

MEN'S INCOME DISADVANTAGE AND LIFE SATISFACTION AMONG HUNGARIAN COUPLES*

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ABSTRACT

In this paper, we examine the association between intra-household income distribution and subjective well-being. Specifically, we analyse how satisfaction differs according to whether or not an individual's own income is higher than his/her partner's. The analysis is based on the 2015 wave of the Household Budget and Living Conditions Survey, conducted by the Hungarian Central Statistical Office. Our primary sample consists of mixed-gender couple households in which both the woman and the man have income from employment. Our results show that men whose partners earn more than they themselves do are significantly less satisfied than are men who earn more than their partners. Similarly, women who earn more than their partners are significantly less satisfied than are women who earn less. This satisfaction disadvantage is due not only to the fact that a higher female income share may be an indicator of poorer household financial status; it may also be related to the health status and labour-market opportunities of partners (especially men), as these aspects are controlled for by several variables. We interpret the results as an impact of the social norm that "the man should be the main breadwinner in the household". We also show that the estimated coefficients are higher for the less-educated than for the higher-educated. Since the

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attitudes of the former are more traditional, these results support the interpretation regarding the importance of the man's breadwinning role.

Keywords: intra-household income distribution, intra-couple income inequality, satisfaction, gender norms

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INTRODUCTION

According to the model set out by Sik (2020), household goals include reproduction, which includes increasing or maintaining factors that shape household well-being, such as satisfaction. Indeed, it can be seen that a household whose members are satisfied “functions better”. The use of the quotation marks in the previous sentence is not a reflection of doubt on the part of the authors, but is due to the fact that the household economics literature itself is very uncertain about what it considers to be the criteria for the “good functioning” of a household. Greater efficiency in “production”? Lower operating costs? Optimal (?) distribution of the income earned? And the possible answers to these questions only refer to the potential outcomes of the household as a “business”, whereas we are writing about the household as a social unit, which includes all these processes, but also covers the household's reproduction and (in favourable cases) an increase in the individual and collective well-being of its members.

Accordingly, in this paper we start with an institutional (or transactional) economics approach, in which the satisfaction of household members is an essential element of the household's “self-exploitation” and incentive/control or

“loyalty production”.¹ In this analysis, we look at a very tangible phenomenon: life satisfaction. But we focus on just one aspect of it: how and to what extent intra-household income distribution is related to life satisfaction. Specifically, we analyse how satisfaction differs according to whether or not an individual's own income is higher than his/her partner's.

This question is, naturally, highlighted in the literature, because it may reflect the impact of attitudes regarding gender roles. In other words, the issue is important in everyday life (and is therefore valued in the literature on within-household income inequality and its relationship with the satisfaction of household members) because of the underlying issues within the relationship, such as: Who is the head of the household? Is it acceptable for the man not to be the “main breadwinner”?

THE RELATIONSHIP BETWEEN INTRA-HOUSEHOLD INCOME DISTRIBUTION AND SUBJECTIVE WELL-BEING

The literature is unanimous that relative income is an important determinant of subjective well-being (e.g. Clark and Oswald, 1996; Ferrer-i-Carbonell, 2005; Luttmer, 2005; Perez-Truglia, 2020). Moreover, relative income may be more important to well-being than absolute income (Brown et al., 2008; Layard et al., 2010; Mentzakis and Moro, 2009; Wolbring et al., 2013). Although colleagues and friends are the most important reference groups for income comparison (Clark and Senik, 2010), the relative income of the household partner may also be important regarding satisfaction. On the one hand, the person who contributes more to the household income may use more of the household's resources and may have greater influence over household decisions (Beblo and Beninger, 2017; Bonke, 2015; Lundberg et al., 1997; Phipps and Burton, 1998); on the other hand, attitudes towards gender roles and conformity to those roles may affect partner satisfaction: a mismatch between attitudes and reality may reduce individuals' well-being.

In terms of satisfaction, while the former mechanism implies that the greater personal contribution of a partner to total household income increases individual well-being, the latter mechanism is heavily dependent on attitudes to gender roles. While traditional gender norms assign the primary breadwinner role to the male, egalitarian gender roles imply that the partners are equal in terms of income generation and should contribute roughly equally to household

¹ See the works of Chayanov (Millar, 1986), Ben-Porath (1980) and Burns (1975) briefly outlined in Sik (2020), and the studies by Boulding (1972) and Pollack (1985) in Sik (1989).

income. Thus, a higher contribution by the female partner to total household income violates traditional gender norms; it can therefore be assumed that there is a negative relationship between a higher share of female income and partner satisfaction among those who prefer traditional gender roles. And for those with egalitarian gender attitudes, an inverted U-shape – a bell curve – describes the relationship between a woman's share of income and satisfaction, i.e. income inequality leads to dissatisfaction in both directions.

