# The Cohabitation Wealth Premium: Comparing France, and Eastern and Western Germany

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Abstract: This study examines the association between cohabitation and personal wealth paying close attention to the distinct legal and cultural contexts in France, and (Eastern, and Western) Germany. Using high-quality data from the German Socio-Economic Panel Study (2002-2017) and the French wealth survey Patrimoine (2014-2017), we apply fixed-effects and random-effects regression models to describe the wealth of cohabiters compared to singles as well as potential wealth advantages associated with cohabitation entry within different social contexts. As a second reference point, we also examine the level of wealth premiums experienced by the married. Our results suggest that cohabitation provides economic benefits, such as economies of scale or joint savings, for wealth accumulation of women in both France and Germany. Results for men are less clear and vary more strongly across contexts. Although cohabitation is well accepted in both Eastern Germany and France, cohabitation carries higher benefits for French cohabiters than Eastern German cohabiters. Overall, cohabitation premiums are, however, lower than those experienced by the married across the contexts. This emphasizes the social and contextual differences between cohabitation and marriage but also potential selection effects. Our results suggest that both the social context and the legal treatment of unmarried cohabitation matters for wealth accumulation.

Keywords: Family, Wealth, Cohabitation, Life course, Country comparison

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### **1** Introduction

Ample research has linked marriage to a wide range of beneficial outcomes including income and wealth premiums – even though some of the benefits are unlikely to be causal (Cheng, 2016; Kapelle & Lersch, 2020; Killewald & Gough, 2013; Killewald & Lundberg, 2017; Lersch, 2017). However, our knowledge about how heterosexual cohabitation (i.e., women and men living together as a couple without being married) influences the economic life chances of individuals is limited amid a rising relevance of cohabitation. Over the last decades, European countries have seen a retreat from marriage and a simultaneous, sharp increase of cohabitation, either as an alternative to marriage or as a trial marriage (Eurostat, 2018; Hiekel, Liefbroer, & Poortman, 2014). An incipient body of research showed that cohabitation is associated with wage premiums particularly for men although cohabitation premiums are smaller than marriage premiums (Barg & Beblo, 2007, 2009; Killewald & Lundberg, 2017; Ludwig & Brüderl, 2018; Stratton, 2002), but research on the consequences of cohabitation for wealth is largely missing (see Lersch, 2017 for an exemption). Drawing reliable conclusions about cohabiters' wealth based on income-related studies is, however, unfeasible as wealth is not a direct function of income. In fact, wealth is only moderately correlated with income and more unequally distributed than income (Killewald, Pfeffer, & Schachner, 2017). Similarly, assuming that cohabiters experience comparable wealth premiums as the marriage would be unwary as legal recognition and cultural meaning of cohabitation differs greatly from marriage. While cohabiting couples in countries such as Canada, Australia, or France can enjoy high social acceptance and opt into institutional benefits similar to those associated with marriage, cohabiting partners continue to be substantially disadvantaged in other context. Taking a context-sensitive approach, the present paper therefore examines the association between cohabitation and wealth paying close attention to the distinct legal and cultural contexts in France, and (Eastern and Western) Germany.

Whereas France and Germany have a range of commonalities including similar welfare state regimes and comparatively high levels of economic inequalities within the Euro-zone, cohabitation-relevant differences can be found between the two countries making them ideal comparison cases for the present paper. France is one of the European countries where registered cohabitation, pacte civil de solidarité (Pacs), is legally regulated to be similar to marriage in most regards (Buisson & Lapinte, 2013). Yet, unregistered cohabitation remains very common and socially accepted although legally not recognized. In Germany, on the other hand, cohabiters and the married have very different rights and responsibilities. For instance, advantages of tax splitting or sharing of main earners health insurance are limited to married spouses (Perelli-Harris & Gassen, 2012), although means-test unemployment benefits consider income and wealth of the employed cohabiting partner. Despite shared institutional regulations since reunification in 1990, cohabitation remains much more socially accepted and common in Eastern than in Western Germany based on historical differences between the two formerly divided parts (Kiernan, 2002; Klärner, 2015; Perelli-Harris & Gassen, 2012). Overall, social acceptance and prevalence of cohabitation in Eastern Germany is similar to France (Klärner & Knabe, 2017).

We aim to fill the gaps in our current knowledge about the wealth of cohabiters by addressing two research questions: (i) What is the association between cohabitation and wealth? (ii) How does the association of interest vary between contexts, precisely France and (Eastern and Western) Germany? To answer these questions, we draw on survey data from the German Socio-Economic Panel Study (SOEP) and the French Wealth Survey *Patrimoine*. The two datasets are well suited to answer our questions as they contain relevant information of partnership states and transition in addition to longitudinal information of comprehensive private wealth measures. As wealth is collected at separately for each household member, the data additionally allow us to utilize personal-level wealth data. This is relevant for our study as previous research has highlighted that partners, particularly within cohabitation, tend to use separate money management systems and do not necessarily share all available resources equally (Hamplová, Le Bourdais, & Lapierre-Adamcyk, 2014). Empirically we use both fixed-effects and random-effects panel regression models to examine whether cohabitation provides wealth-relevant benefits compared to living in a single-person-household. To connect our research to the literature on the marriage wealth premium and additionally to provide another reference point for our results, we also predict the marriage wealth premium across the considered contexts.

