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Unpacking the cohabitation-marriage gap in income pooling across Europe

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Abstract

This study examines the roles of selection and commitment in explaining the cohabitation-marriage gap in income pooling from a Pan-European comparative perspective. Evidence shows that cohabiters are more likely than married couples to keep their incomes separate, with selection and commitment cited as key theoretical explanations for this pattern. However, prior research has not effectively measured the relative importance of these two mechanisms. We argue that – methodological issues aside – this is because previous studies treated cohabiters and married couples as two homogeneous groups. To address this, our study differentiates four union types: directly married couples, couples who married after cohabitation, cohabiters with marital intentions, and cohabiters without marital intentions. Using data from the Generation and Gender Survey and logistic regression models with KHB decomposition, we analyze income pooling behaviors in 12 countries with varying cohabitation rates. Findings reveal significant differences in eight of 12 countries, with directly married couples being least likely to keep their incomes separate, followed by couples who married after cohabitation, cohabiters with marital intentions, and cohabiters without marital intentions. Commitment explains the

income pooling gap more than selection, except when differentiating between directly married couples and couples who married after cohabitation, where selection is more relevant. In the remaining four countries, neither mechanism significantly impacts the gap.

1. Introduction

Income pooling strategies among co-resident couples – i.e., whether they pool or keep their individual incomes separate – affect their day-to-day financial decision-making, and can also have long-term consequences, especially in the case of (but not limited to) union dissolution or unemployment. Policymakers and economic models generally assume that income pooling and shared residence among couples are perfectly correlated: i.e., that the partners pool their economic resources, independently of their individual contributions to the household's income, to maximize a joint utility function (Becker, 1981; Bennett, 2013; Himmelweit et al., 2013). Indeed, the legal obligations and normative expectations around the institution of marriage incentivize the pooling of economic resources. All matrimonial property systems in Europe recognize the value of the "indirect contribution" of homemakers to the well-being of families, and hence justify the community of matrimonial assets (Resetar, 2008). While the pooling assumption might have been reasonable when applied to married spouses during the second half of the 20th century, the growing prevalence of cohabiting unions has diversified how couples organize their lives together. Although non-marital cohabitation is widespread throughout Europe today (e.g., Kiernan, 2001; Klusener et al., 2013), it is still considerably less legally regulated than marriage (Perelli-Harris and Gassen, 2012), and it is sometimes seen as a type of union characterized by lower levels of interpersonal commitment than marriage

(Perelli-Harris et al., 2014; Rhoades et al., 2010; Stanley et al., 2004). Thus, cohabiters might be more inclined than married couples to keep their incomes separate.

Previous research on income pooling strategies has stressed that a growing number of cohabiting couples are indeed more likely than their married counterparts to keep their incomes separate (e.g., Hamplova and Le Bourdais, 2009; Hiekel et al., 2014a). The two main theoretical explanations for this cohabitation-marriage gap in income pooling rely on the supposed spurious relationship between union type and income pooling strategy based on certain characteristics that sort people into a specific union type (i.e., selection mechanism) on the one hand, and the intrinsic differences between cohabitation and marriage that entail different joint investment levels (i.e., commitment mechanism) on the other. Previous research has shown that these two theoretical mechanisms cannot fully explain the differences in income pooling strategies between married and cohabiting couples, but their relative importance remains unclear (e.g., Hiekel et al., 2014a). Currently, we lack an understanding of their relative importance in linking union types to income pooling strategies. We thus formulate a first research question: What is the relative importance of the selection and commitment mechanisms in explaining the cohabitation-marriage gap in income pooling?

Cohabitation has become a normative part of the union formation process, often preceding marriage, and people attach different meanings to it (Heuveline & Timberlake, 2004; Hiekel et al., 2014b; Kiernan, 2004, Perelli-Harris et al., 2014). Nonetheless, research on income pooling strategies tends to treat the two groups as homogeneous categories both conceptually and analytically. However, this approach masks relevant within-group differences, potentially related to income pooling behaviors and the relevance of the selection and commitment mechanisms related to the type of union. The few studies on income pooling that took such within-group heterogeneity into account found that, in some countries, cohabiters with marital intentions behave more similarly to married couples who previously cohabited (Hiekel et al.,

2014a; Lyngstad et al., 2011). For Italy, Vitali and Fraboni (2022) showed that couples who married after a period of cohabitation are more prone to choose independent matrimonial property regimes than couples who married directly, and that factors linked to selection partly reduce these differences. We thus formulate a second research question: Do income pooling strategies differ among cohabiters with and without marital intentions and among married spouses with and without prior experience of cohabitation?

Lastly, while the prevalence of cohabitation and the degree of its institutionalization vary across countries (Klusener et al., 2012; Perelli-Harris and Gassen, 2012), the cohabitation-marriage gap differs as well (Evans and Gray, 2021; Hiekel et al., 2014a; Prag et al., 2019). We argue that this variation could, in turn, imply that the relative importance of the selection and commitment mechanisms differs across contexts. Hence, the third aim of this paper is to investigate the heterogeneity within the cohabitation-marriage gap and the relative importance of the selection and commitment mechanisms from a pan-European perspective.

We study women and men in a co-resident union (n=151,720) using data from the Generation and Gender Surveys Round 1 collected between 2004 and 2013, and compare 12 countries: seven in Eastern Europe (Bulgaria, Russia, Georgia, Romania, Lithuania, Poland, and the Czech Republic), two in Central Europe (Germany and Austria), two in Western Europe (France and Belgium), and one in Northern Europe (Sweden). Applying a decomposition approach through the use of KHB mediation analysis (Karlson et al., 2012), we analytically disentangle the extent to which attributes related to selection and commitment mechanisms account for the differences in income pooling strategies between individuals in four types of co-resident couples: directly married couples, couples who married after cohabitation, and cohabiters with and without intentions to marry.

2. Background

2.1 Selection or commitment?

In response to the rise in non-marital cohabitation and the decrease in marriage rates across Europe (Sobotka and Toulemon, 2008), researchers started to investigate the differences and similarities between marital and cohabiting unions. These studies focused on how countries legally regulate cohabitation and marriage (e.g. Perelli-Harris and Sanchez Gassen, 2012; Sanchez Gassen and Perelli-Harris, 2015), as well as on partner's behaviors and expectations in these two types of unions. The spread of cohabitation in recent decades has diversified the meanings that couples attach to both cohabitation and marriage (Cherlin, 2004; Hiekel et al., 2014b; Treas et al., 2014), which could, in turn, have led to different income pooling practices across union types.

One of the consistent findings of this line of research is the existence of a so-called "cohabitation-marriage gap" in income pooling: i.e., that across different country contexts, cohabiting couples are more likely than married couples to keep their incomes separate (Evans and Gray, 2021; Hamplova and Le Bourdais, 2009; Hamplova et al., 2014; Hiekel et al., 2014a; Lyngstad et al., 2011; Prag et al., 2019).

Two main explanations have been proposed by the literature to account for the different income pooling behaviors by union type: the role of selection into marriage vs. cohabitation (i.e., the selection mechanism) and the different levels and types of joint investments and commitments made by married and cohabiting partners (i.e., the commitment mechanism).

The *selection argument* states that people sort into marriage or cohabitation because of certain characteristics, which are, in turn, associated with a given income pooling strategy. The relationship between the type of income pooling strategy and the union type would then be spurious, because the characteristics that lead couples to choose between income pooling and

separation are actually the same set of attributes that lead them to prefer being married to cohabiting.

Among the characteristics most frequently linked to the selection mechanism is age: cohabiters are generally younger than married people. Compared to older people, younger individuals tend to have fewer economic resources, and are more likely to still be in education or to be economically dependent. Hence, younger couples might have nothing to pool, or they may prefer to keep their incomes separate. In some countries, younger respondents in co-resident relationships are indeed more likely to keep their incomes separate (Hiekel et al., 2014a).

Another characteristic associated with this mechanism is the level of education. The ideational change toward self-actualization advanced by the forerunners of the Second Demographic Transition (e.g. Lesthaeghe 2014; van de Kaa, 2001), i.e., the highly educated, might lead them to prefer to keep their incomes separate, or to have more financial independence (Elizabeth, 2001). Indeed, higher-educated individuals have higher odds of opting for two separate pots (Hamplova and Le Bourdais, 2009; Hiekel et al., 2014a; Lyngstad et al., 2011). The preference for financial independence may also require a higher socioeconomic status, which is correlated with a higher level of education.

Relative resources among partners in terms of their earnings may also be associated with a certain type of income pooling strategy. For instance, the previously mentioned matrimonial property regimes were specifically created to ensure economic protection for the partner who specializes in unpaid labor. Hence, couples with a breadwinner and a homemaker may prefer to pool their economic resources, at least when the breadwinner is the man (Fraboni and Vitali, 2019). On the other hand, socioeconomically homogamous couples seem to prefer to keep their economic resources separate (Heimdal and Houseknecht, 2003; Pahl, 1989).

Religiousness is yet another factor that could be linked to the selection mechanism. Religious people hold more traditional and collectivistic values, and thus might prefer both marriage and income pooling.

Individuals' early life course experiences, such as divorce or having a child from a previous union, could influence the type of union and the income pooling strategy they choose. When forming a new union, previously divorced individuals are usually more likely to cohabit (Bumpass and Lu, 2000; Wu and Schimmele, 2005), and might be less likely to pool their incomes (Heimdal and Houseknecht, 2003). The presence of children from previous unions in the new household could also disincentivize the pooling of resources because of the expenses related to the child(ren) from former unions living in the household (Burgoyne and Morison, 1997).

The *commitment argument* states that differences in the income pooling strategies of cohabiters and married couples derive from marriage and cohabitation being intrinsically different types of unions (e.g. Brines and Joyner, 1999; Poortman and Mills, 2012). Marriage and cohabitation entail different levels of investment and commitment. As well as being heavily regulated, marriage is a highly institutionalized union type involving strong norms of mutual obligation, and is thus often associated with higher levels of commitment than cohabitation (Perelli-Harris et al., 2014). Cohabitation, by contrast, is not legally regulated in many countries, and has a less clear long-term horizon. Thus, the risks related to joint investments, such as income pooling, may be considered higher among cohabiting couples (Treas, 1993).

