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ABSTRACT

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Bertrand et al. (2015) show that among married couples in the US, the distribution of the share of the household income earned by the wife exhibits a sharp drop just to the right of .50. They argue that this drop is consistent with a social norm prescribing that a man should earn more than his wife. We repeat this analysis for Sweden, ranked as one of the world's most gender equal countries. Analyzing Swedish population register data, we do not find support for the norm that a man should earn more than his wife.

JEL Classification: D10, J12, J16

Keywords: gender roles, marriage market, gender gap, gender identity

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1 Introduction

Individuals' gender identity and social norms prescribing how men and women should behave have been proposed to influence behavior (see, e.g., West and Zimmerman 1987 and Akerlof and Kranton 2000, 2002). The gender norm which has received most attention is that of a male breadwinner and a female housemaker (Bertrand et al. 2015, Bittman et al. 2003, Fernandez et al. 2004, Fortin 2009, Morrill and Morrill 2012, Pierce et al. 2012, Watson and McLanahan 2011).[1] Adapting this norm to the modern labor market, the 1995 World Value Survey asked respondents if they agreed with the claim: "*If a woman earns more money than her husband, it's almost certain to cause problems.*" Of the US respondents, 38 percent agreed with this claim. If it is perceived as costly to deviate from the norm "a man should earn more than his wife", it may result in an aversion against women earning higher incomes than their husbands.

Bertrand, Kamenica and Pan (2015) present an ingenious way to analyze this norm using US data on relative income within households.[2] Consistent with an aversion against women earning more than their husbands, they find that the distribution of the wife's share of household earnings exhibits a sharp drop just to the right of .50. This result suggests that couples avoid situations in which the wife earns more than her husband, and provides unusually direct evidence of a gender norm. Having found support for the norm "a man should earn more than his wife", Bertrand, Kamenica & Pan (2015) move on to explore its consequences. They present regression results consistent with the hypotheses that (1) women on the marriage market with a higher probability to earn more than a man are less likely to marry; (2) within couples, if the wife's po-

[1] These studies report results consistent with Akerlof and Kranton's (2000) model of identity, i.e that gender norms affect economic behavior.
[2] They use several different data sets, one is the Survey of Income and Program Participation (SIPP) which is linked to administrative data on income from the Social Security Administration and the Internal Revenue Service.

tential earnings are likely to exceed the man's, the wife's labor supply is lower; (3) if the wife earns more than the husband, the wife's household production increases (as if to compensate) and (4) the couples are more likely to divorce. Their analyses draw attention to the potentially far reaching economic consequences of an aversion against women earning more than their husbands. Thus, it is interesting to investigate if data from other countries also provide support for this gender norm. In a recent contribution, Wieber and Holst (2015) use data from the German Socio-economic panel and also find that the share of income earned by the wife drops sharply to the right of .50, consistent with the findings in Bertrand, Kamenica and Pan (2015).

In this paper, we turn our eyes to Sweden. Do Swedish register data provide support for the norm "a man should earn more than his wife"? Sweden is an interesting case as its labor market for several decades has been characterized by high female labor force participation relative to other countries (e.g., Blau et al., 2009). The Global Gender Gap Report of the World Economic Forum ranks Sweden as the world's 4th most gender equal country among 142 countries (Hausmann et al. 2014, the US was ranked 20th). Swedish results consistent with the norm "a man should earn more than his wife", may suggest that it takes more than a few decades of increased gender equality in the labor market in order to challenge norms that several generations have adhered to. Conversely, if Swedish data do not provide support for the norm, we may possibly expect a norm shift in other countries as their labor markets attain a higher degree of gender equality.

