

## Within-couple Financial Satisfaction in the Czech Republic: A Test of Income Pooling Hypothesis<sup>1</sup>

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### Abstract

*This paper uses the national EU-SILC 2013 data to analyse the impact of the distribution of personal income between partners on reported financial well-being of couples in the Czech Republic. It focuses on partners in two life stages: couples raising children and couples with empty nests. On average, women contribute substantially less to the household budget than men and their financial satisfaction is slightly lower. Financial satisfaction of partners with children is not influenced by who brings the income. In a childless household, the higher the woman's contribution, the lower the man's satisfaction with the financial situation relatively to hers.*

**Keywords:** *financial satisfaction, household economics, income pooling, personal income distribution*

**JEL Classifications:** D13, D31, I31

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### Introduction

A tendency of more equal distribution of income between partners stems from a trend of increasing female labour market participation and a deviation from male-breadwinner family model in many advanced countries in past decades. In Europe, the most equal within-couple income distribution is in Scandinavian countries, while women in southern European countries contribute the least to the couple's budget (Bonke, 2008). Central and Eastern European countries are located around the middle of the scale with the Czech Republic situated towards the bottom. According to Mysíková (2015) the average female share of total gross couple earnings in dual-earner couples in 2011 was 41% and 42% in

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the Czech Republic and Slovakia, respectively, while it amounted to 44% and 45% in Poland and Hungary.

In general, the Czech Republic is a country with one of the highest gender earnings inequality in Europe. In fact, the gender inequality roots already in the socialist era. Although the former communist Czechoslovakia was a country with one of the highest wage equalization in the world, differences in earnings were to a high extent influenced by gender (Večerník, 2009). The high gender wage gap has been preserved until present day (see, e.g., Mysíková, 2012) and the female disadvantaged position on labour market can be documented by a low availability of part-time jobs, traditionally extraordinary long (three years) parental leave and low coverage of preschool childcare institutions. Therefore, the Czech Republic might be viewed as a country of a traditional male-breadwinner family model.

The empirics on the Czech Republic include only few studies on within-couple income. Chaloupková (2006) analysed the factors of separate income management, which occurs more often among childless couples. Mysíková (2015) examined the within-couple earnings distribution and showed that the two most important factors of within-couple earnings inequality are the relative education of partners and the presence of children. So far, no study investigated if the inequality in partners' income influences the distribution of various outputs or the distribution of well-being within a couple in the Czech Republic.

Two streams are recognized in the empirics on income pooling. The first stream analyses the declared household's distributional regime and searches for factors of likelihood of income pooling in the household. Unmarried couples sharing a household (cohabitators) are typically less likely to pool their incomes than married couples (e.g., Hamplová, Le Bourdais and Lapierre-Adamcyk, 2014, for Canada). Bonke and Uldall-Poulsen (2007) found the duration of marriage and the presence of children to be the main factors in Denmark. Besides these two factors, Hamplová and Le Bourdais (2009) confirmed satisfaction with family life as the common factor of income pooling for Denmark, France, Spain, and the U.S.

The second stream tests the income pooling hypothesis. This hypothesis says that household decision-making is not influenced by who receives the income. The impact of relative income of partners, as an important factor of intra-household distribution of power, on the distribution of various outputs within the household is typically tested in the existing empirics.

Expenditure or consumption structures are typical examples of such output. Several studies showed the way the income distribution within the household influences expenditure and consumption structure and thus rejected the income pooling hypothesis, for instance, Bonke and Browning (2011) in Denmark,

Lundberg, Pollak and Wales (1997) and Lise and Seitz (2011) in the UK, or the most influential and impressive study by Thomas (1990). He applied data from Brazil from the 1970s to show that unearned income in the hands of mothers instead of fathers contributed to the family health and had a strong positive effect on the probability of child survival.

