpretation of the results. Therefore I distinguish two types of individuals depending on their positions in the inheritance and labor income distribution. First, for each individual I observe his/her position for inheritance and labor income. This allows me to define the different categories. For both women and men, **top inheritors** are defined as individuals belonging to the top decile of inheritance distribution (whatever their positions in the labor income distribution) and **top income earners** as individuals belonging to the top decile of labor income distribution (whatever their positions in the inheritance distribution).

Second, the goal is to compare these two categories, and more precisely, the respective probabilities of individuals choosing spouses in the same category. So, to rule out a potential wealth effect, I have to correct for the differential in wealth brought to the household in each category. In the sample, in similar positions in their respective distributions, top income earners are wealthier than top inheritors. Therefore, I build a ratio[3] in order to compute the differential in inputs. This allows to compare the two categories of individuals as if they were equally wealthy.

Now, let us formalize as simply as possible the hypotheses we want to test. The null hypothesis H0 is the insensitivity to any source of wealth. We define α and β as the attraction towards top inheritors and top income earners, respectively[4]. In this case, we test H0: $\alpha = \beta$. If this hypothesis is verified, it means that the share of inheritance in the monetary inputs does not play any role. Once the inputs are normalized, top inheritors and top income earners should not experience any difference in terms of degree of attractiveness. In this case, the amount of wealth is the only determinant and ε is randomly distributed between the two categories. However, if H0 is rejected, it means that ε does play a role. The probabilities differ across the categories even after normalization. This would be interpreted as the existence of a preference towards a particular source of wealth. The implication is that the share of inheritance or labor income in the inputs is paramount. In this case, both the sign and the size of preferences should be studied to identify the domination of one dimension over the other. In the second part of the empirical analysis, we will see that we can reject H0.

---

[3]See appendix A for more details about the computation.

[4]I will detail what is behind α and β in the empirical part. For the moment, I do not go further than this simplified definition.

2.3 Matrimonial property regimes and wealth sharing

Matrimonial property regimes play an important role in marital decisions by influencing the transmission of wealth between spouses and children at death or in the event of divorce[5]. Thus marrying an inheritor is different from marrying an income earner, because the benefits are not the same in the event of divorce or death. Legally, inheritance and labor income are not treated similarly. In France almost nine married couples out of ten choose the "community of acquisitions" regime, whereby each spouse remains the sole owner of his or her inherited assets and of assets acquired before the marriage (so-called "separate assets"), but the returns to these assets are considered community property, along with other income flows including labor income. With this regime, in the event of divorce, the community assets are shared by husband and wife on a 50-50% basis but each spouse keeps his or her separate assets. Moreover, when the spouse dies, the main characteristic of this regime is that the surviving spouse gets a small fraction of what the deceased spouse owned. The second main regime is that of separate property where, by definition, there is no community: each spouse is the sole owner of his/her income, inherited assets and assets acquired before or during the marriage. Therefore, by marrying an inheritor under the community of acquisitions regime, one can "only" capture the returns to inheritance but not the inheritance wealth per se.

This note about matrimonial regimes only holds for married couples. In my definition of the marriage market, I also include non-married couples for whom there is an implicit separation of assets.

Finally, from a materialistic point of view, either selfish or dynastic, inheritance should not be the preferred source of wealth. People should either be neutral, because everything is separate, or prefer labor income, because it is possible to capture part of it in a community regime. These predictions that are based solely on economic reasoning must be kept in mind for the rest of the paper.

3 Data

3.1 The French wealth surveys *Actifs Financiers* and *Patrimoine*

Since 1986, the French National Institute for Statistics and Economic Studies (INSEE) has conducted a national survey on wealth every six years. The aim of this survey is to study the personal wealth of French households: wealth behavior, the evolution in wealth possessed and its composition and also a detailed biography of the household and its members (household

---

[5]Laferrère (2001), Cigno (2011)

formation, education, work experience, etc.). In this paper, I use the last three available waves: 1992, 1998 and 2004. In each wave there are about 10,000 households (9,530 in 1992, 10,207 in 1998 and 9,692 in 2004). I consider all couples, whatever the legal link between the partners. My marriage market is therefore wider than of married couples in the strict sense of the term. In the end, my sample contains 19,702 couples (7,049 in 1992, 6,711 in 1998 and 5,942 in 2004).

The analysis focuses on variables linked to labor income independently of the nature of this income (wages, mixed income, pensions and unemployment benefits). This variable is collected at the individual level on a yearly basis and self-reported in 1992 and 1998. In 2004, income at the individual level does not initially appear in the databases. The information is completed after data collection by matching with fiscal data.

Data on gifts and bequests are collected at the individual level and provide information about the nature of the transmission, the identity of both donor and receiver within the household. Furthermore, I use the variables about the self-reported amount of each transmission and also the date of the gift/bequest for the discounting of inheritance values. In the 1992 and 2004 surveys, the amounts are grouped into brackets. This obliged us to make some hypotheses about the distribution within those brackets. Last, I use the description of the nature of the transmitted assets to impute the missing observations.

3.2 Data corrections

3.2.1 Distribution and discounting of wealth transmissions

The values of wealth transmissions are grouped into brackets for the 1992 and 2004 surveys. It is necessary to make some hypotheses about the distribution of the amounts within the brackets. I simulate a uniform distribution within each bracket by implementing a random draw between the lower and the upper limits. For the highest bracket (1,000,000 francs or more in 1992; 100,000€ or more in 2004), I make the extra assumption that the upper limit was equal to three times the lower limit.

Moreover, I discount the value of inheritance. Most of the gifts/bequests comprise real estate and moveable assets that have changed in value, especially over recent decades. This must be taken into account if I want to compare comparable inheritances. I use a composite index[6] that takes into account the evolution of prices over the twentieth century for the different types of assets.

---

[6]See Appendix B for details.

3.2.2   Imputation

To analyze the databases in the finest possible way, I make two kinds of imputations: missing data and expected inheritance.

For the former, I simulate an imputed amount for people who do not know the value of the inheritance or the labor income. I use variables like the individual's social category, his/her parents' social category, the nature of the transmitted asset(s) (housing, building plot, life insurance product, moveable assets, etc.) The proportion of imputation for labor income and inheritance is about 2-3% of observed income and wealth transmission.

The idea of the second type of imputation is to estimate an expected inheritance to future inheritors. In this type of survey, only a minority of the sample inherits (less than 30% in our sample). There are two kinds of explanation: either people did not inherit because their parents were not rich enough to leave a bequest, or they have not inherited **yet** because their parents are still alive. First, on the basis of information from the survey about people's parents (are they still alive?, do they possess assets? have they experienced severe financial difficulties? etc.) I identify people who are likely to receive a transmission. Then I impute a fictitious inheritance based on information about parents' social category and the different types of assets they hold: principal residence, moveable assets, land, life insurance, etc. Even if we lack the information about the value of each asset, we can infer a realistic expected bequest.

3.3   Descriptive Statistics

3.3.1   General description

Tables 1 and 2 detail the distribution of labor income and inheritance from 1992 to 2004. I restrict the sample to men and women in couples. For both dimensions, I describe the sample mean, the thresholds by decile and the averages per fractile for the highest decile of the distribution and the top income shares. I divide the higher decile into three parts: P90-95, P95-99 and P99-100.

