

Female Portfolio Choices and Marital Property Regime

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Abstract

This paper studies the link between married couples' portfolio choices, marital property regime, and the gender of the household head. Exploiting unique features of the Spanish Survey of Household Finances and the marriage legislation in Spain, we find that female-headed households married under separate property hold riskier financial portfolios than their counterparts married under community property. We rationalize this gap in risky asset holdings with a two-period bargaining model of marriage and portfolio choice where couples differ in their property regime and are subject to exogenous divorce risk. In the model, the household head is the spouse with higher weight in the household utility function. Compared to separate property, divorce risk encourages higher precautionary savings in safe assets for community-property couples due to higher liquidation costs of assets upon divorce. This translates into separate-property couples allocating a larger share of their portfolio into risky assets. Higher utility weight and lower permanent income for female household heads reinforce the precautionary savings mechanism and help match the gap in risky asset holdings observed in the data.

JEL: D14, G11, J12, J16, K36

Key words: Personal Finance, Portfolio Choice, Marriage, Gender, Family Law

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1 Introduction

Marriage has proven to be a powerful economic institution. A key determinant of such economic nature of marriage is the marital property regime, which defines the legal ownership structure of assets accumulated during the marriage. The degree of shared ownership of assets defines two types of marital property regime: separate and community property. Under separate property, each spouse maintains sole ownership of assets accumulated during the marriage and takes them upon dissolution. Contrary, under community property, most assets acquired during the marriage become jointly owned and split equally among spouses if the marriage ends.¹ The multiple marital property regimes result from different legal traditions: separation of property was the system embedded in Roman law, while community property arises from the Germanic law system (Imre, 2021). The family law of modern Western countries has been influenced by the duality of both law systems, resulting in either the adoption of community property as the unique marital property regime or the co-existence of both. Italy, Spain, and the United States are good examples of countries where married couples can choose between separate or community property regimes.

Even though the marital property regime has relevant implications for individual financial behaviour, the economic literature has devoted little attention to studying its impact on household financial decisions. This paper explores the relationship between married couples' portfolio choices and property division rules. The marital property regime may influence household financial investments regulating the asset allocation between spouses upon divorce. Intuitively, community property implies an equitable distribution of assets between spouses upon divorce, which might not reflect the actual portfolio allocation or expected portfolio returns during the marriage. Therefore, different property division rules can lead to different optimal portfolio choices for married couples, given the spouses' income and relative risk aversion.

To explore how the marital property regime influences couples' financial portfolio decisions, we use the financial decisions of Spanish households as a testing ground. We exploit unique data from the Spanish Survey of Household Finances between 2002 and 2017. The survey provides detailed information on households' financial portfolio composition, wealth, and demographics. Highlights two particular features of the Spanish survey that are seldom found in other household surveys reporting information about household wealth. First, the survey includes information on the marital property regime of couples, which is not available in other surveys like the Bank of Italy's Survey of Households Income and Wealth (SHIW) or the Federal

¹Under community property, labour income and profits earned by either spouse belong to the pool of commonly owned assets, while inheritance, gifts, and assets bought before marriage remain separate property. We denote this regime as community property or joint ownership throughout the paper.

Reserve’s Survey of US Consumer Finances (SCF). Second, the definition of the household head makes it very likely that this household member is the primary decision-maker regarding the household economy and finances.

As a first step, we investigate empirically how different marital property systems affect the financial market participation of married couples. We find that separate-property couples take significantly more financial risk when the spouse who takes a more prominent role in managing household finances is a female. In particular, we find that female-headed households under separate property are 3-6% more likely to participate in risky assets than their counterparts married under community property. We also find that separate-property married women hold more diversified portfolios towards risky assets compared with those married in community property. On average, female-headed households married under separate property hold a share in risky asset classes 2-4 percentage points higher than their counterparts married under community property. These results come after controlling for education, household income and wealth deciles, and other relevant demographic characteristics or comparative ratios between spouses. We also control for wage gaps between spouses as differences in income within the household may be a crucial determinant of the intra-household bargaining position of spouses ([Majlesi, 2016](#); [Pollak, 2005](#); [Cherchye et al., 2012](#)).

Women who choose to marry under separate property could be less risk-averse, more financially sophisticated or raised in a more egalitarian environment promoting female financial independence compared to women who choose community property regimes. These female characteristics imply a higher probability of holding riskier assets for female-headed households under separate property. Our results are robust to controlling for risk attitudes or online banking and ownership of managed financial accounts by professional financial institutions, i.e., proxies for financial sophistication. They are also robust to use the household head’s mother’s occupation as a proxy for cultural norms transmitted through family ties. Additionally, we make sure that our results speak for women married under separate property deciding to take more financial risks independently by exploiting a survey question about the intra-household distribution of couples’ total assets portfolio. Our findings suggest that separate property promotes independent and more risky investment by women.

Despite all the steps taken to ensure we are comparing similar couples, the choice of marital property regime is potentially endogenous. [Frémeaux and Leturcq \(2020\)](#) use French administrative data to show that married couples often choose separate property whenever spouses are very unequal in individual wealth endowments. If wealthier couples self-select into separate property, our results overestimate the effect of separate property on female-headed couples’ portfolio choices. To address such concerns, we use the region of residence as an instrument for the marital property

regime.² In Spain, regional law regulates marital property regimes, resulting in variation in the default marital property regime at the regional level. Separate property is the default regime in Catalonia and the Balearic Islands, while community property is the default in the rest of the regions. We argue that the regional default property regime is related to the choice of marital property regime, but it is unrelated to the household financial market participation.³ We find similar results when using region of residence as an instrumental variable to estimate the causal effects of marital property regimes on household financial investment.

In a second step, we build a theoretical model to explore the mechanisms behind the observed gap in risky assets holdings between female-headed couples married under different property regimes. We embed a portfolio choice model in a simple bargaining model of marriage where couples are subject to an exogenous probability of divorce. Married couples differ *only* in their property division rule and the liquidation costs of marital assets upon divorce. Separate property couples take their assets according to the title of ownership in case of marital dissolution. Community property couples incur in liquidation costs because assets need to be equally split between spouses. Moreover, spouses can save in a risk-free asset with a constant gross return and in a risky asset with a stochastic gross return. The risky asset is the unique source of uncertainty in the model.

The model captures three transmission channels which explain the savings and portfolio allocation choices of couples married under different property regimes. First, the presence of *divorce risk* affects couples' precautionary savings differently depending on the liquidation rule of assets upon divorce. Community-property marriages have stronger incentives to save and to hold a larger share of their portfolio in safe assets for two reasons: i) Savings are split by half, regardless of the intra-household distribution of resources, and ii) higher liquidation costs. Both reasons reduce the outside option of community-property couples, which strengthens their precautionary savings motive relative to separate property. Second, unequal bargaining weights between spouses (*bargaining gap channel*) reinforces any differences in the risky portfolio shares chosen by both types of couples. In the model, spouses consumption is a fraction of total household resources fully determined by their bargaining weight in the household utility function (Voena, 2015). Spouses married in separate property decide on their portfolios individually, allowing them to smooth consumption in case of marriage dissolution. In contrast, community property's equal division of assets in divorce

²In Spain, there are 18 regions: 17 *Comunidades Autónomas* and one region that bundles together Ceuta and Melilla, two autonomous cities in Africa.

³Due to data restrictions, we cannot disentangle whether couples got married in their current region of residence. However, this is not a critical concern given the low internal migration rates across Spanish regions. Redondo (2022) shows that between 2002-2012 the migration rate within regions was less than 4%.

might not reflect the intra-household allocation of resources. The liquidation rule distorts consumption smoothing. Risk-averse households respond to this distortion by increasing their portfolio share in safe assets. Third, income inequality within the couple (*income gap channel*) strengthens the previous channels as spouses with lower permanent income have stronger incentives to accumulate savings and shift their portfolio towards safe assets.

Numerical exercises using the gender income ratio and conditional risky asset shares of female-headed households observed in the data show that the model can quantitatively rationalize the empirical findings. The results of counterfactual exercises show that the lower outside option for community property couples is the most important mechanism in explaining the gap in risky shares between couples. The income gap and bargaining gap channels add to the frictions implied by the division rule of community property and reinforce the differences between community and separate property couples, which helps to quantitatively match the data.

Our paper contributes to the growing economic literature on gender and finance. In this literature, there is consensus regarding the fact that men invest more and less conservatively in financial assets than women because of differences in risk aversion (Bajtelsmit and Bernasek, 1996; Croson and Gneezy, 2009; Dohmen et al., 2011), financial literacy (Van Rooij et al., 2011; Lusardi and Mitchell, 2014; Hospido et al., 2021) or self-confidence (Barber and Odean, 2001; Bucher-Koenen et al., 2017; Klapper and Lusardi, 2020). More recently, the role of traditional gender norms has been highlighted as a potential driver behind the gender gap in financial investment (Ke, 2021). Guiso and Zaccaria (2021) also show that more egalitarian norms increase household participation in financial markets, equity holdings, and asset diversification in Italy. Instead, we examine the impact of the marital property regime on household financial investment decisions, given the gender differences found in the previous literature regarding psychological traits, risk-taking, and social norms.