In Hungary, attitudes to gender roles are fairly traditional, compared to other European countries (Fodor and Balogh, 2010; Lück, 2005; Murinkó, 2014; Takács, 2008). And while the attitudes of the low-educated are more traditional than those of the highly educated (Murinkó, 2014), even couples from the Hungarian political, economic and cultural elite discuss and perceive their career and family life in terms of traditional gender roles (Csurgó and Kristóf, 2021). Therefore, we can assume that if conformity to traditional gender roles is more important to the partners' well-being than is use of household resources and having a say in decisions according to one's personal contribution, then a high relative share of female income will be negatively correlated with both male and female satisfaction.

There are relatively few studies that examine the relationship between intra-household income distribution and subjective well-being. Using US administrative and survey data from 1970 to 2011, Bertrand et al. (2015) found that within a marriage it is very rare for a wife's income to exceed her husband's, and that it may even be a barrier to marriage if the woman's expected income exceeds that of her potential partner's. The authors provide empirical evidence that this is because it is against social expectations for women to earn more than men. Furthermore, using the potential income of women (the average earnings of women of the same age, with the same education and living in the same state), the authors found that when the wife's potential income was likely to exceed her husband's, she was more likely to stay out of the labour force or to earn less than her potential. In addition, partners were less satisfied with their marriage and more likely to discuss separation (and indeed more likely to divorce) if the wife earned more. Using the same methodology, but German data, Salland (2018) arrives at a similar finding: if the wife's income is more than half of the couple's combined income, both husband and wife have lower life satisfaction.

Examining data on American married couples in the 1980s, Rogers and De-Boer (2001) found that wives with a high relative income had greater psychological well-being and marital satisfaction, while among husbands, only psychological well-being correlated negatively with the wife's income share. The authors' explanation for this was that, if the wife's greater contribution to household in-

come challenges the breadwinner role assigned to men, then this leads the male partner to feel distress. A similar result was found by Brennan et al. (2001) and Gash and Plagnol (2021). The latter, using UK data, found that men who earn less than their wives (up to 40% of the couple's combined income) are more dissatisfied with their lives than other men. Here, they found no relationship between relative income and satisfaction among women. Although the results presented so far have all been interpreted by the authors as reflecting the influence of the primary breadwinning role expected of men and traditional attitudes to gender roles, few have tested those notions explicitly.

Furdyna et al. (2008), examining a small sample of urban-dwelling American wives, concluded that, in the mid-1990s, women with traditional values who were earning more than their husbands were less happy with their marriages than were women who were earning less than their husbands. By contrast, this association was less strong (or was even positive) among women with average or progressive values. Zhang (2015) found that Chinese married women who were earning more than their husbands reported lower marital happiness than those who had an income that was either similar to or lower than that of their husbands. While there was no correlation among those who preferred equal gender roles, among less gender-egalitarian wives there was a strong negative relationship between a woman's relative income and her marital happiness.

Although they did not examine life satisfaction or marital satisfaction (but rather financial satisfaction), the work of Ahn et al. (2014) can be understood as an indirect test of the importance of attitudes to gender roles. They found that, while both women and men in Denmark were more satisfied with their financial situation if their own contribution to total household income was higher, among Spanish women and men the relationship between the two factors was consistent with the traditional role of men as the primary breadwinner: both women and men were satisfied when the men earned more. It should be emphasized that the authors were considering satisfaction with the *financial situation* of the man/woman. We cannot assume that the relationship between intra-household income distribution and life satisfaction (or general psychological well-being) operates in the same way as the relationship between intra-household income distribution and financial satisfaction. However, the differences between the two countries (Denmark and Spain), which are very marked in terms of attitudes to gender roles, may suggest that the satisfaction–relative income relationship can be moderated by the expectations of gender roles.

For Eastern Europe, we know of only one study that examines the relationship between intra-couple income distribution and subjective well-being. Hajdu

and Hajdu (2018) investigated the relationship between the woman's relative income and life satisfaction, using cross-sectional data. They found that the association between women's relative income and satisfaction was negative not only for men, but also for women, and they interpreted this as an effect of traditional gender roles and of the primary breadwinning role of men in the cultural tradition. It was also found that this negative association was stronger among those who preferred traditional gender roles, whereas among those who did not favour traditional norms, the association was significantly weaker. These results support the claim that the main results reflect the conflict between gender norms and socioeconomic reality.²

In this paper, we contribute to the literature and extend the research of Hajdu and Hajdu (2018) by using the responses of both partners, rather than of only one of them. Also, we use detailed income data, rather than single-question income measures. In addition, in this study we focus specifically on how the satisfaction of the two partners in a household where the woman earns more differs from the satisfaction of those in a household where the man earns more.