To answer our research question, we follow Bertrand, Kamenica and Pan (2015, henceforth BKP), and analyze the distribution of the share of the household labor income earned by the wife. The key question is whether we also see a sharp drop at .50 – the point where the wife starts earning more than her husband. The expected result from this exercise is far from clear. On

the one hand, Swedish data may not provide support for the norm that a man should earn more than his wife since the Swedish labor market is relatively gender equal in terms of indicators closely linked to earnings, such as labor force participation and wages.[3] On the other hand, a discontinuity in women's share of household earnings at .50 might be expected given the clearly significant results found by BKP for the US and by Wieber and Holst (2015) for Germany. Social norms often only change slowly and in the above mentioned 1995 World Value Survey 33 percent of the Swedish respondents (vs. 38 percent in the US) agreed with the claim: "*If a woman earns more money than her husband, it's almost certain to cause problems.*" Moreover, the Swedish labor market is still markedly divided by gender. For instance, there is a strong glass ceiling effect (Albrecht et al. 2003), occupational segregation is about the same as in other EU countries or the US (Halldén 2014), women take out 75 percent of the paid parental leave (Duvander and Viklund 2014) and are three times more likely to work part time (Boye 2014).

2 Data

We use annual Swedish population register data from the years 1990-2011. To set-up our main sample of analysis we closely follow BKP by first restricting the sample to married couples where both spouses are aged between 18 and 64 and have positive labor earnings. The total number of observations of married couples is about 18 million. Second, the main analysis sample includes couples only in the first year they appear in the registers. This restriction reduces the sample to about 1.8 million couples (individuals who re-marry may appear more than once). These couples are overrepresented from 1990 (52.6 percent) and underrepresented from the years

[3] In 2014, the female labor force participation was 82 percent (men 86 percent, *Arbetskraftsundersökningarna* 2015) and the gender log wage gap was 11.1 percent (*Medlingsinstitutet* 2015).

post 2000 (27.7 percent). Our analyses are therefore complemented by cross sectional samples from 1990 and 2011.[4] The earnings variable includes labor income as well as income from self-employment, but not transfers related to parental leave or unemployment insurance payments.[5] Earnings are not top-coded, and the registers indicate incomes rounded to SEK 100 (about $12).

Figure 1 displays a histogram of the distribution of the wife's share of household labor earnings the first year the couples appear in the registers (corresponding to Figure I, p576, in BKP). Each dot represents a bin containing 5 percentiles. The mode around .45 is reminiscent of the US census data presented in BKP for the years 1990 and 2000. The key question is if there is a discontinuity in the distribution at .50.

3 Results

3.1 Discontinuity tests

To conduct a formal test of whether a distribution contains discontinuous elements, McCrary (2008) proposes a test to assess the change in log densities at a given cut-off point. The test coefficient is $\theta = \ln f^{+} - \ln f^{-}$, where f with superscripts +/– indicate the log density just to the right/left of the cut-off (a drop thus leads to a negative sign on θ). This test is also used by BKP and by Wieber and Holst (2015).

Let a wife's share of household labor earnings be denoted s_{ijt} for female i in couple j in year t, and where $0 < s_{ijt} < 1$. For the distribution of these shares, we use the McCrary (2008) test to determine if the frequency displays a discontinuous drop at the cut-off point $s_{ijt} = .50$. We

[4] Between 1990 and 2011, married women's average share of household earnings increased from .38 to .42 and the fraction of couples where the wife's share exceeds .50 increased from .17 to .26.
[5] Starting in 1993, sick leave payments from the first 14 days of every sick leave period are included.

show the results from these McCrary tests in the columns on the left half of Table 1. The findings are counterintuitive as the positive and statistically significant value of θ indicates that there is a discontinuous *increase,* rather than a decrease, at .50. We follow BKP to instead estimate the discontinuity just to the right of .50, at .501. The results are given in the rightmost columns of Table 1, and now imply a statistically significant discontinuous *decrease* in the distribution of the wife's share of household labor earnings at the cut-off. This result is consistent with the social norm that a man should earn more than his wife.[6]