The income pooling hypothesis can also be challenged through another type of outcome, the labour supply of partners. According to the hypothesis, whoever in the household receives unearned income does not influence the household's demand for goods or time, and, consequently does not influence the labour supply either. This was rejected by Tiefenthaler (1999) who showed on data for Brazil that own unearned income has a negative effect on labour supply, while spousal unearned income had no significant effect in some sectors. Winkler (1997) concluded that in general cohabitators in the U.S. do not pool their incomes but stressed that these couples are far from homogeneous: the income pooling hypothesis could not be rejected for cohabitators in long-term relationship and those with a common child.

And finally, another way in which to test the validity of the income pooling hypothesis is through an analysis of the financial well-being of household members. If partners pool their income, the relative income of partners cannot affect the relative level of their welfare. Bonke and Browning (2009) examined various factors affecting partners' different levels of financial satisfaction in Denmark using data from 1994 European Community Household Panel (ECHP). They concluded that the relative income is indeed the most important factor and the income pooling hypothesis can thus be rejected. Similarly, Bonke (2008) examined 11 old EU member states and proved that men's financial well-being declines with a higher female contribution to total household income in some countries, while women's increases in some others.

As suggested by Bonke (2008) the relationship between the relative income in the couple and partners' individual satisfaction with financial situation differs across countries. He indicated that Danish couples might see an advantage in dual earnings, while French and Portuguese partners might favour a more traditional model with only one breadwinner. In other countries, women prefer within-couple income equality, while men's preferences are unclear.

This study aims to reveal how Czech partners are satisfied with financial situation of their household, and if their relative income is related to their level of satisfaction. The hypothesis tested is that relative income matters for relative financial satisfaction of partners. The analysis uses the data from Statistics on Income and Living Conditions (EU-SILC) survey conducted in 2013, where a special module on well-being was included.

## 1. Theory and Methodology

This study is built on collective models (Chiappori, 1988; 1992), which assume that household members decide cooperatively on outcomes and that the outcome of a bargaining process is efficient. As opposed to ‘unitary’ models, collective models allow for different utility functions of particular household members.<sup>2</sup> Household decision-making process under collective models reflects preference factors (similarly to unitary models) as well as distribution factors (in terminology of Browning et al., 1994). Distribution factors affect division of expenditures between partners, the so called ‘sharing rule’ (termed by Browning et al., 1994), and thus the household decision-making process. The distribution factor most often utilized in the empirics is the relative income of partners. Verifying the impact of within-couple income distribution on various outcomes of household decision-making is known as test of income pooling.

Czech data on expenditures assignable to individual household members are not available, which is why this study examines the impact of partners’ relative income on the distribution of financial well-being between partners instead of its impact on expenditure distribution. Financial satisfaction serves as a proxy for utility functions of household members depending on their consumption of goods. In order to establish the relation between financial satisfaction of individual partners and their total and relative income, this study follows a theoretical model developed by Bonke and Browning (2009). Their model considers a two-person household which consumes both private goods and household public goods and results in empirically testable equations:

$$\begin{aligned} S_M^* &= X'_M \beta_M + Y' \gamma_M + \varepsilon_M \\ S_F^* &= X'_F \beta_F + Y' \gamma_F + \varepsilon_F \end{aligned} \quad (1)$$

where

- $M$  and  $F$  – male and female partner,
- $S^*$  – the (latent continuous) financial satisfaction,
- $X$  – a vector of individual characteristics,
- $Y$  – a vector of household characteristics,
- $\beta$  and  $\gamma$  – coefficients,
- $\varepsilon$  – the error term.

Equation (1) is applied for models run separately for male and female partners in Section 3.1. Subtracting and rearranging of equation (1) yields the following difference:

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<sup>2</sup> Browning, Chiappori and Lechene (2006) discuss the exact relationship between unitary and collective models.

$$\Delta_{M-F} = (X_M - X_F)' \beta_M + X_F' (\beta_M - \beta_F) + Y' (\gamma_M - \gamma_F) + e_M \quad (2)$$

which serves as the basis for analyses of differences within couples in Section 3.2. The main purpose of this study is to find out whether distribution factors, such as relative income, relative age or relative education significantly influence the difference in satisfaction levels between partners  $\Delta$ . As the dependent variable obtained from the data is ordinal, ordered probit regression models are applied.