To preview our results, we find evidence of a cohabitation premium. However, the size of the premium varies across genders and across contexts. Specifically, we note a cohabitation wealth premium in Germany for both men and women with lower premiums in Eastern than Western Germany particularly for men. In France, this cohabitation premium is only noted for women while results for men are inconclusive. As expected, we also find a marriage wealth premium for both men and women. This premium is overall larger than the cohabitation premium and we still note differences between Eastern and Western Germany.

The remainder of the paper unfolds as follows. Section 2 presents the literature review, the context and the hypotheses that we test. Section 3 presents the dataset and the empirical strategy. Then we provide bivariate and multivariate estimates. Section 5 presents our conclusions.

#### 2 Background

#### 2.1 Previous empirical evidence

Research on the wealth of cohabiters is sparse and has commonly investigated the influence of former cohabitation episodes on wealth levels during marriage (e.g., Painter & Vespa, 2012; Vespa & Painter, 2011) or failed to distinguish cohabiters from singles in their analyses of wealth across relationship states (e.g., Yamokoski & Keister, 2006). However, a few noteworthy exemptions provide first, but partially inconclusive indications on the wealth of cohabiters. Ozawa and Lee (2006) showed that US working age cohabiters' household net wealth levels were comparable to singles (i.e., female-headed and male-headed single households). Study predications may be influenced by the extensive range of covariates including income, education, or the number of children – accounted for, although the effect of cohabitation or marriage on wealth may partially work through fertility and employment behavior. In contrast, descriptive results - that did not account for any covariates - by Sierminska, Frick, and Grabka (2010) showed for the German context that cohabiters own substantially more personal net wealth than singles. Although the two studies are consistent in their conclusion that the married hold higher wealth than cohabiters or singles, differences in the operationalization and transformation of the outcome measure wealth and mentioned issues around covariates hamper an unbiased comparison between the studies. Thus, it is also unclear whether differences can be accounted to the contexts or other factors. Additionally, data limitations lead both studies to solely provide point in time estimates of wealth disparities rather than changes due to partnership transitions.

More recent research by Lersch (2017) used the longitudinal personal wealth component of the German SOEP and applied fixed-effects regression models to better assess how partnership transitions are associated with wealth changes. His study showed that cohabitation entry is associated statistically non-significant increases of personal wealth for women and men, 55 and 77 percent respectively, while marriage entry leads to greater wealth gains of 294 and 437 percent for women and men, respectively. Both premiums referred to times when

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respondents were never-married single as the reference. It remains unclear whether these premiums are consistent in other contexts or even if these premiums are consistent within Germany with its substantial east-west differences.

#### 2.2 Is there a cohabitation wealth premium and why?

As already indicated by previous research, entering a cohabitation may overall be associated with a range of wealth-related benefits compared to living in a single-person household. First of all, moving in with a partner immediately leads to better economies of scale of the newly formed couple household compared to single-headed households. This enables couples to save more of their income even at the same household income level compared with singles (Hao, 1996). Although the establishment of a new household is associated with costs (e.g., bond payments, buying furniture, etc.), parents – if they have the funds – are likely to assist with these payments (Eggebeen, 2005; Leopold & Schneider, 2011). Furthermore, increased savings amongst cohabiters may also be encouraged through changes in financial attitudes associated with living with a partner compared to living as a single. Fulda and Lersch (2018) showed that both men's and women's financial planning horizon increases as they start to cohabite and with ideas of a potentially joint future. The length of the financial planning horizon is positively associated with the likelihood, frequency and ultimately level of savings (de Rubio, 2015; Ersner-Hershfield, Garton, Ballard, Samanez-Larkin, & Knutson, 2009; Fisher & Montalto, 2010). Finally, although cohabiting couples have commonly be shown to be more likely to use independent money management strategies compared to the married, they may still strategically pool some resources and pooling likely increases over time as the relationship becomes increasingly stable (Evans & Gray, 2020). Compared to singles, pooling would allow cohabiters to invest more efficiently and share financial risks.

As previous stratification research has focused on marriage, the economic advantages experienced during cohabitation should also be considered in comparison to marriage. Overwhelmingly cohabitation is still perceived as less stable and permanent than marriage although a substantial number of cohabiters see cohabitation as a long-term alternative to marriage (Hiekel et al., 2014). These perceptions are reinforced by the legally binding contract of marriage, which clearly guides the rights and responsibilities of husbands and wife during the marriage or in case of a marital dissolution. Such legally binding agreements are often missing or are easier to dissolve for cohabitation partners<sup>1</sup> providing less certainty for cohabiters. Overall, this makes joint investment, pooling of resources and intergenerational transfers more likely within marriage than in cohabitation. The legal protection of partners and perceived longevity of marriage also makes specialization within marriage more likely although more traditional partners can also be expected to be more likely to opt into marriage. Specialization has been discussed as one of drivers of marital wage premiums particularly for men (Barg & Beblo, 2007, 2009). Depending on the county context and in line with social expectations around marriage, married – but rarely cohabiting – partners can also benefit from more elaborate institutional benefits (e.g., tax reductions, joint insurances (e.g. health care insurance) and pensions) as well as eased access to certain investments such as housing property (Thomas & Mulder, 2016).