To understand why the sign of θ changes as the cut-off is set at .501 rather than .500, we examine the distribution of women's share of household earnings in finer detail. Figure 2 presents the data by bins of one percentile (100 bins) and half a percentile (200 bins). What emerges is that the distribution exhibits a spike at exactly .50, where .28 percent (N=5,271) of the couples are clustered (when using 200 bins, the spike at .50 represents about 20 percent of the observations in its bin, 40 percent if one uses 1,000 bins). The question is if the coefficients indicating statistically significant discontinuities are driven solely by the spike at .50. [7]

To determine if this is the case, we next conduct the McCrary tests after smoothing the local spike at .50. We do this in five different manners (Figure A.3 in the Appendix shows the resulting distributions); *i*) by performing lowess smoothing; *ii*) by randomly dispersing the couples with exactly equal earnings around .50 (mean 0 and standard deviation of .01); *iii*) by replacing all couples' actual earnings shares with their predicted values from a regression of shares on ob-

[6] As a "placebo" exercise, we conducted McCrary tests for each half percentile from .100, .105, .110, to ... .890, .895, .900. The θ estimates are always smaller than the bootstrapped standard errors except in the vicinity of .50 where the sign of θ switches from positive to negative around .50. Table A.1 presents McCrary test estimates using every half percentile from .475 to .525 as cut-off.

[7] Figures A.1 and A.2 in the Appendix present histograms based on the cross sectional data from 1990 and 2011, where spikes at .50 represent .24 percent and .31 percent respectively. This is also similar to the US administrative data used by BKP, where .26 percent of the couples had exactly equal earnings.

servable characteristics[8]; *iv*) by recoding shares at .50 to the share observed in the first year these couples deviate from .50; *v*) by gradually excluding the couples bunching at .50. Table 2 presents the estimation results which are clear in the sense that when smoothing the spike at .50, θ is very small and there are no statistically significant results. The gradual deletion of the spike also yields insignificant estimates once at least 75 percent of the spike is deleted. We draw the conclusion that the sharp drop in the wife's share of household earnings reported earlier is driven by the couples constituting the spike. Thus, to understand whether the drop should be interpreted as evidence of the social norm "a man should earn more than his wife", it is crucial to understand if the couples constituting the spike at .50 have equal earnings because of the norm or for some other reasons. We therefore need to examine the observable characteristics of couples with exactly equal earnings.

3.2 Characteristics of couples with exactly equal earnings

The large sample size and the richness of our data allow for a detailed comparison of couples at exactly .50 with couples only a fraction to the left (>.4985) or to the right (<.5015) of .50. Table 3 contains the descriptive characteristics. The rightmost columns give the differences between couples in the .50 group compared with the groups marginally to the left (column 5) and to the right (column 6). Most of the differences are statistically significant. Compared with the immediately surrounding groups, wives at .50 have been married longer, are about 3.5 years older, have husbands that are about 4 years older, are younger relative to their husbands, have less education, have husbands with less education and have less education relative to their husbands. They also have lower annual earnings and lower disposable family income, and they are

[8] The explanatory variables used are age, age difference (within the couple), education, educational difference, region of residence, children at home, wife's earnings, wife unemployed, husband unemployed, foreign born.

overrepresented in the lowest and the highest quartile of family disposable income. Both wives and husbands at .50 are more often foreign born, they have more children and the husbands are less often unemployed.

The last rows of Table 3 reveal two particularly important characteristics, namely that the couples at .50 are much more likely to be employed in the same sector (5-digit level, > 700 different sectors) and/or to be registered as self-employed. Among couples with exactly equal earnings, 79.0 percent are in the same sector, in comparison to 23.0 and 21.1 percent among couples just below or above .50. The fraction of couples at .50 with at least one self-employed spouse is 22.1 percent, in comparison to 4.2 percent in the surrounding groups. It should be noted that self-employment was underreported in 1990, revised and improved from 1993 and again in 2004.[9] Using cross sectional data from 2011, we show in Appendix Table A.2 that the fraction of couples at .50 with at least one partner defined as self-employed is 70.6 percent, with surrounding groups at about 13 percent. With the 2011 definition, self-employment thus remains about five times as likely among couples with exactly equal earnings. Using our main analysis sample, 86.7 percent of the couples with exactly equal earnings are either self-employed or registered in the same sector (25.1 percent in the surrounding groups). Using cross sectional data from 2011 the corresponding number is 93.9 percent (27.7 percent in the surrounding groups).