DATA AND METHODOLOGY

We used the 2015 wave of the Household Budget and Living Conditions Survey (HBLCS) of the Hungarian Central Statistical Office (HCSO). We selected mixed-gender couple households (N=4479), and then restricted the sample to those households where both the woman and the man had income from employment (N=1484). Observations with missing life satisfaction and where the partners' incomes were identical were excluded. We included only observations where both partners worked full time (more than 30 hours per week). The sample size of women was 1,188 and the sample size of men was 1,063.

The outcome variable was the respondent's life satisfaction: on an 11-point scale, respondents were asked how satisfied they were overall with their life (0 – not at all satisfied, 10 – completely satisfied).

Information on both the personal income from employment of household members and the total household income is available in the HBLCS database. The woman's relative income was calculated as follows:

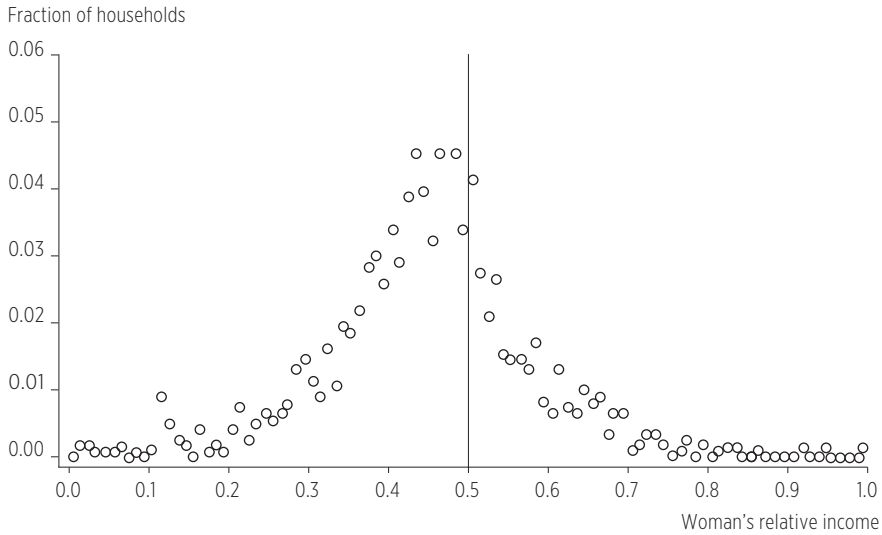
² In a qualitative analysis, Neményi and Takács (2016) examined the work-life balance situation of Hungarian women acting as the main breadwinner within the family. They found that although tension-free family life is possible in families where the main breadwinner is the woman, if the woman's main-breadwinner role is a result of external factors that can cause significant conflict, which may lead to thoughts of separation or even divorce.

$$R_i^w = \frac{PI_i^w}{PI_i^w + PI_i^M} \quad (1)$$

where R_i^w is the i -th woman's share of the partners' total income, PI_i^w is the woman's personal net cash income from employment and PI_i^M is the man's personal net cash income from employment.

The distribution of the woman's relative income (grouped in 100 bins) is shown in *Figure 1*. The mean of the female income share is 0.45, with 70% of cases below 0.5 and 90% below 0.60. Overall, the dual-breadwinner household model (where the two partners have similar incomes) is the most typical:³ in 35% of cases, the female income share is between 0.45 and 0.55, while in a further 19% it is between 0.40 and 0.45 and in 7% it is between 0.55 and 0.60. However, the fact that the woman's income exceeds the man's income in only 30% of couples reveals a significant disparity and shows the importance of traditional gender roles.

Figure 1: Distribution of the woman's relative income



Notes: Each dot shows the fraction of couples in a given income bin with a width of 0.01 (0.00–0.01, 0.01–0.02, ..., 0.99–1.00). The vertical line indicates equal income of the partners (woman's relative income of 0.5).

³ This is not surprising, as the risk of poverty is inversely proportional to the number of earners (Gábos et al., 2016; Gábos and Szivós, 2010), and given the level of Hungarian wages, most households cannot afford to rely (even predominantly) on the income of a single household member. In addition, the prevalence of part-time jobs is very low in Hungary (Horemans et al., 2016), which may also contribute to the high share of households where the two partners have similar incomes.