It should also be emphasized that wealth premiums associated with a partnership, may to some degree be a result of wealth-related selection in and out of partnership types. While a range of perceived social and financial markers restrict access to marriage (i.e., "economic bar") (Gibson-Davis, Gassman-Pines, & Lehrman, 2018; Schneider, 2011), similar pre-requirements

<sup>&</sup>lt;sup>1</sup> The level of legal protection of cohabiting partners differs substantially between countries. In several OECD countries, such as France, Australia or the Netherlands, cohabiting partners can legally register their relationship establishing similar rights as married spouses. A legally less regulated alternative is to sign a cohabitation agreement that regulates aspects such as asset ownership and division in the case of a union dissolution.

may not exist for cohabitation due to the lower social expectations and norms associated with cohabitation. Thus, neither current income nor the future income potential seem linked to the likelihood to enter a cohabitation for men and women (Xie, Raymo, Goyette, & Thornton, 2003) although cohabiters commonly quote financial motives (e.g., pooling, saving rent, etc.) as the primary reason to move in together (Sassler, 2004). Over time, cohabitation likely becomes more selective as cohabiters that face financial difficulties including indebtedness, lack of savings, or credit constraints – and thus do not meet the marriage bar – stay in cohabitation (Addo, 2014; Carlson, McLanahan, & England, 2004; Edin & Reed, 2005; Gibson-Davis, Edin, & McLanahan, 2005; Smock, Manning, & Porter, 2005). On the contrary, married spouses that experience financial difficulties (e.g., spouses with large unsecured debts and consumer debt) and stress are more likely to experience a divorce (Dew, 2011; Eads & Tach, 2016).

# 2.3 Cohabitation in the French and German context: Institutional regulations and social norms

In 1999, France introduced one of the first legal alternative to unmarried cohabitation and marriage – the French civil partnership, *pacte civil de solidarité* (Pacs).<sup>2</sup> It provides couples with legal recognition of their relationship without being married, but is similar to marriage with respect to income and inheritance taxation and many legal aspects of the rights and duties of partners. However, in some ways, Pacs is still more similar to unmarried cohabitation than marriage. For example, both Pacs and unmarried cohabitation do not provide the right to petition for compensatory benefits upon separation. In terms of property rights, unmarried cohabitation is an implicit separate property regime even if some assets can be held jointly by

 $<sup>^{2}</sup>$  While the predominant intention of the introduction of Pacs was to provide an alternative to marriage for samesex couples, in 2018, 96 percent of Pacs were between different sex partners (Institut national de la statistique et des études économiques, 2020).

the partners<sup>3</sup>. Like married couples, civil union couples can choose their property division regime<sup>4</sup>. Despite the success of Pacs since 1999, the share of cohabiters significantly increased over the past decades from only 3% of all couples in 1962 to 26% in 2015, including 7% of Pacs (Costemalle, 2017).

In contrast to France, Germany has been reluctant to legislate on cohabitation or provide a legally recognized alternative to unmarried cohabitation.<sup>5</sup> This emphasizes the institutionalized privilege of marriage whereby married partners, but not cohabiters, are protected and benefit economically, *inter alia*, through joint taxation, the possibility to coverer the marital partner in a joint health insurance, widower and widows' pensions, clear inheritance regulations, and legal regulations for spousal maintenance payments and the division of marital property if the marriage dissolves (Perelli-Harris & Gassen, 2012).<sup>6</sup> This has provided a secure framework for married partners and incentivized intra-household specialization within marriage while it has persistently emphasized the government's perception of cohabitation as a temporary partnership state. Despite a lack of legal recognition of cohabitation and incentives to enter marriage, the prevalence of cohabitation has been on the rise in Germany with 15 percent of all couples living in a cohabitation in 2019 compared to 8 percent in 1996 (Statistisches Bundesamt, 2019).

<sup>&</sup>lt;sup>3</sup> In 2015, 47% of unmarried cohabitants held their main residence as a joint asset with their partner. This share was equal to 60% for married couples with a separate property regime and to 89% for married couples with a community regime (Frémeaux & Leturcq, 2020).

<sup>&</sup>lt;sup>4</sup> The default regime of married couples is the community property regime whereas that of civil union is the separate property regime. In the community property regime, all assets and debts accumulated during the marriage are jointly owned by the husband and wife, as long as these assets are not inherited. Assets acquired before marriage remain individual assets. However, the returns on individual assets are considered joint property. An important consequence of this property regime is that in case of separation, spouses have to share the joint assets equally, even if they contributed unequally to their acquisition. On this issue, see Frémeaux and Leturcq (2018).

<sup>&</sup>lt;sup>5</sup> Legal partnership states have been available for same-sex partners since 2001, but not for opposite-sex cohabiting partners.

<sup>&</sup>lt;sup>6</sup> One of the few aspects in which German cohabiters are on equal terms with the married in Germany is the obligations to provide for their partner within welfare regulations (Kreyenfeld & Konietzka, 2002).