Table 1 shows labor income distribution for the three waves. Labor incomes are the sum of wages, mixed income, pensions and unemployment benefits. They are self-declared on a yearly basis by individuals, except in 2004 where the information comes from matching with fiscal data. These yearly incomes are expressed in Euros 2004. The differences between the surveys reflect both changes in labor income distribution in France (labor market feminization,

evolution in top income shares) and the construction of the survey (impossibility to impute missing incomes in 1992, matching with fiscal data in 2004, etc.). We observe higher values in 2004, which confirms the constant underestimation of self-declaration. Moreover, women have lower incomes compared to men, but women's average income grows over time. The top income shares are informative: the top decile holds around 30% of total income and the top centile around 6%. However, we have to be cautious in our interpretation especially because of the difference between survey and fiscal data. Survey data do not capture the top of distribution very well (sampling error) and self-declared incomes in 1992 and 1998 suffer from downward bias compared to fiscal sources (non-sampling error). This explains why we obtain lower top income shares compared to works on top incomes by Piketty (2001) and Landais (2008), where the highest decile holds around 32-33% of total income and the highest centile around 8%[7].

['**Insert table 1 here**']

Table 2 demonstrates that the inheritance distribution is more skewed. Even with the imputation of expected inheritance, almost half of the sample receives no inheritance[8] and the top decile holds more than 60% of total inherited wealth. Moreover, the ratio P90/P50 is about 20 or higher, whereas it is only about 2-3 for labor incomes. The second lesson to be drawn from this table is that we have to be careful when comparing different surveys. In 1992 and 2004, answers about the values of inheritance are given between brackets (which are modified between the two surveys) whereas in 1998 they are given in absolute values. Lastly, the samples are not exactly the same. We observe more transmissions in 1992 (34% of the sample have received at least one transmission, compared with 27-28% in 1998 and 2004) and top inheritors (above the 90th fractile) are about 4 to 5 years older in 1992 compared with 1998 and 2004. This difference in ages directly affects the values of inheritance through the discounting. The corrections I have made (described in appendix B) minimize this potential bias.

---

[7]Another difference comes from the composition of the sample: we only consider couples whereas Piketty and Landais consider all the adult population

[8]See appendix C for general information about the sample.

['Insert table 2 here']

4 Results

4.1 Empirical strategy

The empirical strategy I follow in this paper is divided into two parts. First, I measure the degree of assortative mating in the two dimensions separately by using usual statistical tools: correlation and risk ratios. Then I introduce econometric tests to bring the labor income and the inheritance into the same regressions. With these tests, I evaluate people's tastes towards a given category (top inheritors or top income earners) depending on their own categories. I analyze the different possible combinations by switching the dimension and gender of the dependent variable.

In these two approaches there is one common issue that is crucial for the interpretation of the results. If one takes two individuals belonging to different dimensions but in the same rank of their respective distributions, the amount of wealth collected by these individuals is different: the wealthiest inheritors (the individuals that are in the top 10%) are poorer that the wealthiest income earners (top 10% of income distribution). To be more precise, I have built a ratio to compute this difference. For the two categories, I compute the total input by taking into account both labor income and inheritance. Coefficients are normalized so as to take into account the relative magnitude of monetary inputs brought by top inheritors and top income earners and to estimate the effect **<u>as if</u>** they were equally wealthy. This is the most relevant way to test the existence of a monetary equivalence as described in Section 2. However, this cannot be implemented on the separate analysis (Section 4.2) because this ratio is not relevant when applied to the whole sample. I have to compare precise categories by restricting the comparison to comparable people.

Last, I have decided to pool the three waves in order to increase the size of the sample. This allows to obtain more robust results and significant samples, especially crucial for the analysis by cohorts (Section 4.3).

4.2 Separate analysis

4.2.1 Correlation coefficients

The first indicator I use is the correlation on residuals (Table 3, panel A). I do not directly compare the amounts of labor income and inheritance, but the residuals after regressing the log of income/inheritance on spouses' ages. Then I use the rank correlation (Table 3, panel B), less sensitive to the levels. All the estimations are computed on the entire sample and then on couples under 60 years old.

['**Insert table 3 here**']

Panel A of Table 3 shows the existence of positive assortative mating for both inheritance and labor income. All the coefficients are highly significant. This result is in keeping with empirical evidence provided by comparison of spouses' social positions[9]. Column 3 describes the difference between the two dimensions. The correlation is significantly greater for inheritance than for income, but the difference is smaller for the sub-sample of individuals under 60 years old.

Panel B shows the results of the rank correlation. The levels do not differ from the correlation on residuals, but the differences between dimensions are reduced. The most important result of this table is that there is a positive and significant dependence between spouses' ranking in incomes and inherited wealth distribution. Perfect independence would have given coefficients equal to 0. Here I obtain rank correlations around 0.2 and independence is strongly rejected. This partially corroborates the correlation on residuals: the dependence is slightly stronger for inheritance but smaller for the sub-sample.

The comparison with other studies of assortative mating is tricky because both samples and control variables vary a lot across the different studies. Most of them use age and education as controls to observe the matching but by doing so we only measure a residual. In this paper I do not use this filter because what I want to study is the assortative mating on social origins and

[9]Bozon and Héran (2006)

social positions by using two proxies, inheritance and labor income. However, I am fully aware that the areas of socialization strongly affect the probability of meeting someone and this leads to a "natural" rate of assortative mating.

Another way to look at these results is to compare them with estimates of intergenerational correlations. Lefranc and Trannoy (2005) replicate on France the analysis introduced by Gary Solon. The elasticity of son's (respectively daughter's) long-run income with respect to father's long run income is around 0.4 (respectively 0.3). This shows that the correlation of income between spouses is about half that of the elasticity between father and children. However, at this point, it is difficult to examine more closely the link between the two estimations. To analyze this link more deeply, we should compare the two correlations in the same sample and observe their degree of symmetry.

4.2.2 Risk ratios

Correlations are a good way to have an overview of the degree of homogamy in the two dimensions of our analysis. However, with this indicator, I make the implicit hypothesis that the effect is linear. Individuals close to the top of the distribution can implement strategies that reinforce the degree of homogamy.

I use the risk ratio to carry out this analysis. I compare the probabilities of success of two categories of individuals depending on their positions in the distribution. For each dimension, I divide the population into two unequal parts: first, people below and above the median, then the top 10% versus the bottom 90% and finally the top 5% versus the bottom 95%. Then for people below and above the threshold I compute the probability of success, which is "being in a couple with someone above the threshold".[10] Finally I compute the ratio of the two probabilities of success for the top and bottom groups.

Mathematically, we have:

$$RR = Prob(Y = 1|X = 1)/Prob(Y = 1|X = 0) \tag{8}$$

with Y a dummy equal to 1 if the woman/man belongs to the top P% and X a dummy equal to 1 if the man/woman belongs to the same top P%.

---

[10]The threshold changes with the cut-off. When I compare people below and above the median, success is to be in a couple with someone above the median. For the top 10/bottom 90 and the top 5/bottom 95 cut-offs, it is with someone above the 90th and 95th percentile, respectively.

Table 4 presents the results. On the left, I consider men as a dependent variable and I compare the probabilities of success of women depending on their positions in the distribution. I then switch the roles on the right. I carry out this computation for the two dimensions separately.