A limited but growing literature has explicitly studied the implications of different marital property regimes for various household economic outcomes. Stevenson (2007), Voena (2015), Imre (2021) and Huang et al. (2021) examine how divorce laws interact with different marital property regimes in shaping households economic behavior. Like us, Imre (2021) exploits the regional variation in default marital property regime law in Spain, but she investigates the effects of the marital property regime on female labour supply, fertility, marriage, and marital dissolution rates. The closest paper to ours is Voena (2015). She exploits the introduction of unilateral divorce in the US with different property division rules to study both empirically and theoretically the effect of the marital property regime on couples' accumulation of assets and the labour supply of married women. She finds that unilateral divorce

with equal property division is associated with higher household savings and lower female employment. Her empirical findings are consistent with a collective model that includes lower bargaining power for women, such that husbands increase savings for self-insurance against losing half of their assets to their wives in divorce. Differently from her, our empirical strategy relies on an instrumental variables approach instead of a specific reform to infer a causal relationship between property division rules and financial investment. Also, our theoretical framework models explicitly how property division rules shape couples' financial portfolio allocation between safe and risky assets in the presence of divorce risk.

Finally, regarding the portfolio choice literature, our paper is close to [Addoum et al. \(2016\)](#). They examine the link between marital decisions, consumption, and optimal portfolio choice in a life-cycle model with limited marital commitment. In their framework, couples are married under some form of community property.⁴ We depart from their work by modelling explicitly two types of property division rules within a portfolio choice framework.

The rest of the paper proceeds as follows. The next section covers the Spanish institutional background. Section 3 presents the data, while section 4 empirically examines the role of the marital property regime for household financial behaviour. Next, section 5 lays down the theoretical model that rationalizes the empirical results. Section 6 offers concluding remarks.

2 Institutional Background

Spanish regions hold considerable legislative autonomy. Particularly relevant for this paper, marital property regimes are regulated at the regional level. The marital property regime defines the legal ownership structure of assets acquired during marriage and thus, it regulates the sharing rule over couples' property upon marriage dissolution (due to divorce or death). In Spain, two marital property regimes coexist: community and separate property. Under community property, assets acquired during the marriage are jointly owned and are split in equal parts between the spouses. The joint ownership of assets, however, does not apply to assets acquired before the marriage, inheritances or donations. By contrast, under separate property the spouses remain the exclusive owners of the assets they have acquired during the marriage. This implies that each spouse retains full ownership in case of marital dissolution. Community property is the default in all regions but Catalonia and the Balearic Islands.⁵

⁴[Addoum et al. \(2016\)](#) assume couples' portfolio choices to be made jointly by both spouses

⁵The Valencian Community, as a exceptional case, changed its default regime from community to separate property during the period 2008-2016.

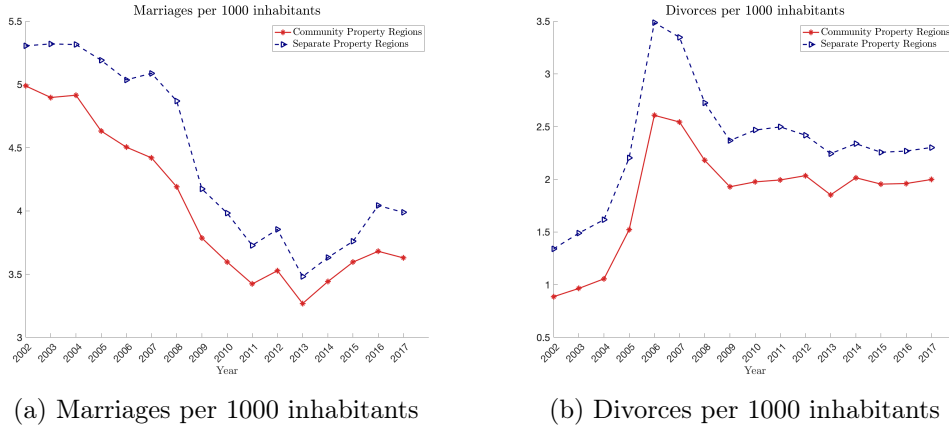


Figure 1: Marriages and Divorces in Spanish Regions by Default Regime

Notes: The figure plots the evolution of marriages and divorces per 1000 inhabitants across Spanish regions depending on their default property regime for the period 2002-2017. Separate-property regions (blue triangle line) are Catalonia, Balearic Islands (and Valencian Community for the period 2009-2015). Community-property regions (red star line) are the rest of Spanish regions (and Valencian Community for the period 2007-2008, 2016-2017).

Unless spouses agree on a different marital property system signing a prenuptial agreement (*Capitulación Matrimonial* in Spanish), the default marital property regime in the region where couples get married applies. Prenuptial contracts can be signed ex-ante or ex-post marriage, can be modified at any time during the marriage if both spouses agree and their monetary cost is relatively small (about 60 euros in 2021). Table A1 in the Appendix shows the evolution of total prenuptial agreements and prenuptial agreements for separate property in Spain as a share of marriages per year. Despite the easiness of the procedure, most marriages simply adopt the default property regime in their region; the number of prenuptial agreements remains below 17% of marriages. Around 90% of those prenuptial contracts are signed to change the marital property regime to separate property (and thus to opt out of community property).⁶

Figure 1 shows the evolution of marriages and divorces per 1000 persons for the period 2002-2017. Although community property regions display lower marriage and divorce rates, there are no differences in trends across regions with different default property rules. This suggests that different marital property systems do not affect marital and divorce behavior of couples.

⁶We find similar trends for the evolution of prenuptial contracts to adopt separate property by region.

3 Data

We use household-level data from the Spanish Survey of Household of Finances (EFF for its acronym in Spanish). The survey is conducted every two years by the Bank of Spain and spans from 2002 to 2017 (6 waves in total). The survey reports detailed information on households' income, wealth, portfolio composition, and a rich set of socio-economic characteristics based on personal interviews.

We exploit particular features of the EFF, which are rarely included in surveys reporting information about household wealth. First, the survey includes information on the marital property regime of couples, which is not available in other surveys such as the Bank of Italy's Survey of Households Income and Wealth (SHIW) or the Federal Reserve's Survey of US Consumer Finances (SCF). Second, the definition of the household head makes it very likely that he or she is the main decision-maker of the household economy and finances. The specific definition provided to households reads: "the person who knows more about the economy and finances of the household living at this address". Thus, the household head is the person who is the most knowledgeable about the household's finances, i.e. household income, expenditures, investments, assets, etc. It is not simply a household member, but who is in charge/knows the most about the household's finances. Finally, the EFF also reports information about the intra-household distribution of wealth.⁷

We restrict the estimation sample to married couples or cohabiting couples over 25 years old with both spouses employed so that both contribute to household income. We drop self-employed workers because their financial decisions are most likely to be determined by other motives than the general population. For instance, self-employed individuals tend to opt for the separation of property because this regime provides a way of sheltering a fraction of household assets from the risk of bankruptcy.

Table 1 reports summary statistics of socio-economic characteristics of our sample. About one-third of the Spanish married working couples are female-headed, and about 75% of households are married under community property. This is not surprising since all Spanish regions have community property as the default marital property regime except for two. On average, the household head is 46 years old, more educated, slightly older, and earns more than his/her spouse.

Table 2 distinguishes the average wage ratio between spouses by marital property regime and by gender of the household head. First, separate property households have a lower wage gap between spouses than households with community property.

⁷The question is "Most throughout the questionnaire, we have spoken of your household's financial and non-financial assets, such as its bank accounts, its house, etc. Could you please tell me whom the household's main assets belong to?"