In Table 4, we split the couples at exactly .50 into three different groups: (1) Couples where at least one of the spouses is registered as self-employed.[10] (2) Couples where spouses

[9] From 1993, individuals who extracted salary from their own share holding company were detected in the registers and defined as self-employed by Statistics Sweden. The proportion of self-employed in the population then increased from 2.2 percent to 8.7 percent. The definition was further improved in 2003-2004, then increasing from 8.4 percent to 11.2 percent (11.5 percent in 2011). Statistics Sweden provided an adjusted measure between 2003 and 2004 which confirms that the increase in self-employed indeed reflects the improved definition.

[10] If spouses are running a business together, it is possible that one of them is formally the owner of the company and the other is hired as an employee. This would enable them to set annual earnings exactly equal and is the reason we require only one of the spouses to be self-employed in order to classify the couples in this group.

work in the same sector but neither of them is registered as self-employed. (3) Couples where spouses do not work in the same sector and where neither of them is registered as self-employed (see also Appendix Tables A.2 and A.3 for a corresponding set-up based on the 2011 cross section).[11] Next, we test if the discontinuity just to the right of .50 is robust to excluding each of these three groups. We also discuss competing explanations, including the gender norm "a man should earn more than his wife", as to *why* spouses in each of these three subgroups have exactly equal earnings.

We start with the group where at least one of the spouses is self-employed. If we exclude these couples from our main analysis sample, the distribution of women's earnings shares is almost smooth at .50 (see the bottom right panel of Appendix Figure A.3). McCrary tests are no longer significantly different from zero when we use cross sectional data from the years 2004-2011 (results not displayed). The test coefficient is also insignificant for 2003 when we use the adjusted measure of self-employment in 2003 (comparable to the one used from 2004 and later). The drop is marginally significant in 2002 (*t*-value 1.99) when self-employment was underreported. We conclude that the earlier reported discontinuity in wives' earnings shares is in large part driven by self-employed couples. Thus, it is important to understand why the self-employed couples have exactly equal earnings. Do they bunch at .50 because of the norm that a wife should not earn more than her husband, or for some other reason?

We can see four potential reasons why earnings are set exactly equal between self-employed spouses. First, the norm "equal pay for equal work". If spouses share the work-load of the business, this social norm (explicit in collective agreements in Sweden) would make it diffi-

[11] Using the main analysis sample, group (1) includes 1,167 couples, group (2) 3,401 couples and group (3) 703 couples. Using the 2011 cross section, where underreporting of self-employment is less severe, group (1) includes 1,662 couples, group (2) 549 couples and group (3) 142 couples.

cult for (any)one spouse to claim a higher pay than their partner. Second, there may be a loyalty within the marriage, that couples act "as one", e.g. to minimize areas of conflict, and therefore set their earnings equal. Third, earnings may be set equal between spouses for financial incentives. Appendix Figure A.4 displays three histograms of earnings in 2011; (1) of wives in couples at .50 where at least one of the spouses is self-employed; (2) of wives in couples with $s_{ijt} \neq .50$ but just around .50 ($.4985 < s_{ijt} < .5015$); and (3) of wives in couples just around .50 where at least one of the spouses is self-employed. There are four vertical lines. The first and third (from left) vertical lines indicate thresholds for social insurance payments (sick-leave and unemployment) and the second and fourth lines are at income levels where there are kinks in the marginal taxation (from 30 to 50 percent and from 50 to 55 percent). Overall, the foremost pattern is that self-employed at .50, possibly to avoid taxation, set their earnings at low levels (their median level is equal to the 26th percentile of the surrounding groups). The most important bunching is at the first kink in the marginal taxation (2nd from left of the vertical lines). This bunching is however not more important for wives in self-employed couples with exactly equal earnings than for wives in self-employed couples with marginally different earnings. Thus, this kink in the marginal taxation scheme does not appear to drive the self-employed couples to set earnings exactly equal.[12] The regulations for social insurance payments may, on the other hand, give self-employed couples incentives to set their earnings exactly equal. An individual's income in one year determines the level of potential sick-leave or unemployment insurance payments the next year. However, there are caps in these systems, implying that there is no point in setting income above the threshold value since insurance payments will be the same even if earnings are registered above that point. If spouses want to maximize their potential sick-leave or unemployment insurance payment, they should thus set both