Since Germany's reunification in 1990, there have been no institutional differences for cohabiters in Eastern compared to Western Germany. However, cohabiters were treated differently during the division of Germany into the Federal Republic of Germany (FRG) in the West and the German Democratic Republic (GDR) in the East between 1949 and 1990. This has had lasting impact on the prevalence and social acceptance of cohabitation in the two - now unified – parts of Germany (Hiekel, Liefbroer, & Poortman, 2015). Until 1973, cohabitation was illegal and could be sanctioned in the FRG – although the law was rarely enforced (Hiekel et al., 2015; Perelli-Harris & Gassen, 2012). In contrast, less standardized family life courses including cohabitation and childbirth out out-of-wedlock were to some degree even encouraged by a range of family policies (e.g., maternity leave generosity, access to formal childcare) in the GDR (Kreyenfeld, Konietzka, & Walke, 2011). Policy differences and higher religious affiliations and conservative attitudes in the FRG compared to the GDR, led to stigmatization of cohabitation and out-of-wedlock childbirth in the FRG while these family behaviors were more common and accepted in the GDR. Until today, cohabitation is more common and socially accepted in Eastern than in Western Germany (Heuveline & Timberlake, 2004; Kiernan, 2001). As a result, Western Germans more frequently view cohabitation as a step in the marriage process, whereas Eastern Germans more often cohabit as an alternative to marriage (Hiekel et al., 2015). In combination with previous research about the marriage bar, this may mean that cohabiters in Western Germany may opt for marriage once they can "afford" it making cohabitation more selective of economically less advantaged individuals in Western Germany.

#### 2.4 Hypotheses

In sum, cohabitation is likely associated with some wealth-enhancing mechanisms such as improved economies or changes in saving behavior that overall lead to an increase in wealth with the entry into cohabitation. We therefore expect that *cohabitation is associated with a*  wealth premium compared to being single (Cohabitation premium hypothesis/Hypothesis 1). However, we also discussed that social norms and institutional benefits encourage and enable particularly married spouses savings. We subsequently expected that *the marriage wealth premium is more substantial than the cohabitation wealth premium (Marriage premium hypothesis/Hypothesis 2)*.

As previously highlighted, the context likely matters for the association between cohabitation and wealth, and we expect to find substantial between and – in the case of Germany – even within-country differences. Specifically, based on the profound differences between marriage and cohabitation in Germany, but the legal options for cohabiters to opt for a more regulated and secure Pacs in France providing cohabiters real and perceived alternatives to marriage as well as a high social acceptance of cohabitation in France, we expect that a *cohabitation premium would be higher in France than in Germany (French premium hypothesis/Hypothesis 3)*. Although the legal regulations are consistent across Germany, the social acceptance of cohabitation as a valid alternative to marriage is higher in Eastern than Western Germany due to historical reasons. We therefore expect to find a *larger cohabitation premium in Eastern than Western Germany (Eastern-Western Germany hypothesis/Hypothesis 4)*.

# 3 Data and method

#### 3.1 Data

The present study uses nationally representative, high-quality longitudinal data from the German Socio-Economic Panel Study (SOEP) and the French Wealth Survey *Patrimoine*. The SOEP has been collected yearly since 1984 as a longitudinal household panel survey with regular additions of new samples to include special subpopulations. The longitudinal component of the French Wealth Survey was only added to its 2014-15 survey while the data

were previously solely collected as a cross-section of the French population starting in 1986. With the introduction of the panel components in 2014-15, the collection interval for the French survey was also amended from sexennial to triennial with the latest data available for 2017-18.

The *Patrimoine* data have been collected specifically with the objective to describe the distribution of assets and liabilities across French households including factors that explain wealth accumulation processes such as employment, family, or inheritances.<sup>7</sup> In contrast, the SOEP has captured a wide range of subject areas and since 2002 the data include a specific wealth module on a quadrennial basis (2002, 2007, 2012, 2017). Thus, both surveys provide data on a wide range of asset and liability components. In addition to the collection of a comprehensive set of longitudinal personal wealth at several time periods (i.e. four waves for the SOEP, two waves for the *Patrimoine*), both surveys provide relevant demographic and socio-economic information including precise prospective and retrospective information on the marital status of individuals. This makes the two survey particularly suitable for the purpose of our study. Because of their panel structure, these data allow to follow individuals over time as they enter cohabitations or marriage and enable the study of how wealth changes in association with these family transitions.

#### 3.2 Sample

To examine the association between cohabitation and personal wealth, we restrict the SOEP and *Patrimoine* data to heterosexual, cohabiting partners and single (never-married or previously married) individuals.<sup>8</sup> We only include respondents aged 18 to 50 years of age living in private households. For multigenerational households, we restrict the sample randomly to

<sup>&</sup>lt;sup>7</sup> Wealthy neighborhoods have been oversampled in the *Patrimoine*, which is why we use sample weights to remain representative of the French population.

<sup>&</sup>lt;sup>8</sup> We focus on heterosexual cohabitation in the current study because we cannot properly identify same-sex couples in our data. Additionally, same-sex couples are generally under-represented in survey data, which would lead to sample size issues – even if we could clearly identify sexual minorities in our data.

one household member of the youngest generation and follow this person over time. While we use all survey waves of the SOEP to create our main explanatory variable and other covariates, we restrict the data to survey years in which wealth data were collected (2002, 2007, 2012, 2017). For the *Patrimoine* survey we use the two currently available panel waves 2014-15 and 2017-18. We use this analytical sample for our random-effects regression analysis. For the fixed-effects regression analyses, we restrict the random-effects samples to respondents that either stayed single between the first and last available wealth wave, or respondents that entered a cohabitation between those waves. The number of individuals and individual-year observations for the random-effects and fixed-effects samples across the two datasets is provided in Table 1. The table additionally provides the number of transitions into cohabitation that are experienced in the three contexts during the observational windows.