Table 1: Household Summary Statistics

	Mean	St. dev.	Separate	Community
Household's head characteristics				
Gender (<i>=1 if female</i>)	0.34	0.47	0.33	0.34
Separate property regime	0.25	0.43		
Age	46	8.81	46	46
Education				
Less than high school	0.24	0.43	0.17	0.27
High School	0.31	0.34	0.31	0.36
College	0.42	0.49	0.52	0.39
Civil union status	0.06	0.24	0.15	0.03
Occupation in financial sector	0.05	0.22	0.09	0.04
Comparative ratios bw spouses				
Education ratio bw spouses	1.10	0.47	1.10	1.11
Age ratio bw spouses	1.03	0.10	1.04	01.03
Other controls				
Home-ownership				
Rent	0.09	0.28	0.10	0.08
Ownership	0.88	0.33	0.86	0.88
Other	0.03	0.18	0.03	0.04
Household size	3.51	1.01	3.45	3.53
Risk attitudes	1.32	0.58	1.41	1.30
Income (thousands eur)	66.95	98.26	91.83	58.80
Net wealth (thousands eur)	582.72	3717.11	1236.54	368.39

Notes: This table shows summary statistics for two-spouse households characteristics and by marital property regime of the household head. Sample includes information from 2002-2017 waves of the Spanish Survey of Household Finances and is restricted to two-spouse households aged above 25 years old who are employed. Self-employed households are excluded from the sample. Observations: 4101 (3992 for the education ratio)

Table 2: Wage Ratio by Marital Property Regime

	Mean	St. dev.	Male	Female	N
Total	1.61	2.02	2.00	0.88	4101
Separate property	1.77	2.35	2.21	0.90	1012
Community property	1.54	1.71	1.93	0.80	3089

Notes: This table shows summary statistics for the wage ratio between the household head and his/her spouse. Sample includes information from 2002-2017 waves of the Spanish Survey of Household Finances and is restricted to two-spouse households aged above 25 years old where both spouses work. Self-employed households are excluded

Second, men tend to earn higher wages than their spouses independently of whether they are the household head. However, earnings differentials are higher when they are in charge of the household finances.

To measure financial decisions, we rely on household information on participation in financial markets and portfolio allocation. We define participation in *risky* assets as a binary variable that takes value of 1 when a household holds wealth in shares or/and mutual funds and participation in *safe assets* as a binary variable that takes value of 1 when a household holds wealth in interest-bearing safe assets, that is, saving accounts and fixed-income securities. Contrary to [Guiso and Zaccaria \(2021\)](#), we do not include deposits in our measure of safe asset participation since around 97%

Table 3: Household Financial Investment Summary Statistics

	Mean	St. dev.	Mean Sep	Mean Com
Total Financial Assets	143.26	1355.35	351.93	74.19
Participation Risky Assets	0.30	0.46	0.39	0.28
Risky Assets Portfolio Diversification	0.15	0.24	0.20	0.14

Notes: This table shows summary statistics for two-spouse households characteristics and by gender of the household head. Sample includes information from 2002-2017 waves of the Spanish Survey of Household Finances and is restricted to two-spouse households aged above 25 years old who are employed. Self-employed households are excluded from the sample. Observations: 3989 (4101 participation in risky assets).

of married couples in our sample hold wealth in deposit accounts. We also construct a measure of household portfolio diversification by dividing the number of different risky asset classes by the total number of assets classes held. Table 3 shows that, on average, separate-property couples hold higher levels of financial assets, participate more in risky assets and hold riskier portfolios than their counterparts married under community property.

4 Empirical Results

To investigate whether property division rules in marriage affect couples' financial investments through the gender of the household head, we estimate the following linear model for investment and portfolio diversification:

$$y_{i,t} = \alpha + \delta \text{Sep. Property}_{i,t} + \beta \text{Female}_{i,t} + \phi(\text{Sep. Property} \times \text{Female})_{i,t} + \delta X_{i,t} + \gamma_t + \epsilon_{i,t} \quad (1)$$

where the dependent variable is either a binary variable that takes value 1 if the household reports investing in risky (safe) financial assets or the ratio between the number of different risky asset classes and the number of total asset classes held by the household. Sep. Property_{*i,t*} is a dummy variable taking value 1 if couples are married under separated property and 0 if they are married under community property while Female_{*i,t*} indicates that the gender of the household head is female. The vector $X_{i,t}$ includes a full range of household socio-economic characteristics, including household income and net wealth deciles, number of individuals living in the household, household head's age, education, homeownership, civil union status, occupation in financial sector and comparative proxies between spouses (education, age and wage ratios). We include survey year γ_t fixed effects to capture time trends affecting household financial investment.

The coefficients δ and β indicate the effect of marital property regime and gender of the household head on couples' financial investment and portfolio diversification.

Table 4: Marital Property Regime, Gender and Investment in Financial Markets

	(1) Participation Risky Assets	(2) Participation Safe Assets	(3) # Risky Assets Classes Share
Separate Property	0.014 (0.007)	0.020 (0.027)	0.011** (0.004)
Female	-0.076*** (0.014)	-0.028 (0.027)	-0.036*** (0.006)
Female \times Sep. Property	0.056** (0.018)	0.013 (0.034)	0.023 (0.012)
Household Characteristics	Yes	Yes	Yes
Survey FE	Yes	Yes	Yes
Observations	3,987	3,987	3,876
R^2	0.293	0.099	0.283

Notes: The sample includes two-earners married households aged above 25 in 2002-2017. Linear estimates for a binary variable that takes value 1 if households hold wealth in risky assets (column 1), a binary variable that takes value 1 if households hold wealth in interest-bearing safe assets (column 2), or the number of different risky assets as a share of total assets (column 3). *Female* is a dummy variable that takes value 1 if the headship of the household is female and 0 otherwise. *Separate Property* is a dummy variable that takes value equal to 1 if couple's property regime is separate property and 0 if it is community property. Household characteristics include household income and net wealth deciles, number of individuals living in the household, children living in the household, household head's age, education, home ownership, civil union status, occupation in financial sector and comparative proxies between spouses (education, age and wage ratios). Standard errors in parenthesis are robust and clustered at the survey wave level.

Of key interest is ϕ , the interaction term coefficient between gender and marital property regime. This coefficient captures the differential effect on financial market participation and portfolio diversification of female-headed households under separate property with respect to female-headed households under community property.

4.1 Marital Property Regime and Female Portfolio Choices

Consistent with the literature on gender differences in finance, Table 4 shows that female-headed households are less likely to take financial risks. However, property division rules significantly affect female participation and portfolio diversification in risky assets. Table 4 shows that female-headed households married under separate property are 5.6% more likely to invest in risky assets than their female counterparts married under community property. They are also more likely to hold a share in risky asset classes 2-3 percentage points higher on average. Our results are similar in magnitude to the ones presented in Guiso and Zaccaria (2021), who find that couples with more egalitarian norms are around 5% more likely to hold wealth in stocks compared to the ones with patriarchal norms. In turn, we do not find significant differences in interest-bearing safe assets participation between female-headed households married under different property division rules (see column 2).

Table 5: Household Head Primary Owner of Assets

	(1) Participation Risky Assets	(2) # Risky Asset Classes Share
Female-headed Households		
Primary Owner	0.012 (0.042)	-0.004 (0.024)
Separate Property	0.046** (0.014)	0.022* (0.009)
Primary Owner \times Sep. Property	0.157* (0.062)	0.112** (0.033)
Households Characteristics	Yes	Yes
Survey Year FE	Yes	Yes
Observations	1237	1197
R^2	0.269	0.257

Notes: The sample includes two-earners married households aged above 25 in 2002-2017 for which the household head is female. OLS estimates from a model where the dependent variable is a binary variable that takes value 1 if households hold wealth in risky assets. *Primary Owner* is a dummy variable that takes value of 1 if the household head holds a major share in total asset portfolio (real and financial assets) and 0 otherwise. *Separate Property* is a dummy variable that takes value equal to 1 if couple's property regime is separate property and 0 if it is community property. Standard errors in parenthesis are robust and clustered at the survey wave level.

One might argue that women in charge of household finances who choose to marry under separate property could be less risk-averse, have higher financial knowledge, or be more financially sophisticated than women who choose community property regimes. It could also be that these women have been educated in a more egalitarian environment that makes them prone to choose a marital property regime that incentivizes independent saving. These female characteristics would translate into a higher probability to hold riskier assets. We would be overestimating the effect of separate property on female financial market participation. Tables A2 and A3 in the Appendix present robustness checks. We find that different attitudes towards risk, degrees of financial literacy and financial sophistication or cultural norms are not potential drivers behind our results.

The fact that financial wealth is reported at the household level also questions whether women managing household finances under separate property decide to take more financial risks independently. Instead, one could argue that their male spouses actually make riskier investments. Table 5 explores this hypothesis by exploiting a survey question about the intra-household distribution of total assets. The results dissipate the concerns as to who makes the investment decisions on risky assets. We find that women married under separate property who report to be the primary owner of total household assets significantly invest more in risky financial assets and hold more diversified portfolios in risky assets than those married under community property.