['Insert table 4 here']

These results give another perspective to the analysis and provide evidence of discontinuity. For the two dimensions, the ratios are quite high and statistically significant. More important is their evolution: they increase when we move higher up in the distribution. If I compare people below and above the median (top 50% versus bottom 50%), the ratio is equal to 1.5 for inheritance and 1.3 for labor income. This first comparison is more meaningful for inheritance than labor income because it is similar to a comparison between receivers and non-receivers. Thus, not receiving something is a handicap to form a couple with a receiver. Furthermore, being in the top 10% multiplies the probability of success by about 2.5 to 3 and by 4 if we focus only on the top 5%. These results are symmetric across genders. By comparing the two dimensions, we note than the ratios are close. This fact completes the first results obtained with the correlations.

The higher people are in the distribution of labor income or inheritance, the greater is the likelihood to be in a couple with someone in a similar position. In other words, the dependence between spouses grows with their rank in the distribution, whatever the dimension.

4.3   Bi-dimensional analysis

4.3.1   Income vs. Inheritance

The previous statistical tests do not describe the interactions between dimensions. In this part, I mix the two dimensions in order to compare the marginal probabilities of top inheritors and top income earners of forming a couple with top inheritors or top income earners of the opposite sex. I test all the possibilities by modifying the dependent variable.

I use the following specification to describe people's tastes:

$$TopPosition_j = \alpha \times TopInheritor_i + \beta \times TopIncome_i + \gamma X_{i,j} + u \qquad (9)$$

where the dependent variable is a dummy equal to 1 if the individual is in the top decile of inheritance distribution or in the top decile of income distribution (as defined in the theoretical part, above). I switch the dependent variable in order to examine the four possible combinations: first with men as dependent variable and women as explanatory variable, then the contrary.

The variables of interest are the positions of the spouse. Thus, α (resp. β) represents the marginal probabilities of a top inheritor (resp. a top income earner) of being in a couple with either a top inheritor or a top income earner. In other words, it measures by how much the probability increases according to a top position in a given dimension.

X is the control variable for the age of spouses. The absence of other control variables is justified by the fact that I want to describe the choice of spouses according to social positions or social origins. Other usual control variables like human capital, for example, would interfere with the results and cause me to measure something different. Human capital would capture part of the effect I want to measure. This would "filter" our sample by measuring the extra effect of income/inheritance instead of the total homogamy effect. Nevertheless, I present specifications with various controls in appendix D1. Other non-economic characteristics like beauty, character, religion etc. are assumed to be captured by the error term. All the specifications are estimated by OLS.

In the results, coefficients are normalized so as to take into account the relative magnitude of monetary inputs brought by the two categories. Concretely, top income earners are about twice richer than top inheritors. In order to rule out a wealth effect I multiply the coefficient by the ratio of input between the two individuals who are compared. I can thus measure the tastes of top inheritors and top income earners as if they were equally wealthy.

First, I implement this bi-dimensional test on the entire sample. Then I conduct the same analysis by cohort so as to observe the temporal evolution of preferences. To conduct this analysis. I divide my sample according to the men's date of birth and then I compute the cumulative distribution for inheritance and current labor income within each cohort. One key issue in historical analysis is about the timing of the interview. In the French wealth survey, we do not have

information about the spouses when they meet but only when they are interviewed. This means that what we observe is not only an historical evolution of people's marital choices but also a description of their situation at different moments in their lives. Whereas the exogenous nature of inheritance and its imputation make this dimension fairly insensitive to this problem, it is central to labor income because of household specialization. Lastly, our sample is composed of individuals who are still in couple. There is a selection in place that may depend on the matching and/or the specialization. The eventuality of a separation (divorce, widowhood...) increases with age and couples's length of life. The combination of these several effects is not a problem *per se*, but we must keep these effects in mind and be cautious when we interpret the results.

Table 5 shows the results with men as a dependent variable. Panel A describes the estimation for the entire sample, panel B and C detail the temporal evolution for top heirs and top income earners, respectively. The analysis on the entire sample demonstrates the existence of an asymmetry between top income earners and top inheritors. Being in the top decile of inheritance distribution increases by 27.5% the probability of being in a couple with a top heir. This same probability for top income women is positive but 6 to 7 times lower. So there is a clear preference of top heirs towards top heiresses. On the other hand, top income earners are indifferent and do not have any preferences towards women belonging to the same dimension. Inheriting allows women to win on all counts: it is the best way to be in a couple with top inheritors and they are not handicapped for being in a couple with top income men.

The evolution of tastes across cohorts depends on the dimension we analyze. For top heirs, the same tastes are reproduced for each generation. They strongly and significantly prefer top heiresses to top income women. The preferences are slightly lower for the youngest cohorts but remain high and significant. Therefore, the results observed on the entire sample are not caused by age effects. For top income earners the situation is different. Contrary to top inheritors, the indifference of the sample as a whole coincides with fluctuations across cohorts. The indifference we observed for the whole sample is still predominant for two of the five cohorts. However, for the top income men born before 1930 and between 1940 and 1950 there is a clear preference for top heiresses, whereas men born after 1960 appear to value the income of their spouse more.

['**Insert table 5 here**']

['Insert table 6 here']

In Table 6, I repeat the same analyzes, but I switch the roles: women are now the dependent variable. The preference of top heiresses towards top heirs is still present but less strong for younger cohorts. The ratio of probabilities between top heirs and top income earners is now around 3-4 instead of the 6-7 in Table 5. However, the indifference of top income earners disappears: top income women prefer top income men. This is the second asymmetry in our results: men and women do not have exactly the same tastes. Inheritance is still valued by women but not as much as it is by men.

Panel B and C describe the evolution across cohorts. For women, this analysis has closer results to the analysis on the whole sample. Top heiresses still prefer men who inherit, even if, as for men, the magnitude varies. We observe a slight decrease for the youngest cohort but top heirs still have a marginal probability that is three times higher compared with top income earners. The tastes of top income women are also stable. They have a preference towards top income men but the coefficients are only significant for the youngest cohorts. Therefore, as for men, the taste for inheritance is much stronger than the taste for labor income.

An important remark is that the sign of all the results described for the entire sample is similar when we look at cohorts. The coefficients are similar and furthermore, robustness tests presented in appendix D1 show that adding control variables like human capital or the presence of children does not change the sign of preferences and reinforces the attraction for inheritance.

In conclusion, similarities in the degree of assortative mating across the dimensions hide a sensitivity to the source of wealth. People tend to value the dimension they belong to but the preference of inheritors for inheritance is much stronger than the value of income for the income earners. However, this global superiority of inheritance differs depending on the gender: women value inheritance less than men do.

The evolution in tastes across cohorts for top income women and even more for top income men is linked to household specialization and the change of matching. The first possible explanation is that the degree of specialization across cohorts varies and is not very advanced for the youngest ones. When specialization occurs, women decide whether or not to modify their labor supply and their income. Thus, the composition of the top decile for women could change

as a consequence of this choice. As a consequence, the taste for labor income of ten youngest cohort would be only transitory. However, we can also imagine that this specialization no longer occurs for the youngest generation, because the complementarity between spouses is now what dominates in couples' strategies. In this case, the difference between cohorts would be the signal of a change in preferences independent of the stage reach in the couple's life.

