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The more, the better ? Individual and joint Interviewing in surveys

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Abstract

This paper examines the influence of respondents on the quality of surveys and on wealth estimates using the French wealth survey *Patrimoine*. Since 2004, the responses provided by both spouses jointly have been progressively replaced by responses provided solely by either the male or the female spouse. When both spouses are interviewed together, the responses are judged more reliable as compared to individual respondents. Changes of respondents explain part of the changes in the value of wealth. When the response is provided by both spouses in 2015 but solely by the male spouse in 2018, net household wealth significantly increases and it decreases for the transitions from male to joint respondents. When I turn to the transitions from joint to female respondents, I detect opposite effects. These results highlight the need to consider more carefully the influence of respondents in the estimation of wealth and in the measurement of inequality.

JEL codes: C81, D31, J12

Keywords: survey, interview, respondents, wealth, couple, measurement errors

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1 Introduction

Even though empirical works tend to use increasingly administrative data (Kleven (2018)), the microeconomic analysis of wealth is still largely dependent on survey data. Wealth surveys allow researchers to provide detailed analyses of household wealth and to estimate the wealth distribution. These surveys are used either as a main data source or as a complement to national accounts or administrative data[1]. However, it is well-known that these surveys suffer from measurement errors. So far, the literature about income and wealth inequality[2] mostly focused on the role of sampling errors and some non-sampling errors (e.g. item nonresponse) to explain the differences in wealth estimates coming from surveys as compared to those coming from administrative data.

Among non-sampling errors, the influence of respondents has been studied less extensively although the survey design varies depending on the context (Moore (1988)). Indeed, within a household, the respondent can be one of the spouses or another member of the household. The respondents can be interviewed alone or together with other members of the household. Moreover, in panel data, the respondent is not always the same from one wave to the other. Proxy respondents are useful because they help to reduce the costs of surveys and they reduce nonresponse but what about potential measurement errors? On the one hand, proxies may know more about the subject matter than the target individual, or they may be subject to less social desirability pressure. Measurement errors are maybe less important for couples because the degree of closeness between the proxy and the target respondent matter (Wagmiller (2009)). On the other hand, one can assume that self-report leads to less measurement errors because the target individual knows better his/her own characteristics than any other person. Proxies can also increase biases because they overlook comprehensive information about wages (Bound et al. (2001)) or because filling the questionnaires of several persons increases interview fatigue (Moore (2010)). According to Reynolds and Wenger (2012), gender norms could

[1] See Garbinti et al. (2021) for an illustration.

[2] See for instance, Deville and Sarndal (1992), Korinek et al. (2006), Solon et al. (2015), Bourguignon (2018), Blanchet et al. (2019). For a more general analysis of measurement errors in surveys, see also Bound et al. (2001) or more recently Celhay et al. (2022).

lead to an overestimation of male earnings by proxy respondents and to an underestimation of female earnings

Most papers about the influence of proxy respondents are in the area of public health and epidemiology. On economic traits, earnings have been studied by several authors.[3] Empirical findings on the issue are mixed. For Bound and Krueger (1991) and Mellow and Sider (1983), using proxies do not lead to biased estimates. On the contrary, Hill (1987) finds "differential reporting bias on earnings between self and proxy reporters". Reynolds and Wenger (2012) note that self-reported wages are higher than proxy reported wages and that it affects the gender wage gap. This conclusion about the gender gap is also supported by Lee and Lee (2012). Tamborini and Kim (2013) also observe a slight downward bias in proxy-reported earnings but the contribution of married workers to this bias is not substantial.

This paper differs from this literature on two key aspects. First, I study wealth and not earnings. Going from earnings to wealth directly affects the analysis because earnings is an individual trait whereas wealth can be held jointly with other members of the household. In France, most couples are married with a community property regime and the share of joint assets is larger than the share of individual assets even though it has been decreasing over the past decades (Frémeaux and Leturcq (2020)). Therefore, except for some rare couples, the partner is not a "pure" proxy because he/she owns part or all of the assets held by the couple. Second, the respondent can be one of the spouses interviewed alone but also both spouses interviewed together. Thus, other questions arise beyond the issues listed above. Among couple-headed households, one could assume that more respondents mean more information but joint interviews can reduce privacy and more people may also lead to less reliable information due to free riding. One could also imagine that gender norms and dynamics in couples make reporting of couples peculiar. As a conclusion, wealth is interesting per se not only because it is a concept that has been less studied but also because the results may be generalizable

[3]Several papers also analyze the reporting of information about labor market participation: Martin and Butcher (1982); Boehm (1989); McGovern and Bushery (1999); Bardasi et al. (2011)

to traits that are not individual.

Why could we expect differences in reporting about the value of assets from one respondent to another? First, the difference can come from knowledge about the market value of assets. Even if social desirability affects earnings as well as wealth, the owner of the assets is more likely to provide more accurate estimates of its value. Among couples, separate assets are generally inherited assets or assets acquired before marriage. In France, the share of joint assets has declined between 1998 and 2015 as a consequence of the rise of the share of cohabiting couples and married couples with a separate property regime Frémeaux and Leturcq (2020). Therefore, when they are interviewed alone, spouses are more and more likely to report the value of assets they do not own. This effect is likely to be more marked for women because Frémeaux and Leturcq (2020) highlights a growing gender wealth gap as a result of the individualization of wealth. Second, the spouses can specialize in the management of the household finances. Even if existing papers have emphasized the gender differences in the way the household budget is spent (Roy (2006)), there is no direct evidence about the management of the assets owned by the household. In case such specialization exists, we can expect that financial and business assets are likely to be more affected. Finally, in surveys, for housing assets, the respondents are often asked to report the price they would receive if the asset was sold. Goldsmith-Pinkham and Shue (forthcoming) have shown that the value someone gives to housing assets during a transaction varies across individuals. Specifically, women experience worse execution prices when they sell properties because of differences in the choice of initial list price. In this case, the difference may come from expectations rather than information.

In this paper, I investigate the role of respondents on measurement errors using the French wealth survey *Patrimoine*. My contribution is threefold. First, I use the detailed socio-demographic information included in the survey in order to study the characteristics of each type of respondents (joint respondents or male/female partner alone). Then, I attempt to address a major limitation of this literature by analyzing the quality of the responses and how respondents affect this quality.

Since the 2014-2015 wave of the Patrimoine survey, the interviewers are asked to assess the quality of interviews. This assessment is either general (e.g. global reliability of the information provided by respondents, potential errors or inconsistencies made by respondents, etc.) or specific (e.g. documents used during the interview to prove the value of assets). I also use the longitudinal dimension of the survey to provide alternative measurements of quality. Indeed, the respondents are asked to report potential errors made in 2014-2015 when they are interviewed for the second time in 2017-2018.

Second, I use the longitudinal dimension of the Patrimoine survey to test whether the changes of respondents between the first and the second interview influence changes in wealth estimates. Indeed, in the literature about measurement, it is often impossible to compare the reported value to the true value. Two main empirical strategies have been implemented[4]. In the 1979 National Longitudinal Survey used by Zagorsky (2003), each spouse is interviewed separately and therefore each spouse represents a counterfactual for the other spouse. However, both spouses can make errors so differences in reporting do not indicate which spouse is more accurate. Bound and Krueger (1991), Bollinger (1998) and Lefranc and Hagneré (2006) use third-partly validation data but they cannot say whether reported earnings were self-reported or reported by a proxy. In this paper, I implement an alternative strategy by using the fact that the change of respondent from 2015 to 2018 is (conditionally) exogenous to identify the influence of respondents. This identification strategy has also been implemented by Lee and Lee (2012) and Reynolds and Wenger (2012). The fact that an increasing number of wealth surveys[5] now include a longitudinal component makes the questions about the *change* in wealth estimates even more relevant.

Third, I combine detailed variables about the owner of each asset within the household with information about the matrimonial property regime to construct the personal wealth of individuals, distinguishing *individual* wealth from *joint* wealth. Consequently, I consider not only the assets held

[4] Alternative empirical strategies have been implemented. For instance, Doss et al. (2018) build their counterfactual using the decomposition technique of DiNardo et al. (1996).

[5] In the HFCS survey, there are now 12 countries for which a panel component is available: Belgium, Germany, Estonia, France, Spain, Italy, Cyprus, Latvia, Malta, Poland, Slovakia, Finland. However, the Survey of Consumer Finances does not include such longitudinal dimension.

by the household but also the personal wealth of each spouse. This unique feature of the Patrimoine survey allows me to test the mechanisms explaining the influence (or the absence of influence) of survey respondents.

I show that the share of households in which both spouses are interviewed together has significantly declined from 53% of respondents in 2004 to only 43% in 2018. Moreover, the change of respondent between the first interview in 2015 and the second in 2018 is frequent as it is the case for 42% of our sample. The *change of respondents* within households between 2015 and 2018 is not fully exogenous but none of the key factors affecting wealth accumulation (initial wealth, income, inherited wealth, etc.) explain the change in respondents. When both spouses are interviewed together, the interviewers judge that they provide more reliable answers, make less errors or omissions and they use documents more frequently. Among individual respondents, there are no significant differences between male and female respondents.

Changes in the value of wealth are related to changes of respondents between the first and the second interrogation, even when I control for other potential sources of changes over time. I do not detect any significant change when the respondents are the same in 2015 and 2018. However, when the response is provided by both spouses in 2015 but solely by the male spouse in 2018, the household net wealth significantly increases and it decreases for the transitions from male to joint respondents. The changes from joint to female respondents lead to opposite effects as the value declared by women when interviewed alone is lower than that provided when the response is joint with their husbands. Among the couples with individual respondents for both waves, the changes are more contrasted. The analysis of personal wealth reveals that changes in reporting are partially driven by gender or by ownership of the asset. The influence of male respondents is similar for all assets whereas female respondents value differently their own assets compared to those of their spouse. It remains however difficult to determine if these differences are driven by information or by confidence/desirability. Overall, the growth of net wealth estimated when the respondent did not

change is closer to estimates obtained using national accounts.

This paper leads to several implications. Wealth estimates at one point in time or over time are partially driven by the respondents themselves. The increasing share of individual respondents in the Patrimoine survey combined with the decreasing share of joint assets among couple-headed households in France is likely to make this issue even more salient in the future. Therefore, in absence of third party or of administrative data, the designers of surveys should make more systematic the interviews of both spouses as well as the use of documents. Similarly, the measurement of wealth inequality and particularly the gender wealth gap (even among single-headed households), is partly affected by the respondents and so it is necessary to consider more carefully the influence of respondents in estimations of wealth. The fact that, in most surveys, people are interviewed alone or together with his/her spouse suggests that the type of respondents can also affect wealth estimates in other countries.

The remainder of the paper unfolds as follows. Section 2 presents the data. In section 3, I study the characteristics of respondents and the quality of responses. Section 4 describes the econometric analysis about the influence of respondents on wealth estimates. Section 5 concludes.

2 Data

Presentation of the survey The *Patrimoine* survey has been collected every 6 years since 1986. With the introduction of the longitudinal component in 2014-15, the collection interval for the French survey was also amended from sexennial to triennial with the latest data available in 2017-18.

The survey provides information on financial assets (savings accounts, stocks, bonds, life insurance contracts, etc.),[6] housing assets (primary residence, other properties, lands, etc.) and business assets

[6]Because the pension system in France is a pay-as-you-go system, there are almost no private pension plans or pension savings. Therefore, pensions are not considered assets and do not enter into personal wealth. Individuals can decide to constitute complementary pension plans based on savings. We consider savings on these types of plans financial assets. Public pension entitlements are generally not captured in survey data because they are not known to the respondent. On this issue, see Frick and Grabka (2013).

(buildings and lands for professional use, agricultural assets, machines, etc.). The data includes a short description of each asset (type, date of acquisition, etc.), and it gives the identity of the owner of the asset within the household. When an asset is held by more than one individual, the survey provides a detailed description of the distribution of the asset between the household head, his/her spouse (if any), and other members of the household or persons from another household. Respondents are asked to report the current value of each assets. For housing assets, they are asked to report the price they would receive if the asset was sold.[7]

The survey also provides a detailed biography of the household and its members (household formation, educational attainment, labor force history, etc.). I am able to distinguish single-headed households from couple-headed households. For couple-headed households, I have information about the marital status (unmarried cohabitation, civil union[8], or marriage) and the matrimonial property regime (community property regime or separate property regime). Such detailed information on matrimonial property regimes is unique in survey or fiscal data (in France but also in comparable surveys abroad).