But the level of commitment in a relationship might also depend on factors that go beyond whether the partners are married or cohabiting. With the increased diffusion of cohabitation, what individuals seek from cohabiting or marrying might have diversified. First, a growing number of people have built families while cohabiting. Second, the length of cohabiting unions has been increasing, at least in the European context (Hiekel, 2014). Regarding income pooling

strategies, the previous literature has pointed out that long-term cohabiters who have joint biological children tend to have higher commitment and joint investment levels, which could, in turn, lead them to opt for income pooling (Hamplova and Bourdais, 2009; Hamplova et al., 2014; Hiekel et al., 2014; Lyngstad et al., 2011; Prag et al., 2019). The main argument around union duration is that the longer a couple remains together, the higher their level of commitment should be. Given that the duration of cohabiting unions has been increasing across Europe (Hiekel, 2014), differences in the commitment levels of cohabiters and married couples could be at least partially explained by the over-representation of long-lasting marriages and short-duration cohabitations. Thus, these differences might be less relevant when comparing long-lasting cohabitations with married unions. Similarly, having joint biological children is generally seen as a proxy for higher commitment and joint investment levels, and previous research has shown that cohabiters with joint biological children are more likely to pool their economic resources (e.g. Hamplova and Le Bourdais, 2009; Lyngstad et al., 2011; Prag et al., 2019).

In sum, it has been established that different attributes related to the selection and commitment mechanisms cannot fully explain the observed differences in income pooling strategies among cohabiters and married couples. However, the analytical approach taken in these studies does not allow to draw conclusions about the relative importance of either mechanism in explaining parts of the cohabitation-marriage gap, because standard logistic regression is not suitable for mediation analysis.

2.2 The heterogeneity within the cohabitation-marriage gap

Apart from the methodological issues, the current limited understanding of the relative importance of the selection and the commitment mechanisms might also derive from the tendency to treat cohabiters and married couples as two homogeneous groups. On the one hand, the meaning attached to cohabitation varies both across countries and between cohabiting

individuals/couples (Hiekel et al., 2014b; Perelli-Harris et al., 2014). For example, cohabitation has been described as an alternative to being single, a prelude to marriage, an alternative to marriage, or a union type that is indistinguishable from marriage (Heuveline & Timberlake, 2004; Hiekel et al., 2014b; Kiernan, 2004; Perelli-Harris et al., 2014). The different meanings that couples attach to cohabitation may be associated with different commitment and joint investment levels. In particular, cohabiters with marital intentions might have higher levels of commitment, as marital intentions refer to a longer time horizon that individuals link to their current union. Indeed, previous research has found that in some countries, cohabiters with marital intentions are more likely to pool their incomes than cohabiters without marital intentions (Hamplova and Bourdais, 2009; Hiekel et al., 2014a; Lyngstad et al., 2011). The commitment mechanism might thus be more relevant when comparing these two union types. On the other hand, spouses' premarital life courses are heterogeneous. The changing meanings and practices around non-marital cohabitation have also impacted marriage, given that an increasing number of couples marry after cohabiting. Couples who cohabited before marriage may have established income pooling strategies before marriage that they do not change after the wedding. For instance, a study on matrimonial property regimes chosen by Italian couples at the time of marriage showed that couples who experienced a period of cohabitation before marrying were more likely to choose independent marital property regimes than couples who married directly, and that these differences were reduced when including variables linked to the selection mechanism (Vitali & Fraboni, 2022).

Here, we propose to grasp the association between union type and income pooling, differentiating cohabiters by their marital intentions and married couples by their exposure to premarital cohabitation. We also examine couples' income pooling strategies, while disentangling the relative importance of selection into and commitment within these four union types.

2.3 The comparative setting

While the existence of a cohabitation-marriage gap in income pooling across contexts is well-documented (Evans and Gray, 2021; Hamplova and Bourdais, 2009; Hiekel et al., 2014a; Prag et al., 2019), knowledge about the heterogeneity within the cohabitation-marriage gap in income pooling from a comparative perspective is limited, apart from a study by Hiekel and colleagues (2014a) using the same data and a smaller set of six countries. We also lack knowledge about the relative importance of both selection and commitment mechanisms from a comparative perspective, especially when considering the heterogeneity within the cohabitation-marriage gap in income pooling.

While previous research shows that the size of the cohabitation marriage-gap doesn't seem to be related to the share of cohabiters in a country (Gray and Evans, 2021), the spread of cohabitation as a common practice in a country might be related to the relative importance of both selection and commitment mechanisms. Selection might play the biggest role in those countries where cohabitation is not yet widespread, while commitment could help diminish the gap the most in those contexts where cohabitation is more widespread, given that there might be more long-lasting cohabiting unions.

In Central and Eastern Europe, the gap is quite small or non-significant (Hiekel et al., 2014a; Prag et al., 2019), suggesting a strong norm for pooling independently of the union type. Interestingly, the size of the cohabitation-marriage gap seems to be related to the taxation system of the country: in contexts where married couples are taxed as individuals, married couples are more likely to behave like cohabiters, and to opt for income separation (Gray and Evans, 2021). Thus, cohabiters with marital intentions and married couples who previously cohabitated might have more similar income pooling strategies, especially in countries where

married couples are taxed as individuals. However, despite the growing number of cohabiting couples and the increasing acceptance of cohabitation as a practice in many countries, marriage remains a highly institutionalized and symbolic practice (Billari and Liefbroer, 2016), and norms regarding income pooling in marriage may still be very salient, with couples deciding to pool their economic resources only after getting married. Thus, we might still expect to observe differences in income pooling between these two types of unions.

Hence, this paper aims to study the heterogeneity within the cohabitation-marriage gap from a comparative perspective. This strategy enables us to investigate the importance of the selection and commitment mechanisms in these four couple types in different contexts at different stages of the diffusion of cohabitation.

3. Data and Methods

3.1 Data and Sample

We use data from 12 countries that participated in the Generations and Gender Survey (GGS): Bulgaria, Russia, Georgia, Germany, France, Romania, Austria, Belgium, Lithuania, Poland, Czech Republic, and Sweden. The data were collected between 2004 and 2013, and are representative of the population aged 18-79. Although the data are a bit dated, the GGS is the only data source that enables us to study the relationship between income pooling strategies and couple type from a pan-European perspective, differentiating between cohabitation exposure among married couples and marital intentions among cohabiters. We analyzed all countries that administered a question related to the respondent's income pooling strategy with their current partner (at the time of the interview). The age range of the respondents is 18-79, except for Austria, which has a younger sample (18-45). We have selected only those respondents who were in a co-resident heterosexual relationship, either cohabiting or married, at the time of the interview.

3.2 Measurements

Our main independent variable is income pooling strategy. The survey asked:

"How do you and your partner/spouse organize your household income?"

1. *I manage all the money and give my partner/spouse his/her share*

2. *My partner/spouse manages all the money and gives me my share*

3. *We pool all the money and each takes out what we need*

4. *We pool some of the money and keep the rest separate*

5. *We each keep our own money separate*

6. *Other.*

Following previous studies (Heimdal and Houseknecht, 2003; Hiekel et al., 2014a; Vogler et al., 2006; Prag et al., 2019), we distinguish between those respondents who pooled all their income (1, 2, and 3) from those who keep at least some separate (4 and 5).

Our main independent variable is union type. We first differentiate in a binary fashion between married respondents and cohabiters, and then further break down the variable into four categories: those who married directly, those who married after a period of cohabitation, cohabiters with intentions to marry (within the next three years), and cohabiters without marital intentions (within the next three years). Unfortunately, in the Belgian questionnaire, the question related to marital intentions among cohabiters was not administered; thus, we cannot investigate the heterogeneity within the cohabiting population in Belgium.

We then include variables related to the selection mechanism. Age is constructed as a categorical variable (18-35, 36-55, 56+). We also consider the respondent's level of education (primary, secondary, and tertiary, from ISCED classification). We include a variable capturing four combinations of employment between partners (only the man is employed, only the

woman is employed, both are employed, neither is employed). We then include three dummy variables capturing whether the respondent has a religious denomination (any denomination versus no denomination; this information is missing for Belgium) and is divorced from a previous partner, and if at least one stepchild or biological child with a former partner below age 18 is living in the household. Lastly, we use a question asking the respondent whether they are having difficulties making ends meet as a proxy for subjective deprivation in order to capture the notion that income pooling might be more of a necessity than a choice within deprived households.

To control for the level of commitment in the relationship and joint investments (commitment mechanism), we also include a continuous variable that measures the duration of the relationship in years, as well as a dummy on whether at least one joint biological child below age 18 is living in the household.

The amount of missing information is small and is largely random. One exception is the information on education among Russian respondents, as a considerable amount of this information is missing. Those respondents with missing information for at least one of the variables considered in the analysis are excluded from the sample. The variables categories and their distributions by country are presented in Table 1.

3.3 Analytical strategy

In the first analytical step, we assess the presence and the magnitude of the "cohabitation-marriage gap" in each of the countries considered. To do so, we run 12 logistic regressions (one for each country) predicting income separation by union type, i.e., distinguishing marriage from cohabitation.

In a second analytical step, we use a decomposition approach by applying KHB mediation analysis (Karlson et al., 2012) to analytically disentangle the extent to which attributes related

to selection and commitment account for differences in the income pooling strategies of cohabiters and married individuals. The KHB method enables us to accurately compare nested models and to circumvent some of the methodological problems of standard logistic regression (Mood, 2010). The KHB decomposition provides us with estimates of how much of the cohabitation-marriage gap is mediated by the set of variables linked to selection into union type on the one hand, and by variables linked to differences in levels of commitment in a given union on the other.

In the third step of the analysis, we repeat the previous analytical steps, but distinguish further between the cohabiters and the married couples to empirically assess the heterogeneity within both groups. We compare cohabiters with and without marital intentions and married couples without and with premarital cohabitation. To assess the statistical significance of the differences between the four different union types, we further conduct a pairwise comparison of the predictive margins at means.

4. Results

Table 1 provides a description of the sample by country regarding the extent to which income is pooled or not, the distribution of union types, and the distribution of the selection and commitment variables included in the analysis.