			Gern	nany	Fra	nce
			Men	Women	Men	Women
Cohabitation	Random-	Individuals	5756	6300	500	587
	effects	Obs.	8068	8613	982	1144
	Fixed-	Individuals	1506	1439	191	245
	effects	Obs.	3478	3469	381	489
	Transitions	Number	348	394	34	35
Married	Random-	Individuals	10836	11883	1113	1309
	effects	Obs.	16505	18048	2224	2616
	Fixed-	Individuals	2441	2688	547	619
	effects	Obs.	6163	6631	1092	1236
	Transitions	Number	712	812	68	65

Table 1 Number of individuals, individual-year observations, and transitions

To compare results of our random-effects and fixed-effects analyses of a potential cohabitation wealth premium to the marriage wealth premium, we generate a separate analytical sample for the analysis of the marriage wealth premium. For this sample, we select heterosexual married partners, heterosexual cohabiting partners and single (never-married or previously married) individuals. As for the cohabitation sample, we only include respondents aged 18 to

50 years of age living in private households, restrict to one respondent of the youngest generation in multigenerational households. For the fixed-effects analysis of a marriage wealth premium, we restrict the sample further to respondents that either stayed unmarried between the first and last available wealth wave, or respondents that entered a marriage between those waves. The sample sizes for the random-effects and fixed-effects of these additional marriage samples are also displayed in Table 1.

#### 3.3 Measures

#### *3.3.1 Outcome variable*

Our main outcome variable is a measure of *total personal net wealth*, which is defined as the sum of all personally owned assets minus personally owned liabilities. Assets include financial assets (e.g., savings accounts, stocks, etc.), real estate assets (owner-occupied housing, other property) and business assets. Liabilities capture primarily mortgage debts. Whereas the SOEP collects wealth consistently at the personal level, the French data only provides the personal share of assets but not liabilities. We thus assume that asset shares also apply for subsequent liabilities. For instance, if couples declare to equally share housing assets, we assume that they also equally share mortgage debts. As a robustness check, we re-run our analyses for assets only.

Our outcome measure, personal net wealth, is adjusted for inflation and top- and bottomcoded at the 0.1% level. Wealth data are commonly highly skewed due to substantial wealth inequalities in the population. While researchers commonly use a log-transformation to deal with similar skewness in income data, this type of transformation is no option for wealth because wealth data can contain both positive and negative values. We thus follow suggestions by Killewald et al. (2017) and apply a rank-transformation to the wealth data. Wealth ranks are calculated separately for each wealth wave before sample restrictions are done and jointly for men and women. Our wealth predictions thus indicate a person's decreases or increases in the overall wealth distribution by rank points. As a robustness check, we re-run our analyses with an IHS-transformation of personal net wealth. Results are consistent across the two methods. Rank measures, however, have the advantage that they provide easily interpretable results and more appropriately account for periodic changes in the wealth distribution.

#### 3.3.2 Explanatory variables

To explore expectations of a cohabitation wealth premium, we use a dummy for *cohabitation* (1 = yes, 0 = no). For the French data, Pacs couples are considered as cohabitants and they are not analyzed separately. For the German data, we also generate a dummy variable to indicate whether respondents currently reside in *Eastern or Western Germany* (1 = Eastern, 0 = Western).

For our additional analyses of the marriage wealth premium as an additional reference point for the previous analyses of the association between cohabitation and wealth, we generate a dummy for *marriage* (1 = yes, 0 = no). This analysis of the marriage wealth premium allows us to compare it to the magnitude of a potential cohabitation wealth premium.

#### 3.3.3 Covariates

Our analyses include few time-variant control variables. We add a measure that captures respondent's age to account for maturation effects. For the analysis of the marriage wealth premium, we add a dummy indicator for single (1 = yes, 0 = no) to account for lower economies of scale of un-partnered respondents. In our analyses of the German data, we additionally include survey year dummies to account for potential under-reporting of personal wealth in the first wealth waves (see Fisher, 2019 for evidence on under-reporting of income measures); and flag imputed wealth data using a dummy variable.

For the random-effects models, we additionally include the following time-constant variables: a dummy that captures whether respondents ever experienced a marital dissolution (1 = yes, 0 = no); highest educational level (low = no formal education or Levels 1 and 2 in the International Standard Classification of Education [ISCED; reference]; intermediate = ISCED Levels 3 and 4, and high = ISCED Levels 5 and 6); migration background (1 = yes, 0 = no); number of siblings; parents' highest occupation (0 = lowest occupation, 1 = skilled manual or non-manual occupation [reference], 2 = technical professional, 3 = manager or academic professional); whether the household is living in an urban area (1 = yes, 0 = no), and cohort (born before 1964 [reference], 1965–1974, 1975–1984, born after 1985). For the SOEP data, we also control for the extension subsamples that have been added to the data over time.

We decide against adding other time-varying or time-constant family or employment related variables to our main models, because we assume that the effect of cohabitation on wealth partly works through related behavior. However, we conduct additional analyses to further explore the mechanisms behind the cohabitation premium. To this end, we add respondents' employment status, their labor market income, a dummy whether respondents are self-employed, and the number of children respondents' have ever had to our models.