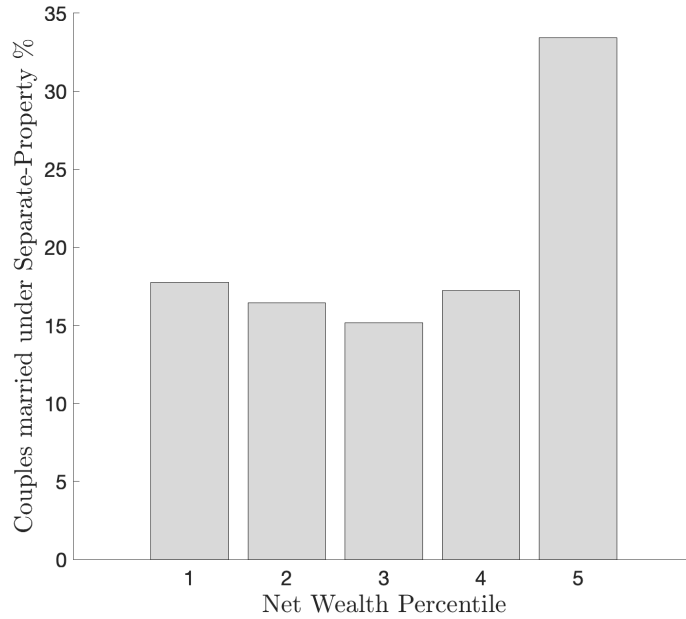


Figure 2: Married Couples with Separate Property in Community-Property Regions by Net Wealth Percentile

Notes: The figure shows the proportion of married couples that opt out of community property by net wealth percentile as a share of total married couples opting out. Data are from the 2002-2017 waves of the Spanish Survey of Household Finances. The sample is restricted to two-earners households aged above 25. Self-employed households are excluded.

4.2 Using Region of Residence as an Instrument for Marital Property Regime

The evidence provided so far is consistent with the view that marital property regime influences household financial behaviour when women are in charge of financial decision-making. However, the decision of marital property regime is potentially endogenous: in unequal partnerships, separate property could be used strategically by the wealthiest spouse to protect their wealth in case of divorce (Frémeaux and Leturcq, 2020). If wealthier couples self-select into separate property, our previous results would be overestimating the effect of separate property on female financial participation.

As already discussed, the Spanish law allows couples to opt out of the default property system in their region by signing a prenuptial contract. Around 13% percent of couples in community property regions change to separate property in our sample. Figure 2 disaggregates the share of households opting out of community property by net wealth percentile. It shows that couples in the highest percentile are more likely

Table 6: First-stage Regressions

	(1) Sep. Property	(2) Sep. Property \times Female
Regions with Default Sep. Property	0.545*** (0.054)	
Regions with Default Sep. Property \times Female		0.547*** (0.032)
Household Characteristics	Yes	Yes
Survey FE	Yes	Yes
F-value	75.546	36.419
Prob > F	0.000	0.000
Observations	3540	3540
R^2	0.347	0.414

Notes: The sample includes all two-earner married households in 2002-2017 except for households living in Comunitat Valenciana since this region changed the default marital property regime law between 2008-2016. This table provides results from first-stage regressions of marital property regime on a dummy variable that takes value equal to 1 when the couple's region of residence is Catalonia or Balearic Islands and the corresponding interactions with gender. Standard errors are robust.

to choose separate property, suggesting that self-selection into separate property is more common among the wealthiest households.

Robustness checks in the previous section alleviate some concerns regarding self-selection into a separate property system because of household income, individual characteristics or gender norms. We further address any remaining endogeneity concerns with an IV strategy. Particularly, we exploit the regional variation in marital property law across Spanish regions and instrument couples' property division rules with their region of residence. In Catalonia and the Balearic Islands the default system is separation of property, while in the rest of the regions prevails community property. Therefore, the choice of marital property regime is strongly related to the region of residence but should not be related to household participation in financial markets.

Several results show the relevance and independence of region of residence as an instrument for marital property regime. First, Table 6 reports the first-stage estimates. That is, the results of a regression of separate property regime on the exogenous instrument, i.e. a dichotomic variable for couple's residence in Catalonia and Balearic Islands and its interaction with gender. The first-stage coefficients are positive and statistically significant which, together with high F-stat values, confirm the relevance of our instrument. Moreover, we also conduct a balancing test for household characteristics of couples married under the default regime in their region of residence. Table 7 provides evidence that separate-property female-headed households living in Catalonia or the Balearic Islands and community-property female-headed households

Table 7: Balancing Tests

	Separate Property Regions	Community Property Regions	Wald Test p-value
Age	44.22	44.29	0.9131
Education	2.12	2.12	0.9962
Ownership Main Residence	1.92	1.95	0.4071
Fin Sector	0.08	0.05	0.0899
Household Size	3.54	3.61	0.4220
Net Wealth (median)	199.71	174.75	0.3278
Wage Ratio	0.74	0.77	0.6692
N	172	854	

Notes: This table reports the mean value for different household characteristics of separate-property married couples living in regions with separate property as default (Catalonia and Balearic Islands) and community-property married couples living in regions with community property as default (rest of Spanish regions). We exclude Valencian Community since it changed its default regime in the period 2008-2016. Sample is restricted to two-earner married couples aged above 25 for which the household head is female. The last column reports the p-value of the Wald test for differences in means.

Table 8: Instrumental Variables Estimates

	(1) Risky Financial Assets	(2) Risky Financial Assets	(3) % # Risky Asset Classes	(4) % # Risky Asset Classes
	IV-2SLS	OLS	2SLS-IV	OLS
Separate Property	-0.053** (0.026)	0.014 (0.007)	-0.034** (0.025)	0.011** (0.004)
Female	-0.076*** (0.014)	-0.073*** (0.014)	-0.038*** (0.008)	-0.036*** (0.006)
Female \times Sep. Property	0.079* (0.045)	0.056** (0.018)	0.044* (0.039)	0.023 (0.012)
Households Characteristics	Yes	Yes	Yes	Yes
Survey Year FE	Yes	Yes	Yes	Yes
Observations	3540	3986	3439	3876

Notes: The sample includes all two-earner married households in 2002-2017. This table provides results from a model where the dependent variable is a binary variable that takes value 1 if households hold wealth in risky assets Columns (1)-(2) and a model where the dependent variable is the value of different risky asset classes (i.e listed shares, unlisted shares and mutual funds) variable as a share of total asset classes. Column (1) and (3) report IV-2SLS estimates where we use a dummy for residence in Catalonia or Balearic Islands as an instrument for marital property regime. We exclude from the sample couples living in Valencian Community. Column (2) and (4) reports OLS estimates. Standard errors (in parenthesis) are robust and clustered at the survey wave level.

living in the rest of regions are not significantly different in their characteristics.⁸ This suggests that the significant differences in risky financial market participation and risky asset classes held between these two types of couples is unlikely to be the result of the potential confounders explored in the balancing tests.

⁸We exclude couples living in Valencian Community since this region changed the default regime between 2008-2016.

Table 8 reports the 2SLS estimation results of Equation 1 when using residence in Catalonia or the Balearic Islands as an instrument for separate property regime (columns 1 and 3). Column (2) and (4) reproduce the baseline estimates for convenience. The IV estimates imply that female-headed households married under separate property are 7.9% more likely to take financial risks than their community property counterparts. On average, they also hold a share in risky asset classes 0.44 percentage points higher. This is the contrary of what one would expect if the baseline estimates were to overestimate the impact of property regime on participation and portfolio diversification in risky assets. Instead, the results confirm our previous findings suggesting that property division rules are an important factor explaining married women’s financial investment decisions.

5 Theoretical Framework

To shed light on the mechanisms behind our empirical findings, we develop a household portfolio choice two-period model in which households allocate savings between a safe and a risky asset. The model examines the impact of the property division rules on married couples’ portfolio choices. In our empirical findings, the different saving behavior of female-headed households depending on their marital property regime does not rely on other observable characteristics. In the theoretical model, couples only differ in their marital property regime and the liquidation costs of marital assets implied by these regimes. The model takes household formation as given.

Households consist of two spouses $i = \{w, h\}$ who live for two periods. There are two types of households, couples married under community property and couples married under separate property. Couples married under separate property decide on their savings individually, while those married under community property decide on their savings as a couple. The marital property regime also dictates the assets allocation between spouses in the case of divorce. Both types of couples face the same exogenous probability of divorce (δ).

Regardless of the marital property regime, spouses pool together their incomes (y^i) during marriage. Spouses also decide how much to consume (c^i) and how to allocate their savings between a risk-free asset (b^i) and a risky asset (s^i). The safe asset earns a constant gross return R_b and the risky asset a random gross return R_{t+1}^s . We assume the return of the risky asset follows a normal distribution $R_{t+1}^s \sim N(\mu_r, \sigma_r^2)$, is independent and identically distributed and such that $\mu_r > R_b$. The risky asset is the only source of uncertainty in the model.