Using the information available on assets and on the marital status of each individual, I am able not only to measure the wealth of the household but also to construct the personal wealth of individuals, distinguishing *individual* wealth from *joint* wealth. I apply the definition of individualized wealth of Frémeaux and Leturcq (2020). More specifically, I applied ad hoc coefficients of individualized wealth between 0 and 1 for each asset, depending on the property regime of the couple and the year the asset was acquired. For each type of couple, I systematically excluded financial assets acquired before marriage from joint wealth as well as private pension plans because legally they are

[7] Total household wealth, housing assets and financial assets is adjusted for inflation and top- and bottom-coded at the 1% level (winzorisation). All the outcomes measuring the change between 2015 and 2018 are also top coded at the 1% level.

[8] In 1999, France introduced one of the first legal alternative to unmarried cohabitation and marriage - the French civil partnership, pacte civil de solidarité (Pacs). It provides couples in civil unions with legal recognition of their relationship without being married. In terms of property rights, unmarried cohabitation is an implicit separate property regime even if some assets can be held jointly by the partners. Like married couples, civil union couples can choose their property division regime. From 1999 to 2006, the default regime was the community property regime. From 2007 onward, the separate property regime has been the default regime.

considered individual assets. I also excluded part of the value of real estate assets when they were unequally distributed between spouses. In the case of unmarried cohabiting couples and couples married with a separate property regime, I attributed all other assets to individual wealth unless it could be argued that this asset was a joint asset. For married couples with a community property regime, I considered financial assets to be joint assets if they were acquired after the date of marriage because the community property regime implies that this type of asset is a joint asset[9].

Quality In the Patrimoine survey, the data are collected through face-to-face interviews. The interviewer is asked to interview the individual who is the most aware of the management of the household's wealth. It may be one of the spouses alone or both spouses together. Since the 2014-2015 wave, the questionnaire includes information about the interview itself. Besides the main features of the interview (list of respondents, language used, etc.), the interviewers are asked to assess the quality of interviews. Specifically, the interviewer assesses the degree of reliability of the information provided by respondents. They are also asked to note potential errors, inconsistencies or omissions made by the respondents. During the second interview in 2017-2018, the interviewer lists all the assets declared during the first interview (but not their value) so the respondent can report potential errors made by themselves or by their spouse. Moreover, I also know if the respondents use documents (e.g. banking account statement, tax statement, invoices, etc.) to prove their answers and if they had difficulty to understand the questions.

To my knowledge, such detailed information about respondents and the quality cannot be found in comparable surveys[10]. This feature helps to address one of the main limitations of the literature about survey respondents: the difficulty to evaluate the accuracy of responses. Even if all these measurements are subjective, they allow us to assess the quality of the responses.

[9] In 2015, the share of individualized wealth among couples equal 21%. This share varies significantly depending on the type of couple: 8% for marriage or civil union with a community regime, 57% marriage or civil union with a separate property regime and 76% for cohabiting couples (Frémeaux and Leturcq (2020))

[10] In the Survey of Consumer Finances for instance, the interviewer is asked to provide feedbacks on some aspects of the interview (use of documents, ability of respondents to express themselves) but there is no direct information about quality. Moreover, we cannot know if the respondent was alone or with his/her spouse during the interview.

Sample I restrict the sample to couple-headed households living together[11] who are interviewed in the 2015 and 2018 waves of the survey. I exclude same-sex couples because their identification is complex. The longitudinal identification number allows me to verify that both partners or spouses are the same from one wave to another. I exclude couples if the respondent is not the head of the household or his/her spouse (2.7% of couple-headed households). I have a final sample of 2,545 observations.

The duration of the longitudinal dimension (3 years) may be seen as too short to detect sizeable changes in the value of assets but for the issue addressed in this paper this duration actually helps to identify the influence of respondents.

3 Respondents and quality of responses

3.1 Who are the respondents and what are their characteristics?

Figure 1 highlights the decline of joint responses among couple-headed households. Specifically, the share of households in which both spouses are interviewed together has declined by 10 percentage points between 2004 and 2018[12], from 53% to 43%. When one spouse is interviewed alone, the share of women is larger than that of men but the gap has been slightly reducing over time.

In Table 1, I analyze the characteristics of respondents. In 2015, individual respondents are younger than spouses who are interviewed together. The educational attainment of both spouses is positively correlated with a male response and negatively correlated with a female response. The female labor market participation is larger when the female spouse is interviewed alone and lower when it is the male spouse. The legal status affects the type of response as married couples with a community regime are more likely to be interviewed jointly than the other types of couples. A

[11] People outside the household are not interviewed. Consequently, we cannot have the full information about the wealth of people who are in a relationship if they do not live together.

[12] The information about the respondent(s) is available since 2004 but the variables about the quality of the survey have been introduced in 2014-2015 only.

male individual response is more likely among married couples with a separate property regime. In 2015 and in 2018, individual male respondents are significantly wealthier than the other types of respondents. Other variables like duration of the relationship or region of residence do not differ across the type of respondent. All these results are fairly similar in 2018 (columns 4, 5 and 6). In appendix, I analyze more systematically the characteristics of the respondents by using a logit model (Table A.1). Once I hold all other characteristics constant, the wealth gap between respondents is not statistically significant anymore.

I study the relationship between the type of respondents and wealth in Figure 2.[13] Joint response is the most frequent type of response along the whole distribution but I note a slight inverted U-shaped curve and more joint responses between P20 and P70. Among individual respondents, the figure highlights another pattern as female respondents are overrepresented at the bottom of the wealth distribution and male respondents are overrepresented at the top.[14]

Table 2 describes the change of respondents between 2015 and 2018. The distribution among respondents is slightly different from that observed in Figure 1 because of our sample restrictions. Specifically, the share of joint responses declines between the two waves of the survey. More importantly, the change of respondents between the first interview and the second is frequent. Specifically, there is a change of respondents for 42% of the sample. The change from joint to individual response is the most frequent (20%). The opposite change (from individual to joint response) is observed for 15% of our sample. The changes among individual respondents are scarcer: only 3% from male to female respondents and 4% from female to male.

In Table 3, I test whether the change of respondents can be used as an identifying assumption to study the influence of respondents on wealth estimates. To do so, I analyze the determinants of the changes of respondents.[15] In comparison with Table 1, there are less variables predicting these

[13] I only present the result for 2015 because the estimate for 2018 is similar.

[14] On this issue and on the management of assets among couple-headed households, see also Herlin-Giret (2019).

[15] For columns 2 to 10, I have decided to keep the whole sample. It allows to compare the people who change (e.g. from joint to female) to all the other individuals. However, it contains households for whom the dependent variable cannot take a value of 1. For example, those who did not respond jointly in 2015 cannot switch from a joint response to

changes. When I consider all types of changes (column 1), the variables related to the availability of respondents like male's age and labor market status are the only ones that are correlated with the likelihood of a change of respondent. For the other types of change, the determinants are often the same: age, change in the labor market status, education, duration of the relationship. It is noteworthy that key variables that directly affect wealth accumulation like wealth levels in 2015[16], income and the variables indicating significant changes in the household wealth (due to personal, professional, real-estate and other reasons) are not statistically significant. This conditional exogeneity is however more questionable in less frequent types of changes like FemaleMale (3% of all cases) and, to a lesser extent, for households for which the there is an individual respondent in 2015 and 2018 (MaleMale, FemaleFemale). As a consequence, these results make the assumption of conditional exogeneity highly plausible and the extent of potential biases a priori limited.[17]

3.2 Quality of responses

The literature on proxy respondents often fails to determine if the information provided by proxies is more accurate than that self-reported because they cannot identify the truth. I use several questions about the quality of responses in order to study the relationship between respondents and the reliability of the information they provide.

To measure the quality of responses, I use two types of measurement. First, I rely on the assessment made by the interviewer at the end of the interview. Specifically, I use four variables: overall reliability of the information provided about income and wealth; potential errors, omissions and/or inconsistent information; frequent use of documents to prove the responses; ability to understand the questions. Second, during the second interview in 2018, the respondent can detect potential errors made in the first interview in 2015 either by himself/herself or by his/her spouse. For the sake of

a male respondent. For each combination, I have also run these regressions separately for each state in 2015. Whatever the specification (whole sample or restricted sample), the results are very similar.

[16]Figure A.1 in appendix depicts the share of households whose respondent has changed between 2015 and 2018. There is no clear pattern.

[17]See section 4.3 for a discussion about this assumption and about the extent potential biases and their direction.

consistency and clarity, each of these outcomes is defined as a dummy variable.[18] I use the changes in response status instead of the status at the time of the survey.

Table 4 describes the results. In 2015, the quality of responses is judged better when both spouses are always interviewed together. This is especially true for the overall reliability and the use of documents but the gap is not statistically significant for errors (column 2). This result holds when there is an individual respondent during the second interview in 2018. Among individual respondents, the quality is judged significantly lower, whether there is a change of respondent or not. More specifically, men are judged less reliable, more likely to make errors and the ability of women to understand the questions is judged lower than that of men. This result is confirmed when I consider an alternative measurement like the ability to provide an answer. However, as suggested by Barber and Odean (2001), this last result may be more correlated with self-confidence rather than perceived quality per se. Moreover, all individual respondents are less likely to use documents. All these differences are globally less marked in 2018 (except for the use of documents). When I turn to my second measurement of quality, I find that women tend to consider more frequently that errors have been made during the first interview, whatever the type of respondent (column 9).

The effect of control variables is consistent with the empirical literature about financial literacy (Arrondel et al. (2013) and Lusardi and Mitchell (2014)). Income and wealth are positively correlated with the perceived quality of responses for most items. I also note a positive correlation between education and quality, even though the form of the relationship differs from one item to another. Quality differs across the type of couples as the overall reliability is judged lower for married couples opting for the separate property regime. This result is consistent with the fact that the management of household finances is more frequently individual rather than joint among couples opting for separate property regimes. Specifically, in 2015 and in 2018, the management of household finances was

[18] "Overall reliability" is equal to 1 if the interviewer considers the information provided to be reliable and to 0 is the reliability is average or low. "Errors" is not transformed because it is already a dummy variable equal to 1 if the interviewer considers that there are errors or inconsistencies. "Use of documents" is equal to 1 if documents are used often or sometimes and 0 they are rarely or never used. "Ability to understand" is equal to 1 if the interviewer considers that the ability to understand the questions is excellent or good and 0 if the ability is average or low.

not joint for around 4% of couples opting for separate property regimes (unmarried cohabitation, marriage and civil union with a separate property regime) as compared to 1% for couples opting for community regimes (marriage and civil union with a community regime). This result suggests that people have a poorer knowledge of their spouse's assets compared with their own assets (whether they hold them individually or jointly), that is why the quality of joint responses is judged better than that of individual interviews. Other control variables like duration of the relationship, number of children, nationality or region do not affect the quality of the responses.

If we except the question about the use of documents, all the variables reported by the interviewer are subjective and reflect their perception. Therefore, I cannot rule out potential biases. Unfortunately, the survey does not provide any information about the interviewers so I cannot add interviewer-fixed-effect and I cannot control for their characteristics (gender, experience, etc.). However, several evidence suggest that these potential biases, if any, do not drive all the results about quality. Indeed, the interviewers are trained by the data producer, they generally participate to several waves of the Patrimoine survey and they are aware of measurement issues. There is a priori no link between their own characteristics and the characteristics of the households they interview. My second measurement about the detection of errors is also subjective because the second respondent may either detect a true error but he/she could also consider as an error a response that was true. Even if we cannot identify who made the error, this indicator reveals that the knowledge of the assets differs across respondents. Therefore, it could be seen as a proxy for low quality.

4 The influence of respondents on wealth estimates

4.1 Hypotheses

To investigate the influence of respondents on wealth estimates, an interesting experiment would be either a comparison of the self-reported value of assets to that reported by a third party or

a comparison of the estimates provided by the spouses when interviewed separately at the same moment. I cannot implement these experiments with the Patrimoine survey so my best option is to use the longitudinal dimension of the survey like Lee and Lee (2012) and Reynolds and Wenger (2012). The analysis provided in Table 3 suggests that the assumption of conditional exogeneity of the change of respondents is highly plausible. I use this identifying assumption to measure the influence of respondents on wealth estimates. The 3-year gap between the two waves of the survey as well as the ability to control for the main shocks affecting the value of assets allow me to provide a credible analysis of the influence of respondents.