#### **3.4** Analytical strategy

Our analysis proceeds in two main steps. First, we describe median personal wealth of men and women across different partnership states – more precisely single, cohabitating, and married – across the two countries and separately for Eastern and Western Germany. In a second step, we extent these descriptive results and deploy a fixed-effect and random effects regression approaches to model the relationship between cohabitation/marriage (entry) and our outcome variable, personal net wealth ranks.

We begin with the following model for repeated observations nested within individuals:

$$\mathbf{y}_{it} = \mu + \beta \mathbf{D}_{it} + \delta \mathbf{X}_{it} + \gamma \mathbf{Z}_i + \alpha_i + \varepsilon_{it}$$

where subscript *i* denotes individuals and subscript *t* denotes time period. We denote our outcome variable, personal wealth, y which varies over time and within individuals.  $D_{it}$  denotes a dummy for cohabitation (or marriage),  $X_{it}$  relates to time-varying covariates while  $Z_i$  relates to time-constant covariates.  $\mu$  is the intercept and  $\beta$ ,  $\delta$  and  $\gamma$  relate to coefficients or sets of coefficients. Other than in cross-sectional regression, the error term for panel regressions is split into  $\alpha_i$  and  $\varepsilon_{it}$ . While  $\varepsilon_{it}$  denotes the stochastic error term that varies across individuals and over time,  $\alpha_i$  denotes the combined effect of time-invariant individual-specific heterogeneity and hence only differs across individuals but not over time.

We estimate fixed-effects models by mean-differencing of outcome and explanatory variables meaning that we compare the same individual over time using at least two time points. Time-invariant terms,  $Z_i$  and  $\alpha_i$  hence averaged out. Our fixed-effects models can therefore produce estimates of y on X that are unbiased and implicitly control for all time-constant variables. For the fixed-effects regression, we focus on the subsample of our analytical sample that either stayed single or experienced a transition into cohabitation/marriage during our observational windows of the two datasets. This allows us to investigate immediate within-individual changes in personal wealth related to entries into cohabitation or marriage.

Further, we use random-effects regression models. Rather than averaging out the unobserved heterogeneity term  $\alpha_i$ , random-effects regression estimates the term in the model. The random effects model hence uses a combination of between individual and within individual variation for more efficient estimation of the impact of the independent variables on the dependent variable. We estimate random effects models using a generalized least square (GLS) approach.

All regressions included corrected standard errors that adjust for the clustering of observations within individuals. We further run all analyses of personal wealth separately for

the French and German data. Note that our fixed-effects and random-effects estimations are not based on the same samples. Potential differences in results of the two models may reflect for instance cohort differences.

# 4 **Results**

#### 4.1 Bivariate results

Figure 1 and 2 depict weighted, descriptive evidence on the relationship between different partnership states and median personal wealth. We plot median personal net wealth and confidence intervals for singles, cohabiters and the married across the three context and by gender. Overall, the descriptive results confirm previous research with singles commonly showing the lowest median wealth levels whereas cohabiters have higher median wealth levels. Compared to singles or cohabiters, the married, however, hold substantially more median wealth.

Descriptive results already show substantial differences between the contexts. Whereas cohabitating respondents seem to hold substantially more wealth than singles in France and Western Germany, wealth levels for Eastern German cohabiters are not substantially higher than wealth levels of singles. However, even married respondents living in Eastern Germany have overall lower wealth levels than married Western Germans, which is not surprising considering that previous research has persistently highlighted stark wealth inequalities between the two formerly divided parts of Germany (Grabka & Westermeier, 2014).



Figure 1 Median net wealth for Eastern and Western German single, cohabiting and married men and women.

*Notes:* Whiskers indicate 95% confidence intervals. Data are from the Socio-Economic Panel Survey v34 (2002, 2007, 2012, and 2017).

Figure 2 Median net wealth for French single, cohabiting and married men and women.



Notes: Whiskers indicate 95% confidence intervals. Data are from the Patrimoine (2014-15, 2017-18).

#### 4.2 Multivariate results

We begin the multivariate analysis by testing the hypothesis 1 about the cohabitation premium. Table 2 presents the results. We provide evidence of a cohabitation wealth premium in Germany for both men and women. Specifically, the fixed-effects estimates show that men increase their rank in the distribution by 3 rank points when they start a cohabitation. The random-effects estimates indicate a positive cohabitation premium, although not statistically significant. The male cohabitation wealth premium is lower, potentially negative in Eastern Germany than in Western Germany. Men in Western Germany experience an increase in the wealth distribution by 2 (RE estimation) to 4 (FE estimation) ranks when they start a cohabitation, while the coefficients indicate 4 (RE estimation) to 6 (FE estimation) lower ranks for Eastern German men indicating that cohabitation entry is potentially associated with a wealth decline for these men. German women experience a clear cohabitation wealth premium. When they start a cohabitation, their rank in the distribution of wealth increases by 2 (RE estimation) to 3 ranks (FE estimation). We do not observe large differences in the cohabitation premium between Western German women and Eastern German women.

In France, the estimates are inconclusive for men. Specifically, the random-effects estimate indicates a negative premium whereas the fixed-effects estimate indicates a positive premium. Moreover, the coefficients are not statistically significant, which may be a result of the smaller sample size for the French data. Nevertheless, results for French women are consistent across the two models and show that women increase their position in the wealth distribution by 3 rank points. Although the fixed-effect estimation yields statistically non-significant results, it is consistent with the results provided by the random-effect estimation.