Ordered probit regression is a generalization of the probit model to a situation of more than two outcomes of an ordinal dependent variable.  $S^*$  in equation (1) is an unobserved dependent variable, while we can observe the categories of financial satisfaction reported by individuals:

$$S_i = j \text{ if } u_{j-1} < S_i^* \leq u_j \quad (3)$$

where

- $j$  – ranges from 1 to 10 (see Section 2),
- $u$ 's – unknown parameters to be estimated.<sup>3</sup>

The probability that an individual  $i$  will select alternative  $j$  is:

$$p_{ij} = p(y_i = j) = p(u_{j-1} < S_i^* \leq u_j) = F(u_j - Z_i' \beta) - F(u_{j-1} - Z_i' \beta) \quad (4)$$

where

- $F$  – the standard normal cumulative distribution function,
- $Z$  – the explanatory variables.

The same methodology analogically applies for equation (2). For more methodological details and examples see Greene (2012, pp. 827 – 831).<sup>4</sup>

The estimated coefficients cannot be interpreted as marginal effects as in ordinary least square regression, however, the sign of coefficients shows whether the latent variable  $S^*$  increases or decreases with the regressor, which is sufficient for the purposes of this study.

Due to theoretical complications the Bonke and Browning's (2009) model does not consider children and children-related expenditures and their empirical evidence is hence limited to childless (both *de jure* and *de facto*) couples (or more precisely, couples with no children currently living in their household).

Another study on within-couple financial satisfaction and income distribution by Bonke (2008) provides a similar analysis in eleven European countries, including a joint sample of both childless couples and couples with children. As

<sup>3</sup> These parameters are not stated in tables of results in Section 3 and can be provided upon request.

<sup>4</sup> The models were estimated by "oprobit" procedure in Stata software.

the purpose of this study is to provide an empirical evidence for a country where similar analysis has so far been missing, rather than to develop the existing theoretical approach, the analysis relies on the theoretical background for two-person households, and the empirical results are provided for childless couples. For the sake of comparison, models for couples with children are presented as well.

## 2. Data and Variables

The study is based on the national version of European household survey Statistics on Income and Living Conditions (EU-SILC) called Living Conditions in the Czech Republic. EU-SILC does not regularly include questions on subjective satisfaction, however, it includes a special ad hoc module every year, which in 2013 focused on well-being. For the first time it was therefore possible to use data on well-being in the Czech Republic collected on a large sample of population. Moreover, all surveys conducted so far in the Czech Republic asked only a selected respondent on subjective well-being, not all household members.

This study is focused on couples (both *de facto* and *de jure*); the descriptive statistics is provided in Table 1. It depicts partners in two life stages: couples raising children and couples with empty nests.<sup>5</sup> The analysis deals with couples living alone in a household, where a woman is older than 44 years. The age condition is supposed to limit the sample to couples whose children already left home, although we can suppose that about 5% of women had not had any children (Czech Statistical Office, 2013). Childless couples are supplemented by a sample of couples who share households with their dependent children. After including couples with no other adult household members and after excluding couples with missing values, the sample of childless couples consists of 1 133 couples while the sample with children comprises 681 couples.<sup>6</sup>

Responses to the following question were used as the dependent variable in models given by equation (1): ‘To what extent are you satisfied with the financial situation of your household?’ Responses were measured on 11-point scale, from 0 (not at all satisfied) to 10 (completely satisfied). The share of respondents

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<sup>5</sup> The early stage of life of young couples that plan to have family is not analysed due to insufficient sample size (129 couples).

<sup>6</sup> Unfortunately, as non-response to questions in well-being module was relatively frequent, this cut the sample of couples by 52%. The data is weighted by individual weights reflecting the number of people in the whole population represented by a particular individual in the sample. Due to the frequent non-response in well-being module, the national version of EU-SILC includes also a special “module” weights designed to minimise the potential bias that results from the non-response of module items. Applying these special weights did not change the results (or statistical significance) up to the second decimal place, therefore, the standard weights were used.

who put themselves into the lowest category was too small in some countries, and categories 0 and 1 were therefore merged into one and the scale was reduced to 10 points. On average, from among the childless couples, men are slightly more satisfied than women, which does not hold for the sample of couples with children. However, in neither sample the difference between male and female mean satisfaction level is statistically significant.