I list several hypotheses based on the results of previous sections and on the related literature. One could say that joint interviews lead to less privacy and it could bias the information provided. Zarhin (2018) notes that it can be difficult for interviewers to give an equal voice to both partners and that "joint interviews may become a site in which one partner silences the other and enacts symbolic violence". However, we could argue that more people imply more information. More importantly, I showed in section 3.2 that the overall quality of responses was judged more reliable when both spouses were interviewed together, partly because the use of documents is much more frequent. The difference in the quality of responses between joint and individual respondents implies that *I expect significant changes in wealth estimates when the respondent changes between 2015 and 2018* (Hypothesis 1).

However, all the changes of respondents may not lead to the same effect on wealth estimates so I provide supplementary hypotheses. Specifically, the literature about financial literacy highlighted the role of self-confidence in explaining gender differences not only regarding correct answers about financial literacy questions but also regarding the probability to answer "do not know" to a question (Lusardi and Mitchell (2014)). About earnings, Reynolds and Wenger (2012) note that the gender gap is lower when proxy-reported than self-reported because of cultural expectations about male breadwinners and female homemakers. The influence of respondents on the gender wealth gap is a priori less clear. Zagorsky (2003) notes that a large part of couples disagrees on the value of their

assets as husbands provide higher figures than their wives when they are interviewed separately. But Doss et al. (2018) note that the direction of the gender gap in the valuation of assets differ across countries.[19] This gender gap may be also affected by the spousal presence that leads to more frequent agreements between spouses (Aquilino (1993)). Consequently, following Zagorsky (2003) and Goldsmith-Pinkham and Shue (forthcoming) *we expect an increase in the value of assets between 2015 and 2018 when there is a change from a joint response to a male respondent* (Hypothesis 2) and *we expect a decrease in the value of assets when there is a change from a joint response to a female respondent* (Hypothesis 3). Finally, *a change from a male to a female respondent should lead to a decrease in the value of assets* (Hypothesis 4). This last type of change is also likely to be affected by the absence of agreement because the spouses were never interviewed together. This remark is even more true if a large part of the couple's assets is not held jointly.

4.2 Econometric specification

I use the conditional exogeneity of the change of respondents (described in Table 3) as an identifying assumption to study the influence of respondents on wealth estimates. To test the hypotheses, I apply this first difference specification:

$$\begin{aligned}\Delta_t wealth_{it} = \beta_0 &+ \beta_1 Male_{i15}Male_{i18} + \beta_2 Female_{i15}Female_{i18} + \beta_3 Joint_{i15}Male_{i18} + \beta_4 Male_{i15}Joint_{i18} \\ &+ \beta_5 Joint_{i15}Female_{i18} + \beta_6 Female_{i15}Joint_{i18} + \beta_7 Female_{i15}Male_{i18} + \beta_8 Male_{i15}Female_{i18} \\ &+ \Delta_t X_{it} + u_i\end{aligned}$$

with $\Delta_t wealth_{it}$ the change in net household wealth[20] of couple i between the 2014-2015 and 2017-2018 waves of the Patrimoine survey. I use three types of indices: change in levels, relative

[19] In Ecuador and in India (Karnataka), men tends to report higher figures whereas in Ghana they report lower figures. However, the standard deviation is always larger for men than for women.

[20] The results on gross wealth are roughly similar to those on net wealth.

change (difference in logs) and change in ranks[21].

Male refers to an individual response by the male partner, *Female* refers to an individual response by the female partner and *Joint* refers to households in which both spouses are interviewed together. The subscripts *15* and *18* refer to the year 2015 (first wave) and 2018 (second wave). The couples in which both spouses are interviewed together in 2015 and 2018 are the reference category.

The set of control variables X_{it} includes time-varying variables: dummy variables indicating significant changes in the household wealth due to personal (gift/bequest, health issue), professional (bonuses, unemployment, retirement, capital gains), real-estate (housing/land value) and other reasons (lottery)[22], household labor income, legal status of couples (cohabiting, married with a community regime, married with a separation of property regime, civil union with a community regime, civil union with a separation of property regime), number of children and employment status. I also include time-invariant variables which are correlated with the likelihood of a change of respondent (Table 3): educational attainment and duration of the relationship (in years).

The level of wealth in 2015 is also correlated to some types of changes of respondent. More generally, one may worry that the heterogeneous returns to wealth affect our results. Indeed, Garbinti et al. (2021) highlight that the pretax rate of return strongly depends on wealth. Specifically, between 1984 and 2014, this rate was equal to 5.1% for the top 1% of the wealth distribution whereas it reaches only 2.7% for the bottom 90%. Consequently, I also control for the net wealth of households in 2015.

4.3 Results

Table 5 presents the results. I first analyze the total household net wealth (columns 1 to 6), then the housing wealth (columns 7 and 8) and the financial wealth (columns 9 and 10)[23]. For total wealth, I

[21] This last measurement follows a rank-transformation of the wealth variable and it is only used for the change in total net wealth as it is less relevant for the changes by type of assets.

[22] These variables are direct questions asked to respondents in order to list major events that have affected the household wealth in the past. In appendix, I replicate the analysis presented in Table A.4 on based on a sample of households that are not subject to these major events (gifts/bequests, lottery). The sample size is smaller (1761 observations) and the results remain roughly similar even though some coefficients like the JointMale (in levels) become non statistically significant.

[23] I do not provide specific analyses of business assets because they are held by a limited fraction of the population.

present 2 specifications: without any control variable (columns 1, 3 and 5) and with control variables (columns 2, 4 and 6).

Using the couples who were interviewed together in 2015 and 2018 as the reference group, I do not detect any significant change when the respondent is the same individual but the slight changes for male and female respondents go in opposite directions. When wealth is self-reported by men, there is an increase over time in levels and a stability for relative and rank measures whereas wealth decreases (for all measurements) when it is self-reported by women. For both men and women, the value of housing assets increases and that of financial assets decreases but the size of these effects differ[24].

When the response is provided by both spouses in 2015 but solely by the male spouse in 2018, I note a large and statistically significant increase in levels, with a supplementary net increase by around 60,000 euros (columns 1 and 2). The coefficients are also positive for the relative (+8.6%) and rank measures (+1.5 rank points). These coefficients are larger and the relative measure becomes statistically significant when I include the full set of control variables. This effect is mostly driven by housing wealth for which coefficients for both the level and the relative changes is positive and statistically significant. I find a symmetrical effect for the transitions from male to joint respondents but the coefficients are lower and only significant for the relative measure. The changes from joint to female respondents lead to opposite effects as the coefficients for the relative measure are significantly negative. Going from female respondents to joint responses leads to a non-significant increase for all measurements (except for financial wealth). The symmetry of this effect is less pronounced than that of male respondents when I use levels. Overall, the results are consistent with the hypotheses 1, 2 and, to a lesser extent, with the hypothesis 3.

Among the couples in which the spouses were never interviewed together, the changes are more contrasted and rather imprecise. Specifically, female respondents tend to provide higher figures

[24] Consistently with the findings of Doss et al. (2018), standard errors are slightly larger for men than for women (for all types of assets).

(than the first male individual response) for total wealth in levels but lower for relative and rank measures when they are interviewed during the second wave whereas men report lower values (for all measurements). Again, this effect differs depending on the type of assets. When they are interviewed in 2018, women report higher values for housing assets whereas men tend to reduce the value of both housing and financial assets in comparison with the first interrogation. Consequently, the hypothesis 4 is rejected.

This last result is somehow puzzling because it does not match our predictions and because it is asymmetrical. How can we explain it? First, these changes in respondents only represent 7% of the whole sample. Therefore, wealth estimates could be driven by few extreme observations. When I condition the winsorization by type of respondents, I find symmetrical estimates for the specification in levels but for the relative and rank measures, it is still asymmetric. Second, the quality of these types of respondents is also asymmetrical (Table 4). Indeed, the quality is judged significantly lower when there is a change from a female to a male respondent as compared to the change from a male to a female respondent. Moreover, some of their characteristics differ (Table A.2): they are globally poorer and they tend to opt more frequently for cohabitation or marriage with a separate property regime. However, controlling for these characteristics and for quality (section 4.4) does not affect the result. Therefore, despite these analyses, complex issues are at work and this asymmetry is not easily rationalized. Future research should tackle this issue and attempt to analyze the underlying mechanisms.

The analysis of control variables (Table A.3 in Appendix) shows that investment decisions (or capital gains) for housing and business assets and receiving inter vivos gifts are the main drivers of an increase in the household wealth whereas retiring or giving inter vivos gifts explain significant decreases of wealth. The change in income is also positively correlated with wealth. We also find that getting married negatively affects wealth, probably because of the cost of a wedding.

One may have concerns about identification because I rely on the exogeneity of the change of

respondent between 2015 and 2018. Several evidence suggest that the results are not likely to be entirely driven by unobserved variables. First, as already noted in section 3.1, key variables that directly affect wealth accumulation (e.g. wealth levels in 2015, income, events affecting wealth, etc.) do not explain the change of respondents. Baseline wealth is only correlated to some specific types of changes (Female to Male, Female to Female). Moreover, I do not detect any correlation between the changes in respondent and the quality of responses. Second, including the full set of control variables barely affects the results (except the change of a male to a female respondent). This stability is generally taken as a sign that omitted variable bias is limited. Third, the stability of coefficients may not be sufficient to conclude that the estimates are not biased. Indeed, Altonji et al. (2005) and Oster (2019) show that the analysis of R^2 is necessary to assess the likelihood that the estimates are biased by unobservables. I estimate the δ parameter proposed by Oster (2019) measuring how strong selection on unobservables has to be to explain away the coefficients. The results are displayed in Table A.5 in Appendix. I only focus on statistically significant coefficients. The negative value of δ means that the observables are positively correlated with the treatment.[25] The large value of δ for our most significant coefficients (in levels for instance) suggests that results are not entirely driven by selection on unobservables. For coefficients whose statistical significance (mostly relative and rank measures) and R^2 are weaker, the δ coefficient strongly depends on the parameter R^{max}. When I assume that $R^{max} = 1$, which is a somewhat extreme assumption, δ is lower but it is much larger when $R^{max} = 1.3 \times R^2$. As a conclusion, even if the identification relies on the conditional exogeneity of changes of respondents, the results are not likely to be entirely driven by unobserved variables.

Despite this analysis, it seems useful to discuss to what extent (and in what direction) the variables that predict changes in respondents may bias the results. Indeed, several variables predict at least some of changes in respondents (Table 3). More specifically, baseline wealth is negatively correlated

[25] However, Kripfganz and Kiviet (2021) argue that a specific value of δ is complex to interpret because it is a function of the correlation between the treatment variable and the unobservables. This function has discontinuity points and the steepness of this function is different to the left and right of zero.

with changes in respondents (notably changes from male to female or female to male individual respondents). It could affect the change in wealth estimates in two opposite ways. If we assume that the baseline wealth was underestimated, then we should observe a catch-up effect between 2015 and 2018 and so a larger increase for households whose respondents' status has changed (as compared to those who have not). However, given the positive correlation between wealth and returns documented by Bach et al. (2020), we could also observe a larger increase for households whose respondents' status has not changed (as compared to those who have). In the end, the direction of the bias, if any, is a priori not clear. The labor market status also partially predicts changes in respondents. This effect is likely to be explained by the change in free time. Information about time use could help us to provide more direct factors but such information is not available in the Patrimoine survey. Changes in labor market status could affect wealth via positive or negative income shocks following these transitions. However, these effects are likely to be limited given the short period of time between the first and the second interviews. Finally, less educated people (especially women) are more likely to change respondent status. Given that education is positively linked with the quality of responses (Table 4), we can imagine that wealth is more likely to vary from one interview to another but the direction of this change is a priori unknown.[26]

4.4 Mechanisms

In order to explain the influence of respondents, I attempt to analyze several mechanisms. First, changes in the value of wealth could be the consequences of improvement or deterioration of the quality of responses, like a change in the use of documents for instance. In Table 6, I account for the quality of responses by controlling for the global reliability of responses, potential errors or omissions made by respondents, the use of documents and the ability to understand the questions. For all types of changes, the results are roughly unchanged.

[26] See section 4.4 for an analysis of the relationship between quality and changes in wealth estimates.

Second, the influence of respondents could come from the fact that people have a better knowledge of their own assets (whether they are owned individually or jointly with their spouse) whereas the value of the spousal assets may be unknown or, at least, less precisely estimated. If so, we need to identify precisely the assets owned by each spouse or at least take into account the intra-household distribution of assets. To do so, I consider personal wealth rather than household wealth. Personal wealth is equal to half of the joint assets held by the couple and the sum of all assets held individually. Given that two thirds of the couples in our sample do not hold any individual assets, I cannot decompose the household wealth into three components: joint assets, male individual assets and female individual assets. Therefore, I limit the decomposition to 2 components: husband's assets (separate assets + 50% of those jointly owned) and, wife's assets (separate assets + 50% of those jointly owned).