	Germany							France				
	Random-effects				<b>Fixed-effects</b>				Random-effects		<b>Fixed-effects</b>	
	Men b/se	Men b/se	Women b/se	Women b/se	Men b/se	Men b/se	Women b/se	Women b/se	Men b/se	Women b/se	Men b/se	Women b/se
Cohabitation (incl. PACS for France)	0.78 (0.67)	1.98* (0.79)	2.18*** (0.53)	2.47*** (0.63)	3.06* (1.30)	4.76** (1.51)	3.35** (1.18)	3.73** (1.38)	-1.28 (1.50)	3.06* (1.52)	2.40 (2.26)	3.59 (2.38)
Eastern Germany		-4.98*** (0.75)		-4.77*** (0.62)		1.46 (2.90)		-0.75 (2.60)				
Cohabitation X Eastern Germany		-3.89** (1.32)		-0.56 (1.05)		-6.23* (2.79)		-1.34 (2.14)				
N Obs. N Indiv.	8068 5756	8068 5756	8613 6300	8613 6300	3469 1439	3469 1439	3478 1506	3478 1506	982 500	1144 587	381 191	489 245

Table 2 Cohabitation premium: Random-effects and fixed-effects models for personal net wealth (rank transformed) of men and women in (Easter and Western) Germany and France

*Notes:* All fixed-effects and random-effects models include the full set of control variables as listed above. \* p<.05, \*\* p<.01, \*\*\* p<.001 Data: SOEP v35 (2002, 2007, 2012, 2017) multiply imputed, unweighted

Note: Random effects and fixed effects regression with outcome ranked net wealth; all models include the full set of control variables as listed above.

\* p<.05, \*\* p<.01, \*\*\* p<.001

	Germany							France				
	Random-effects				<b>Fixed-effects</b>				Random-effects		<b>Fixed-effects</b>	
	Men b/se	Men b/se	Women b/se	Women b/se	Men b/se	Men b/se	Women b/se	Women b/se	Men b/se	Women b/se	Men b/se	Women b/se
Marriage	6.18*** (0.64)	6.22*** (0.67)	6.98*** (0.50)	7.12*** (0.55)	4.39*** (1.02)	5.23*** (1.17)	3.96*** (0.90)	4.99*** (0.99)	3.73*** (1.09)	4.80*** (1.09)	0.06 (1.61)	1.43 (1.78)
Eastern Germany		-6.15*** (0.63)		-5.48*** (0.54)		0.24 (2.15)		-1.47 (1.79)				
Marriage X Eastern Germany		-2.87** (1.01)		-3.14*** (0.82)		-3.55 (2.17)		-4.06* (1.60)				
N Obs. N Indiv.	16505 10836	16505 10836	18048 11883	18048 11883	6163 2441	6163 2441	6631 2688	6631 2688	2224 1113	2616 1309	1092 547	1236 619

**Table 3** Marriage premium: Random-effects and fixed-effects models for personal net wealth (rank transformed) of men and women in (Easter and Western) Germany and France

*Notes:* All fixed-effects and random-effects models include the full set of control variables as listed above. \* p<.05, \*\* p<.01, \*\*\* p<.001

Data: SOEP v35 (2002, 2007, 2012, 2017) multiply imputed, unweighted

Note: Random effects and fixed effects regression with outcome ranked net wealth; all models include the full set of control variables as listed above and additionally a dummy for singles. Predictions of the marriage premium thus use cohabitation as the references category.

\* p<.05, \*\* p<.01, \*\*\* p<.001

Table 3 presents the results about the marriage premium (hypothesis 2). We provide evidence of a large marriage wealth premium for both men and women in Germany. Using the random-effects specification, marriage is associated with an increase by 6 to 7 rank points in the wealth distribution. The fixed-effects estimates lead to a lower but still positive and significant premium. The wealth premium is lower in East Germany than in West Germany, but contrary to cohabitation, the difference within Germany is similar for men and women. The marriage wealth premium is larger than the cohabitation wealth premium, for both men and women

In France, the random-effects estimation indicates that marriage is associated with a significant wealth premium for both men and women. Their rank in the distribution of wealth increase by 4 ranks after getting married. Fixed-effect estimation yields smaller and non-significant results. The difference between the random-effect and fixed-effects estimation is likely due to different samples. While couples married in both periods are considered in the random-sample analysis, only newlywed couples are considered. Marriage could be associated with potentially greater wealth accumulation, explaining why the marriage wealth premium is larger for couples married for a longer period. In France, women benefit equally from starting a relationship and getting married, while men tend to benefit from marriage but not from cohabitation.

Whereas our results overall confirm the hypotheses 1 and 2, results do not indicate that the cohabitation premium is higher in France than Germany as we formulated in hypothesis 3. When comparing France and Germany, we note significant heterogeneity across genders. Specifically, we only identify a cohabitation wealth premium for men in West Germany, while this is not the case for men in East Germany or in France. However, women experience a cohabitation wealth premium in all three contexts with not clear differences between them. It is noteworthy that the shorter time-period between two waves in France compared with Germany (3 years against 5 years) and the longer timeframe we can observe in Germany with four waves compared to two for France may explain part of the differences. The results for men are counter-intuitive, while women tend to benefit more than men from wealth-enhancing mechanisms. The hypothesis 4 about the larger cohabitation premium in Eastern than Western Germany is also rejected for men and, to a lesser extent, for women as we do not detect significant differences across regions.