**Table 1**  
**Couples – Descriptive Statistics (means or shares)**

	Childless couples		Couples with children	
	MEN	WOMEN	MEN	WOMEN
Satisfaction (1 – 10)	6.403 (0.068)	6.325 (0.069)	6.165 (0.094)	6.172 (0.089)
Age	66.6 (0.3)	64.2 (0.3)	40.7 (0.3)	37.6 (0.3)
Low education (iscd 0 – 2)	0.066	0.192	0.035	0.058
Middle education (iscd 3 – 4)	0.782	0.725	0.761	0.730
High education (iscd 5 – 6)	0.152	0.084	0.204	0.212
Employed	0.282	0.228	0.925	0.641
Not working	0.718	0.772	0.075	0.359
Child 0 – 5 (yes = 1, no = 0)	–	–	0.481	
Child 6 – 15 (yes = 1, no = 0)	–	–	0.502	
Child 16 – 24 (yes = 1, no = 0)	–	–	0.369	
Married	0.936		0.818	
HH income (ths.) <sup>a</sup>	324.558 (5.171)		466.892 (10.240)	
Female share of income	0.434 (0.004)		0.328 (0.008)	
Satisfaction difference	0.076 (0.028)		0.019 (0.042)	
N <sup>b</sup>	1 133		681	

Notes: Standard errors in parenthesis. <sup>a</sup> In national currency: Czech crown (25 – 26 CZK/EUR in the time of survey). <sup>b</sup> Unweighted.

Source: Own calculations based on Czech national sample Living Conditions 2013 microdata.

The models for men and women (equation (1)) include the following individual and household explanatory variables. Age in years (and its square to capture a possible non-linear impact) is included in order to control for cohort effects. According to Bonke (2008), age might also reflect the investments already made in durables and property, and past experience. The average age of the childless sample (or more precisely, sample of couples with supposed ‘empty nests’) is relatively high compared to couples with children.

Education reflects different working career aspirations, different earnings expectations and thus different satisfaction with financial situation. The analyses distinguish three educational categories: low (iscd 0 – 2), middle (iscd 3 – 4), and high (iscd 5 – 6), the middle category serves as a reference group in the models. Table 1 shows that the childless sample consists of more partners with low education and fewer partners with high education than the sample of couples with children. This is in accordance with the age structure of the samples and the expansion of higher education in last decades, especially for women.

Labour force status is the last individual control variable. The male and female childless sample consists of 66% and 70% of retired, respectively, which makes inactivity by far the most frequent category. As a consequence, the share of unemployed is too low to be included as a separate category. For this reason, a dummy for employment, containing both dependent employment and self-employment, is included in the models with not-working as the reference group. The sample of couples with children includes only about 1.5% of retired men and women. Here, separating inactive and unemployed would result in too low share of inactive men.

Marriage is a household level control variable with cohabiting partners as a reference group. Bonke and Browning (2009) do not control for marriage in their study, stating that there is a very small difference between marriage and cohabitation in Denmark. This is not the case of the Czech Republic where cohabitation is only a recently increasing phenomenon. While 94% of childless partners are married, it is only 82% in the younger group with children.

Total annual household disposable income, i.e. personal and joint income, is included in logarithm and its square. It is expected that the higher the total household income, the higher the financial satisfaction. However, a negative relationship is possible as well if financial aspirations are too high to be satisfied despite a high total household income. The relationship between total household income and financial satisfaction might not be linear and, therefore, the square form of logarithm of total household income is included as well. For the sample of couples with children, dummy variables of children aged 0 – 5, 6 – 15, and 16 – 24 years living in a household are added (couples with no children of particular age living in a household serve as reference groups). The presence of children reflects women's limited labour supply, working carrier, and earnings.