We analysed how the satisfaction of women/men in households where the woman earns more than the man differs from the satisfaction of those in households where the woman earns less. Following the empirical strategy of Bertrand et al. (2015, p. 599), we estimated the following model using ordinary least squared (OLS) regression:

$$S_i = \beta_0 + \beta_1 WM_i + \beta_2 \ln(PI_i^W) + \beta_3 \ln(PI_i^M) + \beta_4 \ln(I_i^{HH}) + \beta_5 X_i + \varepsilon_i \quad (2)$$

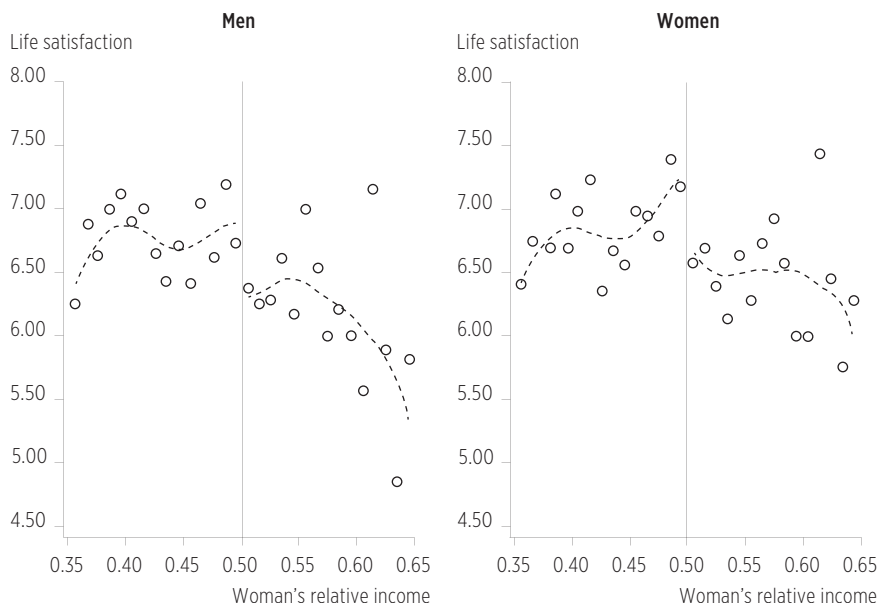
where S_i is the i -th woman/man's satisfaction with life, WM_i is an indicator variable with a value of 1 if $R_i^W > 0.5$, I_i^{HH} is the total household income and denotes the control variables. The following controls were used: age of the respondent and his/her partner in quadratic form, their educational attainment (four categories), ethnic/national self-identification, health status (chronic illness and limitation in daily activities), whether married, household size, type of settlement (four categories), region (seven categories) and the person answering the household questions (three categories). With these variables, we controlled for basic sociodemographic differences related to women's income share. It can also be argued that a higher female income share may be correlated with, for example, the health or labour-market opportunities of the partner and, through this, with the financial situation of the household. Hence these variables also control for these differences.

RESULTS

The relationship between the woman's relative income and life satisfaction is shown in *Figure 2* (for relative incomes between 0.35 and 0.65).⁴ The figure shows mean life satisfaction in 0.01 point-wide relative income bins and visualizes the association between relative income and satisfaction using locally weighted scatterplot smoothing (dashed line) on either side of $R_i^W = 0.5$. For both men and women, it would appear that when the woman's relative income is above 0.5 (i.e. the woman earns more than the man), average life satisfaction is half a point lower.

⁴ A figure showing the full range of women's relative income is provided in the Appendix (*Figure A1*).

Figure 2: The relationship between women's relative income and life satisfaction



Notes: The figure shows the relationship between the woman's relative income and the woman's (right panel) and the man's (left panel) life satisfaction. Each dot shows the mean life satisfaction in a 0.01 point-wide relative income bin. The dashed lines are LOWESS (locally weighted scatterplot smoothing) estimates allowing for a break at 0.5. The vertical line indicates equal income of the partners (woman's relative income of 0.5).

The results of the regression models are shown in *Table 1* (men) and *Table 2* (women). Column 1 in the tables shows that both men and women are less satisfied with their lives when the woman's income exceeds her partner's. Column 2 shows that this inference is barely affected if we use cubic personal income variables, rather than linear ones.

In column 3 of both tables, the woman's relative income is also included as a control variable. The estimated coefficient on the woman's relative income is insignificant for both men and women, suggesting that the woman's relative income is only relevant for the satisfaction of both partners if the woman earns more than the man. Men whose partners earn more than they do are 0.355 points less satisfied than men who earn more than their partners. This corresponds to a difference of 21.4% of a standard deviation; or, put differently, an average man who earns less than his partner is 5.3% less satisfied than an average man who earns more than his partner.⁵ For women, the estimated

⁵ The average satisfaction score for the former group is 6.34 points and for the latter group 6.69 points.

coefficient is -0.350 – i.e. women who earn more than their partners are less satisfied than women who earn less. This difference corresponds to a change of 0.208 of a standard deviation. The difference between the satisfaction of women who earn more and who earn less than their partner is 5.1%.⁶

In column 4, alongside the cubic income controls and the woman's relative income, we include additional control variables for the labour-market opportunities of the two partners and the household's financial situation. The results of these models are similar to those of our preferred specification (column 3) and the conclusions remain identical.