Finally and unsurprisingly, everything revolves around the role of women in the household. Either this role changes during the couple's lifetime with specialization, or it has been changing across cohorts. The fact that the marginal probabilities of top income men and women increase for the last cohort does not allow us to separate the two effects. To solve this issue, we need to observe not only younger couples but also the future spouses' incomes when they meet. This should be the topic of further research.

4.3.2 Diploma as a potential income

The introduction of human capital can help in sheding different light on the results. I have shown that high income men appear to be indifferent between top income or top inheritance women. This relative lack of interest from high income men could be the reflection of a matching between high market productivity men and low market productivity women or the consequence of within-household specialization (as evoked by Becker). Information about potential income can confirm or invalidate this prediction.

To tackle this issue, I consider diploma as a proxy for potential income. To replicate the previous tests, I rank diplomas from higher education and I isolate the highest ones (master's degree, PhD, *Grandes Écoles*[11]). They represent about 10% of the sample. I use the bi-dimensional tests (Tables 7 and 8) to evaluate the taste for diploma[12]. I replicate the tests on a sub-sample of individuals under 60 y.o. in order to observe the effect on younger generation.

Graduated women are more likely to be in couple with top heirs or top income earners than top income women. The preferences of heirs are not modified but are weaker. Diploma has a positive impact but the preference towards inheritance is still significantly stronger. However,

---

[11]The *Grandes Écoles* are selective higher education establishments (mainly private) that have produced many high-ranking civil servants, engineers, executives or researchers.

[12]I do not show the results about the matching on potential income because the interest is to analyze this issue about specialization especially for the top income earners. Actually the matching on potential income is very strong. More specifically, the risk ratios are about 9 instead of 3 for current income or inheritance. More detail information are available upon request.

whereas high income men are indifferent between labor income and inheritance, they prefer graduated women to top heiresses. Inheritance seems to be less determinant in this comparison. The results about women's preferences are similar but actually less surprising, given that high income women already have a weaker preference for top inheritors. The tests performed on the sub-sample show that the mutual attractiveness is weaker but still significant. Therefore, in each dimension, people have a preference towards individuals similar to themselves.

['**Insert table 7 here**']

['**Insert table 8 here**']

Two main conclusions can be drawn from these results. First, diploma plays an important role. Women in couples with men in top positions have a high potential income. Moreover, these tests provide evidence that the earnings correlation between spouses, when they meet, is underestimated. Even if high income men choose graduated women as spouses, they do not necessarily "use" the economic gains resulting from such diplomas. Beyond the returns in terms of labor income, education can be seen as an ability to take care of the household's social capital. Chiappori, Iyigun and Weiss (2009) underline these incentives to invest in schooling because of different market wages or household roles between spouses.

Secondly, the importance of diploma is not uniform and emphasizes more clearly the division between the dimensions. For inheritors, being endowed in human capital matters but this is not a substitute for material endowment. For top income earners, the logic seems different. The indifference between income and inheritance is mainly due to within-household specialization. Being a graduate is necessary to be in a couple with top income earners (men or women) but specialization, especially for women, hides this preference towards human capital. Finally, these two tables confirm the intuition we had at the end of the previous section: there is a division between the two dimensions. Social origins and social positions, even if they are linked, are not equally valued.

In appendix D2, I compute permanent labor income from current income as a robustness test for these results. Like in Tables 7 and 8, I obtain symmetric preferences between dimensions and gender. Therefore, the relative indifference of top income men between top heiresses and top income women, when I consider current income, shows not only that matching on education is considerable but also that the diploma is also valued for its non-economic returns.

5 Interpretations

5.1 How can we explain these results?

This paper demonstrates that individuals are sensitive to the source of wealth. However, as explained in Section 2.3, economic rationality and matrimonial property regimes should lead to different results because the inheritance is far less "capturable" than the labor income. From this point of view, high income individuals should be preferred ceteris paribus. Three complementary interpretations explain these results: the role of areas of socialization, the risk aversion of couples and the symbolic power of inheritance.

One way to interpret the difference in preferences is related to areas of socialization, which may differ from one type of individual to another. School and workplace are probably the main areas of socialization that condition the type of people someone can meet. However, belonging to a given elite school is not sufficient to open all the possibilities; social origin plays a predominant role. Pinçon and Pinçon-Charlot (2006) show the importance of social interactions in the choice of spouses. "The rally almost always reaches its goal: to make sure that young people do not ruin a brilliant future, an exceptional destiny, by a bad marriage which would break up the dynasty, aristocratic or bourgeoise. There is no free competition in the aristocratic marriage market" (p90). This could explain not only the homogamy among inheritors but also the preference of top income men for top income women in a first period, followed by indifference. For all the people involved in these strategies, the dowry (even if it does not necessarily take this form) still has great importance, because it compensates for the inequalities in labor income that may follow household specialization. A paper by Holmlund (2006) estimates the effect of an educational reform on the increase of intergenerational mobility in Sweden. Most of the effect goes through change in matting patterns.

Another way to interpret these results is to examine them through the prism of risk prefer-ences in the marital relationship. Death is no longer the unique event that ends a relationship; divorce or separation tend to play an increasing role. This separation can logically modify people's behavior and decisions, due to the risk to personal contributions to household assets. Applied to marital decisions, risk aversion would mean that individuals prefer getting an input I_1 for the household now, instead of waiting and getting an uncertain amount I_2 (with $I_1 < I_2$) either later or spread over time. Inheritance is usually received in one or two transfers, whereas labor income is spread over the whole life and may fluctuate. It is therefore easier for someone to predict the value of a bequest than a sum of labor incomes over a lifetime. In other words, inheritors could be perceived as a safe investment. This explanation is all the more relevant as the amounts of inherited wealth at stake here are not very high.

This interpretation raises the issue of the matching of risk preferences between spouses. Chiappori and Reny (2006) predict a negative assortative mating relative to risk. We could therefore interpret the preferences of the different categories of individuals in terms of their ex-posure to the risk or the way they perceive it. Thus, this taste for inheritance could be invoked for all the categories (with various arguments) except for top income women, who are more independent and less penalized in the event of divorce or widowhood. However, this explana-tion is only partial because the increase in marital instability mainly concerns relatively young couples, for whom we only have few observations. The test of this hypothesis could be the aim of future research.

Finally, a last type of interpretation is related to the symbolic power of inheritance. Bour-dieu (1979) emphasizes the imitation of the dominant classes by the middle classes. Individuals experiencing social mobility show what he calls "cultural goodwill". Cultural practices of the dominant class are perceived as legitimate. This pattern is relevant to explain the attraction towards inheritors and more especially the asymmetry between the two dimensions. The pref-erence of top income earners for heiresses can be seen as part of this mechanism of imitation described by Bourdieu. Marrying someone who inherits is the most direct way to integrate this dominant class or at least the clearest signal that one is laying claim to it.

5.2 Consequences in terms of reproduction of inequalities

In the introduction, I used Atkinson's example to illustrate the role of assortative mating in the reproduction of inequalities. Kremer (1997) and Ermisch et al. (2006) show the importance of marriage in the intergenerational economic mobility. In this paper, we have observed not only positive assortative mating along labor income and inheritance but also a mutual and stable attraction between top inheritors. What are the consequences of these results when inheritance flows are returning to the levels they had in the nineteenth century[13]?