The prevalence of cohabitation (types) vis-à-vis (types of) marriage varies considerably across countries. The percentage of cohabiting couples ranges from 5% in Romania to 28% in Sweden. Even greater variation between countries is found when looking at the share of couples who keep at least some of their income separate, ranging from 7% in Romania to almost half in Sweden. Countries also differ considerably in terms of economic deprivation: a majority of respondents in Bulgaria, Russia, Georgia, and Romania report having difficulties making ends meet.

Table 1: Percent distribution of income pooling and characteristics by country (N = 151,720)

	Bulgaria	Russia	Georgia	Germany	France	Romania	Austria (a)	Belgium (b)	Lithuania	Poland	Czech Republic	Sweden
Income pooling strategy												
Pooled	85.47	92.40	91.82	84.23	76.58	92.66	52.88	78.38	69.34	88.62	79.11	52.20
At least some separate	14.53	7.60	8.18	15.77	23.42	7.34	47.12	21.62	30.66	11.38	20.89	47.80
Union type (1)												
Marriage	90.04	86.32	86.63	89.94	80.58	94.98	70.36	81.36	90.15	94.09	86.67	72.19
Cohabitation	9.96	13.68	13.37	10.06	19.42	5.02	29.64	18.64	9.85	5.91	13.33	27.81
Union type (2)												
Married directly	58.37	62.22	58.12	46.10	42.80	82.11	17.31	63.64	75.21	75.85	56.10	16.24
Married after cohabitation	31.67	24.09	28.51	43.84	37.78	12.87	53.05	36.36	14.94	18.24	30.57	55.94
Cohabiters with marital intentions	4.35	6.63	10.46	3.65	7.44	3.40	14.43	.	5.96	3.87	5.59	12.21
Cohabiters without marital intentions	5.61	7.05	2.91	6.41	11.98	1.62	15.20	.	3.89	2.04	7.74	15.61
Selection variables												
Age of the respondent												
18-35	31.06	29.46	24.27	18.40	23.64	20.07	46.99	20.69	26.90	23.16	27.49	16.31
36-55	42.59	46.79	48.74	48.10	43.42	45.65	53.01	45.45	43.45	38.67	41.97	39.50
56+	26.35	23.74	26.99	33.50	32.94	34.28	0.00	33.86	29.65	38.17	30.54	44.19
Respondent's education												
Primary	28.16	13.45	12.19	10.97	31.37	38.12	11.89	31.46	17.77	14.79	16.23	11.82
Secondary	50.29	45.64	59.63	59.95	41.78	52.00	68.79	31.53	57.79	64.46	68.44	48.57
Tertiary	21.55	40.90	28.18	29.08	26.85	9.89	19.32	37.01	24.44	20.75	15.33	39.61
Couples' employment patterns												
Only male employed	19.25	23.98	38.87	25.73	18.27	21.11	29.50	16.24	19.40	22.80	21.82	11.91
Only female employed	10.84	9.26	8.87	8.29	7.93	8.05	2.91	6.61	6.73	7.50	4.72	9.30
Both employed	39.04	46.94	22.89	40.23	46.55	35.09	64.53	48.89	49.83	36.78	47.11	55.49
Neither employed	30.87	19.82	29.37	25.75	27.26	35.75	3.05	28.27	24.04	32.92	26.36	23.30

Religiousness												
With religious affiliation	92.03	79.03	98.63	76.20	90.72	99.95	86.50	.	94.50	98.14	40.21	79.02
Without religious affiliation	7.97	20.97	1.37	23.80	9.28	0.05	13.50	.	5.50	1.86	59.79	20.98
Previously divorced												
Respondent with no prior divorce	96.14	85.92	98.49	93.09	91.29	95.23	93.44	88.84	93.75	95.31	89.61	86.77
Respondent previously divorced	3.86	14.08	1.51	6.91	8.71	4.77	6.56	11.16	6.25	4.69	10.39	13.23
Stepchildren or biological children from another union												
No stepchildren or biological children from previous union in hh	97.98	93.47	99.52	93.49	96.04	98.00	93.37	94.49	96.64	98.09	95.48	95.28
At least one stepchild or biological child with a former partner below 18 in hh	2.02	6.53	0.48	6.51	3.96	2.00	6.63	5.51	3.36	1.91	4.52	4.72
Household able to make ends meet												
Easily/v. easily	3.40	3.03	2.07	36.67	24.61	3.46	40.99	39.69	9.72	15.47	10.24	60.16
Fairly easy	3.79	7.93	13.35	34.72	34.93	5.23	34.76	33.66	39.20	30.73	28.94	26.75
With some difficulties	32.62	38.46	25.78	19.51	22.58	63.35	17.15	15.09	35.35	27.40	39.28	10.32
With difficulties/great difficulties	60.19	50.58	58.80	9.11	17.88	27.96	7.10	11.55	15.73	26.41	21.54	2.77
Commitment variables												
Biological joint child(ren)												
No joint biological child with current partner	55.57	58.85	54.51	65.60	60.47	64.45	36.67	65.88	61.07	64.86	70.26	69.42
At least one joint biological child below 18 in hh	44.43	41.15	45.49	34.40	39.53	35.55	63.33	34.12	38.93	35.14	29.74	30.58
Mean												
Union duration (years)	22.23	20.34	23.2	23.27	22.64	25.07	11.07	23.14	21.8	24.57	21.9	23.89
Number of observations	16,052	12,028	12,584	11,176	10,948	16,882	5,972	9,262	10,908	22,768	9,916	13,224

Note: a) Austria has a younger sample (18-45); b) No information on marital intentions among cohabiters and religious affiliation for Belgium.

Figure 1 shows the distribution of income pooling strategies by couple type. Two distinctive patterns emerge. There is a strong prevalence of income pooling across all union types in Bulgaria, Russia, Georgia, and Romania. Note that these are the countries with the highest proportions of individuals reporting having trouble making ends meet. In other countries, distinct differences by union type emerge. Couples who married directly are the most likely to report pooling their income, while cohabiters without intentions to marry are the least likely to report having a joint pot.

Figure 1: Percentage distribution of income pooling strategies by couple type and by country
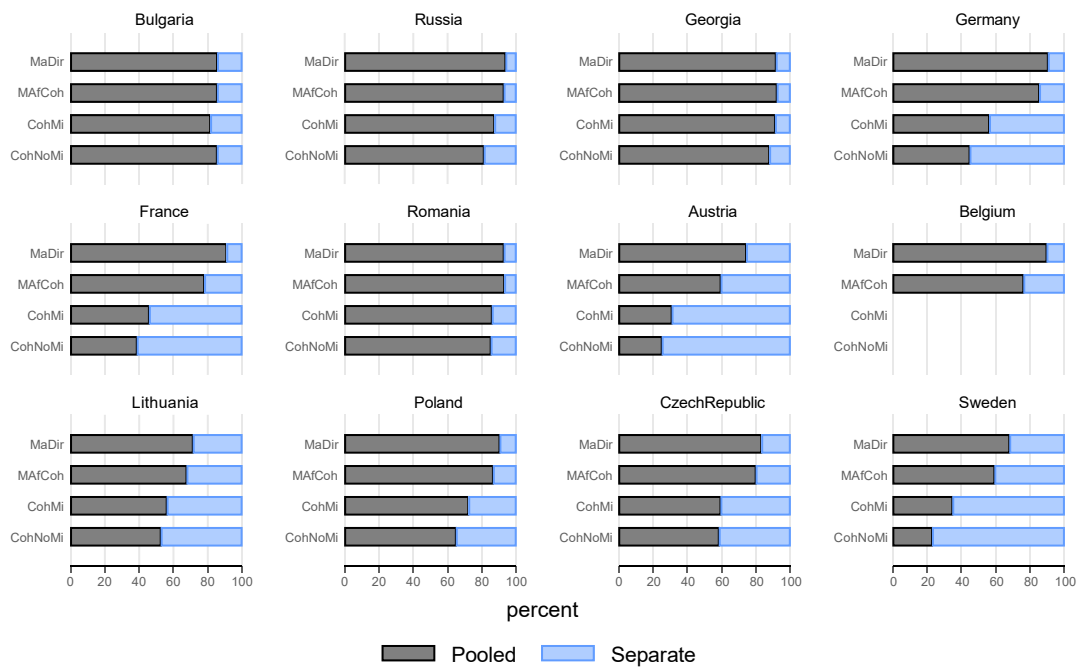
Graphs by Country

Notes: MaDir = Married directly, MAfCoh = Married after cohabitation; CohMi = Cohabiters with marital intentions; CohNoMi = Cohabiters without marital intentions. Austrian sample is younger (18-45), and information regarding marital intentions among Belgian cohabiters is missing.

Table 2: Summary logistic regressions of the "cohabitation-marriage gap" controlling for selection and commitment variables, exponentiated coefficients

Outcome: separation vs. pooling	Bulgaria	Russia	Georgia	Germany	France	Romania	Austria	Belgium	Lithuania	Poland	CzechRepublic	Sweden
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se
Union type (ref: Marriage)												
Cohabitation	1.41***	2.73***	1.30*	4.29***	4.22***	2.23***	2.86***	2.74***	1.84***	2.99***	2.59***	2.82***
	(0.13)	(0.27)	(0.13)	(0.37)	(0.28)	(0.27)	(0.21)	(0.20)	(0.15)	(0.24)	(0.21)	(0.14)
Age (ref: 18-35)												
36-55	1.04	1.06	0.95	1.23*	1.26**	0.99	0.94	1.06	0.96	0.91	1.18*	1.14+
	(0.07)	(0.11)	(0.10)	(0.10)	(0.09)	(0.09)	(0.07)	(0.09)	(0.07)	(0.06)	(0.09)	(0.08)
56+	1.37*	1.70**	1.27	1.87***	2.31***	1.02		1.96***	1.00	1.46***	1.70***	1.54***
	(0.17)	(0.29)	(0.21)	(0.24)	(0.31)	(0.16)		(0.28)	(0.12)	(0.16)	(0.22)	(0.14)
Respondent's education (ref: Secondary)												
Primary	0.62***	0.94	1.02	0.88	0.72***	0.82**	0.58***	0.84*	0.89+	0.99	0.75***	0.98
	(0.04)	(0.13)	(0.11)	(0.10)	(0.05)	(0.06)	(0.06)	(0.07)	(0.06)	(0.07)	(0.06)	(0.06)
Tertiary	1.47***	1.33***	1.42***	1.42***	1.84***	1.21*	1.54***	1.86***	1.57***	1.77***	1.33***	1.06
	(0.08)	(0.10)	(0.11)	(0.09)	(0.11)	(0.11)	(0.11)	(0.12)	(0.08)	(0.09)	(0.09)	(0.04)
Couples' employment patterns (ref: Both employed or self-employed)												
Only male employed/self-employed	0.63***	0.48***	0.39***	0.40***	0.48***	0.50***	0.62***	0.52***	0.57***	0.42***	0.65***	0.69***
	(0.04)	(0.05)	(0.04)	(0.03)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.03)	(0.05)	(0.04)
Only female employed/self-employed	0.89	0.75*	1.13	0.58***	1.13	0.73**	0.68*	1.03	0.98	0.96	0.84	1.29***
	(0.07)	(0.09)	(0.13)	(0.06)	(0.11)	(0.08)	(0.12)	(0.12)	(0.09)	(0.08)	(0.10)	(0.09)
Neither employed or self-employed	0.61***	0.36***	1.06	0.46***	0.57***	0.60***	0.35***	0.54***	0.79**	0.58***	0.65***	1.23***