And finally, the key household variable is the share of a woman's personal income in the sum of a woman's and a man's personal income, hereafter referred to as female share. Collective household income is not included here, so the female share ranges between 0 and 1. Not surprisingly, income distribution is more equal in childless couples, where female share is, on average, 43%, than in couples with children, where women contribute only by 33% to the couples' personal income. As shown by Bonke (2008) in several European countries, the relationship between female share and financial satisfaction might not be linear for either partner because none of the partners wishes to be the sole breadwinner. Therefore, a square of female share is included in order to test for a non-linear relationship.

The analysis of differences between the male and female partners' responses is based on equation (2). The dependent variable is the difference in financial satisfaction of partners, his minus her. In majority of couples, the partners expressed the same satisfaction level, more precisely, 56.5% of childless couples



and 49.5% of couples with children. The difference of 3 or more points is rather scarce. Therefore, an ordered variable was constructed which equals 2 if a man is by two and more points more satisfied, 1 if a man is by one point more satisfied, 0 if the partners are equally satisfied, -1 if a woman is by 1 point more satisfied, and -2 if a woman is by two and more points more satisfied.

This variable takes positive values in 24.2% and negative values in 19.32%, meaning that childless men report more often higher financial satisfaction levels than their female partners than the contrary. The difference is less apparent for couples with children with 25.9% of positive values and 24.6% of negative values. The mean satisfaction difference between childless partners is 0.076, while only 0.019 between partners with children.

Based on equation (2), female individual characteristics, the difference between male and female characteristics, and common household variables are included in the models of within couples differences in Section 3.2. For instance, female age and relative age ( $\Delta$  Age) given by his minus her age in years are included. The other relative characteristics ( $\Delta$  Low education,  $\Delta$  High education,  $\Delta$  Employed) are represented by a tri-variate variable for the difference in a dummy variable for men and women.<sup>7</sup> Distribution factors, such as relative income (i.e. female share), relative age or relative education might significantly influence the relative financial satisfaction of partners. Here, the income pooling hypothesis can be rejected if female share proves to significantly decrease the difference between his and her levels of financial satisfaction.

The results for childless couples are compared with the Danish study based on ECHP 1994 data by Bonke and Browning (2009). Their sample of childless couples differs from our Czech one in several ways. The Danish sample is not limited by age and, hence, it is on average some twelve years younger. Also, in Denmark female partners are on average more satisfied than male partners, while the opposite holds in the Czech sample. The distribution of financial satisfaction in Denmark increases for both men and women, while it has an inverse U-shape in the Czech Republic. And finally, the within-couple income equality is much higher in Denmark.

### 3. Empirical Results

The empirical results are first provided for male and female partners in general. We analysed men and women without a direct link to their partners living in the same household. Only in the second part of this section male and female

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<sup>7</sup> Including female and relative characteristics is equivalent to include female and male characteristics separately, however, this form follows the specification of equation (2).

partners in a household are matched and their within-couple differences are analysed. First, full models (1) with all possibly relevant variables are provided. Subsequently the least significant variables were removed step by step so that the models (2) include only variables statistically significant at least at the 10% level. Both models (1) and (2) are presented: Model (1) is shown in order to avoid a potential omitted variable bias and serves also as a robustness check. The coefficient of the main interest, i.e. female share, does not change either statistical significance or sign by removing insignificant variables.

### 3.1. Financial Satisfaction of Partners

The results are the same for childless male and female partners (see models (2) in Table 2). Financial satisfaction grows with age and with total household income for both male and female partners. Model (1) for men suggests a positive convex relationship. This means even more than proportional increase of financial satisfaction at higher values of household income, which, however, becomes linear once the statistically insignificant variables are excluded from the model.

None of the other explanatory variables, education, marriage or employment, has significant impact on either men's or women's financial satisfaction. A large part of not working childless partners is retired and receives pension. Consequently, the results suggest that for the relatively 'older' sample of childless partners, earned income is not crucial for financial satisfaction.