When inheritance flows are increasing, the family again becomes a key institution in the reproduction of inequalities from one generation to the next. Family tends to counterbalance the roles attributed to school and career evolution during the second half of the twentieth century, when meritocratic theories (like Modigliani's lifecycle) coincided with a quasi absence of inheritance. Thus, logically, institutions that mattered when inheritance flows were high are likely to regain their importance.

Nevertheless, the importance of family as a vector of inequalities mainly depends on marital choices. If top heirs and heiresses continue to match, whatever the value of inheritance, then this will accelerate the reproduction of inequalities. In a context where past wealth is likely to be predominant compared with new accumulated wealth, inheriting from both parents become a net advantage. With the combination of these two phenomena, the fact of being well-born becomes decisive.

However, the "new" role of the family is likely to be more complex than the above description suggests. Indeed, whereas the long run evolution of inheritance described by Piketty is based on a simple but robust mechanism[14], the evolution of marital union is less predictable. Besides, divorce, remarriage and fertility complicate the situation by multiplying the potential heiresses and heirs. Therefore a model including different scenarios about the evolution of divorce and the choice of matrimonial regime across the two dimensions we have analyzed is necessary to demonstrate more clearly the effect of marital choices on the dynamics of inequalities.

6 Concluding comments

What have we learned from this paper?

---

[13]Piketty (2011).

[14]Indeed, the central mechanism in this paper relies on the comparison between the return to private wealth "r" and the economic growth "g" reflecting the income growth.

The two main contributions of this paper are to demonstrate that people are sensitive to the source of wealth, but that people's gender and wealth dimension create asymmetries in preferences. Moreover, the high value people tend to attach to inheritance does not tally with pure economic rationality for the simple reason that one cannot benefit from the entire inherited wealth of the spouse in the event of separation.

First, the separate analysis shows that assortative mating for inheritance and labor income is positive and quite similar for these two dimensions, whatever the statistical tool used to measure it. Then the bi-dimensional tests demonstrate that these levels hide preferences that vary depending on the wealth composition of individuals and their gender.

The static analysis of the whole sample shows that individuals have a preference for people belonging to the same dimension, but the preference of inheritors for inheritance is much stronger than the preference of top income earners for income. Secondly, whereas top income women appear to have a preference for top income men, the latter are indifferent between top heiresses and top income women.

Then, the study by cohorts gives information about the evolution of preferences. The mutual attraction of inheritors does not vary over time. For top income earners, preferences depend on cohorts, especially for men. Only people born after 1960 exhibit a significant preference towards income earners. Beyond an evolution of taste over time, another effect can explain this variation: in younger couples, household roles are less well-defined. In this case, the attraction for income we observe would be only transitory and would hide an even greater preference for inheritance.

Finally, considering diploma as a proxy for potential income and computing permanent income shed a different light on the previous results. Moreover, when inheritance is compared to these two aspects of income, people's tastes are modified. Heirs still prefer heiresses but the attraction is now also mutual for top income earners. The taste for graduates is somewhat due to the non-economic returns of diploma, but this may show differences in areas of socialization between top inheritors and top income earners.

In order to explain these results, three kinds of reasons can be invoked. First, areas of socialization and matrimonial strategies may cause tastes to differ according to people's social position. Second, the process of imitation of the dominant class may explain why inheritors are

attractive to income earners. Being in couple with an inheritor can be perceived as a signal of entering this dominant class because of the symbolic power of inheritance. Last, in a context of marital instability, inheritors can be seen as a safe investment if individuals are risk averse regarding marital decisions.

Above all, these results, that are complementary with works on the long-run evolution of inheritance, show that family and marital choices are very likely to regain central importance in the dynamics of the transmission of inequalities from one generation to the next.

References

[1] Atkinson T (1975), *The Economics of Inequality*, Oxford University Press, Oxford.

[2] Becker GS (1973), "A theory of marriage I", *Journal of Political Economy*, Vol 81, N°4, pp. 813-846.

[3] Becker GS (1974) "A theory of marriage II", *Journal of Political Economy*, , Vol 82, N°2, pp. 11-26

[4] Becker GS (1981), *A treatise on the Family*, Harvard University Press, Cambridge.

[5] Bourdieu P (1979), *La Distinction. Critique sociale du jugement*, Le Sens Commun, Editions de Minuit, Paris.

[6] Botticini M, Siow A (2003), "Why Dowries?", *The American Economic Review*, Vol 93, N°4, pp. 1385-1398.

[7] Bozon M, Héran F (2006), "La formation du couple", Coll. Grands Repères, La Découverte, Paris.

[8] Charles K, Hurst E, Killewald A (2011), "Marital Sorting and Parental Wealth", NBER Working Paper N° 16748, January 2011.

[9] Chiappori PA, Reny PJ (2006), "Matching to share risk", Working Paper.

[10] Chiappori PA, Iyigun MF, Weiss Y (2009), "Investment in Schooling and the Marriage Market", *The American Economic Review*, Vol 99, N°5, pp. 1689-1713.

[11] Cigno A (2011), "The Economics of Marriage", *Perspektiven der Wirtschaftspolitik*, Vol 12 (Special Issue), pp. 28-41.

[12] Ermisch J, Francesconi M, Siedler T (2006), "Intergenerational Mobility and Marital Sorting", *Economic Journal*, Vol 116, pp. 659-679.

[13] Fernandez R, Guner N, Knowles J (2005), "Love and Money: A Theoretical and Empirical Analysis of Household Sorting and Inequality", *The Quaterly Journal of Economics*, Vol 120, N°1, pp. 273-344.

[14] Kremer M (1997), "How Much Does Sorting Increase Inequality ?", *The Quaterly Journal of Economics*, Vol 112, N°1, pp. 115-139.

[15] Holmlund H (2006), "Intergenerational Mobility and Assortative Mating. Effects of an Educational Reform", Working Paper, Swedish Institute for Social Research, Stockholm University.

[16] Laferrère A (2001), "Marriage Settlements", *The Scandinavian Journal of Economics*, Vol 103, N°3, pp. 485-504.

[17] Lam DA (1988), "Marriage Markets and Assortative Mating with Household Public Goods: Theoretical Results and Empirical Implications", *The Journal of Human Resources*, Vol 23, N°4, pp. 462-487.

[18] Landais C (2008), "Top Incomes in France (1998-2006): booming inequalities ?", *PSE Working Paper*.

[19] Lefranc A, Trannoy A (2005), "Intergenerational Earnings Mobility in France: is France more mobile than the US ?", *Annales d'Economie et Statistique*, N°78, pp. 57-77.

[20] Lollivier S, Verger D (1999), "Inégalités et cycle de vie: les liens entre consommation, patrimoine et revenu permanent", *Annales d'Economie et Statistique*, N°54, pp. 203-246.

[21] Nakosteen RA, Westerlund O, Zimmer MA (2004), "Marital Matching and Earnings: Evidence from the Unmarried Population in Sweden", *The Journal of Human Resources*, Vol 39, N°4, pp. 1033-1044.

[22] Piketty T (2001), "Les Hauts revenus en France au 20e siècle : inégalités et redistribution, 1901-1998", B. Grasset, Paris.

[23] Piketty T (2011), "On the Long-Run Evolution of Inheritance : France 1820-2050", *Quaterly Journal of Economics*, Vol 126, N°3, pp. 1071-1131.