Property division rules. In the second period, couples can remain married or divorce, which is determined exogenously. If couples remain married, spouses consume

all their resources. If couples divorce, the asset allocation between spouses depends on their marital property regime: under community property, the couple's assets are divided equally between spouses, while under separate property spouses keep the property of their individual assets. We assume that couples in community property have to pay a liquidation cost upon divorce (κ). Dividing the pool of common assets can result in a lengthy and costly procedure (Imre, 2021).⁹ Separate property couples do not pay this liquidation cost (or face a liquidation cost of 0) because assets are allocated according to the title of ownership.

Preferences. We assume spouses have time-separable CRRA preferences over their private consumption. This implies that spouses are egoistic; the utility of spouse i depends on their consumption only. The period flow utility of spouse i is given by

$$u(c^i) = \frac{(c^i)^{1-\gamma}}{1-\gamma} \quad (2)$$

where γ is the coefficient of relative risk aversion.

Household optimization problem. Couples maximise the weighted sum of the spouses' utilities. λ_i refers to the bargaining weight associated with spouse i , for $i = w, h$ and $\lambda_w + \lambda_h = 1$. In the theoretical model, a higher bargaining weight for one of the spouses is our way of capturing the empirical concept of household head. Like in the data, a higher bargaining weight in the household utility function implies that the household head plays a dominant role in decision-making.

Couples married under community property solve the following optimization problem:

⁹Public notary has to take inventory of all the common assets and estimate their value as well as the outstanding liabilities and debts. The pool of net assets is then divided between the spouses (or the respective heirs, if the marriage was dissolved by death). See Spanish Civil Code, articles 1396-1410.

$$\begin{aligned}
\forall i : \quad & \max_{c_t^i, c_{t+1}^i, s_{t+1}, b_{t+1}} \lambda_h u(c_t^h) + \lambda_w u(c_t^w) + \beta \left[(1 - \delta) \underbrace{\left(\lambda_h \mathbb{E} u(c_{t+1}^h) + \lambda_w \mathbb{E} u(c_{t+1}^w) \right)}_{D=0} \right. \\
& \quad \left. + \delta \underbrace{\left(\lambda_h \mathbb{E} u(c_{t+1}^h) + \lambda_w \mathbb{E} u(c_{t+1}^w) \right)}_{D=1} \right] \\
& c_t^w + c_t^h + s_{t+1} + b_{t+1} \leq y_t^w + y_t^h \\
& c_{t+1}^w + c_{t+1}^h \leq R_{t+1}^s s_{t+1} + R_b b_{t+1} + y_{t+1}^w + y_{t+1}^h \quad \text{if } D = 0 \\
& c_{t+1}^h \leq \frac{R_{t+1}^s s_{t+1} + R_b b_{t+1}}{2} + y_{t+1}^h - \kappa/2 \quad \text{if } D = 1 \\
& c_{t+1}^w \leq \frac{R_{t+1}^s s_{t+1} + R_b b_{t+1}}{2} + y_{t+1}^w - \kappa/2 \quad \text{if } D = 1 \\
& R_{t+1}^s \sim N(\mu_r, \sigma_r^2)
\end{aligned} \tag{3}$$

where β refers to the discount factor, $D = 0$ indicates that the marriage continues and $D = 1$ that the couple divorces.

Similarly, couples married under separate property solve:

$$\begin{aligned}
\forall i : \quad & \max_{c_t^i, c_{t+1}^i, s_{t+1}^i, b_{t+1}^i} \lambda_h u(c_t^h) + \lambda_w u(c_t^w) + \beta \left[(1 - \delta) \underbrace{\left(\lambda_h \mathbb{E} u(c_{t+1}^h) + \lambda_w \mathbb{E} u(c_{t+1}^w) \right)}_{D=0} \right. \\
& \quad \left. + \delta \underbrace{\left(\lambda_h \mathbb{E} u(c_{t+1}^h) + \lambda_w \mathbb{E} u(c_{t+1}^w) \right)}_{D=1} \right] \\
& c_t^w + c_t^h + s_{t+1}^w + s_{t+1}^h + b_{t+1}^w + b_{t+1}^h \leq y_t^w + y_t^h \\
& c_{t+1}^w + c_{t+1}^h \leq R_{t+1}^s s_{t+1}^h + R_b b_{t+1}^h + R_{t+1}^s s_{t+1}^w + R_b b_{t+1}^w + y_{t+1}^w + y_{t+1}^h \quad \text{if } D = 0 \\
& c_{t+1}^h \leq R_{t+1}^s s_{t+1}^h + R_b b_{t+1}^h + y_{t+1}^h \quad \text{if } D = 1 \\
& c_{t+1}^w \leq R_{t+1}^s s_{t+1}^w + R_b b_{t+1}^w + y_{t+1}^w \quad \text{if } D = 1 \\
& R_{t+1}^s \sim N(\mu_r, \sigma_r^2)
\end{aligned} \tag{4}$$

Appendix [A3](#) provides a detailed description of the solution to both problems.

5.1 Transmission Channels

The model includes three mechanisms which determine the savings and the portfolio choices of couples. We discuss them in turn. First, the presence of *divorce risk* encourages couples' precautionary savings. However, the incentives differ by property division rule. Relative to separate property, community-property marriages have

stronger incentives to increase the amount of savings and their portfolio weight in safe assets for two reasons: i) spouses must give away half of the savings to their ex-partner in case of divorce, and ii) higher liquidation costs. These two reasons reduce the outside option of community-property couples, which strengthens the precautionary savings motive relative to separate property.

Second, the *bargaining gap channel* affects both types of couples' portfolios differently. Separate property couples decide on their portfolio individually and keep their assets upon divorce. Individual savings allows them to smooth consumption upon divorce according to their bargaining weight and income. Given the same income process and positive probability of divorce, the spouse with higher bargaining weight has stronger incentives to (i) accumulate more savings and (ii) to reduce their portfolio weight in risky assets. These actions improve the self-insure against a drop of consumption in case of divorce. In contrast, the bargaining gap channel discourages household heads married under community property from investing in risky assets. In community property, households make portfolio choices jointly, and, by law, assets are split 50-50 if the marriage ends. Thus, the portfolio distribution upon divorce differs from the intra-household allocation of resources in marriage when bargaining weights are not the same for both spouses. Put differently, the property division rule modifies household expected portfolio returns because the allocation of savings in divorce between spouses might not reflect the intra-household allocation of resources during marriage. Everything else equal, risk-averse households respond to this friction by increasing savings and portfolio weight in safe assets.

Third, an *income gap channel* amplifies the previous two mechanisms. The larger the income differences within a couple, the larger the potential fall of consumption upon divorce for the second earner and the stronger their incentives to insure the risk of divorce. A similar reinforcing mechanism applies for the interaction between income inequality and the bargaining gap channel. A household head with a higher bargaining weight than their spouse but lower permanent income, and married in community property, experiences a larger consumption fall upon divorce. Therefore, lower permanent income increases community property couples savings accumulation and shifts their portfolio towards safe assets.

5.2 Numerical Solution

We solve the model numerically based on the Spanish data from 2002 to 2018. Table 9 summarizes the values and sources of all externally calibrated parameters. The table also shows the values and targets of the internally calibrated parameters.

We focus on the behavior of female-headed households (i.e. households in which wives take a prominent role in managing the household finances) and assume that

Table 9: Calibrated Parameters

Externally Calibrated Parameters	Source	Value
Bargaining power (λ_w, λ_h)		0.6, 0.4
Gross safe asset return (R_b)		1
Risky asset return (μ_R, σ_R)	IBEX-35	0.033, 0.174
Income gap between spouses ($\frac{y^h}{y^w}$)	EFF	1.25
Divorce probability (δ)	INE	0.24
Discount factor (β)	Cocco et al. (2005)	0.97

Internally Calibrated Parameters	Target	Value
Relative Risk Aversion (γ)	Gap in Risky Share Community &	2.8
Dissolution cost (κ/y)	Separate Couples	0.6

$\lambda_w > \lambda_h$. In particular, we assume $\lambda_w = 0.6$ and $\lambda_h = 0.4$. However, we explore alternative calibrations for the bargaining weights in counterfactual exercises. The discount factor β takes a value equal to 0.97, similar to Cocco et al. (2005). Total household income is normalized to 2,000 and 1,000 in the first and second period, respectively. The gender income ratio between spouses ($\frac{y^h}{y^w}$) is set to 1.25 points. This reflects the earnings differential between husbands and wives in female-headed households in the EFF.¹⁰ The divorce probability is set to 24%, which is the average divorce rate for married couples between 25 and 60 years old, using the Divorce Indicators data from the Spanish Statistics National Institute (INE for its acronym in Spanish). The average return of the risky asset takes the value 2.7%, and its variance $\sigma_R^2 = 0.171^2$, consistent with average annual total returns and volatility of the IBEX-35 index during our sample period.¹¹ Finally, we target the average risky asset shares (conditional on participating) of female-headed households by property regime observed in the EFF data with the coefficient of relative risk aversion and the dissolution cost of marriage for community property couples. The coefficient of risk aversion takes the value 2.8, which is close to the one reported in Bacher (2021) portfolio choice model with divorce risk. Our coefficient also lies at the lower end of estimates introduced by previous papers on portfolio allocation (Cocco et al., 2005; Fagereng et al., 2017). The dissolution cost of marriage for community property couples goes up to 60% of total household income, which is considerably high.