Table 2

**Partners – Financial Satisfaction, Ordered Probit Regression (coefficients)**

	Childless couples				Couples with children			
	MEN		WOMEN		MEN		WOMEN	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age	0.06*	0.02***	0.03	0.02***	0.02		0.01	
Age <sup>2</sup> /100	-0.03		-0.01		-0.02		-0.02	
Low education	-0.20		-0.10		-0.55**	-0.57**	-0.43*	-0.43*
High education	0.07		0.05		0.24**	0.27**	0.03	
Employed	0.04		0.10		0.42*	0.38*	0.08	
Married	0.14		0.13		0.15		0.33***	0.33***
Log HH income	-2.09	1.15***	-1.10	1.16***	-3.19	1.16***	0.63	1.30***
Log HH income <sup>2</sup>	0.13*		0.09		0.17		0.02	
Female share	0.31		1.26		-0.24		-0.23	
Female share <sup>2</sup>	-0.27		-1.02		0.19		0.16	
Child 0 – 5	–	–	–	–	-0.08		-0.05	
Child 6 – 15	–	–	–	–	-0.12		-0.25**	-0.21**
Child 16 – 24	–	–	–	–	-0.30**	-0.19**	-0.26*	-0.25***
Pseudo R <sup>2</sup>	0.042	0.040	0.040	0.038	0.077	0.075	0.078	0.078

Notes: \* statistically significant at the 10% level; \*\* statistically significant at the 5% level; \*\*\* statistically significant at the 1% level.

Source: Own calculations based on Czech national sample Living Conditions 2013 microdata.

And finally, female share on the childless couple's income is insignificant for the financial satisfaction of either partner. It is the total household income that matters to individual financial satisfaction, not the share brought by either partner. These findings for the Czech Republic are different to those for Denmark (Bonke and Browning, 2009), where even the analysis on the individual level shows that not only the total household income but also the partner's share of income matters.

Unlike for childless partners, age is not important for financial satisfaction of partners with children (see last columns in Table 2). Note that the sample of partners with children is, on average, by some twenty five years younger than the sample of childless partners. Low education decreases financial satisfaction of men with children, while high education increases it. For women with children, only low education decreases their financial satisfaction, with no effect of high education. The different effect of education between partners with and without children can be due to higher educational level among the 'younger' sample with children, related to the rapid expansion of higher (especially female) education in recent decades (see Table 1).

As can be seen in Table 2, male partners' financial satisfaction is positively affected by employment, while this has no effect on women with children. This gender difference might be related to the disadvantaged position of women in the labour market which leads to lower earnings, especially of women with children (Mysíková, 2015). Marriage has a positive effect only on women's and no effect on men's financial satisfaction. Total household income is the only variable with a similar effect on childless partners and partners with children. The presence of children has negative impact on financial satisfaction on both sexes. The crucial age of the child (children) after which the financial satisfaction starts decreasing is 6 for women and 16 for men and the latter effect is stronger for women.

And finally, the variable of our interest is female share on couple's income. The female share is significant for financial satisfaction of neither men nor women with children. The key finding, i.e. that total household income level and not the share of income matters to individual partner's financial satisfaction, is common for both men and women regardless of whether they have or do not have children.

### **3.2. Differences within Couples**

As opposed to the results for childless partners separately, age of a couple or relative age do not influence the within-couple financial satisfaction. This finding differs from that by Bonke and Browning (2009) in Denmark where the younger the women relative to their partners are, the less they are satisfied with

their financial situation. Danish and Czech results differ also in the area of education. In Denmark, relative education matters: if a woman has low education and her partner has higher education, her financial satisfaction decreases. In the Czech Republic, only the woman's low education matters, regardless her relative education level. If the woman has low education, the difference in financial satisfaction between the partners decreases. Hence, as opposed to Denmark, neither relative age nor relative education is a significant distribution factor that would influence childless partners' bargaining power. The different economic activity within a childless couple significantly affects the relative financial satisfaction of Czech partners. If the man is employed and the woman is not, his relative financial satisfaction increases.