[24] Piketty T, Postel-Vinay G, Rosenthal JL (2006), "Wealth concentration in a developing economy: Paris and France, 1807-1994" *The American Economic Review*, Vol 96, N°1, pp. 236-256.

[25] Piketty T, Postel-Vinay G, Rosenthal JL (2011), "Inherited vs Self-Made Wealth: Theory and Evidence from a Rentier Society", Working paper.

[26] Pinçon M, Pinçon-Charlot M (2006, first edition: 1997), *Voyages en grande bourgeoisie*, PUF, Paris.

[27] Raaum O, Bratsberg B, Roed K, Osterbacka E, Eriksson T, Jantti M and Naylor R (2007), "Marital Sorting, Household Labor Supply, and Intergenerational Earnings Mobility across

Countries" IZA Discussion Paper N° 1847, September 2007.

[28] Smith JP (1979), "The Distribution of Family Earnings", *Journal of Political Economy*, Vol 87 (October), pp. 163-192.

[29] Thélot C (1982), *Tel père, tel fils? Position sociale et origine familiale*, Dunod, Paris.

[30] Zhang J, Liu PW (2003), "Testing Becker's Prediction on Assortative Mating on Spouses' Wages", *The Journal of Human Resources*, Vol 38, N°1 (Winter), pp. 99-110.

[31] Zhang J, Chan W (1999), "Dowry and Wife's Welfare: A Theotrical and Empirical Analysis", *Journal of Political Economy*, Vol 107, N°4, pp. 786-808.

[32] Zimmer MA (1996), "Assortative Mating and Ethnicity in the Low Wage Population : An Examination of Spouses' Earnings", *Applied Economic Letters*, Vol 3 (May), pp. 311-315.

Table 1: Income Distribution

	1992		1998		2004	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Observations	7,049	7,049	6,711	6,711	5,942	5,942
Mean (2004 EUR)	19,450	8,150	19,640	9,130	22,300	10,580
Thresholds:						
P10	5,540	0	7,270	0	7,600	0
P20	9,970	0	10,700	0	11,930	0
P30	12,190	0	13,130	1,810	14,110	2,850
P40	14,040	2,030	14,750	4,640	15,920	5,920
P50	15,700	5,540	16,400	7,270	17,980	8,920
P60	17,730	9,340	18,850	10,100	20,410	11,770
P70	21,060	12,190	21,880	12,920	23,460	14,700
P80	25,120	14,900	25,740	16,160	28,120	18,010
P90	35,090	19,700	34,330	20,450	39,210	22,890
P95	46,270	24,010	43,760	25,810	53,010	27,990
P99	89,590	37,680	77,760	38,360	107,390	43,650
Average income per fractiles:						
P90-100	57,770	28,270	51,320	28,760	66,250	32,390
P90-95	40,130	21,500	38,200	22,840	45,070	25,170
P95-99	61,800	28,470	54,820	29,510	70,350	33,220
P99-100	127,870	57,790	110,330	54,600	157,300	64,200
Top income shares:						
P90-100	29.7%	34.7%	26.1%	31.5%	29.7%	30.6%
P90-95	10.3%	13.2%	9.7%	12.5%	10.1%	11.9%
P95-99	12.7%	14.0%	11.2%	12.9%	12.6%	12.6%
P99-100	6.7%	7.5%	5.2%	6.1%	7.0%	6.1%

<u>Universe:</u> all individuals in couples (household head and spouse) aged between 17 and 95.

<u>Income concept:</u> labor income (wages and mixed income) + replacement income (pensions and unemployment benefits); self-declaration at the individual level for 1992 and 1998, matching with fiscal data in 2004.

Table 2: Inheritance Distribution

	1992		1998		2004	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Observations	7,049	7,049	6,711	6,711	5,942	5,942
Mean (2004 EUR)	38,750	29,430	34,500	28,300	33,000	29,720
Thresholds:						
P40	0	0	0	0	0	0
P50	4,540	4,550	2,730	2,450	5,990	5,550
P60	12,290	11,520	9,780	9,150	14,520	14,080
P70	20,720	18,560	22,480	17,480	25,680	24,220
P80	43,140	33,260	46,210	41,720	43,760	42,370
P90	85,360	66,580	82,590	76,230	79,680	76,370
P95	137,110	110,200	116,310	106,370	123,120	108,660
P99	486,740	402,110	259,160	228,670	353,560	314,880
Average inheritance						
per fractiles:						
P90-100	270,980	197,740	226,280	177,630	203,570	177,360
P90-95	107,690	84,390	97,490	89,650	95,370	89,120
P95-99	224,130	186,320	158,170	141,780	198,810	169,370
P99-100	1,238,410	802,530	1,108,500	754,130	760,970	648,970
Top inheritance shares:						
P90-100	69.9%	67.2%	65.6%	62.8%	61.7%	59.7%
P90-95	13.9%	14.3%	14.1%	15.8%	14.5%	15.0%
P95-99	23.1%	25.3%	18.3%	20.0%	24.1%	22.8%
P99-100	32.9%	27.6%	33.2%	27.0%	23.1%	21.9%

<u>Universe:</u> all individuals in couples (household head and spouse) aged between 17 and 95.

<u>Inheritance concept:</u> observed bequests and *inter-vivos* gifts + imputed inheritance; all the observed transmissions are self-declared and discounted.

Table 3: Correlations - Residuals and rank

	Inheritance [1]	Labor income [2]	Difference [1] - [2]
Panel A: Residuals			
Entire sample (N=19,702)	0.230***	0.169***	0.061*** (6.33)
Less than 60 y.o. (N=14,446)	0.194***	0.172***	0.022* (1.93)
Panel B: Rank			
Entire sample (N=19,702)	0.211***	0.184***	0.027*** (2.75)
Less than 60 y.o. (N=14,446)	0.180***	0.198***	-0.018 (1.56)

Z-stats in parentheses; * p<0.1, ** p<0.05, *** p<0.01
N refers to the number of couples

Table 4: Risk Ratios

	Dep. Var.: Men		Dep. Var.: Women	
	Inheritance	**Labor income**	**Inheritance**	**Labor income**
	[1]	[2]	[3]	[4]
Top 50/Bottom 50	1.49***	1.34***	1.48***	1.34***
	(0.03)	(0.02)	(0.03)	(0.02)
Top 10/Bottom 90	2.57***	2.86***	2.59***	2.89***
	(0.13)	(0.15)	(0.13)	(0.16)
Top 5/Bottom 95	3.90***	3.82***	3.94***	3.88***
	(0.25)	(0.34)	(0.25)	(0.25)
Control: ages	Yes	Yes	Yes	Yes
Observations	19,702	19,702	19,702	19,702

Interpretation: the coefficient 3.90 (at the bottom of the first column) means that women in the top 5% of inheritance distribution have a probability of success (being in a couple with a man in the top 5% of inheritance distribution) 3.90 times higher than women in the bottom 95% of the inheritance distribution; the coefficient 3.82 provides the same measure for the labor income dimension.

The coefficients are ratios of marginal effects estimated by probit analysis.