Religiousness (ref: being religious)												
Without religious affiliation	1.16+	1.03	2.08***	1.27***	1.21*	1.00	1.26**		1.00	1.56***	1.03	0.92+
	(0.10)	(0.09)	(0.46)	(0.08)	(0.10)	(.)	(0.11)		(0.09)	(0.20)	(0.06)	(0.04)
Marriage history (ref: not divorced)												
Divorced	0.87	1.07	1.11	1.42***	1.52***	1.46**	0.91	1.24*	1.32**	0.96	1.03	0.86*
	(0.11)	(0.11)	(0.28)	(0.14)	(0.14)	(0.19)	(0.12)	(0.11)	(0.13)	(0.10)	(0.09)	(0.06)
Fertility history (ref: no child(ren) from prior union in the household)												
Child(ren) from prior union	0.84	0.75*	1.58	0.75*	0.92	0.69+	0.72**	0.81+	1.03	1.18	1.06	0.93
	(0.14)	(0.11)	(0.63)	(0.09)	(0.11)	(0.15)	(0.09)	(0.09)	(0.13)	(0.16)	(0.13)	(0.09)
Household able to make ends meet (ref: fairly easily)												
Easily/v. easily	1.19	1.34	1.05	1.04	1.08	1.03	1.08	1.00	0.88	1.10	0.90	1.08+
	(0.18)	(0.27)	(0.27)	(0.07)	(0.08)	(0.20)	(0.07)	(0.07)	(0.07)	(0.07)	(0.08)	(0.05)
With some difficulties	1.06	0.87	1.03	0.79**	1.00	1.10	0.82*	1.15	0.93	1.07	0.98	0.62***
	(0.12)	(0.11)	(0.12)	(0.07)	(0.07)	(0.14)	(0.07)	(0.10)	(0.05)	(0.06)	(0.06)	(0.04)
With difficulties/great difficulties	0.94	0.90	0.98	0.72**	0.78**	1.03	0.82	0.89	0.94	1.01	0.96	0.42***
	(0.11)	(0.11)	(0.10)	(0.08)	(0.06)	(0.15)	(0.10)	(0.09)	(0.06)	(0.06)	(0.07)	(0.05)
Union duration (years)	0.99**	0.99*	0.99	0.96***	0.95***	1.00	0.95***	0.95***	1.00	0.99***	0.98***	0.96***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Fertility history current union (ref: no joint child(ren))												
Joint child(ren)	0.80***	1.11	0.87	0.70***	0.68***	0.72***	0.77***	0.67***	0.87*	0.66***	0.76***	0.61***
	(0.05)	(0.09)	(0.08)	(0.05)	(0.04)	(0.06)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)	(0.03)
Observations	16052	12028	12584	11176	10948	16882	5972	9262	10908	22768	9916	13224

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

As a first analytical step, we run a set of logistic regression models to replicate previous findings on the prevalence of a cohabitation-marriage gap in income pooling. The results are presented in Table 2. Albeit with different magnitudes, the analysis confirms that in all the countries considered, cohabiters are significantly more likely than married couples to keep at least some income separate, even when attributes associated with the selection and commitment mechanisms are considered.

In all countries, couples in which the man is the sole earner are less likely than double earners to keep their incomes separate. Respondents with tertiary education are significantly more likely to report keeping their incomes separate, except for Sweden, where the probability does not differ significantly across educational levels. Another consistent finding is that the longer the duration of the union, the less likely couples are to keep their incomes separate (except in Bulgaria, Russia, Georgia, and Lithuania). Finally, having at least one joint child is associated with lower odds of keeping incomes separate (except in Russia and Georgia).

In a second step, we run two separate KHB analyses for each country to assess the relative importance of attributes related to, first, the selection mechanism and, second, the commitment mechanism in mediating the association between union type and keeping incomes separate. The results are shown in Tables 3 and 4, respectively. The models predict the likelihood of keeping incomes separate by union type. The outcomes show the coefficients, expressed in log odds. Similar to standard regression techniques, the KHB method also enables us to measure how much the coefficient in the union type is reduced when controlling for variables linked to selection and commitment. The output generated by the KHB mediation analyses comprises the estimated effect of the reduced models (the ones with only couple type as independent variable), the estimated effect of the full models (controlling for selection in Table 3 and commitment in Table 4), and the estimated difference between these two effects (the indirect

effect). As the authors pointed out: "The KHB method ensures that the coefficients presented are measured on the same scale (and thus are not affected by the scale identification issue described earlier). However, the magnitude of logit coefficients is generally difficult to interpret, precisely because they are measured on "arbitrary" scales." (Kohler et al., 2011 : 430). Hence, when interpreting the results, they suggest looking at the confounder ratio, which indicates by how much the total association (i.e., the coefficient in the 'reduced' model) is larger compared to the direct association (i.e., the coefficient in the 'full' model); and the confounder percentage, which indicates the percentage of the total association that is reduced once accounting for selection or commitment variables.

Both the selection and the commitment mechanisms play a role in the association in eight out of the 12 countries: Germany, France, Austria, Belgium, Lithuania, Poland, Czech Republic, and Sweden. The analyses show that a fraction of the total effect of couple type on the income pooling strategy chosen is due to the indirect effect of variables capturing selection and commitment. The magnitude of the association between union type and keeping at least some income separate is then reduced, but differences remain, as shown by the coefficients of union types in the full models (Table 2). Variables linked to commitment account for a larger share of the total effect of couple type on income pooling than variables linked to selection, and this is the case for all 12 countries except Georgia (Figure 2). As an example, in the German case, 11% of the total association is attributable to variables linked to selection (Table 3), while 32% is attributable to commitment variables (Table 4).

The confounder percentage linked to the selection mechanism is negative in Bulgaria, Russia, Georgia, and Romania (see 'Conf. – Perc', Table 3). This could suggest that the direct and indirect effects are opposite in sign, and that selection has a suppressor effect in these cases. More likely, however, given the descriptive findings shown in Figure 2 - there is not a lot of

variation to be explained in the first place in these four countries, as virtually all couples pool their income. Hence, in these four countries, the selection mechanism does not appear to be relevant.

Table 3: KHB results for the selection mechanism, cohabitation-marriage gap

	Bulgaria	Russia	Georgia	Germany	France	Romania	Austria	Belgium	Lithuania	Poland	Czech Republic	Sweden
	b	b	b	b	b	b	b	b	b	b	b	b
Cohabitation (ref: Married)												
Reduced	*0.13+*	1.03***	0.18+	2.17***	2.29***	0.77***	1.56***	1.88***	0.71***	1.36***	1.19***	1.43***
Full	*0.47****	1.07***	0.29**	1.94***	1.82***	0.86***	1.33***	1.38***	0.69***	1.28***	1.18***	1.35***
Diff	*-0.34****	-0.04	-0.11***	0.23***	0.47***	-0.10*	0.24***	0.50***	0.02	0.07*	0.01	0.08***
Conf.-Ratio	*0.28*	0.96	0.61	1.12	1.26	0.89	1.18	1.36	1.03	1.06	1.01	1.06
Conf.-Perc.	*-261.13*	-3.84	-64.41	10.68	20.43	-12.48	15.12	26.42	3.26	5.47	0.76	5.5
Observations	*16052*	12028	12584	11176	10948	16890	5972	9262	10908	22768	9916	13224

*** p<0.001, ** p<0.01, * p<0.05

Table 4: KHB results for commitment variables, cohabitation-marriage gap

|	Bulgaria	Russia	Georgia	Germany	France	Romania	Austria	Belgium	Lithuania	Poland	Czech Republic	Sweden
	b	b	b	b	b	b	b	b	b	b	b	b
Cohabitation (ref: Married)												
Reduced	*0.13+*	1.02***	0.18*	2.10***	2.23***	0.78***	1.52***	1.87***	0.69***	1.34***	1.17***	1.43***
Full	*-0.14+*	0.88***	0.34***	1.43***	1.29***	0.60***	1.06***	0.97***	0.48***	1.02***	0.85***	1.02***
Diff	*0.27****	0.14*	-0.16***	0.67***	0.94***	0.18***	0.46***	0.90***	0.21***	0.31***	0.33***	0.42***
Conf.-Ratio	*-0.99*	1.16	0.54	1.47	1.73	1.31	1.43	1.92	1.44	1.31	1.38	1.41
Conf.-Perc.	*201.3*	13.95	-86.51	32.06	42.06	23.56	30.27	48.02	30.47	23.55	27.78	29.03
Observations	*16052*	12028	12584	11176	10948	16890	5972	9262	10908	22768	9916	13224

*** p<0.001, ** p<0.01, * p<0.05

Next, we move to the analysis of the heterogeneity within the cohabitation-marriage gap, running the same set of models but using as a main independent variable a more refined version of the couple type variable that differentiates between married couples based on their prior exposure to cohabitation and cohabiters based on their marital intentions. The results of the 12 logistic regressions are shown in Table 1 in the Appendix.