Table 7 presents the results. In columns 1 to 3, I extend the analysis on total wealth presented in Table 5 by controlling for the intra-household distribution of assets. The results remain unchanged. Another way to examine this issue is to turn to individual wealth. To do so, I estimate the effects of the changes of respondents on the share of the household wealth held by the male spouse (column 4), on the male spouse's assets (columns 5, 6 and 7) and on the female spouse's assets (columns 8, 9 and 10). When the respondent remains the same, I still do not find any change whatever the outcome. When I turn to the changes from joint to male respondents, the coefficients are roughly similar whether I consider the male or the female partner's assets and so the distribution of assets between spouses is not affected. However, for the transitions from joint to female respondents, the limited changes observed for household wealth (Table 5) actually hide asymmetrical changes for personal wealth (even though not statistically significant). Finally, among the couples with individual respondents for both waves, the value of the male spouse's assets decreases while that of the female spouse's assets increases. Therefore, male and female respondents seem to value differently their own assets and those of their spouse. Differences between changes in own and spousal wealth could be due

to information (in which case the partner's wealth would change) or confidence/desirability (in which case own wealth would change more). The symmetrical change in estimates for men does not help to disentangle between these two interpretations. For women, one may think that the information channel may explain part of the results when both spouses where interviewed together in 2015. But, when the male spouse was interviewed alone, the large increase in female own assets tends to validate the confidence hypothesis. It remains however difficult to interpret these results as the share of joint assets is high for most couples.

In order to study differently the effect of asset ownership, I divide the sample into three parts depending on the level of intra-household inequality measured by the share of assets held by the male spouse: less than 40%, between 40 and 60% or more than 60%. The change in wealth over time generally differ across inequality levels for a given type of change of respondent(s) (Table 8). The effects highlighted in Table 5 is more marked when the respondent holds a larger share of assets. It suggests that changes in reporting are also driven by ownership of the assets.

4.5 Respondents and aggregate wealth

The main result of this paper is that changes in respondents go along with substantial changes in reported wealth. This finding points to important problems of survey design. However, the empirical analysis implemented so far makes it difficult to illustrate the magnitude of the problem. This is the goal of this section.

When the sample is divided between the households whose respondent has not changed[27] and those whose respondent has changed[28], I note a clear gap of levels in 2015 and of changes in wealth estimates between 2015 and 2018 (Table 9). More specifically, the growth is lower when there is no change of respondent (5%) as compared with 14% when there is a change. Among the households

[27] Restricting the sample to people who report jointly in 2015 and 2018 would not change the results because the growth rate them is also 5%.

[28] Dividing the sample into all 9 categories used in sections 4.3 and 4.4 would be more relevant but the analysis would be constrained by the number of observations.

whose respondent has not changed, there is no difference between joint and individual responses. To illustrate the magnitude of the influence of respondents, I estimate the net wealth that would have been observed in 2018 using these two growth rates. The starting value is the average net wealth estimated on all couples in 2015 (324 000 €). If I apply the 5% growth rate, net wealth would be 340 000 in 2018 as compared with 370 000 with the 14% increase. This main limitation of this analysis is that by excluding part of the sample leads to mix differences in reporting and sample selection.

How these estimates compare with other measures of aggregate wealth? The aggregate net wealth of households estimated in national accounts increases by 10.5% over the same period[29]. This estimate is however not directly comparable with those of the Patrimoine survey because the change in the number of households is not taken into account. Using the Distributional National Accounts (DINA), Garbinti et al. (2021) provide wealth estimates per adult and they find that the growth of net household wealth between was equal to 4%. The main limitation of this measure is that it includes all adults, singles and in a relationship. Nevertheless, the growth of net wealth estimated when the respondent did not change is closer to this benchmark. If I only rely on households those whose respondent has changed, the growth would be overestimated.

Then, I replicate the same analysis about inequality by computing the 10% wealth share[30]. Wealth inequality between couple-headed households has decreased by 5% between 2015 and 2018 but, again, I note a sizeable difference when the respondent has changed or not. Among those who have not changed, this decrease is larger (-10%) whereas there is a small increase (+3%) among the households whose respondent has changed. The estimates based on the DINA approach computed by Garbinti et al. (2021) reveals a slight increase in wealth inequality (+0.2%) over the same period. However, the comparison with this kind of estimates is more complicated than for aggregate values

[29]It is noteworthy that the interviewing process of the Patrimoine takes place over several months. For the 2015 survey, people are actually interviewed between October, 2014 and January, 2015. For the 2018 survey, people are interviewed between September, 2017 and January, 2018. Therefore, when we compare our estimates with another source, the period of reference can be either 2014-2017 or 2015-2018. In this paragraph we report the change between 2014 and 2017. If we had chosen 2015-2018 instead, the growth rate for national accounts and the growth per adult (DINA) would have been +8%. All these figures are expressed in constant prices.

[30]The same analysis with the Gini index leads to similar results.

because the difference can come from sampling and non-sampling measurement. More importantly, excluding single-headed households significantly affects both the level and the trend of inequality estimates. It is therefore difficult to assess the accuracy of these inequality measures.

5 Concluding comments

This paper highlights a potential source of measurement errors in wealth surveys that has been largely neglected so far. I use unique information available in the French wealth survey to show that the type of respondents influences the global reliability of the information provided about wealth. Moreover, the respondents directly affect wealth estimates. Specifically, the value of the household wealth reported solely by male (resp. female) respondents tend to be larger (resp. lower) than that provided by the spouses when they are interviewed together. The ownership of assets within the household as well as gender differences in estimating the value of assets are key candidates to explain these results. In absence of estimates provided by third party, it is however complex to study in depth the underlying mechanisms. Future research should aim to study this issue.

The increasing share of individual respondents combined with the decreasing share of joint assets among couple-headed households is likely to make this issue even more salient in the future. In absence of third party, the designers of wealth surveys should take into consideration this issue more carefully. Therefore, the measurement of wealth inequality (between or within households) which still largely relies on surveys is likely to be affected by respondents.

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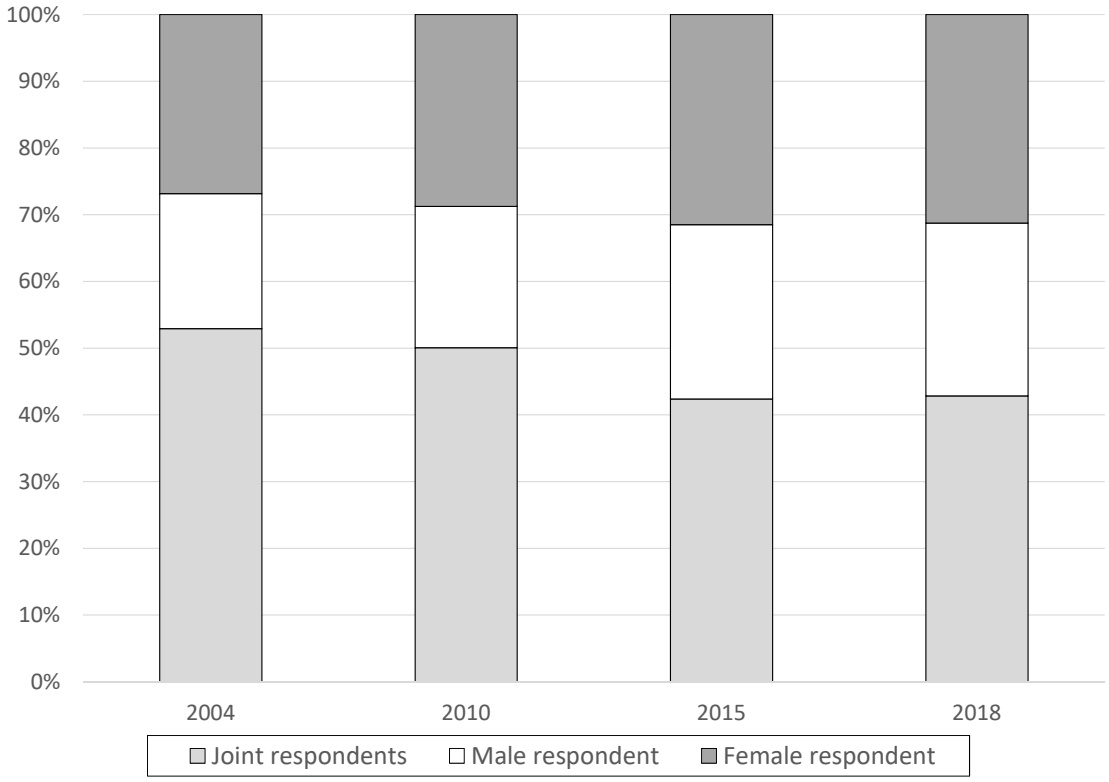
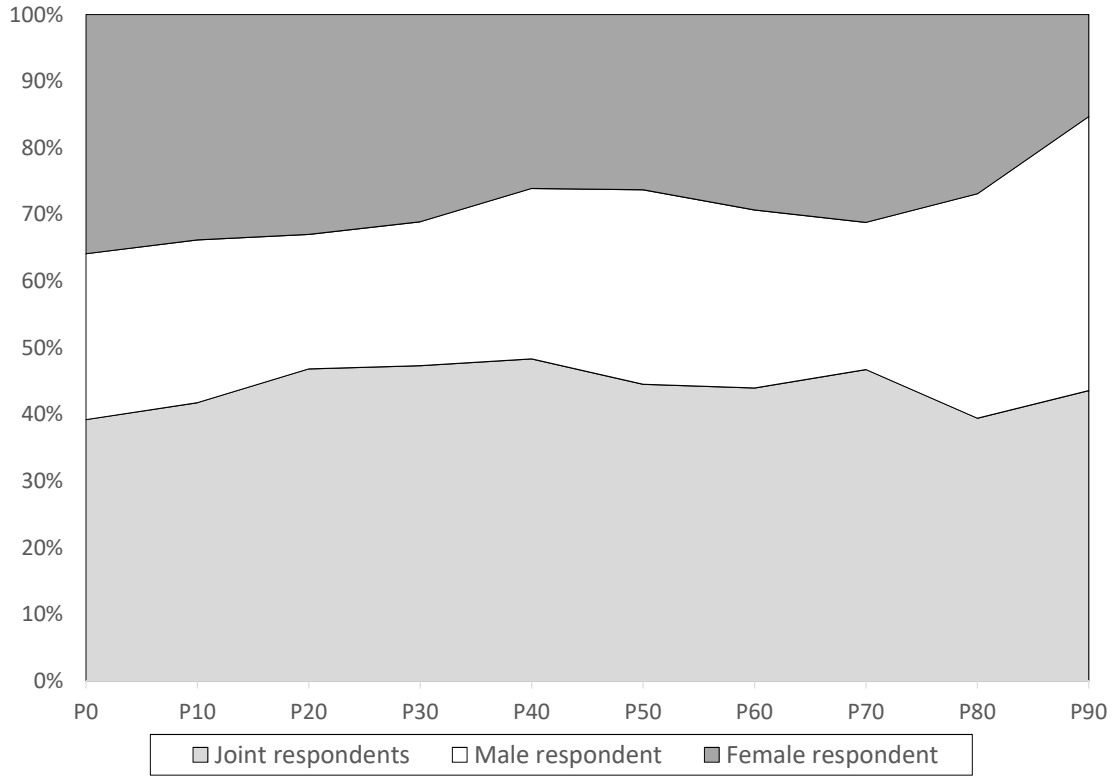
Figure 1: Type of respondents among couples-headed households (2004–2018)



Data: *Patrimoine* surveys (2004, 2010, 2015 and 2018)
Sample: I restrict the sample to the couple-headed households. I exclude the households in which the respondent is not the household head or his/her spouse.

Figure 2: Type of respondents along the wealth distribution (2015)



Data: *Patrimoine* survey (2015)
Sample: I restrict the sample to the couple-headed households. I exclude the households in which the respondent is not the household head or his/her spouse.