[12] In addition, while the kink in the marginal tax scheme provides couples with incentives to set both spouses' earnings below the threshold, it does not give them incentives to set them at exactly the same level.

spouses' earnings at the threshold value. In Appendix Figure A.4, we see that there is some bunching at the thresholds for social insurance payments. However, it does not appear to be more distinct for the self-employed couples with exactly equal earnings than for self-employed in the surrounding groups. We conclude that the threshold values of the social insurance systems do not seem to have driven the self-employed couples at .50 to set their earnings exactly equal.

A fourth potential reason why earnings are set exactly equal between self-employed spouses is the norm prescribing women should not earn more than their husbands. This would for instance be the case if women in these couples have the potential to advance to better paid jobs, or if they are more productive than their husbands, but earnings are set equal to follow the norm. In other words, women with high potential relative to their husbands may be held back by the norm prescribing that they should not earn more than their husband. However, this scenario seems unlikely as the wives in the self-employed couples at .50 have markedly *less* education relative to their husbands than wives in the surrounding groups. Wives at .50 have about the same years of schooling as their husbands, while wives in the couples just around .50 have completed more than half a year of schooling more than their husbands (Table 4, or Table A.3 for 2011). Thus, the data do not appear to support the idea that these wives are held back.

We now move on to the couples where spouses work in the same 5-digit sector but neither of them is registered as self-employed (column 3 in Table 4). If we exclude these couples from the main analysis sample, McCrary tests are no longer significantly different from zero (results not displayed). We therefore consider that it is important to understand why spouses in these couples have exactly equal earnings.

One potential reason is that these spouses have similar occupations in sectors where wages are compressed, i.e. presumably low skilled jobs where collective agreements play a major part

in the exact wage setting. Consistent with the hypothesis that couples in this group are working in low skilled jobs, Table 4 (Table A.3 for 2011) shows that both wives and husbands with shares at .50 have less education and lower earnings levels relative to the surrounding groups. The most common sectors of employment for these couples (5-digit level) are care for elderly or disabled, restaurants, retail- and wholesale trade. In summary, the characteristics of the couples in this group indicate that it is plausible that their wages are set under the same collective agreements, and they may even work in the same workplace (data not available).[13] An alternative reason as to why these couples have exactly equal earnings is the norm that women should not earn more than their husbands. As described above, this would for instance be the case if women in these couples could earn a higher wage by changing jobs, but choose not to due to the norm. However, again, this explanation appears as implausible as Table 4 (Table A.3 for 2011) shows that women in these couples have *lower* education relative to their husbands than wives in the surrounding groups.