Table 3

**Couples –  $\Delta$  Financial Satisfaction, Ordered Probit Regression (coefficients)**

	Childless couples		Couples with children	
	(1)	(2)	(1)	(2)
Female age	0.01		0.04	0.02***
Female age <sup>2</sup> /100	-0.01		-0.01	
$\Delta$ Age	0.00		0.06	
$\Delta$ Age <sup>2</sup> /100	0.01		-0.08	
Female low education	-0.21	-0.15*	0.63*	0.64**
Female high education	-0.04		0.07	
$\Delta$ Low education	-0.07		0.46*	0.45*
$\Delta$ High education	0.05		0.20	
Female employed	0.13		0.12	
$\Delta$ Employed	0.23*	0.17*	0.10	
Married	0.18		-0.24*	
Log HH income	-0.11		-2.23	
Log HH income <sup>2</sup>	0.00		0.09	
Female share	-2.23**	-0.70**	-0.37	
Female share <sup>2</sup>	1.85		0.01	
Child 0 – 5	–	–	0.04	
Child 6 – 15	–	–	0.12	
Child 16 – 24	–	–	-0.24*	-0.31**
Pseudo R <sup>2</sup>	0.009	0.006	0.018	0.009

Notes: \* statistically significant at the 10% level; \*\* statistically significant at the 5% level; \*\*\* statistically significant at the 1% level.

Source: Own calculations based on Czech national sample Living Conditions 2013 microdata.

Similarly to Denmark, household income does not significantly impact the within-couple relative financial satisfaction. For us the key effect is the female share in couple's income. It is the only common household variable relevant for the difference in partners' financial satisfaction levels. Female share has a negative and linear impact on relative financial satisfaction of partners. The more a woman contributes to the couple's budget, the more she is satisfied and the less he is satisfied with their financial situation. The findings regarding female share are similar to Denmark, although the impact is non-linear in Denmark.

In order to provide a more detailed comparison with the Danish results, Table 4 states the predicted probabilities after the ordered probit regression for childless couples estimated in Table 3 (model (2)), and compares it with the same estimates by Bonke and Browning (2009). The percentage of women more satisfied than their male partners (i.e. the sum for values  $-2$  and  $-1$ ) increases from 17.1% to 21.1% as the female share rises from the 1<sup>st</sup> decile to the 9<sup>th</sup> decile. Similarly, the proportion of men who are more satisfied than their female partners decreases from 26.6% to 22.0% as we move up along the distribution of female share. Only at the 9<sup>th</sup> decile, the proportions of more satisfied female partners and more satisfied male partners are balanced in the Czech Republic.

Table 4

**Predicted Probabilities of Within-couple Difference in Financial Satisfaction (%), Childless Couples**

Δ financial satisfaction (male – female)	Czech Republic			Denmark		
	Female share at					
	1 <sup>st</sup> decile (0.32)	median (0.45)	9 <sup>th</sup> decile (0.53)	1 <sup>st</sup> decile (0.20)	median (0.43)	9 <sup>th</sup> decile (0.55)
-2 Female more	4.5	5.4	6.1	4.2	6.8	9.6
-1 satisfied	12.6	14.1	15.0	12.2	16.0	19.3
0 –	56.3	56.8	56.9	59.8	60.0	58.2
+1 Male more	17.3	15.8	14.9	16.6	12.7	9.8
+2 satisfied	9.3	7.9	7.1	7.2	4.5	3.0

*Notes:* Predicted probabilities of each value of financial satisfaction for various deciles of female share. The other variables remain at observed values in the sample. Bonke and Browning (2009) define the difference in financial satisfaction as female minus male (instead of male minus female defined here), hence, their estimates were overtaken in a reverse order (e.g., their estimates at  $-2$  are stated as estimates at  $+2$  here).

*Source:* Czech Republic: Own calculations based on Czech national sample Living Conditions 2013 microdata; Denmark: Bonke and Browning's (2009, p. 40) calculations based on ECHP 1994 microdata.