Table 1: Characteristics of respondents (2015 - 2018)

	2015			2018		
	(1)	(2)	(3)	(4)	(5)	(6)
	Joint	Female	Male	Joint	Female	Male
age_m	54.2	48.4	50.6	55.6	52.1	55.5
age_f	52.5	47.3	49.2	54.4	50.7	53.7
primary/lower sec_m	.6	.59	.425	.59	.587	.481
upper sec $educ_m$	.136	.154	.206	.148	.15	.172
short-cycle/$bachelor_m$	.202	.201	.22	.188	.198	.226
master/PhD_m	.062	.055	.149	.073	.065	.122
primary/lower sec_f	.608	.578	.425	.588	.571	.457
upper sec $educ_f$	.127	.139	.174	.131	.159	.132
short-cycle/$bachelor_f$	.191	.232	.268	.205	.22	.284
master/PhD_f	.074	.050	.133	.076	.050	.127
$employed_m$	.547	.748	.684	.552	.697	.591
$employed_f$	.438	.585	.521	.455	.575	.495
net wealth (k €)	315	279	394	309	308	419
unmarried cohab.	.163	.206	.163	.121	.176	.107
married comm.	.727	.661	.665	.747	.674	.712
married sep.	.051	.066	.111	.056	.063	.112
civil union comm.	.012	.02	.006	.006	.023	.004
civil union sep.	.047	.047	.055	.069	.064	.064
N	1039	746	760	925	776	844

Table 2: Survey respondents among couples-headed households (2015 - 2018)

2015/2018	**Joint**	**Male**	**Female**	**Total**
Joint	**24%**	9%	11%	44%
Male	6%	**16%**	3%	25%
Female	9%	4%	**18%**	31%
Total	39%	29%	32%	100%

Notes: in 2015, 44% of our sample provided a joint response (as compared to 39% in 2018) but only 24% provided this type of response in 2015 and in 2018.

Table 3: Characteristics of the change of respondents between 2015 and 2018

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		No change of respondent			Change of respondent between 2015 and 2018					
	Change	Joint to joint	Male to male	Female to female	Joint to male	Male to joint	Joint to female	Female to joint	Female to to male	Male to female
age_m	0.105**	-0.080	-0.025	-0.031	0.173**	0.097	0.060	-0.013	-0.085	0.141
	(0.046)	(0.054)	(0.075)	(0.065)	(0.085)	(0.098)	(0.066)	(0.069)	(0.082)	(0.143)
age_m^2	-0.001**	0.001*	0.000	0.000	-0.002**	-0.001	-0.000	0.000	0.001	-0.001
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
age_f	-0.059	0.010	0.084	0.026	-0.169*	0.063	0.051	0.001	0.042	-0.186
	(0.047)	(0.053)	(0.072)	(0.063)	(0.090)	(0.099)	(0.069)	(0.069)	(0.092)	(0.131)
age_f^2	0.001	-0.000	-0.001	-0.000	0.002**	-0.001	-0.001	-0.000	-0.001	0.002
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
net wealth	-0.015	-0.012	-0.008	0.051*	0.016	-0.021	0.027	0.004	-0.117**	-0.055
	(0.019)	(0.023)	(0.023)	(0.029)	(0.028)	(0.040)	(0.042)	(0.048)	(0.053)	(0.062)
net wealth^2	0.000	-0.000	0.000	-0.001	-0.000	0.000	-0.001	-0.001	0.001*	0.001
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
primary/lower sec_m	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
upper sec $educ_m$	0.149	-0.461**	0.586***	-0.235	-0.050	0.665**	0.188	-0.291	-0.438	0.514
	(0.170)	(0.208)	(0.224)	(0.213)	(0.309)	(0.315)	(0.272)	(0.334)	(0.409)	(0.355)
short-cycle/bachelor_m	0.076	-0.195	0.561***	-0.378*	0.070	0.307	-0.059	0.329	-0.402	-0.413
	(0.158)	(0.183)	(0.206)	(0.207)	(0.281)	(0.303)	(0.246)	(0.292)	(0.370)	(0.422)
master/PhD_m	0.080	-0.332	0.913***	-0.831**	-0.132	0.313	-0.078	-0.203	0.609	-0.142
	(0.232)	(0.272)	(0.311)	(0.333)	(0.413)	(0.494)	(0.382)	(0.428)	(0.470)	(0.643)
primary/lower sec_f	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
upper sec $educ_f$	-0.284	0.094	0.599***	-0.185	-0.320	0.424	-0.352	-0.289	-0.445	-0.053
	(0.175)	(0.192)	(0.213)	(0.203)	(0.323)	(0.302)	(0.271)	(0.350)	(0.439)	(0.469)
short-cycle/bachelor_f	-0.212	0.065	0.474**	-0.144	0.374	-0.305	-0.376	-0.707**	0.278	0.651
	(0.159)	(0.182)	(0.216)	(0.204)	(0.302)	(0.332)	(0.264)	(0.291)	(0.315)	(0.403)
master/PhD_f	-0.409*	0.305	0.818***	-0.601*	-0.157	0.595	-0.589	-1.329***	-0.312	0.731
	(0.237)	(0.277)	(0.285)	(0.324)	(0.420)	(0.400)	(0.413)	(0.514)	(0.594)	(0.697)
duration $<$ 5 years	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
$5 \leq$ duration $<$ 10	0.007	-0.006	-0.885**	0.905**	0.125	0.744	0.524	0.005	-1.193*	-0.710
	(0.291)	(0.388)	(0.413)	(0.412)	(0.826)	(0.586)	(0.465)	(0.422)	(0.660)	(0.639)
$10 \leq$ duration $<$ 20	-0.194	-0.516	-0.397	1.293***	0.396	0.117	0.500	-0.418	-0.903	-0.762
	(0.281)	(0.385)	(0.392)	(0.394)	(0.763)	(0.546)	(0.466)	(0.415)	(0.618)	(0.650)
$20 \leq$ duration $<$ 30	-0.187	-0.166	-0.621	1.120**	0.017	0.002	0.342	-0.160	-0.946	-0.196
	(0.321)	(0.424)	(0.441)	(0.437)	(0.844)	(0.589)	(0.537)	(0.497)	(0.747)	(0.683)
duration $\geq$ 30	-0.237	-0.227	-0.227	1.017**	0.130	0.245	0.240	-0.135	-1.071	-0.406
	(0.344)	(0.443)	(0.486)	(0.468)	(0.840)	(0.629)	(0.585)	(0.541)	(0.962)	(0.828)
EmplEmpl_m	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
EmplRet_m	0.395*	-0.639**	-0.245	0.252	1.240***	-0.239	-0.287	-0.235	0.706	-0.121
	(0.238)	(0.304)	(0.366)	(0.303)	(0.375)	(0.479)	(0.445)	(0.395)	(0.538)	(0.548)
RetEmpl_m	0.265	-0.430	0.428	-0.426	0.437	0.181	0.899**	-0.697	0.360	-1.449
	(0.284)	(0.398)	(0.339)	(0.366)	(0.476)	(0.510)	(0.377)	(0.709)	(0.645)	(0.993)
RetRet_m	0.324*	-0.210	-0.442	0.103	0.201	0.148	0.504*	0.077	0.788**	-0.941*
	(0.182)	(0.214)	(0.283)	(0.238)	(0.299)	(0.380)	(0.262)	(0.304)	(0.398)	(0.495)
EmplEmpl_f	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
EmplRet_f	-0.382	0.462*	0.443	-0.262	-0.553	0.634	-0.561	0.100	-1.305**	-2.065***
	(0.234)	(0.275)	(0.308)	(0.287)	(0.416)	(0.413)	(0.391)	(0.345)	(0.633)	(0.683)
RetEmpl_f	-0.054	0.237	0.329	-0.425	-1.391**	0.318	-0.193	-0.017	0.277	1.093*
	(0.300)	(0.359)	(0.372)	(0.365)	(0.681)	(0.520)	(0.402)	(0.521)	(0.645)	(0.563)
RetRet_f	-0.175	0.709***	0.217	-0.714***	-0.224	0.417	-0.253	-0.544*	-0.094	0.741
	(0.180)	(0.207)	(0.269)	(0.245)	(0.341)	(0.331)	(0.292)	(0.284)	(0.519)	(0.471)
Spec.	Logit	Logit	Logit	Logit	Logit	Logit	Logit	Logit	Logit	Logit
N	2545	2545	2545	2545	2545	2545	2545	2545	2545	2545

Notes: standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. m refers to the male partner, f to the female partner. *Ret* indicates that the individual is retired and *Empl* that the individual is in employment. *EmplEmpl* indicates that the individual is in employment in 2015 and in 2018, *EmplRet* indicates that the individual is in employment in 2015 and retired in 2018, etc. I also control for nationality, income, number of children, region of residence, dummy variables indicating significant changes in the household wealth due to personal (gift/bequest, health issue, etc.), professional (bonuses, unemployment, retirement, capital gains, etc.), real-estate (housing/land value) and other reasons (lottery).

Table 4: Determinants of the quality of answers

	2015				2018				
	(1) Overall reliability	(2) Errors	(3) Use of documents	(4) Ability to understand	(5) Overall reliability	(6) Errors	(7) Use of documents	(8) Ability to understand	(9) Errors detected
JointJoint	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
MaleMale	-0.678***	0.604*	-1.016***	0.415	-0.170	-0.026	-0.981***	0.302	-0.276
	(0.230)	(0.366)	(0.188)	(0.492)	(0.232)	(0.493)	(0.189)	(0.535)	(0.315)
FemaleFemale	-0.632***	0.237	-0.568***	-0.329	-0.474**	0.503	-0.835***	-0.150	0.221
	(0.212)	(0.366)	(0.172)	(0.395)	(0.222)	(0.466)	(0.178)	(0.444)	(0.319)
JointMale	-0.080	0.516	-0.208	0.418	0.063	-0.433	-0.422*	0.074	-0.202
	(0.291)	(0.445)	(0.236)	(0.524)	(0.282)	(0.563)	(0.240)	(0.556)	(0.430)
MaleJoint	-0.072	0.614	-0.893***	-0.370	-0.129	0.766	-0.657***	-0.563	0.180
	(0.338)	(0.440)	(0.248)	(0.561)	(0.351)	(0.538)	(0.246)	(0.521)	(0.444)
JointFemale	-0.182	0.283	-0.501**	0.451	-0.137	-0.133	0.141	-0.104	0.593*
	(0.269)	(0.442)	(0.212)	(0.537)	(0.268)	(0.539)	(0.213)	(0.473)	(0.346)
FemaleJoint	-0.009	0.184	-0.259	0.277	-0.047	0.674	-0.050	0.113	0.388
	(0.300)	(0.486)	(0.247)	(0.515)	(0.327)	(0.507)	(0.224)	(0.511)	(0.412)
FemaleMale	-1.058***	-0.027	-0.660**	-0.778	-0.369	0.180	-0.772***	-0.612	-0.268
	(0.326)	(0.711)	(0.282)	(0.559)	(0.352)	(0.635)	(0.281)	(0.532)	(0.590)
MaleFemale	-0.211	0.250	-0.244	0.332	-0.148	0.537	-0.213	1.178	0.834*
	(0.366)	(0.575)	(0.303)	(0.684)	(0.387)	(0.677)	(0.310)	(0.753)	(0.506)
age_m	-0.008	-0.212**	0.035	-0.047	0.045	-0.010	0.097*	-0.149	-0.035
	(0.066)	(0.097)	(0.050)	(0.094)	(0.070)	(0.126)	(0.058)	(0.103)	(0.086)
age_m^2	0.000	0.002*	-0.000	0.001	-0.000	0.000	-0.001*	0.001	0.000
	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
age_f	0.017	0.206**	-0.126**	0.072	0.018	-0.000	-0.185***	0.185*	-0.010
	(0.063)	(0.097)	(0.052)	(0.089)	(0.071)	(0.124)	(0.061)	(0.107)	(0.089)
age_f^2	-0.000	-0.002*	0.001**	-0.001	-0.001	0.000	0.002***	-0.002**	-0.000
	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
earnings	1.187**	0.416	1.551***	1.339	0.675	-2.275***	1.181***	3.362***	1.036
	(0.571)	(1.150)	(0.487)	(1.085)	(0.536)	(0.696)	(0.437)	(1.233)	(0.868)
$earnings^2$	-0.430**	-0.634	-0.520***	-0.463	-0.329*	0.884***	-0.362**	-1.338***	-0.545
	(0.193)	(0.704)	(0.177)	(0.401)	(0.185)	(0.229)	(0.158)	(0.357)	(0.347)
net wealth	0.023	0.062	0.052**	0.022	-0.003	0.041	0.072***	0.084	0.021
	(0.026)	(0.040)	(0.023)	(0.059)	(0.024)	(0.028)	(0.021)	(0.066)	(0.037)
net $wealth^2$	-0.000	-0.001	-0.001**	-0.000	-0.000	-0.000	-0.001***	-0.001	-0.000
	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
primary/lower sec_m	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
upper sec $educ_m$	-0.090	0.179	0.309*	0.476	0.142	0.267	0.611***	0.748	-0.176
	(0.202)	(0.297)	(0.166)	(0.489)	(0.218)	(0.390)	(0.175)	(0.514)	(0.288)
short-cycle/$bachelor_m$	0.709***	-0.386	0.445***	0.922*	0.006	0.134	0.380**	0.645	-0.141
	(0.215)	(0.334)	(0.168)	(0.497)	(0.212)	(0.406)	(0.166)	(0.437)	(0.265)
master/PhD_m	-0.432	0.259	0.429*	1.395*	0.686**	0.324	0.472*	2.722***	-0.509
	(0.299)	(0.528)	(0.253)	(0.720)	(0.320)	(0.451)	(0.257)	(0.801)	(0.333)
primary/lower sec_f	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
upper sec $educ_f$	0.088	-0.168	0.446**	0.729	0.044	-0.236	0.436**	0.483	0.340
	(0.214)	(0.375)	(0.177)	(0.482)	(0.213)	(0.490)	(0.174)	(0.497)	(0.298)
short-cycle/$bachelor_f$	0.241	-0.125	0.447***	1.039*	0.389*	-0.340	0.439***	0.703	0.515*
	(0.211)	(0.323)	(0.168)	(0.605)	(0.218)	(0.425)	(0.168)	(0.441)	(0.279)
master/PhD_f	0.918**	-0.137	0.458*	2.350***	0.554	-0.570	0.442	1.261	0.740**
	(0.361)	(0.484)	(0.253)	(0.812)	(0.417)	(0.637)	(0.272)	(0.795)	(0.376)
unmarried cohab.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
married comm.	0.060	-0.590*	0.049	0.538	0.163	0.613	0.021	-0.053	0.159
	(0.219)	(0.351)	(0.186)	(0.376)	(0.248)	(0.569)	(0.197)	(0.409)	(0.364)
married sep.	-0.397	0.187	0.101	0.998	-0.115	1.113*	-0.040	-0.590	0.709*
	(0.302)	(0.494)	(0.250)	(0.847)	(0.318)	(0.596)	(0.266)	(0.601)	(0.431)
civil union comm.	0.666	-0.358	0.119	na	1.866**	-0.513	-0.519	na	-0.466
	(0.722)	(0.871)	(0.455)		(0.835)	(1.304)	(0.467)		(0.776)
civil union sep.	0.181	-0.384	-0.176	2.236**	0.235	0.172	-0.156	-0.705	0.460
	(0.389)	(0.731)	(0.293)	(1.086)	(0.441)	(0.808)	(0.287)	(0.799)	(0.472)
Spec.	Logit	Logit	Logit	Logit	Logit	Logit	Logit	Logit	Logit
N	2545	2545	2545	2545	2545	2545	2545	2545	2545