Married couples who previously cohabited are more likely to choose a two-pot strategy than those who married directly in all countries, except in Bulgaria, Georgia, and Romania (Appendix, Table 1). When looking at the average adjusted predictions of the full models (Figure 2), two distinct patterns emerge. First, in the four countries where there is a strong norm of pooling income (i.e., Bulgaria, Russia, Georgia, and Romania), union type is not associated with the income pooling strategy applied by individuals, while clear differences between union types take shape in the other eight countries: "married directly" is the couple type the least associated with choosing a two-pot strategy, followed by couples married after a period of cohabitation, cohabiters with marital intentions, and cohabiters without marital intentions.

In order to assess whether differences in income pooling strategies by union type are statistically significant from each other, we run pairwise comparison tests based on the full models (Table 2, Appendix). A positive (negative) difference indicates a higher (lower) average probability of choosing a two-pot strategy. Despite a few exceptions in the aforementioned countries, where there is an overwhelming prevalence of income pooling, all couple types differ from each other in their association with income pooling vs. separation. In all countries, there are statistically significant differences between married couples who previously cohabited and cohabiters with marital intentions.

Figure 2: Average adjusted predicted probabilities of choosing a two-pot strategy (vs. pooling) by couple type, with 95% confidence interval
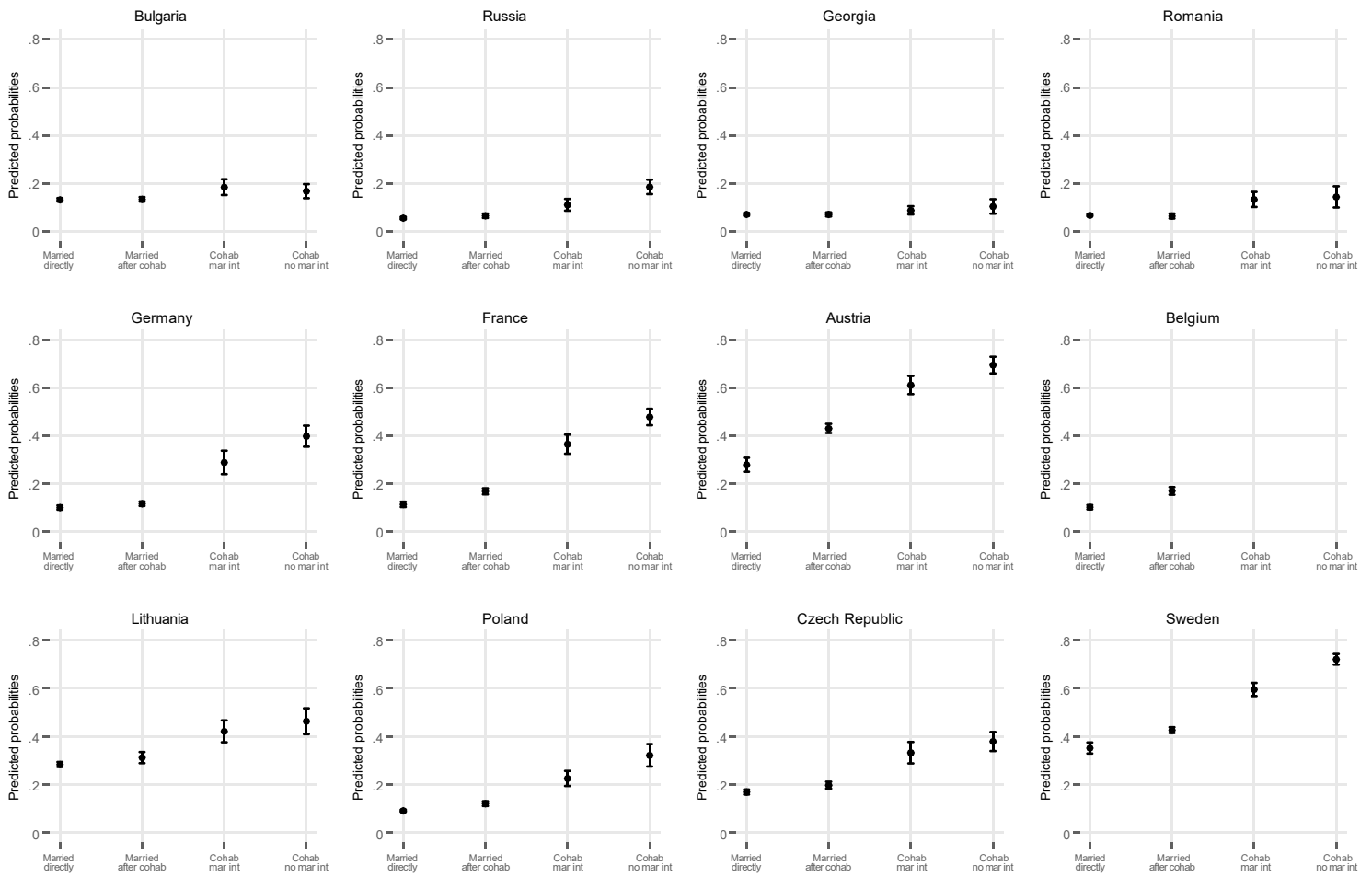

Note: Predicted probabilities are computed on the basis of the full model estimates presented in Table A-1 in the Appendix. "Married after cohab" = Couples who married after cohabitation; "Cohab mar int" = Cohabiters with marital intentions; and "Cohab no mar int" = Cohabiters without marital intentions.

Then, we present the results of the KHB analysis for selection and commitment considering the heterogeneity within cohabitation and marriage (Tables 3 to 6 in the Appendix and Figure 3, Panels B, C, and D). Here, we have decided to exclude Bulgaria, Russia, Georgia, and Romania since there is little variation in these contexts, and given the previous results of the KHB analysis for the cohabitation-marriage gap.

Figure 3 shows the confounder percentage – i.e., how much of the total association between union type and income separation in the null model is reduced once accounting for variables linked to selection or commitment – of the comparison between married and cohabiting couples (Panel A), couples who married after cohabitation and couples who married directly (Panel B), cohabiters with marital intentions and couples who married after cohabitation (Panel C), and cohabiters with and without marital intentions.

Figure 3: Confounder percentage of selection and commitment by couple comparison

(A) Married vs. cohabiters

(B) Married directly vs. married after cohabitation

(C) Cohabiters with marital intentions vs. married after

(D) Cohabiters with vs. without marital intentions

■ Selection ■ Commitment
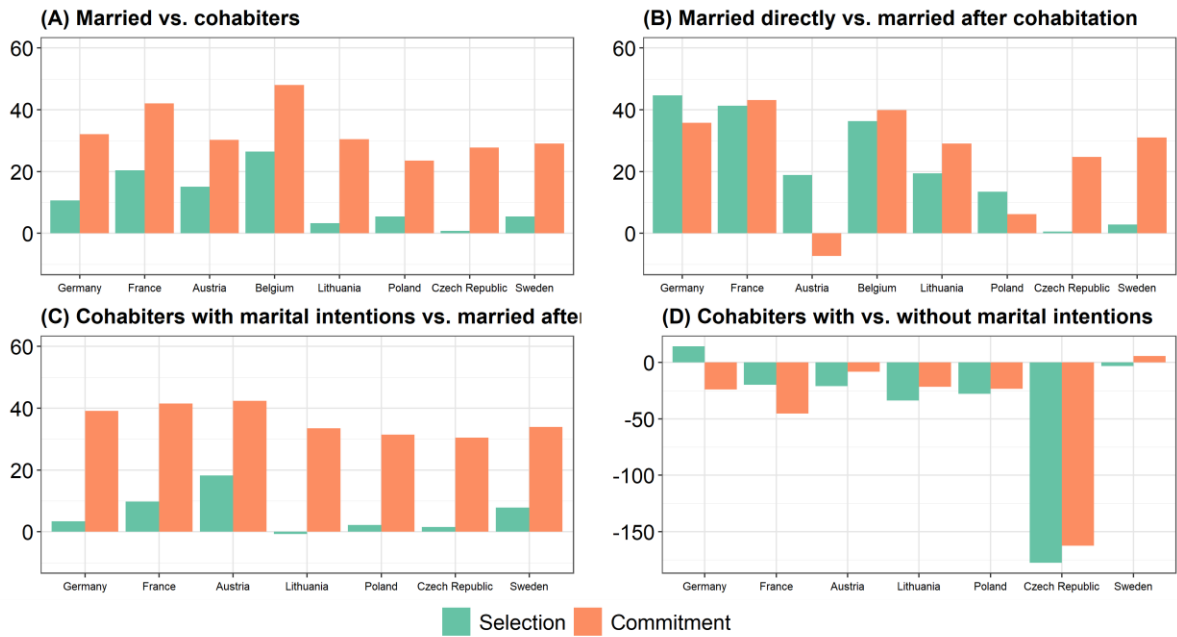
Note: Panel A: elaboration of results from Tables 3 and 4. Panel B: elaboration of results from Tables A-3 and A-4. Panels C and D: elaboration of results from Tables A-5 and A-6. In Panels C and D Belgium is omitted because we do not have information on marital intentions among cohabiters.

Panel A of Figure 3 summarizes the results described in Tables 3 and 4 for these eight countries: both the selection and commitment mechanisms help to reduce the association between union type and income pooling. Variables linked to the commitment mechanism account for a larger share of the association compared to the selection variables. A similar but more accentuated pattern is found in Panel C, where the relevance of the selection and commitment mechanisms is tested by comparing married couples who previously cohabited with cohabiters with marital intentions. Here, the relative importance of commitment is even stronger, while the relative importance of selection diminishes. On the contrary – at least for Germany, France, Austria, Belgium, Lithuania, and Poland – the relative importance of variables linked to selection is higher when comparing married couples who previously cohabited to those who married

directly (Figure 5, Panel B). Lastly, neither the selection nor the commitment mechanism seems to reduce the effect of union type in its association with income pooling strategies when comparing cohabiters with vs. without marital intentions (Figure 5, Panel D).

5. Conclusions

The aim of this contribution was to 1) disentangle the role of selection and commitment in the association between union type and income pooling strategies; 2) examine differences in income pooling strategies within cohabitation and marriage, differentiating between married couples who previously cohabited and cohabiters with marital intentions; and 3) investigate these two aspects from a comparative perspective. This was done using the Generation and Gender Survey of 12 countries, applying logistic regressions and KHB mediation analysis.