Finally, we turn to the couples with equal earnings where spouses do not work in the same sector and where neither of them is registered as self-employed. This group is by far the smallest of the three, in 2011 representing only 6 percent of the couples at .50, and the results of the McCrary tests remain statistically significant if one excludes these couples. Just as the couples in the previous group, these couples may have exactly equal earnings because they work in low-skilled jobs where the wage is determined by (the same) collective bargaining agreement. An alternative explanation is that this is a choice made by the couple in order to avoid a situation where the wife would earn more than her husband. However, just as for the two previous groups,

[13] There may also be underreporting of self-employed in this group, because four of the five largest sectors (not care for elderly or disabled) are the same as for those with at least one spouse in self-employment (the fifth largest sector is consulting). None of these four groups are represented on the top five lists of the groups a fraction to the right/left of .50, or on the top five list of those at .50 with neither self-employment nor same sector.

this scenario seems unlikely as women in this group have lower education relative to their husband than women in the surrounding groups (see Table 4).[14]

3.3 Summary

In sum, there are several competing explanations for what generates the spike at .50, but our conclusion is that it would require strong assumptions to single out the norm "a man should earn more than his wife" as the main driving force behind the bunching. First, compared to couples with marginally different shares, wives in couples at .50 have *lower* education relative to the husband. Thus, it does not seem as if these women have potential to earn more than their husband but are held back by the norm. If anything, their relatively lower education rather indicates a reverse relationship (i.e. wives in couples at .50 may benefit more from supportive husbands than wives in surrounding groups). Second, the easiest way for a wife wishing to avoid the situation where her earnings exceed those of her husband would probably be to work fewer hours. Reducing working hours is however unlikely to generate earnings shares at *exactly* .50 since the administrative earnings data are measured very precisely. Third, if there is a gender norm which affects the distribution of females' earnings shares around .50, one would presumably expect a statistically significant discontinuity to hold also when excluding less than 3/1000 of the sample.

In Section 3.1, we first established that there was a sharp drop in the distribution of the wife's share of household earnings at the point where she starts earning more than her husband. Thus, at a first glance, Swedish population register data provides support for the norm that a woman should not earn more than her husband. However, closer examination of the distribution

[14] In the 2011 cross section the difference compared to the surrounding groups is smaller and not statistically significant (see Table A.3). In this sample, however, the age difference between spouses is larger than among couples just around .50. These wives' age disadvantage does not lend further support to the hypothesis that the wives in this group have the potential to earn more than their husbands but are held back by the norm.

of wives' earnings shares revealed that the discontinuity was driven by a spike at exactly .50. To claim that data support the gender norm, one must therefore assume that the gender norm has generated the cluster at .50. In Section 3.2 we analyzed potential reasons as to why the couples constituting the spike have equal earnings. We found little support for the hypothesis that these couples have equal earnings because of the norm that a man should earn more than his wife. We therefore conclude that Swedish data do not provide support for this particular gender norm. In future work, it would be interesting to use a similar framework to analyze whether data from other countries, with varying degrees of gender equality in the labor market, support the existence of this norm. In this work, we would encourage researchers to examine whether the distribution of wives' earnings shares exhibits a spike at the point where couples have exactly equal earnings. As we have seen for the Swedish case, such a spike may be important for the interpretation of the discontinuity tests. We observe a spike in each year 1990-2011, with a fraction of couples at .50 (varying between .0022 and .0030) similar to what is reported in the US administrative data used in BKP (.0026). The German Socio-economic panel data, employed by Wieber and Holst (2015), also clearly display an overrepresentation at .50 (Figures 3, 5, 9 and 10). Moreover, we asked colleagues from Norway and Finland to examine the distribution of wives' earnings shares in their countries. Their administrative data also exhibit a small but non-negligible fraction of couples at .50, suggesting that a spike at the point where spouses have exactly equal earnings may potentially be a common phenomenon.

4 Conclusion

The purpose of this paper is to investigate if Swedish data support the hypothesis that relative earnings within households are influenced by a gender norm summarized in the statement "a man should earn more than his wife". Inspired by Bertrand, Kamenica and Pan (2015), we set out to examine if the share of wives' household earnings exhibits a sharp drop just to the right of .50, where their earnings exceed those of their husbands. We conclude that Swedish population register data do not provide support for the norm that a husband should earn more than his wife.