Note: standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. m refers to the male partner, f to the female partner. Each dependent variable is a dummy variable. "Overall reliability" is equal to 1 if the interviewer considers the information provided to be reliable and to 0 is the reliability is average or low. "Errors" is equal to 1 if the interviewer considers that there are errors or inconsistencies. "Use of documents" is equal to 1 if documents are used often or sometimes and 0 they are rarely or never used. "Ability to understand" is equal to 1 if the interviewer considers that the ability to understand the questions is excellent or good and 0 if the ability is average or low. Wealth and earnings are expressed in 2015 thousands euros. I also control for nationality, number of children, labor market status, duration of the relationship, region of residence.

Table 5: Change in wealth estimates

	(1) Total Levels	(2) Total Levels	(3) Total Relative	(4) Total Relative	(5) Total Rank	(6) Total Rank	(7) Housing Levels	(8) Housing Relative	(9) Financial Levels	(10) Financial Relative
MaleMale	24.839	21.414	0.036	-0.003	0.011	0.003	15.848*	0.016	-1.186	-0.090
	(17.567)	(17.049)	(0.056)	(0.054)	(0.007)	(0.007)	(9.212)	(0.029)	(8.856)	(0.080)
FemaleFemale	-1.163	-5.988	-0.049	-0.065	0.004	-0.002	10.407	0.026	-12.644	-0.106
	(16.936)	(16.422)	(0.054)	(0.052)	(0.007)	(0.007)	(8.873)	(0.028)	(8.530)	(0.077)
JointMale	61.809***	65.055***	0.086	0.115*	0.015*	0.016*	37.048***	0.107***	19.947*	-0.064
	(21.430)	(20.390)	(0.069)	(0.065)	(0.009)	(0.009)	(11.017)	(0.033)	(10.591)	(0.096)
MaleJoint	8.487	-8.889	-0.147*	-0.191**	-0.003	-0.011	-8.386	-0.028	-3.170	0.020
	(25.332)	(24.098)	(0.081)	(0.077)	(0.011)	(0.010)	(13.020)	(0.040)	(12.517)	(0.113)
JointFemale	5.523	2.790	-0.149**	-0.167***	-0.006	-0.009	8.999	-0.009	-7.198	-0.128
	(19.973)	(19.007)	(0.064)	(0.061)	(0.008)	(0.008)	(10.269)	(0.032)	(9.873)	(0.089)
FemaleJoint	8.510	9.028	0.097	0.060	0.004	0.000	18.211*	0.067*	0.578	-0.226**
	(21.338)	(20.422)	(0.068)	(0.065)	(0.009)	(0.009)	(11.034)	(0.036)	(10.608)	(0.096)
FemaleMale	-5.766	-21.996	-0.193**	-0.277***	-0.020	-0.031***	-4.420	-0.041	-3.186	-0.326**
	(29.445)	(27.791)	(0.094)	(0.089)	(0.012)	(0.012)	(15.015)	(0.048)	(14.435)	(0.131)
MaleFemale	84.776***	78.018**	-0.205**	-0.287***	-0.001	-0.012	35.955**	0.080	1.554	-0.226
	(31.932)	(30.431)	(0.102)	(0.097)	(0.013)	(0.013)	(16.442)	(0.053)	(15.807)	(0.143)
Intercept	6.457	-212.565***	0.166***	0.648***	-0.006	0.003	11.012	-0.371**	-38.673	-0.008
	(11.042)	(69.848)	(0.035)	(0.223)	(0.005)	(0.029)	(37.739)	(0.151)	(36.281)	(0.329)
Spec.	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Controls	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes
N	2545	2545	2545	2545	2545	2545	2545	2197	2545	2545
$Adj.R^2$	0.003	0.124	0.007	0.131	0.001	0.124	0.071	0.079	0.027	0.033

Notes: standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Relative change is the difference in logs. I control for significant changes in the household wealth due to personal (gift/bequest, health issue, etc.), professional (bonuses, unemployment, retirement, capital gains, etc.), real-estate (housing/land value) and other reasons (lottery), household labor income, legal status (cohabiting, married with a community regime, married with a separation of property regime, civil-union with a community regime, civil-union with a separation of property regime), number of children and employment status. I also include time-invariant variables: wealth in 2015 (levels and squared), educational attainement and duration of the relationship (in 2015).

Table 6: Change in wealth estimates - Control for quality of responses

	(1) Total Levels	(2) Total Relative	(3) Total Rank	(4) Housing Levels	(5) Housing Relative	(6) Financial Levels	(7) Financial Relative
MaleMale	3.595	0.014	0.003	9.434	0.008	-5.282	-0.142
	(19.894)	(0.063)	(0.008)	(10.649)	(0.034)	(10.321)	(0.093)
FemaleFemale	-19.528	-0.029	0.002	7.651	0.022	-16.668*	-0.167*
	(19.107)	(0.060)	(0.008)	(10.227)	(0.032)	(9.912)	(0.089)
JointMale	62.200***	0.129*	0.020**	34.350***	0.112***	19.673*	-0.086
	(21.201)	(0.067)	(0.009)	(11.348)	(0.035)	(10.999)	(0.099)
MaleJoint	-6.320	-0.181**	-0.007	-5.013	-0.016	-5.068	0.011
	(24.877)	(0.079)	(0.010)	(13.315)	(0.041)	(12.906)	(0.116)
JointFemale	-5.283	-0.151**	-0.009	3.574	-0.009	-8.311	-0.182**
	(19.597)	(0.062)	(0.008)	(10.489)	(0.033)	(10.167)	(0.092)
FemaleJoint	5.325	0.061	0.002	18.402	0.058	-2.540	-0.232**
	(20.975)	(0.066)	(0.009)	(11.227)	(0.037)	(10.882)	(0.098)
FemaleMale	-31.763	-0.252***	-0.028**	-5.934	-0.034	-6.535	-0.378***
	(28.652)	(0.091)	(0.012)	(15.336)	(0.050)	(14.864)	(0.134)
MaleFemale	72.015**	-0.220**	-0.003	37.090**	0.088	-2.389	-0.265*
	(31.144)	(0.098)	(0.013)	(16.670)	(0.055)	(16.157)	(0.145)
Intercept	-267.060***	0.752***	-0.010	-56.348	-0.444***	-49.079	-0.109
	(79.691)	(0.252)	(0.033)	(42.655)	(0.168)	(41.342)	(0.372)
Controls:							
Main controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quality	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Spec.	OLS	OLS	OLS	OLS	OLS	OLS	OLS
N	2528	2528	2528	2528	2182	2528	2528
$Adj.R^2$	0.122	0.147	0.145	0.085	0.081	0.029	0.048

Notes: standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Relative change is the difference in logs. The set of main control variables includes: dummy variables indicating significant changes in the household wealth due to personal (gift/bequest, health issue, etc.), professional (bonuses, unemployment, retirement, capital gains, etc.), real-estate (housing/land value) and other reasons (lottery), household labor income, legal status (cohabiting, married with a community regime, married with a separation of property regime, civil-union with a community regime, civil-union with a separation of property regime), number of children and employment status. I also include time-invariant variables: age, educational attainement, wealth and wealth^2 in 2015 and duration of the relationship. The control variables about quality include: reliability of responses, potential errors or omissions made by the respondent(s), use of documents and ability to understand the questions.

Table 7: Change in individual wealth estimates

	(1) Total Levels	(2) Total Relative	(3) Total Rank	(4) Share of male wealth	(5) Male wealth Levels	(6) Male wealth Relative	(7) Male wealth Rank	(8) Female wealth Levels	(9) Female wealth Relative	(10) Female wealth Rank
MaleMale	19.347	-0.005	0.005	-1.746*	7.294	0.039	0.003	-2.517	0.032	0.004
	(17.102)	(0.054)	(0.007)	(1.044)	(8.009)	(0.072)	(0.008)	(7.345)	(0.086)	(0.008)
FemaleFemale	-4.092	-0.045	0.000	0.489	-3.856	0.077	0.006	2.759	0.024	0.003
	(16.516)	(0.053)	(0.007)	(1.008)	(7.729)	(0.070)	(0.008)	(7.087)	(0.084)	(0.008)
JointMale	66.797***	0.130**	0.019**	-0.102	37.034***	0.168**	0.014	15.604*	0.265***	0.017*
	(20.395)	(0.065)	(0.009)	(1.244)	(9.538)	(0.085)	(0.009)	(8.746)	(0.102)	(0.010)
MaleJoint	-3.353	-0.188**	-0.010	0.278	-10.845	-0.255**	-0.012	-12.666	-0.431***	-0.022*
	(24.168)	(0.077)	(0.010)	(1.477)	(11.330)	(0.100)	(0.011)	(10.390)	(0.123)	(0.011)
JointFemale	0.828	-0.154**	-0.008	-1.722	-9.807	-0.135*	-0.019**	3.167	-0.098	0.013
	(19.043)	(0.061)	(0.008)	(1.162)	(8.913)	(0.080)	(0.009)	(8.174)	(0.096)	(0.009)
FemaleJoint	11.067	0.072	0.002	1.187	0.815	0.001	0.017*	12.854	-0.087	0.013
	(20.490)	(0.065)	(0.009)	(1.250)	(9.589)	(0.089)	(0.009)	(8.794)	(0.106)	(0.010)
FemaleMale	-24.648	-0.295***	-0.032***	-3.102*	-21.811*	-0.221*	-0.048***	-5.361	0.005	0.001
	(27.883)	(0.089)	(0.012)	(1.702)	(13.053)	(0.122)	(0.013)	(11.970)	(0.149)	(0.013)
MaleFemale	79.748***	-0.265***	-0.009	-4.748**	-14.421	-0.163	-0.024*	30.522**	0.223	0.022
	(30.407)	(0.097)	(0.013)	(1.859)	(14.257)	(0.133)	(0.014)	(13.074)	(0.156)	(0.014)
Intercept	-181.939*	0.505	-0.022	1.510	-76.457**	0.019	-0.030	-85.172***	0.240	-0.018
	(100.662)	(0.320)	(0.042)	(4.278)	(32.807)	(0.334)	(0.032)	(30.085)	(0.397)	(0.033)
Controls:										
Main controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Intra-hh dist.	Yes	Yes	Yes	No	No	No	No	No	No	No
Spec.	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
N	2545	2545	2545	2545	2545	2353	2545	2545	2351	2545
Adj. R^2	0.123	0.138	0.125	0.026	0.136	0.111	0.117	0.081	0.081	0.085

Notes: standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Relative change is the difference in logs. The male (resp. female) personal is equal to half of the joint assets held by the couple and the sum of all individual assets held by the male (resp. female) spouse. The set of control variables includes: dummy variables for significant changes in the household wealth due to personal (gift/bequest, health issue, etc.), professional (bonuses, unemployment, retirement, capital gains, etc.), real-estate (housing/land value) and other reasons (lottery), household labor income, legal status of couple (cohabiting, married with a community regime, married with a separation of property regime, civil-union with a community regime, civil-union with a separation of property regime), number of children and employment status. I also include time-invariant variables: age, educational attainement, wealth and wealth^2 in 2015 and duration of the relationship (in 2015). In columns 1, 2 and 3 I also control for the intra-household distribution of assets (male share, female share and joint share of assets).