Previous research has found a "cohabitation-marriage gap" in income pooling, with cohabiting couples being more likely than their married counterparts to keep their economic resources separate (Evans and Gray, 2021; Hamplova and Le Bourdais, 2009; Hamplova et al., 2014; Hiekel et al., 2014a; Lyngstad et al., 2011; Prag et al., 2019). From a theoretical point of view, two main explanations for these different behaviors have been offered in the literature. The first one claims that people sort into cohabitation and marriage because of determinate characteristics, which, in turn, lead them to choose separation or the pooling of resources – the selection mechanism. The second one points out that cohabitation and marriage are two distinct union types, which entail different levels of commitment and types of joint investments, and which are, in turn, linked to different income pooling strategies.

The extent to which these two arguments have been confirmed empirically has so far been limited. We argue that, in part, this is because married and cohabiters have been treated as two

homogeneous categories, which hide a certain amount of within-group heterogeneities. In fact, the meaning attached to cohabitation not only varies across countries and individuals (e.g. Hiekel et al., 2014b), but married couples differ in terms of their exposure to cohabitation before marriage.

The use of the KHB mediation analysis enabled us to correctly measure how much of the initial association between couple type and the income pooling strategy chosen by couples is diminished when the model accounts for variables linked to selection and commitment. It also allowed us to quantify the amount of the total association that is attributable to these two mechanisms. To our knowledge, this is the first study that comparatively applies this method to investigate the associations between couple type and income pooling between and within the cohabitation-marriage gap.

The results show that differences in income pooling strategies by couple type (when comparing cohabiters and married) are reduced when considering both variables linked to the selection and commitment mechanisms. The decomposition analyses reveal that, across countries, the variables linked to the commitment mechanism reduce more of the total association between union type and income pooling strategy than the variables linked to selection. Hence, it seems that married and cohabiting couples are not so much two distinct groups of people, as the selection argument suggests. Rather, it appears that income pooling is more closely related to couples' levels of commitment and the joint investments they make. While commitment is generally higher in married unions (Perelli-Harris et al., 2014), our results highlight that income pooling is practiced among cohabiting couples as well, especially those who have long-lasting relationships and/or have a joint biological child(ren). If the duration of cohabiting unions continues to increase across Europe (Hiekel, 2014), we may expect that differences in income pooling strategies between couple types will further diminish in the future.

We then showed that in eight out of 12 countries considered – Germany, France, Austria, Belgium, Lithuania, Poland, Czech Republic, and Sweden – it is important to consider the heterogeneity within marital and cohabiting unions, and that the marriage vs. cohabitation comparison is too broad when studying income pooling strategies. In these contexts, a clear pattern emerges when considering marital intentions among cohabiters and premarital cohabitation among married couples. In particular, differences exist between married couples who previously cohabited and those who married directly, with the latter being more likely to pool income; and between cohabiters with and without marital intentions, with the former having higher chances of choosing a one-pot strategy. On the other hand, in the remaining four countries – Bulgaria, Russia, Georgia, and Romania – there is not a lot of variation in income pooling strategies, and there seems to be a strong preference for income pooling notwithstanding union type. Alternatively, instead of being a preference, this higher share of pooling might be driven by a need: as these are the countries with the highest percentages of respondents reporting having difficulties making ends meet, these couples might simply have nothing to keep apart.

Previous research has found that cohabiters who intend to marry behave more similarly to married couples in terms of money management (Hiekel et al., 2014a; Lyngstad et al., 2011). However, our results point out that these two groups differ significantly, with cohabiters with marital intentions being more likely to choose a two-pot strategy. While this result could be expected in countries such as Germany and France, where married couples are taxed jointly, it is surprising for the other countries, where married couples are taxed as individuals. It also partially contradicts the findings of Evans and Gray (2021) on the relationship between taxation systems and the variation in the cohabitation-marriage gap. Hence, it seems that there is still a strong norm for pooling in marriage, and that it is more closely linked to the event of marriage than to the intention to get married.

While the commitment mechanism overwhelmingly accounts for the differences between married and cohabiting couples, as well as between cohabiters with intentions to marry and cohabiters who previously cohabited, the selection mechanism is more important in reducing differences across married couples in Germany, France, Austria, and Poland. This suggests that those couples who start living together only after getting married are becoming an increasingly selected group, and that in several of the countries considered here, the selection mechanism is more relevant when comparing different types of married couples.

Lastly, the results on the heterogeneity among cohabiters show how these two mechanisms might not be particularly relevant when comparing different groups of cohabiters, since variables linked to both selection and commitment do not account for part of the association between union type and income pooling strategies. This result might be partly driven by the low prevalence of certain union types in some countries. In addition, given the various meanings that cohabitation can entail, the distinction we make here accounts only for those who conceive cohabitation as a prelude to marriage vs. the others, while it does not enable us to differentiate between those who conceive cohabitation as an alternative to being single, an alternative to marriage, or as a union type which is indistinguishable from marriage.

The present study has several limitations that need to be acknowledged. This study was conducted with a cross-sectional sample; hence, it refers only to the association between couple type and income pooling strategies at a given point in time. Further research should investigate this relationship from a life course perspective to see if couples who transition to marriage after cohabitation rearrange their income pooling strategies. Currently, panel data for some of these GGS countries are being collected. These data could allow for such a research design, which should be implemented in future research.

Moreover, we argued that one of the motivations for studying income pooling strategies is that having separate purses could create a situation of imbalance in a couple, which could, in turn, lead to inequality between partners if one of the respondents has limited economic resources. However, it should be stressed that income pooling does not lead per se to a more equal division of resources. The fact that income is pooled does not tell us anything about who is managing it, and who has the final decision on how to allocate economic resources. Hence, future research should further investigate decision-making processes that go beyond the pooling vs. not pooling division.

Notwithstanding its limitations, the study clearly shows that married and cohabiting couples differ between and within each other in terms of the income pooling strategies they choose, and that the relevance of the selection and commitment mechanisms varies across both couple types and countries. These results have several implications. First, in line with previous research (e.g. Hiekel et al., 2014a), our findings highlight the need to acknowledge that among both married and cohabiting couples, economic resources might not be shared. If economic models and policymakers keep disregarding this reality they will fail to consider possible within-couple inequalities (see Lersch et al. 2022 for a similar argument based on within-couple allocation of wealth). Second, depending on how trends regarding cohabitation and type of marriage develop in the future, some opposing scenarios might emerge. On the one hand, the observation that commitment is the main mechanism behind the cohabitation-marriage gap implies that income pooling might become more common among cohabiters in the future, given that union duration among cohabiters is increasing. On the other hand, in light of our finding that income pooling is most frequently practiced by directly married couples, who are becoming an increasingly selected group, we might expect that in the future, an increasing number of married couples will opt to keep their incomes separate. Thus, in the long run,

income pooling might not be as closely linked to marriage, and a one- or a two-pot strategy may be chosen interchangeably by both married and cohabiters.

References

Becker, G. S. (1981). A Treatise on the Family. Cambridge, Mass: Harvard Univ. Press.

Bennett, Fran. "Researching within-household distribution: Overview, developments, debates, and methodological challenges." *Journal of Marriage and Family* 75, no. 3 (2013): 582-597.

Billari, F. C., & Liefbroer, A. C. (2016). Why still marry? The role of feelings in the persistence of marriage as an institution 1. *The British journal of sociology*, *67*(3), 516-540.

Brines, J., & Joyner, K. (1999). The ties that bind: Principles of cohesion in cohabitation and marriage. *American sociological review*, 333-355.

Bumpass, L., & Lu, H. H. (2000). Trends in cohabitation and implications for children s family contexts in the United States. *Population studies*, *54*(1), 29-41.

Burgoyne, C. B., & Morison, V. (1997). Money in remarriage: Keeping things simple–and separate. *The Sociological Review*, *45*(3), 363-395.

Cherlin, A. J. (2004). The deinstitutionalization of American marriage. *Journal of marriage and family*, *66*(4), 848-861.

Evans, A., & Gray, E. (2021). Cross-National Differences in Income Pooling among Married and Cohabiting Couples. *Journal of Marriage and Family*, *83*(2), 534-550.

Elizabeth, V. (2001). Managing money, managing coupledom: A critical examination of cohabitants' money management practices. *The Sociological Review*, *49*(3), 389-411.

Fraboni, R., & Vitali, A. (2019). Gender differences in couples' matrimonial property regime in Italy. *Journal of Marriage and Family*, *81*(4), 885-904.

Hamplova, D., & Bourdais, C. L. (2009). One pot or two pot strategies? Income pooling in married and unmarried households in comparative perspective. *Journal of Comparative Family Studies*, *40*(3), 355-385.

Hamplová, D., Le Bourdais, C., & Lapierre-Adamcyk, É. (2014). Is the cohabitation–marriage gap in money pooling universal?. *Journal of Marriage and Family*, *76*(5), 983-997.

Heimdal, K. R., & Houseknecht, S. K. (2003). Cohabiting and married couples' income organization: Approaches in Sweden and the United States. *Journal of Marriage and Family*, *65*(3), 525-538.

Heuveline, P., & Timberlake, J. M. (2004). The role of cohabitation in family formation: The United States in comparative perspective. *Journal of marriage and family*, *66*(5), 1214-1230.

Hiekel, N. (2014). The different meanings of cohabitation across Europe: How cohabiters view their unions and differ in their plans and behaviors.

Hiekel, N., Liefbroer, A. C., & Poortman, A. R. (2014a). Income pooling strategies among cohabiting and married couples: A comparative perspective. *Demographic Research*, *30*, 1527-1560.

Hiekel, N., Liefbroer, A. C., & Poortman, A. R. (2014b). Understanding diversity in the meaning of cohabitation across Europe. *European Journal of Population*, *30*(4), 391-410.

Himmelweit, Susan, Cristina Santos, Almudena Sevilla, and Catherine Sofer. "Sharing of resources within the family and the economics of household decision making." *Journal of Marriage and Family* 75, no. 3 (2013): 625-639.

Karlson, K. B., Holm, A., & Breen, R. (2012). Comparing regression coefficients between same-sample nested models using logit and probit: A new method. *Sociological methodology*, *42*(1), 286-313.

Kiernan, K. (2001). The rise of cohabitation and childbearing outside marriage in Western Europe. *International journal of law, policy and the family*, *15*(1), 1-21.

Kiernan, K. (2004). Unmarried cohabitation and parenthood in Britain and Europe. *Law & Policy*, *26*(1), 33-55.