We interpret these results as indicating that the coefficient on the indicator variable of women's higher earnings reflects the fact that a deviation from the traditionally prescribed behaviour (or in other words, violation of the traditional gender norm that men should earn more than women) is associated with a lower level of subjective well-being.

Table 1: Woman's relative income and life satisfaction, men

	(1)			(2)			(3)			(4)		
	B	SE	p	B	SE	p	B	SE	p	B	SE	p
Woman earns more	-0.342	(0.125)	0.006	-0.360	(0.143)	0.012	-0.355	(0.149)	0.017	-0.387	(0.161)	0.016
Controls	Yes			Yes			Yes			Yes		
Additional controls	No			No			No			Yes		
Cubic of personal incomes	No			Yes			No			Yes		
Woman's relative income	No			No			Yes			Yes		
N	1063			1063			1063			1063		
Adjusted R ²	0.202			0.200			0.201			0.204		

Notes: Dependent variable: life satisfaction. Controls: personal income from employment of respondent and partner (logarithmic form), total household income (logarithmic form), age of respondent and partner (quadratic form), their education, their ethnic/racial self-classification, their health status (chronic illness; limitations in daily activities), indicator variable for marriage, household size, type of settlement, region, person answering household questions. Additional controls: type of work contract (permanent or temporary) of the respondent and his/her partner, floor space (logarithmic form), number of problems with the quality of housing, severe material deprivation, household-income decile. Dummies are included for missing regressors. Robust standard errors are in parentheses.

⁶ The average satisfaction score for the former group is 6.45 points and for the latter group 6.80 points.

Table 2: Woman's relative income and life satisfaction, women

	(1)			(2)			(3)			(4)		
	B	SE	p	B	SE	p	B	SE	p	B	SE	p
Woman earns more	-0.365	(0.132)	0.006	-0.387	(0.144)	0.008	-0.350	(0.157)	0.026	-0.407	(0.156)	0.009
Controls	Yes			Yes			Yes			Yes		
Additional controls	No			No			No			Yes		
Cubic of personal incomes	No			Yes			No			Yes		
Woman's relative income	No			No			Yes			Yes		
N	1188			1188			1188			1188		
Adjusted R ²	0.173			0.174			0.173			0.182		

Notes: Dependent variable: life satisfaction. Control variables: see Table 1. Robust standard errors are in parentheses.

Robustness

We tested the robustness of the results by using alternative outcomes and changing the sample.

First, we excluded the top and bottom 2% of the sample by women's relative income (*Table A1*), and then we included only those observations where both the respondent and the partner were aged 25–59 (*Table A2*). Neither the exclusion of potential outliers nor the restriction of the sample to working age affected the conclusion. In fact, the estimated coefficients are slightly higher than in our baseline model (*Table 1*, column 3).

We also used three alternative outcome variables: job satisfaction, satisfaction with social relations and depression score.⁷ Job satisfaction is directly related to an individual's income (Hajdu and Hajdu, 2014; Skalli et al., 2008; Sousa-Poza and Sousa-Poza, 2000), and it is also correlated with life satisfac-

⁷ Respondents' job satisfaction and satisfaction with social relations were measured on a scale of 0–10, similar to life satisfaction. A depression score was created on the basis of four questions. Respondents were asked to indicate on a five-point scale how often in the previous four weeks they had been happy, how often they had felt downhearted and depressed, how often they had been very nervous, and how often they had felt calm and peaceful (1 – all the time; 2 – most of the time; 3 – some of the time; 4 – a little of the time; 5 – never). These four questions form part of the CES-D Depression Screening Questionnaire (Radloff, 1977), whose shortened, eight-question version is a reliable measure that is also used in research on subjective well-being (Huppert et al., 2009; Steffick, 2000). The four questions of the HBLCS questionnaire, although shorter than the shortened version of the CES-D, may be illustrative and suitable for measuring depressive symptoms, and thus the affective dimension of subjective well-being. In generating the depression score, using an inverted scale for the responses to the two positive questions, the scores of the four items were summed, so that high values of the variable (on a scale of 4–20 points) indicate higher levels of depressive symptoms.

tion (Rojas, 2006); hence, we hypothesize that potential dissatisfaction with the intra-household income distribution may also be reflected in job satisfaction. Satisfaction with social relations is supposed to include satisfaction with the relationship with the partner/spouse. Since previous papers found that intra-household income distribution may be associated with marital satisfaction (e.g. Bertrand et al., 2015; Furdyna et al., 2008), we hypothesize that if satisfaction with social relations indeed reflects satisfaction with the partner, the intra-household income distribution should also be associated with the former. The depression score, on the other hand, is a measure of an individual's psychological well-being, and it can be understood as an indicator of the affective component of subjective well-being (Diener et al., 1999). *Table A3* shows that if a man earns less than his partner, he is 0.332 points less satisfied with his job, while if a woman earns more than her partner, she is 0.254 points less satisfied with her job. However, the latter estimated coefficient is insignificant at the 10% level. *Table A4* shows that both men and women are less satisfied with their social relations when the woman's income exceeds her partner's. *Table A5* reports the results for the depression score. The association between the depression score and higher female earnings is as expected from the previous literature: both men and women have lower psychological well-being if the female partner earns more than the male partner, but the size of the estimated coefficients is relatively small and they are imprecisely estimated, primarily for women.⁸