Figure 3 contrasts the gap in the risky share between separate-property and community-property couples generated by the model and observed in the data. The model matches the data target relatively well: it predicts a risky share gap between

¹⁰We apply survey weights such that income differentials are consistent with Spanish population averages for female-headed households.

¹¹Series “Cotización y contratación. Acciones. Sociedad de Bolsas y Sociedad Rectora de la Bolsa de Madrid. Índice cotización. Índice IBEX 35” downloaded from www.bde.es.

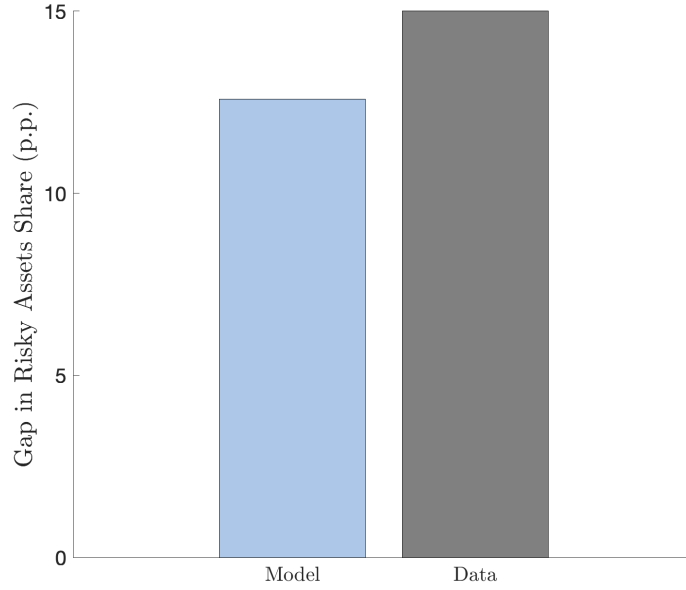


Figure 3: Gap in Risky Share between Separate and Community Property Female-headed Households - Model vs Data

Notes: The empirical average risky share is computed conditional on households participating in risky assets. Survey weights are applied to give consistent averages for the Spanish population.

separate-property and community-property couples of 12.6 percentage points (pp), which is closed to the 15.0 pp observed in the data.

To validate the performance of the model, Table 10 reports the gap in the savings rate between the two types of married couples and compares it with the data. The model rationalizes the fact that community property couples save a higher fraction of their income compared to separate property couples. The savings rate between the two types of couples is -7.7 pp. In the data, this gap is -2.2 pp. Breaking down the savings rate by asset class, the model also predicts that couples married under community property hold more save assets as a fraction of income. The safe savings rate gap in the model is -7.1 pp, compared to -4.3 pp observed in the data. However, the model underpredicts the gap for risky asset holdings between separate and community property (-0.6 pp) compared to the data (1.9 pp).

5.3 Counterfactual Exercises

To understand better the role of the transmission channels we conduct different counterfactual exercises.

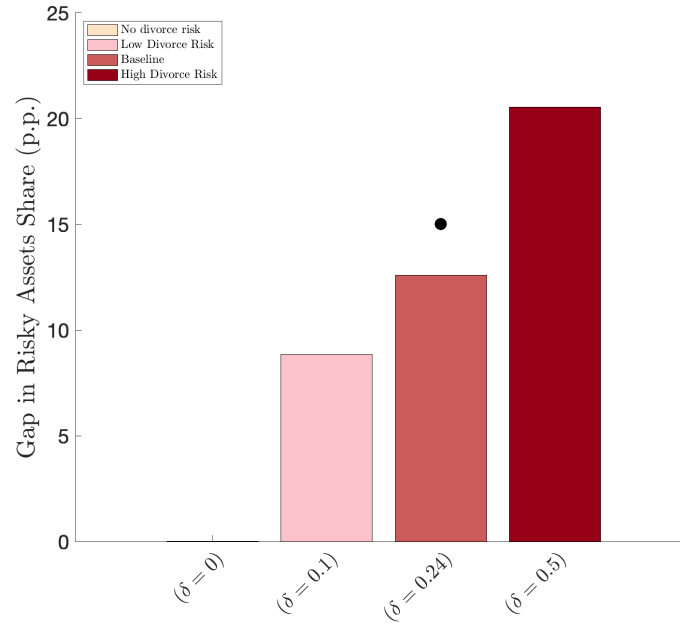
Table 10: Gap in Savings Rate between Separate and Community Property Female-headed Households- Model vs Data

	Model	Data
Savings Rate Gap $\frac{s+b}{y}$	-7.72 pp	-2.41 pp
Risky Savings Rate Gap $\frac{s}{y}$	-0.62 pp	1.91 pp
Safe Savings Rate Gap $\frac{b}{y}$	-7.10 pp	-4.32 pp

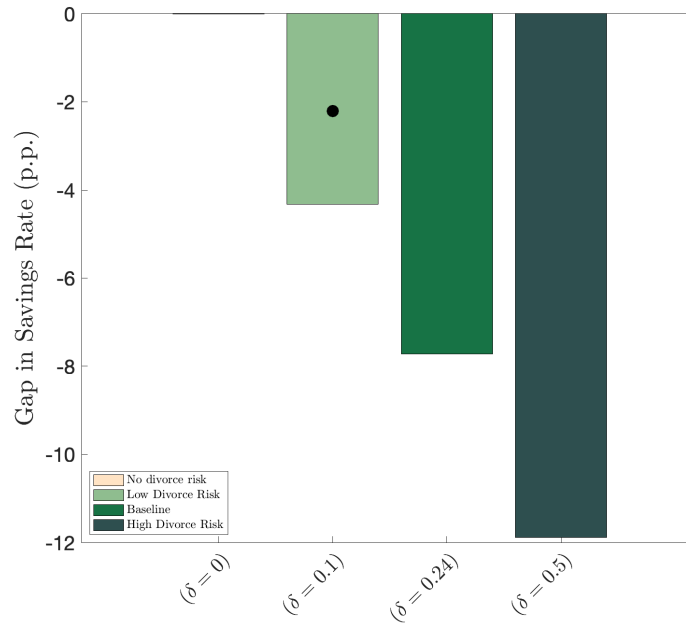
Notes: The average savings rate is computed using the panel structure of the EFF between 2002-2017 for two-earners couples. Risky savings rate are defined as the change in risky financial wealth between two consecutive survey waves over total household labor income. Safe savings rate is defined as the change between survey waves in safe financial wealth over total household labor income. Survey weights are applied to give consistent averages for the Spanish population.

First, we study the importance of the *divorce risk*. Figure 4 reports the risky share and savings rate gaps between separate-property and community-property couples for different probabilities of divorce. Bargaining weights and income differential between spouses are kept fixed in all scenarios. Highlight two results. First, when there is no divorce risk (i.e $\delta = 0$), the gaps in the risky portfolio weight and the savings rate disappear. Intuitively, without divorce risk married couples face the same incentives regarding savings, as property division rules *only* affect the asset allocation upon marital dissolution. Second, the gap in the risky portfolio share widens as divorce risk increases. In the model, higher divorce risk strengthens the precautionary savings motive of community-property households. Relative to separate property, community-property households face (i) higher liquidation costs, and (ii) specific division of assets upon divorce, which does not reflect the intra-household allocation of resources in marriage. This frictions encourage community-property households both to shift their portfolio towards safe assets (see Panel 4a) and increase their savings (see Panel 4b) relative to separate property.

Next, we study the effects of the *income gap channel* and the *bargaining gap channel*. In Figure 5 and Table 11, we introduce each channel sequentially and compare the outcome with the baseline economy (blue bar; column 4). Panel A in Table 11 presents a detailed breakdown of the risky share for community-property couples and individual spouses for their separate-property counterparts. To begin with, we close both channels (purple bar; column 1). Without income or bargaining weights differentials between spouses, the model can explain about 60% of the gap in the risky portfolio share between both types of couples observed in the data. Adding these two channels the model is able to explain up to 80% of the empirical gap. Introducing both higher bargaining weight and lower income for wives at the same time increases the risky share gap a bit more than 3 pp. The channels reinforce each other and strengthen the divorce risk channel.