Klüsener, S., Perelli-Harris, B., & Gassen, N. S. (2013). Spatial Aspects of the Rise of Nonmarital Fertility Across Europe Since 1960: The Role of States and Regions in Shaping Patterns of Change/Aspects spatiaux de l'augmentation de la fécondité hors mariage en Europe depuis 1960: Le rôle des États et des régions dans l'élaboration de modèles de transformation. *European Journal of Population/Revue européenne de Démographie*, 137-165.

Lersch, P. M., Struffolino, E., & Vitali, A. (2022). Wealth in couples: Introduction to the special issue. *European Journal of Population*, *38*(4), 623-641.

Lyngstad, T. H., Noack, T. & Tufte, P.A. (2011). Pooling of economic resources: A comparison of Norwegian married and cohabiting couples. *European Sociological Review* 27, no. 5 (2011): 624-635.

Mood, C. (2010). Logistic regression: Why we cannot do what we think we can do, and what we can do about it. *European sociological review*, *26*(1), 67-82.

Pahl, J. M. (1989). Money and Marriage Basingstoke: Macmillan.

Perelli-Harris, B., & Gassen, N. S. (2012). How similar are cohabitation and marriage? Legal approaches to cohabitation across Western Europe. *Population and development review*, *38*(3), 435-467.

Perelli-Harris, B., Mynarska, M., Berrington, A., Berghammer, C., Evans, A., Isupova, O., ... & Vignoli, D. (2014). Towards a new understanding of cohabitation: Insights from focus group research across Europe and Australia. *Demographic research*, *31*, 1043-1078.

Präg, P., Begall, K., & Treas, J. (2019). Understanding the marriage–cohabitation gap in income pooling: Evidence from 29 European countries.

Rhoades, G. K., Stanley, S. M., & Markman, H. J. (2010). Should I stay or should I go? Predicting dating relationship stability from four aspects of commitment. *Journal of family psychology*, *24*(5), 543.

Rešetar, B. (2008). Matrimonial property in Europe: A link between sociology and family law. *Electronic Journal of Comparative Law*, *12*(3), 1-12.

Poortman, A. R., & Mills, M. (2012). Investments in marriage and cohabitation: The role of legal and interpersonal commitment. *Journal of Marriage and Family*, *74*(2), 357-376.

Sánchez Gassen, N., & Perelli-Harris, B. (2015). The increase in cohabitation and the role of union status in family policies: A comparison of 12 European countries. *Journal of European Social Policy*, *25*(4), 431-449.

Sobotka, T., & Toulemon, L. (2008). Overview Chapter 4: Changing family and partnership behaviour: Common trends and persistent diversity across Europe. *Demographic research*, *19*, 85-138.

Stanley, S. M., Whitton, S. W., & Markman, H. J. (2004). Maybe I do: Interpersonal commitment and premarital or nonmarital cohabitation. *Journal of family Issues*, *25*(4), 496-519.

Treas, J. (1993). Money in the bank: Transaction costs and the economic organization of marriage. *American Sociological Review*, 723-734.

Treas, J., Lui, J., & Gubernskaya, Z. (2014). Attitudes on marriage and new relationships: Cross-national evidence on the deinstitutionalization of marriage. *Demographic research*, *30*, 1495.

Vitali, A., & Fraboni, R. (2022). Pooling of wealth in marriage: The role of premarital cohabitation. *European Journal of Population*, *38*(4), 721-754

Vogler, C., Brockmann, M., & Wiggins, R. D. (2006). Intimate relationships and changing patterns of money management at the beginning of the twenty-first century 1. *The British Journal of Sociology*, *57*(3), 455-482.

Wu, Z., & Schimmele, C. M. (2005). Repartnering after first union disruption. *Journal of marriage and family*, *67*(1), 27-36.

Appendix

Table A-1: Summary logistic regressions of the heterogeneity within the cohabitation-marriage gap, controlling for selection and commitment variables, exponentiated coefficients

	Bulgaria	Russia	Georgia	Germany	France	Romania	Austria	Belgium	Lithuania	Poland	Czech Republic	Sweden
Outcome: separation vs. pooling	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se
Union type (ref: Married directly)												
Married after cohabitation	1.03	1.17+	0.99	1.20**	1.58***	0.95	1.95***	1.77***	1.14*	1.37***	1.21**	1.37***
	(0.05)	(0.11)	(0.08)	(0.08)	(0.12)	(0.09)	(0.16)	(0.13)	(0.07)	(0.08)	(0.07)	(0.08)
Cohab with marital intentions	1.54***	2.10***	1.24+	3.67***	4.49***	2.14***	3.91***		1.77***	2.79***	2.68***	2.75***
	(0.18)	(0.30)	(0.15)	(0.49)	(0.49)	(0.31)	(0.44)		(0.18)	(0.27)	(0.30)	(0.23)
Cohab without marital intentions	1.34*	3.72***	1.44*	5.63***	7.12***	2.33***	5.64***		2.20***	4.78***	3.00***	4.75***
	(0.15)	(0.45)	(0.25)	(0.61)	(0.68)	(0.44)	(0.63)		(0.26)	(0.55)	(0.30)	(0.38)
Age (ref: 18-35)												
36-55	1.05	0.99	0.95	1.17+	1.21*	0.98	0.96	1.20+	0.95	0.92	1.17+	1.07
	(0.07)	(0.10)	(0.10)	(0.10)	(0.09)	(0.10)	(0.07)	(0.13)	(0.07)	(0.07)	(0.09)	(0.07)
56+	1.38**	1.53*	1.26	1.77***	2.28***	1.01		2.44***	0.99	1.48***	1.67***	1.45***
	(0.17)	(0.26)	(0.21)	(0.23)	(0.30)	(0.16)		(0.43)	(0.12)	(0.16)	(0.22)	(0.13)
Respondent's education (ref: secondary)												

Primary	0.62***	0.92	1.02	0.89	0.72***	0.82**	0.61***	0.91	0.88*	0.98	0.74***	0.98
	(0.04)	(0.13)	(0.11)	(0.10)	(0.05)	(0.06)	(0.06)	(0.09)	(0.06)	(0.07)	(0.06)	(0.06)
Tertiary	1.47***	1.34***	1.42***	1.43***	1.83***	1.21*	1.53***	1.84***	1.57***	1.74***	1.33***	1.08+
	(0.08)	(0.10)	(0.11)	(0.09)	(0.11)	(0.11)	(0.11)	(0.15)	(0.08)	(0.09)	(0.09)	(0.04)
Couples' employment patterns (ref: both employed or self-employed)												
Only male employed/self-employed	0.63***	0.48***	0.39***	0.40***	0.50***	0.50***	0.63***	0.50***	0.57***	0.42***	0.64***	0.71***
	(0.04)	(0.05)	(0.04)	(0.03)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)	(0.03)	(0.05)	(0.04)
Only female employed/self-employed	0.89	0.74*	1.13	0.59***	1.15	0.73**	0.67*	0.96	0.97	0.95	0.84	1.30***
	(0.07)	(0.09)	(0.13)	(0.07)	(0.12)	(0.08)	(0.12)	(0.13)	(0.09)	(0.08)	(0.10)	(0.09)
Neither employed or self-employed	0.61***	0.36***	1.06	0.46***	0.58***	0.60***	0.35***	0.48***	0.79**	0.56***	0.64***	1.30***
	(0.05)	(0.05)	(0.10)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.04)	(0.06)	(0.08)
Religiousness (ref: being religious)												
Without religious affiliation	1.16+	1.03	2.07***	1.24***	1.18*	1.00	1.21*		0.99	1.50**	1.03	0.90*
	(0.10)	(0.09)	(0.45)	(0.08)	(0.10)	(.)	(0.10)		(0.09)	(0.19)	(0.06)	(0.04)
Marriage history (ref: not divorced)												
Divorced	0.88	1.05	1.11	1.36**	1.38***	1.47**	0.84	1.14	1.27*	0.87	1.01	0.84**
	(0.11)	(0.11)	(0.28)	(0.14)	(0.13)	(0.19)	(0.11)	(0.14)	(0.12)	(0.09)	(0.09)	(0.06)
Fertility history (ref: no child(ren) from prior union in the household)												
Child(ren) from prior union	0.85	0.75*	1.58	0.75*	0.95	0.70	0.70**	0.93	1.01	1.19	1.04	0.98
	(0.14)	(0.11)	(0.64)	(0.08)	(0.11)	(0.15)	(0.09)	(0.15)	(0.12)	(0.16)	(0.13)	(0.09)
Household able to make ends meet (ref: fairly easily)												
Easily/v. easily	1.19	1.31	1.05	1.04	1.08	1.03	1.06	0.91	0.89	1.08	0.90	1.08+

	(0.18)	(0.26)	(0.27)	(0.07)	(0.08)	(0.20)	(0.07)	(0.07)	(0.07)	(0.07)	(0.08)	(0.05)
With some difficulties	1.06	0.86	1.03	0.79**	0.99	1.09	0.83*	1.19	0.93	1.06	0.98	0.62***
	(0.12)	(0.11)	(0.12)	(0.07)	(0.07)	(0.14)	(0.07)	(0.12)	(0.05)	(0.06)	(0.06)	(0.04)
With difficulties/great difficulties	0.94	0.88	0.98	0.72**	0.79**	1.03	0.85	0.88	0.94	1.01	0.95	0.41***
	(0.11)	(0.11)	(0.10)	(0.08)	(0.06)	(0.15)	(0.11)	(0.12)	(0.06)	(0.06)	(0.07)	(0.05)
Union duration (years)	0.99**	0.99*	0.99	0.96***	0.95***	1.00	0.95***	0.96***	1.00	0.99***	0.98***	0.96***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Fertility history current union (ref: no joint child(ren)												
Joint child(ren)	0.80***	1.07	0.87	0.69***	0.64***	0.72***	0.74***	0.71***	0.88*	0.65***	0.75***	0.62***
	(0.05)	(0.09)	(0.08)	(0.05)	(0.04)	(0.06)	(0.05)	(0.06)	(0.05)	(0.04)	(0.05)	(0.03)
Observations	16052	12028	12584	11176	10948	16882	5972	7536	10908	22768	9916	13224