Standard errors in parentheses; * $p<0.1$, ** $p<0.05$, *** $p<0.01$

Table 5: Men belonging to top positions

Dep.var.: Top 10% men	Panel A: Entire sample		Panel B: Top heirs by cohort					Panel C: Top income earners by cohort				
	Inheritance	Income	Bef. 1930s	1930s	1940s	1950s	Aft.1950s	Bef. 1930s	1930s	1940s	1950s	Aft.1950s
Women:												
Top heiresses [1]	0.275***	0.160***	0.394***	0.257***	0.267***	0.176***	0.182***	0.206***	0.183***	0.273***	0.111***	0.086**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.012)
Top income earners [2]	0.040***	0.154***	0.033	0.034	0.038*	0.058***	0.036*	0.099***	0.140***	0.103***	0.103***	0.180***
	(0.000)	(0.000)	(0.229)	(0.159)	(0.056)	(0.006)	(0.050)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Difference [1 - 2]	**0.235*****	**0.006**	**0.361*****	**0.224*****	**0.229*****	**0.118****	**0.146*****	**0.107***	**0.043**	**0.170*****	**0.008**	**-0.094****
	(0.000)	(0.780)	(0.000)	(0.000)	(0.000)	(0.020)	(0.003)	(0.060)	(0.480)	(0.030)	(0.850)	(0.030)
Control for ages	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19,702	19,702	2,908	3,276	3,999	4,921	4,598	2,908	3,276	3,999	4,921	4,598

Interpretation: the first column can be read as follows: 0.275 means that for a woman, belonging to the top 10% of inheritance distribution increases by 27.5% the probability of being in a couple with a top heir; 0.040 is the same probability but for women belonging to the top 10% of labor income distribution; the third coefficient is the difference. Coefficients were normalized to take into account the relative magnitude of monetary inputs brought by top heiresses and top income women.
P-values in parentheses; * p<0.1, ** p<0.05, *** p<0.01

Table 6: Women belonging to top positions

Dep.var.:	Panel A: Entire sample		Panel B: Top heiresses by cohort					Panel C: Top income earners by cohort				
Top 10% women	Inheritance	Income	Bef. 1930s	1930s	1940s	1950s	Aft.1950s	Bef. 1930s	1930s	1940s	1950s	Aft.1950s
Men:												
Top heirs [1]	0.253***	0.067***	0.373***	0.220***	0.221***	0.168***	0.187***	0.065	0.059	0.063*	0.107***	0.059*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.160)	(0.204)	(0.084)	(0.009)	(0.092)
Top income earners [2]	0.077***	0.156***	0.105***	0.086***	0.129***	0.052***	0.058***	0.103***	0.143***	0.110***	0.102***	0.184***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Difference [1 - 2]	**0.176***	**-0.089***	**0.268***	**0.134**	**0.092**	**0.116***	**0.129***	**-0.038**	**-0.084**	**-0.047**	**0.005**	**-0.125***
	(0.000)	(0.000)	(0.000)	(0.020)	(0.040)	(0.010)	(0.010)	(0.500)	(0.130)	(0.290)	(0.900)	(0.005)
Control for ages	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19,702	19,702	2,908	3,276	3,999	4,921	4,598	2,908	3,276	3,999	4,921	4,598

Coefficients were normalized to take into account the relative magnitude of monetary inputs brought by top heirs and top income men..

P-values in parentheses; * p<0.1, ** p<0.05, *** p<0.01

Table 7: Men: Inheritance vs Diploma

Dep.Var.: Top 10% men	Entire sample		Under 60 y.o.	
	Inheritance	Income	Inheritance	Income
Women:				
Top 10% inheritance [1]	0.171***	0.094***	0.125***	0.077***
	(0.000)	(0.000)	(0.000)	(0.000)
Top 10% diploma [2]	0.069***	0.197***	0.078***	0.181***
	(0.000)	(0.000)	(0.000)	(0.000)
Difference [1] - [2]	**0.102*****	**-0.104*****	**0.047****	**-0.106*****
Significance level	(0.000)	(0.000)	(0.020)	(0.000)
Control for ages	Yes	Yes	Yes	Yes
Observations	19,685	19,685	14,435	14,435

Interpretation: the first column can be read as follows: 0.171 means that for a woman, belonging to the top 10% of inheritance distribution increases by 17.1% the probability of being in a couple with a top heir; 0.069 is the same probability but for women belonging to the top 10% of diploma distribution; the third coefficient is the difference.
Coefficients were normalized to take into account the relative magnitude of monetary inputs brought by top heiresses and top graduated women.
P-values in parentheses; * p<0.1, ** p<0.05, *** p<0.01

Table 8: Women: Inheritance vs Diploma

Dep.Var.: Top 10% women	Entire sample		Under 60 y.o.	
	Inheritance	Income	Inheritance	Income
Men:				
Top 10% inheritance [1]	0.170***	0.038***	0.127***	0.021
	(0.000)	(0.004)	(0.000)	(0.151)
Top 10% diploma [2]	0.095***	0.189***	0.083***	0.183***
	(0.000)	(0.000)	(0.000)	(0.000)
Difference [1] - [2]	**0.075*****	**-0.151*****	**0.044****	**-0.162*****
Significance level	(0.000)	(0.000)	(0.040)	(0.000)
Control for ages	Yes	Yes	Yes	Yes
Observations	19,685	19,685	14,435	14,435

Coefficients were normalized to take into account the relative magnitude of monetary inputs brought by top heirs and top graduated men.
P-values in parentheses; * p<0.1, ** p<0.05, *** p<0.01

Appendices

A   Ratio of inputs

The inputs that are brought to the household is defined such that:

$$I^s = \underbrace{\sum_{t=0}^{n} Y_t^s * (1+r)^{n-t}}_{Y^s} + \underbrace{\sum_{t=0}^{n} B_t^s * (1+r)^{n-t}}_{B^s} \tag{A.1}$$

with s = m (male) or f (female); Y_t^s = labor income perceived at time t by individual s; B_t^s = *inter vivos* gifts and bequests received at time t by individual s; r = interest rate; n = end of the period of observation and t = time indicator.

In order to compute the ratios of input between top income earners and top inheritors, I make some assumptions about the length of accumulation and the returns. Basically, I assume that the couple is formed around the age of 30 y.o. and that bequests are received at 45 (table C.1 shows that this last assumption is realistic). I compute the ratio over a period of thirty years (from 30 y.o. to 60 y.o.). The labor income is accumulated during thirty years and the inheritance during fifteen. The returns to inheritance and labor income are similar: I simulate three scenarios depending on three different interest rate (1, 3 or 5%).

An illustrative example may help to understand this computation. Suppose that top income earners receive on average a bequest of €50,000 and earn €65,000 per year through labor income and/or replacement income. The top inheritors receive €300,000 as bequests but an income of €24,000. The ratio I obtain is between 1.97 and 2.05 (depending on the interest rates).

One may worry about the definition of income I use. In the surveys, the income self-declared by the respondents is annual and therefore current. For the purpose of this computation, I consider it as permanent and therefore fixed over the period. This could lead to an overestimation (underestimation) of the labor income part of the input if the declared income is superior (inferior) to the permanent income and therefore it could affect the ratio. However, two reasons make me believe that this bias is limited. First, this issue would generate a bias only if the life-cycle evolution of labor income is different between the dimension. In the analysis by cohorts I observe that these ratios are stable and that top inheritors and top income earners don't have significant differences in the life-cycle evolution of their labor incomes. Secondly, in appendix C obtain a measure of permanent income from current income. Both ratio and results are not

much affected by this change. This provides evidence that the potential bias is negligible for both static and historical analyzes.