The conclusions that can be drawn do not change if personal cash income is used, rather than personal cash income from employment (*Table A6* and *Table A7*) or if total personal income is used (*Table A8* and *Table A9*). The estimated coefficients are smaller than in the baseline model, which may suggest that the role of cash income from employment is more relevant for life satisfaction and within-household income comparison than other income streams (e.g. non-cash income from employment, old-age pension or other social benefits) (Ahn et al., 2014). On the other hand, it should be noted that the samples analysed are very different from the main sample, which may also explain the somewhat different results.

⁸ For men, the estimated coefficient corresponds to a difference of 16.9% of a standard deviation, whereas for women it amounts to a difference of 11.2% of a standard deviation.

Heterogeneity

Since the attitudes of less-educated individuals are more traditional than those of the better-educated (Murinkó, 2014), if the estimated coefficient on women's higher earnings is more negative among the low-educated than among the highly educated, that would support the interpretation that the source of dissatisfaction is the violation of traditional gender norms, which prescribe that the man should be the (primary) breadwinner in the household.

Table 3 reports the results of regressions where we split the sample of both men and women into two groups according to level of education. In both cases, the estimated coefficients are higher for the lower-educated, and they are large in magnitude: -0.456 for men; -0.494 for women. For the highly educated, the coefficients are closer to zero (however, they are also negative), and are insignificant at any conventional level. These results suggest that gender role attitudes may indeed be the source of the relative dissatisfaction when the woman's earnings exceed those of the man.

Table 3: Woman's relative income and life satisfaction, heterogeneity by education

	(1)			(2)			(3)			(4)		
	Men – low education			Men – high education			Women – low education			Women – high education		
	B	SE	p	B	SE	p	B	SE	p	B	SE	p
Woman earns more	-0.456	(0.212)	0.032	-0.289	(0.230)	0.209	-0.494	(0.218)	0.024	-0.192	(0.210)	0.359
Controls	Yes			Yes			Yes			Yes		
Woman's relative income	Yes			Yes			Yes			Yes		
N	634			429			712			476		
Adjusted R ²	0.149			0.168			0.122			0.185		

Notes: Dependent variable: life satisfaction. Low education: primary education or vocational school. High education: high school or tertiary education. Control variables: see Table 1. Robust standard errors are in parentheses.

CONCLUSIONS

In this paper, we analysed the relationship between intra-household income distribution and the subjective well-being of the household members. Our main question was: how does life satisfaction differ, depending on whether the woman's income exceeds the man's? The analysis was carried out using the 2015

wave of the Household Budget and Living Conditions Survey of the HSCO, by selecting households in which a man and a woman with income from work had formed a partnership.

Based on the literature, we assumed that there is a relative income threshold: if the woman's income share is higher than that, then the satisfaction of the man – and even of the woman – will be lower. This threshold is determined by attitudes to gender roles and behavioural prescriptions within the household: namely, that the woman should not earn more than the man.

Our results show that in households where the woman's income exceeds the man's, both the man and the woman are less satisfied with their lives than in households where the man's income is higher. Since we used a rich set of variables controlling for the financial situation of the household and also the health status and labour-market opportunities of the two partners, we assume that the social norm that "the man should be the main breadwinner in the household" and traditional attitudes toward gender roles explain the results. We have also shown that the dissatisfaction when the social norm is violated is greater among the less-educated than among the highly educated. Since the attitudes of the former are more traditional, these results support the interpretation regarding the importance of the man's breadwinning role.

These results also suggest that the small proportion of households where the woman's income exceeds the man's might be explained not only by a woman's income disadvantage on the labour market (Sik et al., 2013), but also by the overall prevalence of traditional gender attitudes and preferences for the male breadwinning role (see also Bertrand et al., 2015).