One should avoid the potential misreading that our results provide evidence that this gender norm does not exist in Sweden. Our study merely suggests that measured in this manner, we cannot detect support for the gender norm that a man should earn more than his wife. There are different ways to detect norms. Bertrand, Kamenica and Pan (2015) also report that females who do earn more than their husbands, as if to neutralize the presumed gender deviance, perform disproportionately *more* hours of housework. Interestingly, Evertson and Nermo (2004) analyzed data for both the US (PSID) and Sweden (Level of Living Survey). They also found that females in the US with earnings higher than their spouses spend more time in housework, but that this pattern is not present in the Swedish data.

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Figure 1: Female shares of household labor earnings recorded when first appearing in register data 1990-2011.

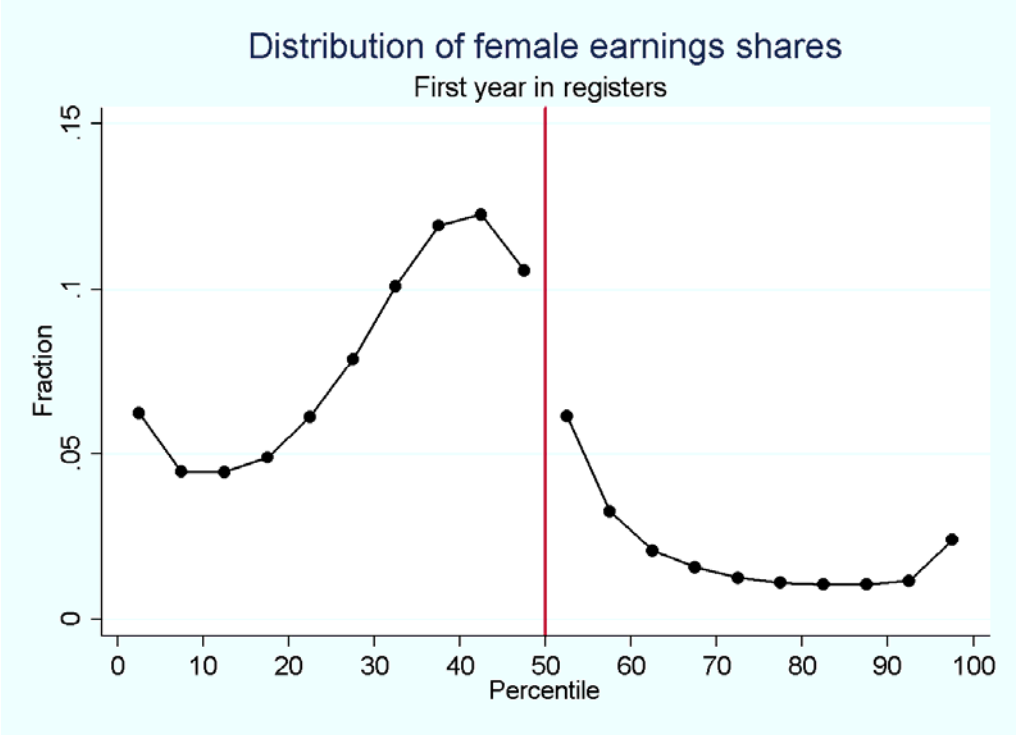


Table 1. McCrary tests for discontinuity in female shares of household earnings. Data on couples when appearing in register data 1990-2011.

Cut-off value	.500		.500		.501		.501	
	theta	t-stat	theta	t-stat	theta	t-stat	theta	t-stat
1st year in registers	.187	*2.31*	.277	*2.84*	-.212	*2.63*	-.269	*2.78*
1991	.175	*2.05*	.260	*2.51*	-.240	*2.81*	-.314	*3.04*
2001	.174	*2.32*	.241	*2.68*	-.212	*2.86*	-.283	*3.16*
2011	.145	*2.12*	.215	*2.63*	-.187	*2.77*	-.238	*2.92*
Bandwidth	Default		Narrow		Default		Narrow	