*** p<0.001, ** p<0.01, * p<0.05

Table A-2: Pairwise comparison of full models Table A-1

	Bulgaria			Russia			Georgia			Romania		
	Diff		s. e.	Diff		s. e.	Diff		s. e.	DIff		s. e.
Marr after coh vs. Mar dir	0.00	†	0.01	0.01	†	0.01	-0.00		0.01	-0.00	†	0.01
Coh mar int vs. Mar dir	0.06	*	0.02	0.06	*	0.01	0.02	†	0.01	0.07	*	0.02
Coh no mar int vs. Mar dir	0.04	*	0.02	0.13	*	0.02	0.03	†	0.02	0.08	*	0.02
Coh mar int vs. Mar after coh	0.06	*	0.02	0.05	*	0.01	0.02	†	0.01	0.07	*	0.02
Coh no mar int vs. Mar after coh	0.03	*	0.02	0.12	*	0.02	0.03	†	0.02	0.08	*	0.02
Coh no mar int vs. Coh mar int	-0.02	†	0.02	0.07	*	0.02	0.01	†	0.02	0.01	†	0.03

	Germany			France			Austria*			Lithuania		
	Diff		s.e.	Diff		s.e.	Diff		s.e.	Diff		s.e.
Marr after coh vs. Mar dir	0.02	*	0.01	0.06	*	0.01	0.14	*	0.02	0.03	*	0.01
Coh mar int vs. Mar dir	0.19	*	0.02	0.24	*	0.02	0.30	*	0.02	0.13	*	0.02
Coh no mar int vs. Mar dir	0.28	*	0.02	0.34	*	0.02	0.38	*	0.02	0.18	*	0.03
Coh mar int vs. Mar after coh	0.17	*	0.02	0.18	*	0.02	0.16	*	0.02	0.10	*	0.02
Coh no mar int vs. Mar after coh	0.26	*	0.02	0.28	*	0.02	0.24	*	0.02	0.15	*	0.03
Coh no mar int vs. Coh mar int	0.09	*	0.03	0.10	*	0.02	0.08	*	0.02	0.05	†	0.03

	Poland			Czech Republic			Sweden		
	Diff		s.e.	Diff		s.e.	Diff		s.e.
Marr after coh vs. Mar dir	0.03	*	0.01	0.03	*	0.01	0.07	*	0.01
Coh mar int vs. Mar dir	0.13	*	0.02	0.18	*	0.02	0.24	*	0.02
Coh no mar int vs. Mar dir	0.23	*	0.02	0.21	*	0.02	0.35	*	0.02
Coh mar int vs. Mar after coh	0.10	*	0.02	0.15	*	0.02	0.16	*	0.02
Coh no mar int vs. Mar after coh	0.20	*	0.02	0.18	*	0.02	0.28	*	0.01
Coh no mar int vs. Coh mar int	0.10	*	0.03	0.03	†	0.03	0.12	*	0.02

Notes: P-value: *<0.05, †<0.10. "Marr dir" refers to married directly; "Mar after coh" refers to married after a period of cohabitation; "Coh mar int" refers to cohabitation with marital intentions; and "Coh no mar int" refers to cohabitation without marital intentions. Belgium not shown due to a lack of information regarding marital intentions among cohabiters.* Different age range (18-45).

Table A-3: KHB results for the selection mechanism, heterogeneity of the cohabitation-marriage gap, "Married directly" as the baseline category

	Germany	France	Austria	Belgium	Lithuania	Poland	Czech Republic	Sweden
	b	b	b	b	b	b	b	b
Union type (ref: Married directly)								
Married after cohabitation								
Reduced	0.49***	1.07***	0.72***	1.05***	0.17**	0.37***	0.22***	0.38***
Full	0.27***	0.63***	0.58***	0.67***	0.14*	0.32***	0.22***	0.37***
Diff	0.22***	0.44***	0.13***	0.38***	0.03	0.05	0.00	0.01
Conf.-Ratio	1.81	1.7	1.23	1.57	1.24	1.16	1.01	1.03
Conf.-Perc.	44.63	41.26	18.84	36.3	19.38	13.5	0.6	2.82
Cohabiters with marital intentions								
Reduced	2.10***	2.62***	1.96***		0.68***	1.31***	1.24***	1.41***
Full	1.83***	2.03***	1.60***		0.65***	1.24***	1.22***	1.32***
Diff	0.27***	0.59***	0.36***		0.03	0.07	0.02	0.09*
Conf.-Ratio	1.15	1.29	1.23		1.05	1.06	1.01	1.07
Conf.-Perc.	13.07	22.65	18.46		4.38	5.38	1.36	6.51
Cohabiters without marital intentions								
Reduced	2.60***	2.95***	2.26***		0.83***	1.68***	1.29***	2.00***
Full	2.26***	2.42***	1.96***		0.85***	1.71***	1.32***	1.93***
Diff	0.35***	0.53***	0.30***		-0.02	-0.03	-0.04	0.07*
Conf.-Ratio	1.15	1.22	1.15		0.98	0.98	0.97	1.04
Conf.-Perc.	13.29	17.96	13.25		-2.35	-1.96	-2.79	3.67
Observations	11176	10948	5972	7536	10908	22768	9916	13224

*** p<0.001, ** p<0.01, * p<0.05

Table A-4: KHB results for the commitment mechanism, heterogeneity of the cohabitation-marriage gap, "Married directly" as the baseline category

	Germany	France	Austria	Belgium	Lithuania	Poland	Czech Republic	Sweden
	b	b	b	b	b	b	b	b
Union type (ref: Married directly)								
Married after cohabitation								
Reduced	0.50***	1.09***	0.70***	1.05***	0.17**	0.38***	0.22***	0.39***
Full	0.32***	0.62***	0.75***	0.64***	0.12*	0.36***	0.16**	0.27***
Diff	0.18***	0.47***	-0.05+	0.41***	0.05**	0.02	0.05**	0.12***
Conf.-Ratio	1.56	1.76	0.93	1.64	1.41	1.07	1.33	1.45
Conf.-Perc.	35.78	43.17	-7.35	38.9	29.01	6.2	24.72	31.01
Cohabiters with marital intentions								
Reduced	2.06***	2.58***	1.92***		0.67***	1.29***	1.23***	1.42***
Full	1.27***	1.49***	1.45***		0.45***	0.98***	0.87***	0.95***
Diff	0.79***	1.09***	0.46***		0.22***	0.31***	0.36***	0.47***
Conf.-Ratio	1.62	1.73	1.32		1.48	1.32	1.42	1.5
Conf.-Perc.	38.27	42.24	24.2		32.33	24.06	29.49	33.14
Cohabiters without marital intentions								
Reduced	2.52***	2.89***	2.21***		0.81***	1.64***	1.27***	2.01***
Full	1.85***	1.94***	1.77***		0.62***	1.41***	0.97***	1.51***
Diff	0.67***	0.95***	0.44***		0.19***	0.23***	0.30***	0.50***
Conf.-Ratio	1.36	1.49	1.25		1.3	1.16	1.31	1.33
Conf.-Perc.	26.72	32.82	19.86		22.95	14.09	23.51	25.02
Observations	11176	10948	5972	7536	10908	22768	9918	13224

*** p<0.001, ** p<0.01, * p<0.05

Table A-5: KHB results for the selection mechanism, heterogeneity of the cohabitation-marriage gap, "Cohabiters with marital intentions" as the baseline category

	Germany	France	Austria	Lithuania	Poland	Czech Republic	Sweden
	b	b	b	b	b	b	b
Union type (ref: Cohabiters with marital intentions)							
Married after cohabitation							
Reduced	-1.61***	-1.55***	-1.25***	-0.51***	-0.94***	-1.02***	-1.03***
Full	-1.55***	-1.40***	-1.02***	-0.51***	-0.92***	-1.01***	-0.95***
Diff	-0.06	-0.15**	-0.23***	0.00	-0.02	-0.02	-0.08**
Conf.-Ratio	1.04	1.11	1.22	0.99	1.02	1.02	1.09
Conf.-Perc.	3.44	9.83	18.24	-0.72	2.19	1.52	7.87
Cohabiters without marital intentions							
Reduced	0.50***	0.33***	0.30**	0.15	0.37**	0.04	0.59***
Full	0.43**	0.39***	0.36***	0.20	0.47***	0.10	0.61***
Diff	0.07	-0.06	-0.06	-0.05	-0.10*	-0.05	-0.02
Conf.-Ratio	1.17	0.84	0.83	0.75	0.78	0.46	0.97
Conf.-Perc.	14.23	-19.69	-20.9	-33.67	-27.88	-177.64	-3.1
Observations	11176	10948	5972	10908	22768	9916	13224

*** p<0.001, ** p<0.01, * p<0.05

Table A-6: KHB results for the commitment mechanism, heterogeneity of the cohabitation-marriage gap, "Cohabiters with marital intentions" as the baseline category.

	Germany	France	Austria	Lithuania	Poland	Czech Republic	Sweden
	(Model 4)	(Model 5)	(Model 7)	(Model 9)	(Model 10)	(Model 11)	(Model 12)
	b	b	b	b	b	b	b
Union type (ref: Cohabiters with marital intentions)							
Married after cohabitation							
Reduced	-1.56***	-1.49***	-1.22***	-0.49***	-0.91***	-1.01***	-1.03***
Full	-0.95***	-0.87***	-0.70***	-0.33**	-0.63***	-0.70***	-0.68***
Diff	-0.61***	-0.62***	-0.52***	-0.17***	-0.29***	-0.31***	-0.35***
Conf.-Ratio	1.64	1.71	1.73	1.5	1.46	1.44	1.51
Conf.-Perc.	39.06	41.56	42.34	33.5	31.46	30.52	33.94
Cohabiters without marital intentions							
Reduced	0.47***	0.31***	0.30**	0.14	0.34**	0.04	0.60***
Full	0.58***	0.45***	0.32**	0.17	0.42***	0.10	0.56***
Diff	-0.11***	-0.14***	-0.02	-0.03**	-0.08***	-0.06***	0.03+
Conf.-Ratio	0.81	0.69	0.92	0.82	0.81	0.38	1.06
Conf.-Perc.	-23.9	-45.29	-8.2	-21.64	-23.43	-162.68	5.75
Observations	11176	10948	5972	10908	22768	9918	13224

*** p<0.001, ** p<0.01, * p<0.5