(a) Risky Share



(b) Savings Rate

Figure 4: The Role of the Divorce Risk Channel

Notes: This figure shows the gap in the risky share and savings rate between separate and community property couples for different divorce probabilities. Panel 4a shows the gap in risky portfolio shares between the two types of couples while Panel 4b shows the one in savings rate (defined as the change in financial assets over labor income). The empirical average risky share and savings rate (black dot) are computed using EFF data.

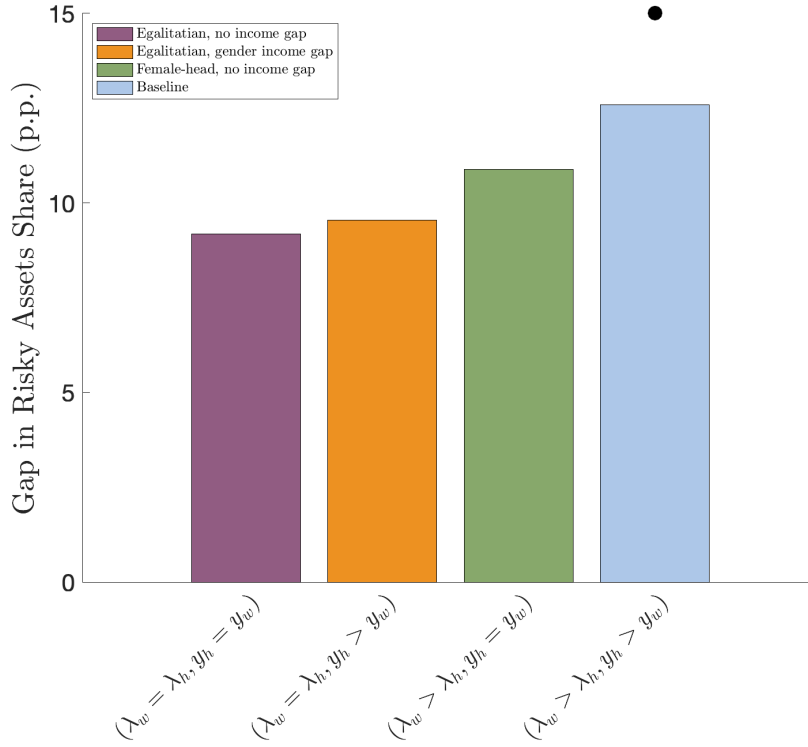


Figure 5: The Role of the Bargaining and Income Channels

Notes: The empirical average risky share (black dot) is computed conditional on households participating in risky assets.

Table 11: The Role of the Bargaining and Income Channels

	(1) Egalitarian No income gap	(2) Egalitarian Gender income gap	(3) Female-headed No income gap	(4) Female-headed Gender income gap
Panel A: Risky Share				
Separate Property	57,03%	56,42%	60,79%	60,44%
Wife	57,03%	45,94%	55,19%	46,69%
Husband	57,03%	73,52%	69,03%	92,46%
Community Property	47,85%	46,86%	49,91%	47,85%
Panel B: Wife's Fraction of Household Assets in Separate Property				
Total Assets	50%	62,01%	59,54%	69,97%
Risky Assets	50%	50,49%	54,05%	54,05%
Safe Assets	50%	76,92%	68,04%	94,00%
Addendum	$\lambda_w = \lambda_h = 0.5$ $\frac{y^h}{y^w} = 1$	$\lambda_w = \lambda_h = 0.5$ $\frac{y^h}{y^w} = 1.25$	$\lambda_w = 0.6, \lambda_h = 0.4$ $\frac{y^h}{y^w} = 1$	$\lambda_w = 0.6, \lambda_h = 0.4$ $\frac{y^h}{y^w} = 1.25$

Introducing a positive gender income gap increases marginally the gap in the risky portfolio share between both types couples (orange bar; column 2). The individual spouses' portfolio risky shares and wife's fraction of total asset reported in column (2) of Table 11 illustrate how the income gap channel operates in the model: wife's lower permanent income incentives her to allocate more savings to safe assets (which lowers her risky portfolio share) as well as to increase her savings to hedge against the risk of divorce, compared to column (1). On the contrary, husbands in separate property experience a smaller consumption fall if they divorce as they have higher permanent income, which drives up their risky share and down their savings compared to column (1).

Introducing a positive gender bargaining gap increases the risky share gap close to 2 pp (green bar; column 3). The individual portfolio risky shares of both spouses and wife's fraction of total asset reported in column (3) of Table 11 show that the bargaining gap channel operates in a similar fashion to the income gap channel: wives increase their savings and reduce their portfolio risky share to hedge against the larger drop of consumption in divorce with safe assets, as they are consuming more in marriage. However, wives in separate property keep their risky share above 50%. The total risky share for separate-property households increases because husbands experience a smaller consumption fall if they divorce.

Finally, Panel B in Table 11 shows the fraction of total household assets belonging to wives by type of asset. Notice that these fractions of assets represent the assets allocation to wives upon divorce if married in separate property. Females married in community property will have access to 50% of both total risky and safe asset holdings in any scenario, as community property establishes that assets are split equally between spouses if the marriage ends. This allocation coincides with that of females in separate property in the case of an egalitarian model and without income differences (column 1) because equal spouses make the same savings decisions. In all other scenarios (columns 2-4), the fraction of the couples' safe assets awarded to females in divorce is always higher than the one they would obtain under community property. These results are in line with Voena (2015), who also shows that the fraction of total household assets awarded to wives in divorce is increasing in their Pareto weight. More interestingly, we observe the same pattern for the fraction of risky asset holdings. Therefore, the model implies that these women, although choosing a lower risky share than their husbands, are the major holders of the household risky investments.

6 Conclusion

A vast literature in household finance emphasizes that women are less likely to take financial risks than men because of their psychological traits (less confidence and optimism, more risk aversion) or because of the social norms they have been raised in (financial matters are considered the domain of men). This paper uncovers a critical yet unexplored determinant of female financial investment: their marital property regime.

We use rich household-level data and exploit information on couples' marital property regimes to provide empirical evidence that property division rules are an important factor in shaping couples' risky financial investment when women are in charge of the household finances. We find that female-headed households under separate property are more likely to participate in risky assets than their counterparts married under community property. Not only do these women participate more in risky assets, but also they hold a more diversified portfolio towards risky assets. Both empirical results are robust to a large set of controls such as education, household income and wealth, demographic characteristics, wage differentials, risk attitudes, financial sophistication or cultural norms.

The choice of marital property regime, in particular separate property, can be strategically used by wealthier women to protect their assets in case of divorce. If wealthier women self-select into separate property, our results could simply be a consequence of wealthier households investing more in risky assets. We take advantage of the variation in the default marital property regime across Spanish regions and use it as an instrument for couples' marital property regime. Our IV results corroborate our previous findings: separate-property married women in charge of their household finances are up to 8% more likely to take financial risks than those married under community property. On average, they also hold a share in risky asset classes 0.44 percentage points higher.

To understand better the mechanisms at play, we embed a portfolio choice framework in a simple two-period bargaining model of marriage where couples are subject to an exogenous probability of divorce. Married couples differ in their marital property regime and the liquidation costs of marital assets upon divorce. In the model, the presence of uninsurable divorce risk increases precautionary savings of community property couples for two reasons: i) savings are split by half, regardless of the intra-household distribution of resources, and ii) liquidation costs. These two reasons reduce the outside option of community-property couples, which strengthen the precautionary savings motive relative to separate property. This translates into a positive risky portfolio share gap between separate and community property

couples. Introducing differentials in the bargaining weights or income between spouses reinforces this mechanism. When calibrated to match the gender income ratio and conditional risky asset shares of female-headed households observed in the data, the model can quantitatively rationalize the empirical findings.

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Appendix

A1 Institutional background

Table A1: Prenuptial contracts as a share of marriages

Year	Prenuptial contracts (marriages (%))	Prenuptial contracts for separate property (marriages (%))
2007	10.5%	89.3%
2008	10.5%	89.4%
2009	10.8%	89.6%
2010	11.6%	90.0%
2011	12.1%	90.5%
2012	12.1%	90.8%
2013	12.7%	91.3%
2014	13.5%	91.2%
2015	13.5%	92.7%
2016	14.9%	92.9%
2017	16.4%	93.5%

Sources: Statistics of the General Council of Notaries; Spanish Statistical Office.

A2 Robustness Checks

Tables A2 and A3 present robustness checks. Columns (1)-(3) show that our estimates are robust to controlling for risk attitudes, the use of online banking and ownership of managed financial accounts by professional financial institutions as proxies for financial literacy and financial sophistication, respectively. Column (4) shows that our estimates are also robust to controlling for household head mother's occupation as a proxy for patriarchal norms transmitted through family ties. We have also checked the results remain unaltered to adding different interactions between the extra control variables and some household characteristics. In particular, interacting risk attitudes with gender and net wealth since the literature has found these characteristics to be important determinants of risk behavior (Dohmen et al., 2011; Barber and Odean, 2001). We also interacted household head mother's occupation and gender as cultural norms affect differently men and women (Ke, 2021).