Table 8: Change in wealth estimates along the gender wealth gap

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Male share between 40 and 60%			Male share $\leq$ 40%			Male share $\geq$ 60%		
	Total Levels	Total Relative	Total Rank	Total Levels	Total Relative	Total Rank	Total Levels	Total Relative	Total Rank
MaleMale	16.323	-0.019	0.004	28.186	0.099	0.008	66.057	0.205	0.011
	(18.979)	(0.060)	(0.008)	(50.780)	(0.167)	(0.025)	(49.483)	(0.157)	(0.018)
FemaleFemale	-2.981	-0.105*	0.001	-10.476	-0.124	-0.015	-15.703	0.226	-0.011
	(18.070)	(0.057)	(0.008)	(44.212)	(0.145)	(0.022)	(52.037)	(0.166)	(0.019)
JointMale	56.232***	0.020	0.013	9.935	0.257	0.011	98.544	0.348*	0.019
	(21.698)	(0.068)	(0.009)	(72.234)	(0.238)	(0.036)	(64.030)	(0.204)	(0.023)
MaleJoint	-7.359	-0.153*	-0.015	-20.138	-0.165	-0.031	34.011	-0.279	-0.006
	(26.032)	(0.082)	(0.011)	(86.090)	(0.283)	(0.043)	(71.388)	(0.227)	(0.026)
JointFemale	-10.696	-0.225***	-0.010	-46.420	0.124	-0.020	80.292	-0.059	-0.018
	(20.837)	(0.065)	(0.009)	(52.447)	(0.172)	(0.026)	(62.980)	(0.200)	(0.023)
FemaleJoint	-2.608	-0.051	-0.011	0.452	-0.013	-0.006	14.088	0.347*	0.000
	(23.449)	(0.074)	(0.010)	(54.667)	(0.180)	(0.027)	(59.381)	(0.189)	(0.022)
FemaleMale	-12.283	-0.185*	-0.019	-142.621*	-0.417	-0.078*	-29.632	-0.470**	-0.066**
	(31.941)	(0.100)	(0.014)	(84.711)	(0.279)	(0.042)	(74.055)	(0.236)	(0.027)
MaleFemale	1.734	-0.220**	-0.009	-43.815	-0.697**	-0.051	287.876***	-0.133	-0.008
	(35.126)	(0.110)	(0.015)	(82.832)	(0.272)	(0.041)	(85.327)	(0.272)	(0.031)
Intercept	-269.234***	2.043***	0.042	-106.524	-0.435	-0.006	-325.130*	-0.452	-0.078
	(97.161)	(0.305)	(0.042)	(174.951)	(0.575)	(0.088)	(181.989)	(0.579)	(0.066)
N	1796	1796	1796	253	253	253	496	496	496
$Adj.R^2$	0.197	0.175	0.144	0.036	0.132	0.153	0.078	0.171	0.145

Notes: standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Relative change is the difference in logs. I control for significant changes in the household wealth due to personal (gift/bequest, health issue, etc.), professional (bonuses, unemployment, retirement, capital gains, etc.), real-estate (housing/land value) and other reasons (lottery), household labor income, legal status (cohabiting, married with a community regime, married with a separation of property regime, civil-union with a community regime, civil-union with a separation of property regime), number of children and employment status. I also include time-invariant variables: wealth and wealth^2 in 2015, educational attainement and duration of the relationship (in 2015).

Table 9: Influence of the change of respondent on average net wealth and inequality

	Mean net wealth			Top 10% share		
	All couples	**No change of respondents**	**Change of respondents**	**All couples**	**No change of respondents**	**Change of respondents**
	Panel A: observed values					
2015	324	342	298	42%	42.6%	40.8%
2018	351	359	340	40%	38.6%	42.1%
Change 2015-2018	+8%	+5%	+14%	-5%	-10%	+3%
	Panel B: predicted values					
2015		324	324		42%	42%
2018		340	370		37.9%	43.4%
Change 2015-2018		+5%	+14%		-10%	+3%

Notes: net wealth is expressed in thousands 2015 euros.

A Supplementary results

Table A.1: Characteristics of respondents (2015 - 2018)

	2015			2018		
	(1)	(2)	(3)	(4)	(5)	(6)
	Joint	Female	Male	Joint	Female	Male
age_m	0.028	-0.056	0.031	-0.071	0.011	0.076
	(0.049)	(0.048)	(0.065)	(0.051)	(0.053)	(0.060)
age_m^2	-0.000	0.000	-0.000	0.001	-0.000	-0.001
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
age_f	-0.048	0.027	0.040	0.034	0.003	-0.039
	(0.048)	(0.049)	(0.060)	(0.051)	(0.052)	(0.060)
age_f^2	0.000	-0.000	-0.000	-0.000	-0.000	0.000
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
employed_m	-0.167	0.038	0.194	0.187	-0.138	-0.071
	(0.156)	(0.165)	(0.183)	(0.171)	(0.172)	(0.182)
employed_f	-0.186	0.493***	-0.316*	-0.478***	0.514***	-0.007
	(0.154)	(0.171)	(0.183)	(0.161)	(0.173)	(0.186)
net wealth	0.012	0.009	-0.022	-0.009	-0.005	0.013
	(0.019)	(0.023)	(0.020)	(0.020)	(0.019)	(0.018)
net wealth^2	-0.000	-0.000	0.001**	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$\text{primary/lower sec}_m$	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
upper sec educ_m	-0.262	-0.316*	0.680***	-0.244	-0.148	0.455**
	(0.173)	(0.182)	(0.188)	(0.180)	(0.176)	(0.184)
$\text{short-cycle/bachelor}_m$	-0.104	-0.240	0.409**	-0.053	-0.510***	0.594***
	(0.158)	(0.173)	(0.176)	(0.161)	(0.171)	(0.169)
master/PhD_m	-0.241	-0.523**	0.817***	0.070	-0.714***	0.644**
	(0.259)	(0.255)	(0.280)	(0.248)	(0.259)	(0.257)
$\text{primary/lower sec}_f$	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
upper sec educ_f	-0.173	-0.285	0.543***	0.049	-0.086	0.034
	(0.171)	(0.184)	(0.182)	(0.176)	(0.181)	(0.183)
$\text{short-cycle/bachelor}_f$	0.014	-0.275	0.317*	-0.166	-0.016	0.195
	(0.164)	(0.174)	(0.178)	(0.165)	(0.171)	(0.176)
master/PhD_f	-0.019	-0.935***	0.874***	-0.134	-0.446*	0.522**
	(0.262)	(0.280)	(0.252)	(0.239)	(0.270)	(0.249)
unmarried cohab.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
married comm.	-0.021	-0.101	0.161	0.326	-0.509***	0.226
	(0.187)	(0.192)	(0.200)	(0.205)	(0.192)	(0.220)
married sep.	-0.463*	-0.011	0.537**	0.016	-0.583**	0.587**
	(0.249)	(0.258)	(0.256)	(0.265)	(0.256)	(0.270)
civil union comm.	0.171	0.617	-1.142**	-0.350	1.017**	-1.192**
	(0.449)	(0.453)	(0.550)	(0.513)	(0.461)	(0.563)
civil union sep.	0.185	-0.395	0.236	0.324	-0.420	0.147
	(0.294)	(0.305)	(0.314)	(0.275)	(0.277)	(0.313)
Spec.	Logit	Logit	Logit	Logit	Logit	Logit
N	2545	2545	2545	2545	2545	2545

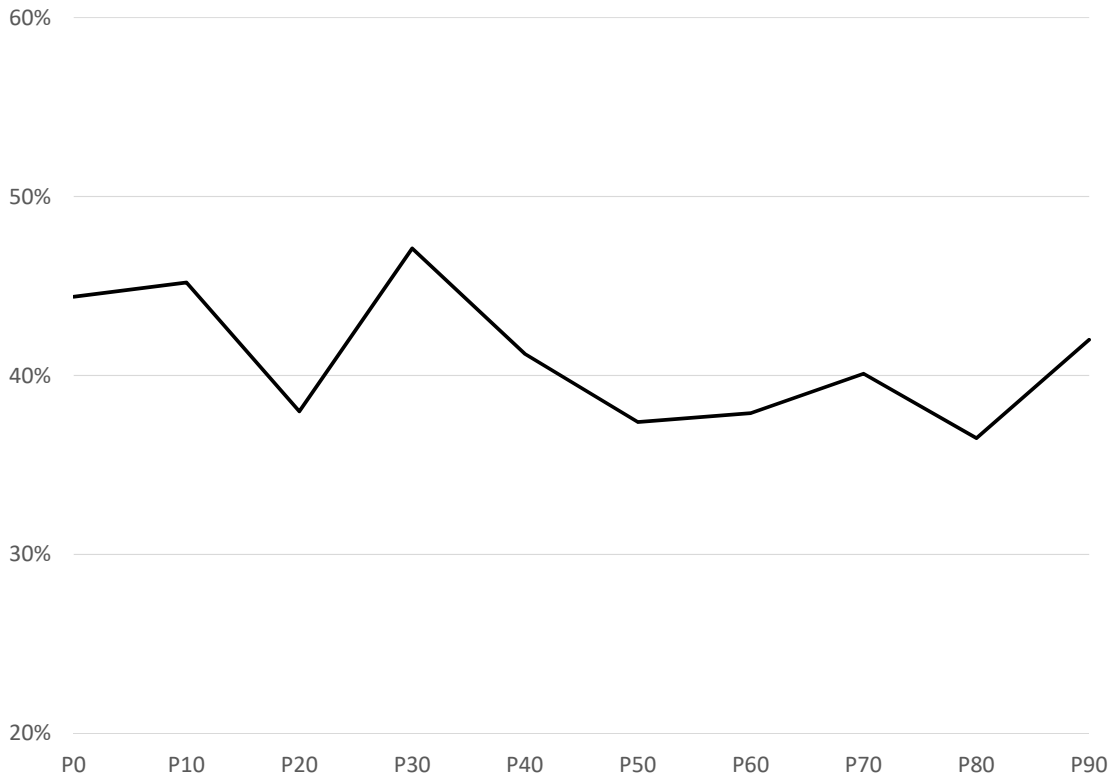
Note: standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. m refers to the male partner, f to the female partner. Wealth is expressed in 2015 thousands euros. I also control for nationality, income, number of children, duration of the relationship, region of residence.