There are limitations to this analysis that should be noted. First, we were working with cross-sectional data and were not able to identify causal effects. While we believe that by controlling for partners' health, labour-market status, income and household financial situation we filtered out the most important differences between those households where the woman earns more and those where the man earns more, we cannot rule out the possibility that there are other unobserved differences that are correlated with subjective well-being. Second, if households that prefer the male breadwinning role restrict the woman's labour-force participation or income-earning capacity (Bertrand et al., 2015), then among households where the woman earns more, there will (by definition) be a lower share with a preference for traditional gender roles. Or if divorce is more likely among couples where the woman earns more (Bertrand et al., 2015; Jalovaara, 2003; Liu and Vikat, 2004), then we do not observe the very dissatisfied couples who are already divorced. These potential concerns may lead to un-

derestimation of the satisfaction gap between the two groups. Third, although we have provided indirect evidence that attitudes to gender roles may explain the satisfaction difference by the woman having higher income, we were not able to test this explanation directly using empirical data on the respondents' attitudes to gender roles.

Overall, our results suggest that household members' life satisfaction is determined not only by the financial situation or the total income of the household (Frijters et al., 2004; Hajdu and Hajdu, 2013; Powdthavee, 2010), but also by the (preferred and realized) contribution of individual household members to total household income. And the satisfaction effect stemming from that contribution is presumably shaped by expectations of, and compliance with, gender roles within the household.

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APPENDIX

Table A1: Relative income and life satisfaction, top and bottom 2% excluded

	(1)			(2)		
	Men			Women		
	B	SE	p	B	SE	p
Woman earns more	-0.434	(0.173)	0.012	-0.512	(0.170)	0.003
Controls	Yes			Yes		
Woman's relative income	Yes			Yes		
N	1023			1145		
Adjusted R ²	0.195			0.174		

Notes: Dependent variable: life satisfaction. Control variables: see Table 1. The sample excluded the top and the bottom 2% by income share of women. The models included indicator variables denoting missing values of the explanatory variables. Robust standard errors are in parentheses.

Table A2: Relative income and life satisfaction, only 25–59-year-olds

	(1)			(2)		
	Men			Women		
	B	SE	p	B	SE	p
Woman earns more	-0.391	(0.158)	0.013	-0.382	(0.164)	0.020
Controls	Yes			Yes		
Woman's relative income	Yes			Yes		
N	958			1074		
Adjusted R ²	0.204			0.173		

Notes: Dependent variable: life satisfaction. Control variables: see Table 1. Only observations where both partners were aged 25–59 were included. Robust standard errors are in parentheses.

Table A3: Relative income and job satisfaction

	(1)			(2)		
	Men			Women		
	B	SE	p	B	SE	p
Woman earns more	-0.332	(0.188)	0.077	-0.254	(0.192)	0.186
Controls	Yes			Yes		
Woman's relative income	Yes			Yes		
N	1063			1187		
Adjusted R ²	0.109			0.097		

Notes: Dependent variable: job satisfaction. Control variables: see Table 1. Robust standard errors are in parentheses.

Table A4: Relative income and satisfaction with social relations

	(1)			(2)		
	Men			Women		
	B	SE	p	B	SE	p
Woman earns more	-0.497	(0.162)	0.002	-0.266	(0.158)	0.093
Controls	Yes			Yes		
Woman's relative income	Yes			Yes		
N	1063			1188		
Adjusted R ²	0.096			0.095		

Notes: Dependent variable: satisfaction with social relations. Control variables: see *Table 1*. Robust standard errors are in parentheses.

Table A5: Relative income and depression score

	(1)			(2)		
	Men			Women		
	B	SE	p	B	SE	p
Woman earns more	0.380	(0.209)	0.070	0.266	(0.221)	0.229
Controls	Yes			Yes		
Woman's relative income	Yes			Yes		
N	1062			1188		
Adjusted R ²	0.118			0.150		

Notes: Dependent variable: depression score (4–20 scale). Control variables: see *Table 1*. Robust standard errors are in parentheses.

Table A6: Relative income and life satisfaction, men, all personal cash income

	(1)			(2)			(3)			(4)		
	B	SE	p	B	SE	p	B	SE	p	B	SE	p
Woman earns more	-0.227	(0.083)	0.007	-0.259	(0.089)	0.004	-0.218	(0.097)	0.024	-0.225	(0.100)	0.025
Controls	Yes			Yes			Yes			Yes		
Additional controls	No			No			No			Yes		
Cubic of personal incomes	No			Yes			No			Yes		
Woman's relative income	No			No			Yes			Yes		
N	3049			3049			3049			3049		
Adjusted R ²	0.267			0.267			0.267			0.284		

Notes: Dependent variable: life satisfaction. Control variables: see Table 1. Additional control variables were the labour-market statuses of men and women. For personal income, all personal cash income was considered, rather than just personal cash income from employment, as in the base model. The sample included men who had personal cash income and whose partner also had personal cash income. Robust standard errors are in parentheses.