Table A2: Robustness Checks

	(1) Risky Financial Assets	(2) Risky Financial Assets	(3) Risky Financial Assets	(4) Risky Financial Assets
Separate Property	0.007 (0.011)	0.008 (0.007)	0.003 (0.008)	0.016* (0.008)
Female	-0.058*** (0.014)	-0.075*** (0.014)	-0.092*** (0.010)	-0.073*** (0.014)
Female \times Sep. Property	0.053** (0.015)	0.061** (0.021)	0.079*** (0.011)	0.058** (0.019)
Risk Attitudes	✓			
Online Banking		✓		
Managed Fin. Accounts			✓	
Mother Housewife				✓
Households Characteristics	Yes	Yes	Yes	Yes
Survey Year FE	Yes	Yes	Yes	Yes
Observations	3987	3987	2677	3937
R^2	0.328	0.300	0.291	0.296

Notes: The sample includes all two-earner married households in 2002-2017. This table reports OLS estimates from a model where the dependent variable is a binary variable that takes value 1 if households hold wealth in risky assets - mutual funds, listed shares and unlisted shares. *Female* is a dummy variable that takes value 1 if the headship of the household is female and 0 otherwise. *Separate Property* is a dummy variable that takes value equal to 1 if couple's property regime is separate property and 0 if it is community property. *Risk attitudes* is a categorical variable that measures attitudes towards risk from a lower to higher degree of risk tolerance. *Online banking* is a dummy variable for online banking usage. *Managed Fin Accounts* is a dummy variable for ownership of managed financial accounts by professional financial institutions. *Mother Housewife* is a dummy variable that takes value equal to 1 if the mother of the household head is/was a housewife. Standard errors (in parenthesis) are robust and clustered at the survey wave level.

Table A3: Portfolio Diversification in Risky Assets - Robustness

	(1) % # Risky Financial Asset Classes	(2) % # Risky Financial Asset Classes	(3) % # Risky Financial Asset Classes	(4) % # Risky Financial Asset Classes
Separate Property	0.008 (0.005)	0.008 (0.004)	0.005 (0.005)	0.012** (0.004)
Female	-0.026** (0.006)	-0.035*** (0.006)	-0.043*** (0.004)	-0.034*** (0.006)
Female \times Sep. Property	0.020* (0.009)	0.025 (0.013)	0.034** (0.006)	0.023* (0.011)
Risk Attitudes	✓			
Online Banking		✓		
Managed Fin. Accounts			✓	
Mother Housewife				✓
Households Characteristics	Yes	Yes	Yes	Yes
Survey Year FE	Yes	Yes	Yes	Yes
Observations	3876	3876	2597	3829
R^2	0.323	0.290	0.281	0.287

Notes: The sample includes two-earners married households aged above 25 in 2002-2017. OLS estimates from a model where the dependent variable is the number different risky asset classes as a share of total asset classes. *Female* is a dummy variable that takes value 1 if the headship of the household is female and 0 otherwise. *Separate Property* is a dummy variable that takes value equal to 1 if couple's property regime is separate property and 0 if it is community property. *Risk attitudes* is a categorical variable that measures attitudes towards risk from a lower to higher degree of risk tolerance. *Online banking* is a dummy variable for online banking usage. *Managed Fin Accounts* is a dummy variable for ownership of managed financial accounts by professional financial institutions. *Mother Housewife* is a dummy variable that takes value equal to 1 if the mother of the household head is/was a housewife. Standard errors in parenthesis are robust and clustered at the survey wave level.

A3 Solution of the Theoretical Model

In the first period, the optimality conditions for both problems imply that each spouse i consumes a fraction ϕ_i of the household budget constraint. This fraction depends on their bargaining weights and the bargaining weight gap between spouses. Let $s_{t+1}^* = s_{t+1}^{w*} + s_{t+1}^{h*}$ and $b_{t+1}^* = b_{t+1}^{w*} + b_{t+1}^{h*}$ represent the sum of individual assets in separate property, besides the joint assets for community-property couples. Then, for both types of households we have

$$c_t^{w*} = \frac{1}{\underbrace{1 + \left(\frac{\lambda_w}{\lambda_h}\right)^{\frac{1}{-\gamma}}}_{\phi_w}} (y_t^h + y_t^w - s_{t+1}^* - b_{t+1}^*) \quad (5.a)$$

$$c_t^{h*} = \frac{1}{\underbrace{1 + \left(\frac{\lambda_h}{\lambda_w}\right)^{\frac{1}{-\gamma}}}_{\phi_h}} (y_t^h + y_t^w - s_{t+1}^* - b_{t+1}^*) \quad (5.b)$$

It can be checked easily that $\phi_w + \phi_h = 1$ for $\forall \gamma > 0$ and $\lambda_w + \lambda_h = 1$. Also, ϕ_i is increasing in λ_i and the higher is γ , the closer ϕ_w and ϕ_h get.

To decide the optimal consumption in the second period, couples must forecast the expected value of asset returns whether they stay married or divorce. Let $\alpha = \frac{s_{t+1}}{s_{t+1} + b_{t+1}}$ be the share of risky assets over total assets in community property, and $\alpha^i = \frac{s_{t+1}^i}{s_{t+1}^i + b_{t+1}^i}$ be the share of risky assets for spouse i in separate property. The gross portfolio returns in community and separate property are given, respectively, by

$$R_{t+1} = R_b + (R_{t+1}^s - R_b)\alpha_{t+1} \quad (7.a)$$

$$R_{t+1}^i = R_b + (R_{t+1}^s - R_b)\alpha_{t+1}^i \quad i = w, h \quad (7.b)$$

For community property couples, the optimal consumption if marriage continues in the second period is given by

$$c_{t+1}^{w*} = \mathbb{E} \left\{ (s_{t+1}^* + b_{t+1}^*) R_{t+1} + y_{t+1}^h + y_{t+1}^w - c_{t+1}^{h*} \right\} \quad (8.a)$$

$$c_{t+1}^{h*} = \mathbb{E} \left\{ (s_{t+1}^* + b_{t+1}^*) R_{t+1} + y_{t+1}^h + y_{t+1}^w - c_{t+1}^{w*} \right\} \quad (8.b)$$

and in divorce

$$c_{t+1}^{w*} = \mathbb{E} \left\{ \frac{(s_{t+1}^* + b_{t+1}^*) R_{t+1}}{2} + y_{t+1}^w \right\} \quad (9.a)$$

$$c_{t+1}^{h*} = \mathbb{E} \left\{ \frac{(s_{t+1}^* + b_{t+1}^*) R_{t+1}}{2} + y_{t+1}^h \right\} \quad (9.b)$$

Given the spouse's consumption, to solve the system of equations we iterate over feasible values for α and a_{t+1} , with $a_{t+1} = b_{t+1} + s_{t+1}$. A unique solution for α guarantees that we can recover easily s_{t+1} and b_{t+1} .

Similarly, in separate property the optimal consumption if marriage continues in the second period is given by

$$c_{t+1}^{w*} = \mathbb{E} \left\{ (s_{t+1}^{w*} + b_{t+1}^{w*})R_{t+1}^w + (s_{t+1}^{h*} + b_{t+1}^{h*})R_{t+1}^h + y_{t+1}^h + y_{t+1}^w - c_{t+1}^{h*} \right\} \quad (10.a)$$

$$c_{t+1}^{h*} = \mathbb{E} \left\{ (s_{t+1}^{w*} + b_{t+1}^{w*})R_{t+1}^w + (s_{t+1}^{h*} + b_{t+1}^{h*})R_{t+1}^h + y_{t+1}^h + y_{t+1}^w - c_{t+1}^{w*} \right\} \quad (10.b)$$

and in divorce

$$c_{t+1}^{w*} = \mathbb{E} \left\{ (s_{t+1}^{w*} + b_{t+1}^{w*})R_{t+1}^w + y_{t+1}^w \right\} \quad (11.a)$$

$$c_{t+1}^{h*} = \mathbb{E} \left\{ (s_{t+1}^{h*} + b_{t+1}^{h*})R_{t+1}^h + y_{t+1}^h \right\} \quad (11.b)$$

Again, given the spouse's consumption, to solve the system of equations we iterate over feasible values for α^i and a_{t+1}^i , with $a_{t+1}^i = b_{t+1}^i + s_{t+1}^i$. Given α^i , we can recover easily s_{t+1}^i and b_{t+1}^i .