Table A.2: Characteristics by change in respondents (2015 - 2018)

	2015									2018								
	JJ	MM	FF	JM	MJ	JF	FJ	FM	MF	JJ	MM	FF	JM	MJ	JF	FJ	FM	MF
age_m	54.8	51	47.9	55.9	50	51.3	48.6	50.6	49.5	57.7	54.2	50.9	58.8	52.9	54.2	51.5	53.6	52.5
age_f	53.4	49.7	46.7	53.3	48.9	49.8	47.5	49.6	47.3	56.4	52.6	49.6	56.4	51.9	52.8	50.5	52.6	50.3
primary/lower sec_m	.619	.386	.576	.541	.478	.606	.619	.586	.519	.615	.394	.577	.581	.448	.623	.613	.607	.524
upper sec $educ_m$	.122	.216	.169	.158	.21	.151	.148	.103	.15	.133	.21	.159	.143	.211	.13	.148	.081	.165
short-cycle/$bachelor_m$	.189	.233	.197	.245	.184	.196	.201	.221	.217	.18	.247	.207	.208	.203	.183	.201	.179	.2
master/PhD_m	.070	.165	.058	.056	.127	.047	.032	.091	.114	.071	.15	.057	.068	.138	.064	.038	.132	.111
primary/lower sec_f	.607	.392	.562	.6	.462	.616	.615	.571	.516	.605	.38	.559	.56	.467	.608	.62	.535	.511
upper sec $educ_f$	.136	.15	.154	.080	.222	.146	.13	.095	.206	.122	.156	.161	.096	.173	.152	.127	.116	.176
short-cycle/$bachelor_f$	.18	.302	.244	.246	.204	.173	.211	.227	.214	.194	.292	.234	.281	.24	.188	.214	.261	.246
master/PhD_f	.078	.155	.041	.073	.111	.065	.044	.107	.064	.079	.173	.046	.062	.121	.052	.039	.088	.067
$employed_m$	.525	.68	.803	.554	.685	.593	.72	.566	.698	.489	.639	.753	.502	.661	.601	.653	.594	.708
$employed_f$	.398	.536	.61	.471	.501	.503	.578	.488	.487	.405	.557	.614	.393	.469	.527	.584	.475	.519
net wealth (k €)	309	444	296	362	330	291	255	252	265	315	452	300	433	346	304	271	251	360
unmarried cohab.	.174	.149	.201	.073	.118	.214	.236	.162	.308	.115	.138	.177	.054	.099	.169	.153	.102	.192
married comm.	.728	.676	.658	.783	.683	.68	.671	.653	.58	.762	.678	.668	.794	.685	.691	.746	.669	.655
married sep.	.049	.122	.067	.067	.093	.044	.039	.125	.087	.053	.126	.071	.076	.094	.043	.039	.138	.087
civil union comm.	.007	.005	.031	.010	.013	.023	.006	.002	0	.006	.005	.027	.004	.013	.023	.004	.002	0
civil union sep.	.043	.048	.043	.066	.093	.039	.048	.058	.026	.064	.053	.058	.073	.109	.074	.058	.088	.066
N	565	560	444	230	166	244	194	108	88	565	560	444	230	166	244	194	108	88

Notes: JJ = JointJoint, MM= MaleMale, FF = FemaleFemale, JM = JointMale, MJ = MaleJoint, JF = JointFemale, FJ = FemaleJoint, FM = FemaleMale, MF = MaleFemale

Figure A.1: Share of households whose respondent has changed between 2015 and 2018



Data: *Patrimoine* survey (2015)
Sample: I restrict the sample to the couple-headed households. I exclude the households in which the respondent is not the household head or his/her spouse. The wealth distribution is computed in 2015.

Table A.3: Change in wealth estimates - Control variables

	(1) Total Levels	(2) Total Relative	(3) Total Rank	(4) Housing Levels	(5) Housing Relative	(6) Financial Levels	(7) Financial Relative
NetWealth_{2015}	-10.767***	-0.059***	-0.010***	-5.524***	-0.022***	-0.720	-0.037***
	(2.082)	(0.006)	(0.001)	(1.110)	(0.003)	(1.084)	(0.009)
$\text{NetWealth}^2_{2015}$	-0.068**	0.000***	0.000***	0.070***	0.000***	-0.030*	0.000***
	(0.030)	(0.000)	(0.000)	(0.016)	(0.000)	(0.016)	(0.000)
Positive shock:							
Housing	40.797***	0.109***	0.020***	28.570***	0.077***	0.834	0.107*
	(13.004)	(0.040)	(0.005)	(6.933)	(0.020)	(6.771)	(0.059)
Business	54.196***	0.128***	0.028***	12.184*	0.015	24.499***	0.167***
	(12.989)	(0.040)	(0.005)	(6.925)	(0.021)	(6.763)	(0.059)
Other	116.236***	0.014	0.020	25.941	0.041	16.559	0.210
	(38.958)	(0.120)	(0.016)	(20.770)	(0.061)	(20.285)	(0.177)
Personal	-38.578***	-0.221***	-0.022***	-25.561***	-0.034	-2.128	-0.084
	(14.679)	(0.045)	(0.006)	(7.826)	(0.024)	(7.643)	(0.067)
Negative shock:							
Business	-9.689	-0.044	-0.009*	-5.148	-0.051**	-5.964	-0.192***
	(13.187)	(0.041)	(0.005)	(7.031)	(0.022)	(6.866)	(0.060)
Housing	-38.636	-0.055	-0.008	-72.683***	-0.205***	31.962	0.362*
	(46.971)	(0.145)	(0.019)	(25.042)	(0.069)	(24.458)	(0.214)
Other	-7.064	0.148**	-0.003	-13.537	-0.073**	14.665	0.162*
	(19.522)	(0.060)	(0.008)	(10.408)	(0.032)	(10.165)	(0.089)
Bequest received	2.606	0.105*	0.007	4.965	-0.016	29.418***	0.183**
	(18.047)	(0.056)	(0.007)	(9.622)	(0.028)	(9.397)	(0.082)
Gift received	59.228**	0.184**	0.037***	20.036	0.037	13.083	0.185
	(27.860)	(0.086)	(0.011)	(14.853)	(0.046)	(14.507)	(0.127)
Gift given	-37.804	-0.122	-0.039***	-71.007***	-0.330***	-5.299	-0.058
	(35.727)	(0.111)	(0.015)	(19.047)	(0.052)	(18.603)	(0.163)
Δ $\text{income}_h h$	60.077	0.218*	0.012	70.793***	0.080	77.138***	0.383**
	(36.826)	(0.114)	(0.015)	(19.633)	(0.058)	(19.175)	(0.168)
Δ couple status	-17.285*	-0.078***	-0.008**	1.177	0.014	-3.121	0.015
	(8.837)	(0.027)	(0.004)	(4.711)	(0.016)	(4.601)	(0.040)
upper sec educ_m	3.018	-0.044	0.001	-4.510	0.013	-20.983**	-0.097
	(16.529)	(0.051)	(0.007)	(8.812)	(0.027)	(8.606)	(0.075)
$\text{short-cycle/bachelor}_m$	3.176	-0.028	0.009	-4.922	0.013	-15.201*	-0.073
	(15.745)	(0.049)	(0.006)	(8.394)	(0.025)	(8.198)	(0.072)
master/PhD_m	35.659	0.213***	0.036***	35.578***	0.072*	-6.760	-0.000
	(24.158)	(0.075)	(0.010)	(12.880)	(0.039)	(12.579)	(0.110)
upper sec educ_f	18.634	-0.052	0.001	23.079***	0.075***	5.424	-0.021
	(16.444)	(0.051)	(0.007)	(8.767)	(0.027)	(8.562)	(0.075)
$\text{short-cycle/bachelor}_f$	44.248***	0.100**	0.014**	35.870***	0.100***	7.370	0.069
	(16.033)	(0.050)	(0.007)	(8.548)	(0.026)	(8.348)	(0.073)
master/PhD_f	123.313***	0.209***	0.029***	61.499***	0.138***	17.884	0.128
	(24.527)	(0.076)	(0.010)	(13.076)	(0.040)	(12.771)	(0.112)
$5 \leq$ duration <10	22.538	-0.288***	-0.005	8.741	-0.056	8.353	-0.358***
	(25.934)	(0.080)	(0.011)	(13.826)	(0.059)	(13.504)	(0.118)
$10 \leq$ duration <20	7.333	-0.458***	-0.012	14.329	-0.003	10.210	-0.358***
	(25.126)	(0.078)	(0.010)	(13.395)	(0.053)	(13.083)	(0.114)
$20 \leq$ duration <30	-46.042	-0.524***	-0.024**	8.621	-0.014	-10.296	-0.410***
	(28.690)	(0.089)	(0.012)	(15.296)	(0.056)	(14.938)	(0.131)
duration ≥ 30	-61.876**	-0.621***	-0.043***	-14.579	-0.103*	-4.890	-0.359**
	(30.732)	(0.095)	(0.012)	(16.384)	(0.059)	(16.002)	(0.140)
Intercept	-232.425***	0.576**	-0.011	0.834	-0.255*	-28.920	-0.004
	(72.417)	(0.224)	(0.029)	(38.608)	(0.152)	(37.707)	(0.330)
N	2545	2545	2545	2545	2197	2545	2545
R^2	0.117	0.148	0.138	0.089	0.096	0.039	0.050

Note: standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Relative change is the difference in logs. m refers to the male partner, f to the female partner. I also control for nationality, number of children, labor market status, region of residence.

Table A.4: Change in wealth estimates (subsample with no major events affecting wealth)

	(1) Total Levels	(2) Total Relative	(3) Total Rank	(4) Housing Levels	(5) Housing Relative	(6) Financial Levels	(7) Financial Relative
MaleMale	26.967	0.016	0.011	9.829	0.006	5.282	-0.036
	(20.155)	(0.070)	(0.008)	(10.604)	(0.034)	(8.822)	(0.100)
FemaleFemale	-2.350	-0.056	0.001	17.083*	0.023	-22.497***	-0.197**
	(19.173)	(0.066)	(0.008)	(10.087)	(0.032)	(8.392)	(0.095)
JointMale	23.345	0.102	0.011	12.133	0.022	-0.288	-0.150
	(23.862)	(0.082)	(0.010)	(12.554)	(0.038)	(10.444)	(0.118)
MaleJoint	-12.430	-0.238**	-0.008	0.202	0.003	-10.319	-0.016
	(28.589)	(0.099)	(0.012)	(15.041)	(0.047)	(12.513)	(0.141)
JointFemale	1.897	-0.204***	-0.009	10.721	-0.032	-12.002	-0.282**
	(22.152)	(0.077)	(0.009)	(11.654)	(0.036)	(9.696)	(0.109)
FemaleJoint	11.371	0.081	0.011	19.373	0.112***	-1.943	-0.323***
	(23.783)	(0.082)	(0.010)	(12.513)	(0.041)	(10.410)	(0.117)
FemaleMale	-14.714	-0.252**	-0.020	1.618	0.027	-13.100	-0.413***
	(32.066)	(0.111)	(0.013)	(16.871)	(0.055)	(14.035)	(0.158)
MaleFemale	95.825***	-0.330***	-0.011	37.979**	0.050	-2.603	-0.329*
	(34.600)	(0.120)	(0.015)	(18.204)	(0.058)	(15.145)	(0.171)
Intercept	-238.689***	0.379	-0.038	-31.208	-0.249	-27.551	0.399
	(78.004)	(0.270)	(0.033)	(41.040)	(0.162)	(34.143)	(0.385)
Spec.	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1761	1761	1761	1761	1761	1761	1761
R^2	0.143	0.149	0.138	0.079	0.094	0.045	0.054

Notes: standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Relative change is the difference in logs. I restrict the sample to the household who have not experienced any major events like inheritance/bequests (received or given) and lottery gains. I also control for other changes in the household wealth due to personal (health issue), professional (bonuses, unemployment, retirement, capital gains, etc.) and real-estate reasons (housing/land value), household labor income, legal status (cohabiting, married with a community regime, married with a separation of property regime, civil-union with a community regime, civil-union with a separation of property regime), number of children and employment status. I also include time-invariant variables: wealth and wealth^2 in 2015, educational attainement and duration of the relationship (in 2015).

Table A.5: Using selection on observables to assess potential bias from unobservables

	Total wealth Levels	**Total wealth Relative**	**Total wealth Rank**
Panel A: $R^{max} = 1$			
MaleMale	na	na	na
FemaleFemale	na	na	na
JointMale	-3.0	-0.6	-2.1
MaleJoint	na	-0.7	na
JointFemale	na	-1.7	na
FemaleJoint	na	na	na
FemaleMale	na	-0.5	-0.5
MaleFemale	1.7	-0.6	na
Panel B: $R^{max} = 1.3 \times R^2$			
MaleMale	na	na	na
FemaleFemale	na	na	na
JointMale	-60.7	-11.7	-42.2
MaleJoint	na	-13.0	na
JointFemale	na	-30.0	na
FemaleJoint	na	na	na
FemaleMale	na	-9.4	-8.8
MaleFemale	34.3	-9.8	na

Notes: each cell of the table reports ratios based on the coefficient for total wealth displayed in Table 5. The δ parameter is estimated using the Stata package *psacalc* with $\beta = 0$. In Panel B, R^2 corresponds to the regression of the outcome variables on the observed set of controls; na = not applicable (because the coefficients were not statistically significant).