Table A7: Relative income and life satisfaction, women, all personal cash income

	(1)			(2)			(3)			(4)		
	B	SE	p	B	SE	p	B	SE	p	B	SE	p
Woman earns more	-0.140	(0.084)	0.095	-0.145	(0.088)	0.098	-0.187	(0.099)	0.060	-0.202	(0.099)	0.041
Controls	Yes			Yes			Yes			Yes		
Additional controls	No			No			No			Yes		
Cubic of personal incomes	No			Yes			No			Yes		
Woman's relative income	No			No			Yes			Yes		
N	3374			3374			3374			3374		
Adjusted R ²	0.255			0.256			0.254			0.271		

Notes: Dependent variable: life satisfaction. Control variables: see Table 1. For personal income, all personal cash income was considered, rather than just personal cash income from employment, as in the base model. The sample included women who had personal cash income and whose partner also had personal cash income. Robust standard errors are in parentheses.

Table A8: Relative income and life satisfaction, men, all personal income

	(1)			(2)			(3)			(4)		
	B	SE	p	B	SE	p	B	SE	p	B	SE	p
Woman earns more	-0.215	(0.082)	0.009	-0.233	(0.087)	0.007	-0.206	(0.095)	0.029	-0.204	(0.098)	0.037
Controls	Yes			Yes			Yes			Yes		
Additional controls	No			No			No			Yes		
Cubic of personal incomes	No			Yes			No			Yes		
Woman's relative income	No			No			Yes			Yes		
N	3228			3228			3228			3228		
Adjusted R ²	0.262			0.262			0.262			0.280		

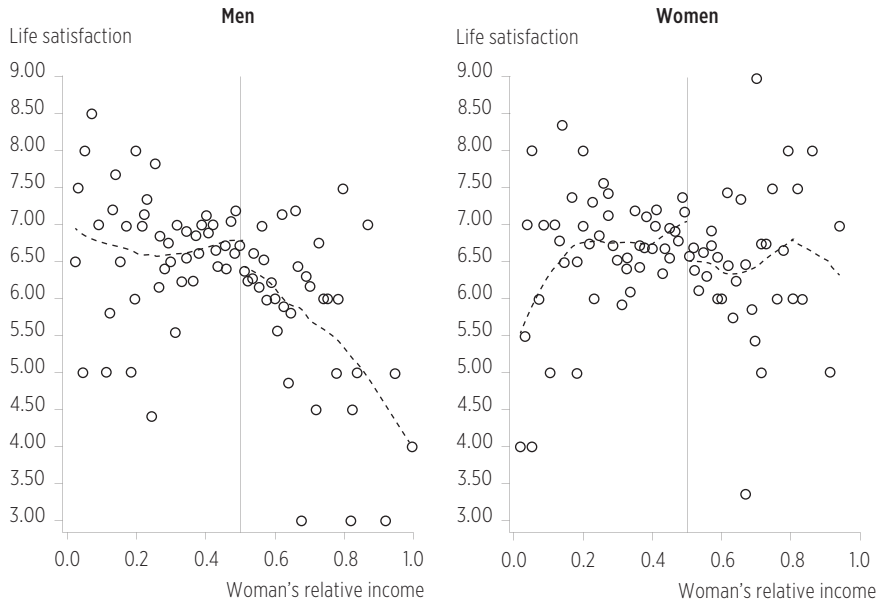
Notes: Dependent variable: life satisfaction. Control variables: see *Table 1*. For personal income, all personal income was considered, rather than just personal cash income from employment, as in the base model. The sample included men who had personal income and whose partner also had personal income. Robust standard errors are in parentheses.

Table A9: Relative income and life satisfaction, women, all personal income

	(1)			(2)			(3)			(4)		
	B	SE	p	B	SE	p	B	SE	p	B	SE	p
Woman earns more	-0.166	(0.083)	0.046	-0.133	(0.086)	0.120	-0.185	(0.098)	0.060	-0.193	(0.097)	0.047
Controls	Yes			Yes			Yes	Yes		Yes		
Additional controls	No			No			No	No		Yes		
Cubic of personal incomes	No			Yes			No	No		Yes		
Woman's relative income	No			No			Yes	No		Yes		
N	3573			3573			3573			3573		
Adjusted R ²	0.251			0.253			0.251			0.268		

Notes: Dependent variable: life satisfaction. Control variables: see *Table 1*. For personal income, all personal income was considered, rather than just personal cash income from employment, as in the base model. The sample included men who had personal income and whose partner also had personal income. Robust standard errors are in parentheses.

Figure A1: The relationship between women's relative income and life satisfaction



Notes: The figure shows the relationship between the woman's relative income and the woman's (right panel) and the man's (left panel) life satisfaction. Each dot shows the mean life satisfaction in a 0.01 point-wide relative income bin. The dashed lines are LOWESS (locally weighted scatterplot smoothing) estimates allowing for a break at 0.5. The vertical line indicates equal income of the partners (woman's relative income of 0.5).