B   Details about the discounting of inheritance

The goal of the index I use is to take into account changes in values of inherited wealth over the twentieth century. Most of the gifts/bequests contain real estates and moveable assets that experienced changes in their values especially over the recent decades. The index incorporates long-run evolutions of prices of consumption goods (CPI), real estate, equity and bonds. I make a weighted average of these evolutions in order to built my index. Finally I use information about the year of transmission in order to discount each of them and to compare comparable bequests.

In order to obtain comparable inheritance values between surveys, I have to implement some corrections. In 1992 13.3% of all transmissions happen before 1950 whereas this proportion is only 2.2% and 1.3% in 1998 and 2004, respectively. For these transmissions discounting coefficients are especially high. As a consequence, I would obtain average bequests that are much higher compared to 1998 and 2004 especially because of the extreme amounts created by the index. In order to avoid this overestimation problem and because it is difficult to estimate precisely long run evolution of asset prices, I have decided to put a ceiling on the discounting. All the transmissions received more than thirty years before the survey are considered as having been received exactly thirty years before the survey. In spite of this correction, the levels for men in 1992 remains higher mainly because much more transmissions have to be discounted for this wave: 34% of the sample receive a transmission compared to 28% in 1998 and 2004. Last remark, in all the empirical tests, I replicate the results by cohorts or on a sub-sample of people who are less than 60 y.o. and therefore much less affected by the issue. The robustness of the results demonstrates that this correction is not likely to generate any bias in the estimates.

C   Descriptive statistics

Table C.1: Descriptive Statistics - French Wealth Survey (INSEE)

	1992	**1998**	**2004**
Number of couples	7,049	6,711	5,942
Proportion of married couples	89.2%	84.4%	82.2%
Average age (household head and spouse only)	49.5	49.4	50.3
Wealth transmissions Share of observed receivers [1]	34.2%	27.2%	28.3%
Share of imputed receivers [2]	21.5%	27.4%	29.1%
Total share of receivers [1 + 2]	55.7%	54.6%	57.4%
Share of receivers by gender			
Women	55.8%	54.4%	57.1%
Men	55.5%	54.8%	57.7%
Share of inheritance in the current household's wealth*:			
None	NR	23.6%	19.4%
Less than 25%	NR	48.5%	50.6%
Between 25% and 50%	NR	16.3%	17.3%
More than 50%	NR	11.6%	12.7%
Comparison of wealth between men and women in couple:			
When they met, the man's wealth was:			
Greater	18.4%	24.0%	22.6%
Lesser	10.4%	14.4%	12.4%
Similar	30.9%	28.7%	29.8%
Neither of them had any wealth	40.3%	32.9%	35.2%
Average age at the first inter vivos gift*	35.8	36.5	35.5
Average age at the first inheritance*	43.1	42.6	43.4

Universe: all individuals in couples (household head and spouse).
* For these questions only the observed inheritance is taken into consideration.

D Robustness tests

D.1 Inheritance vs income (additional controls)

Table D.1: Men belonging to top positions

	Entire sample		Under 60 y.o.	
Dep.Var.: Top 10% men	Inheritance	Income	Inheritance	Income
Women:				
Top 10% inheritance [1]	0.244***	0.088***	0.181***	0.069***
	(0.000)	(0.000)	(0.000)	(0.001)
Top 10% income [2]	0.005	0.060***	-0.009	0.045***
	(0.636)	(0.000)	(0.457)	(0.001)
Difference [1] - [2]	**0.239***	**0.028**	**0.190***	**0.024**
Significance level	(0.000)	(0.210)	(0.000)	(0.370)
Controls for				
Age	x	x	x	x
Diploma	x	x	x	x
Children (dummy)	x	x	x	x
Observations	19,623	19,623	14,381	14,381

Coefficients were normalized so as to take into account the relative magnitude of monetary inputs brought by top heiresses and top income women.
"Children" appears as a dummy because we measure the presence of children and not their number.
P-values in parentheses; * p<0.1, ** p<0.05, *** p<0.01

Table D.2: Women belonging to top positions

	Entire sample		Under 60 y.o.	
Dep.Var.: Top 10% women	Inheritance	Income	Inheritance	Income
Men:				
Top 10% inheritance [1]	0.228***	0.023	0.175***	-0.002
	(0.000)	(0.251)	(0.000)	(0.941)
Top 10% income [2]	0.040***	0.077***	0.035***	0.065***
	(0.000)	(0.000)	(0.002)	(0.000)
Difference [1] - [2]	**0.188***	**-0.054***	**0.139***	**-0.067***
Significance level	(0.000)	(0.010)	(0.000)	(0.010)
Controls for				
Age	x	x	x	x
Diploma	x	x	x	x
Children (dummy)	x	x	x	x
Observations	19,623	19,623	14,381	14,381

P-values in parentheses; * p<0.1, ** p<0.05, *** p<0.01

D.2 Inheritance vs permanent income

By using the current annual income of individuals we observe an income that may not be representative of his/her lifetime income. I try to correct this potential issue by using potential labor income or by implementing an analysis by cohorts. However, Lollivier and Verger (1999) have developed a method to obtain a measure of permanent income from current income and other individual information.

This robustness test only appears in appendix because all the variables I need are not available for all the individuals and this modifies considerably the sample. The main illustration of this issue is that, among other information, I need to have a strictly positive current income to approximate the permanent income but the current income is equal to 0 for around 30 to 40% of women in each survey. As a consequence, we have a final sample of 10,207 couples instead of 19,702. Besides, this correction also affects the composition of the sample. Taking couples for whom current labor income of both spouses is positive is a way to focus only on two-earner couples. Indeed, a central issue in my work about assortative mating is to observe the within-household specialization and therefore the role devoted to women. If we only keep these couples, we lost part of our results and the comparison with the core analysis becomes impossible.

In Table D3 I replicate the bi-dimensional tests with permanent labor income. In spite of a modification of the sample, the results are very similar to the tests with potential income. We observe a symmetry in tastes: there is a mutual attractiveness for top inheritors and top income earners. However, we can still note that men value more inheritance than women.

This test consolidates two elements. First, the stability of the results whatever the definition of labor income (current, potential or permanent) clearly demonstrates the robustness of our results about a sensitivity regarding the source of wealth. Second, the construction of permanent income evacuates the possible effect of age in our results. This is an extra evidence of the stability of tastes over time.

Table D.3: Bi-dimensional tests with permanent income

	Dep.Var.: Top 10% men		Dep.Var.: Top 10% women	
	Inheritance	Perm. Income	Inheritance	Perm. Income
Top 10% inheritance [1]	0.217***	0.142***	0.180***	0.069***
	(0.000)	(0.000)	(0.000)	(0.002)
Top 10% permanent income [2]	0.055***	0.249***	0.081***	0.250***
	(0.000)	(0.000)	(0.000)	(0.000)
Difference [1] - [2]	**0.162*****	**-0.107*****	**0.099*****	**-0.181*****
Significance level	(0.000)	(0.001)	(0.001)	(0.000)
Control for ages	Yes	Yes	Yes	Yes
Observations	10,702	10,702	10,702	10,702

Coefficients were normalized so as to take into account the relative magnitude of monetary inputs brought by top inheritors and top income earners.

P-values in parentheses; * p<0.1, ** p<0.05, *** p<0.01