In Denmark, female partners are on average more satisfied with the household's financial situation than their male partners, while the contrary holds in the Czech Republic. The predicted proportions of couples where a woman is more satisfied than a man are higher along the upper part of distribution of female share in Denmark than in the Czech Republic, while the proportions of couples where a man is more satisfied are always higher in the Czech Republic. The changes of the proportion stated in Table 4 at the 1<sup>st</sup> and the 9<sup>th</sup> decile are more profound in Denmark and, hence, the effect of female share on within-couple difference in financial satisfaction seems to be much stronger. About 60% of partners have the same satisfaction level regardless how much a women contributes to the couple's budget in Denmark, while it is only about 56% in the Czech Republic.

The results differ substantially between childless couples and couples with children (see Table 3). The hypothesis of income pooling can be rejected for

childless couples while it cannot be rejected for couples with children. For the latter, female share does not have any significant impact on relative financial satisfaction of partners (see the last column in Table 3). Such a different finding for childless couples and couples with children reinforces the doubts about the applicability of the theoretical framework on couples with children.

For the sample of couples with children, the presence of children (aged 16 – 24) is the only common household variable that is relevant to relative financial satisfaction of partners. As seen already in the previous section (Table 2), presence of children affects differently financial satisfaction of male and female partners when analysed separately: financial satisfaction of a woman decreases more than that of a man and with the presence of younger children than is the case of men. These findings suggest that the presence of children plays a different role in male and female utility functions. The general two-person household model, without a more specific setting of how seemingly common expenditures on children consumption translates into male and female utility functions, should be interpreted with caution.

## **Conclusion**

This paper analyses the distribution of personal income and reported financial well-being of couples in the Czech Republic using the data from the national version of EU-SILC 2013. For the sake of theoretical clarity, the analysis considers childless couples and couples with children separately and depicts partners in two different life stages: couples raising children and couples with empty nests. The impact of female share in the couple's income on individual financial well-being of both partners separately, as well as its impact on within-couple difference in financial satisfaction level is examined.

Female share on couple's income has no impact on partners' financial satisfaction (regardless of whether they are raising children or not) if men and women are analysed separately as unmatched couples. The results for individual partners were in fact quite opposite and indicated that it is the total household income that matters to financial satisfaction.

However, once men and women are matched and the within-couple difference in financial satisfaction is examined, we learn that this satisfaction indeed is significantly affected by the woman's share on the couple's income, although this holds for childless couples only. The female share has a negative and linear impact on relative financial satisfaction of childless partners. The more a woman contributes to the couple's budget, the less her male partner is satisfied with the financial situation relatively to hers. Moreover, the level of household income does not have any significant impact on the within-couple relative financial satisfaction.

The hypothesis of income pooling can be rejected for childless couples, but not for couples with children. For them, female share on a couple's income does not show any significant impact on relative financial satisfaction of partners. Neither the total household income influences within-couple financial satisfaction; differences in education and presence of older children are relevant. The study suggests that women with children simply have to rely on their partners' income and therefore support income pooling. But once children leave the household, women may wish to become financially more independent and start to perceive the within-couple earnings gap more critically.

As shown for childless couples, it is not always appropriate to treat household as a basic economic unit. It has been shown that financial satisfaction of household members is indeed affected by which of the partners receives the income, which should reflect in social, family and tax policies. These findings can be applied among others in the ongoing debate about possible reestablishment of joint taxation introduced in 2005 – 2007 in the Czech Republic. In light of the rejection of the income pooling hypothesis, the policy makers should reconsider the advantages of joint taxation for couples with different earning shares of spouses. Instead of considering its benefits for households as units, the debate on joint taxation should concentrate on its impact on individual spouses and within-household income redistribution.

The results are of a potential relevance for monetary policy as well. Financial well-being and relevant factors are, among others, connected with a household's willingness to borrow money. If the decision-making powers and the couple's relative income are related, the financial satisfaction of the partner 'at power' might be effectual. Women tend to be more risk-averse than men and, hence, the individual financial satisfaction of partners, rather than the level of household income, poverty or consumption, might affect the decision to take up debt. The relationship between relative income, distribution of financial satisfaction within couples and household loans is a subject for the next research, which could provide some insight into the growing level of household debt in the Czech Republic.

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