#### 4.3 Additional analyses

As a supplementary analysis, we explore to what level employment and family behaviour act as mediators of the association between cohabitation and wealth. To this end, we add the respondent's employment status (full-time (ref.), part-time, unemployed, inactive), their labour market earnings (log-transformed), a dummy indicator of whether respondent's are selfemployed, and the number of children ever had to our models. Overall, results are rather consistent with our main results indicating that other non-observable factors may additionally explain some of the cohabitation wealth premium. As already highlighted in the theoretical section of this study, it is likely that cohabiters change their savings motives and habits in anticipation of a joint future leading to a more rigorous saving effort. Additionally, even if cohabiters do not experience any changes in their labour market income, economies of scale reduce costs and free up economic resources than can be saved. However, our current analyses of mediator may only be considered preliminary and more thorough mediation analyses are needed to fully understand the magnitude of the direct effect of cohabitation on personal wealth of men and women across the different contexts.

## 5 Conclusion

In this study, we examined the consequences of cohabitation for private wealth across three different contexts – France, and Eastern and Western Germany. We expected that cohabitation

would be associated with a substantial wealth premium compared to being single based for instance on better economies of scale. Furthermore, we expected the cohabitation premium to be smaller than the marriage premium due to the social and institutionalized benefits associated with marriage and higher economic pre-requirements for marriage entry than cohabitation entry. Finally, we expected to the cohabitation premium to vary across contexts due to varying levels of legal recognition of cohabitation but also social acceptance. To test our expectations, we used random-effects and fixed effects regression models using German SOEP and French *Patrimoine* wealth data.

Consistent with previous research by Lersch (2017), we find that that cohabitation provides economic benefits, such as economies of scale or joint savings, for wealth accumulation of women, in both France and Germany. Surprisingly, we find that although cohabitation is similarly well accepted in Eastern Germany and France, cohabitation carries higher benefits for French women than Eastern German women. A possible explanation could be the influence of Pacs in France. Pacs may have fostered wealth accumulation for unmarried cohabiters as Pacs couples benefit from mutual protection without being married. Results for men are less clear and vary more strongly across contexts. For men, we only find a cohabitation wealth premium in Western Germany, but not Eastern Germany. For France, our results can also not confirm a substantial wealth premium for cohabiting men, although further research is required to fully explore this.

Overall, cohabitation wealth premiums are below premiums associated with marriage entry potentially emphasizing the legal differences between the two partnership types. Considering substantial wealth inequalities between Eastern and Western Germany (Grabka & Westermeier, 2014), it is not surprising that we find a lower marriage premium in Eastern compared to Western Germany. Overall, we note that although Eastern and Western Germany have had the same legal regulations and institutional benefits or lack therefore associated with marriage and cohabitation, individuals benefit very differently from partnerships even within Germany.

Several limitations of our study are noteworthy. First, the limited number of longitudinal wealth waves currently available within the French Patrimoine meant that the sample sizes for the French context were substantially restricted. As a result, it was not feasible to consider Pacs and cohabitation as two separate relationship states although the two are clearly distinctly different. We like to highlight though that the aim of the current study was to compare a context were cohabiters have the possibility to easily opt into a more regulated alternative to marriage (i.e., Pacs) compared to a context where such an option is not available. Once more wealth waves are available to researchers, future studies should further explore how cohabiters and partners within Pacs differ. Second, our study shares a common concern of other wealth studies that rely on survey-based data: the reliance on self-reported personal wealth. While the collection of wealth in survey data already requires a high level of financial awareness and knowledge from respondents, the collection of personal wealth additional requires respondents to a make judgment about their share of jointly owned assets. As access to individual-level administrative wealth data is limited, no research has compared self-reported personal wealth levels within marriage to the individuals' wealth according to administrative data yet. Thus, the survey data applied within our study remain the most reliable source of comprehensive personal-level wealth over several survey waves.

To conclude, our study contributes relevant knowledge to the scientific and policy debates about the accumulation of socio-economic (dis-)advantage in wealth. Amid an ageing population and rising economic pressure on the welfare systems, governments have increasingly emphasizing personal responsibility for economic security across the life course (Ebbinghaus, 2015). More recently, the relevance of access to a wealth buffer as real and psychological safety net has been shown to be vital for individuals and households to cover

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income losses (Keister, 2000; Wolff & Zacharias, 2009), such as associated with COVID-19 pandemic-related redundancies, or compulsory working hour and wage reductions. Thus, the accumulation of sufficient wealth resources has become a pressing matter for individuals and households across Western societies. In light of a rising relevance of cohabitation as a substantial part in the complexity of family life courses, our study has provided new evidence on how cohabitation contributes to wealth inequalities between households. Our results suggest that both the social context and the legal treatment of unmarried cohabitation matters for wealth accumulation, and they would benefit more to women than men. The generation of this knowledge provides a strong foundation for context-sensitive policies directed towards equalizing opportunities across diverse family types (Perelli-Harris & Gassen, 2012).

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