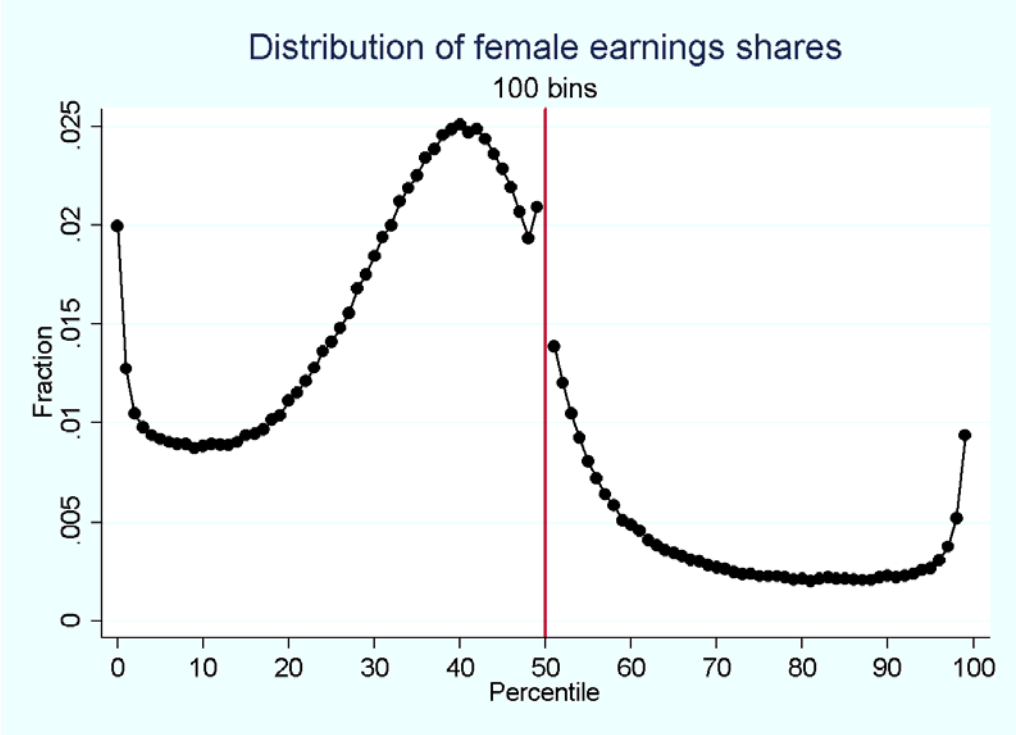
Note: Default bandwidth ranges from .035 to .040 and the "narrow" bandwidth from .024 to .026.

Table 2. McCrary tests for discontinuity in female shares of household earnings. Data on couples when appearing in register data 1990-2011.

Cut-off value	.500		.500		.501		.501	
	theta	t-stat	theta	t-stat	theta	t-stat	theta	t-stat
Lowess	.022	*.34*	.016	*.20*	.020	*.31*	.022	*.27*
Random disperson	-.051	*.62*	-.038	*.38*	-.031	*.37*	.007	*.07*
Fitted values	-.069	*.94*	-.018	*.21*	-.067	*.96*	-.024	*.29*
Share recoded to later year	-.050	*.59*	-.051	*.49*	-.022	*.26*	-.001	*.07*
Deletion 95% of spike	-.032	*.38*	-.007	*.07*	-.050	*.59*	-.035	*.34*
Deletion 85% of spike	.003	*.03*	.012	*.11*	-.053	*.62*	-.044	*.43*
Deletion 75% of spike	-.017	*.21*	-.010	*.10*	-.121	*1.44*	-.127	*1.23*
Deletion 50% of spike	.039	*.46*	.086	*.85*	-.180	*2.15*	-.212	*2.09*
Bandwidth	Default		Narrow		Default		Narrow	

Note: Default bandwidth ranges from .030 to .054 and the "narrow" bandwidth between .020 and .036.

Figure 2: Female shares of household labor earnings recorded when first appearing in register data.



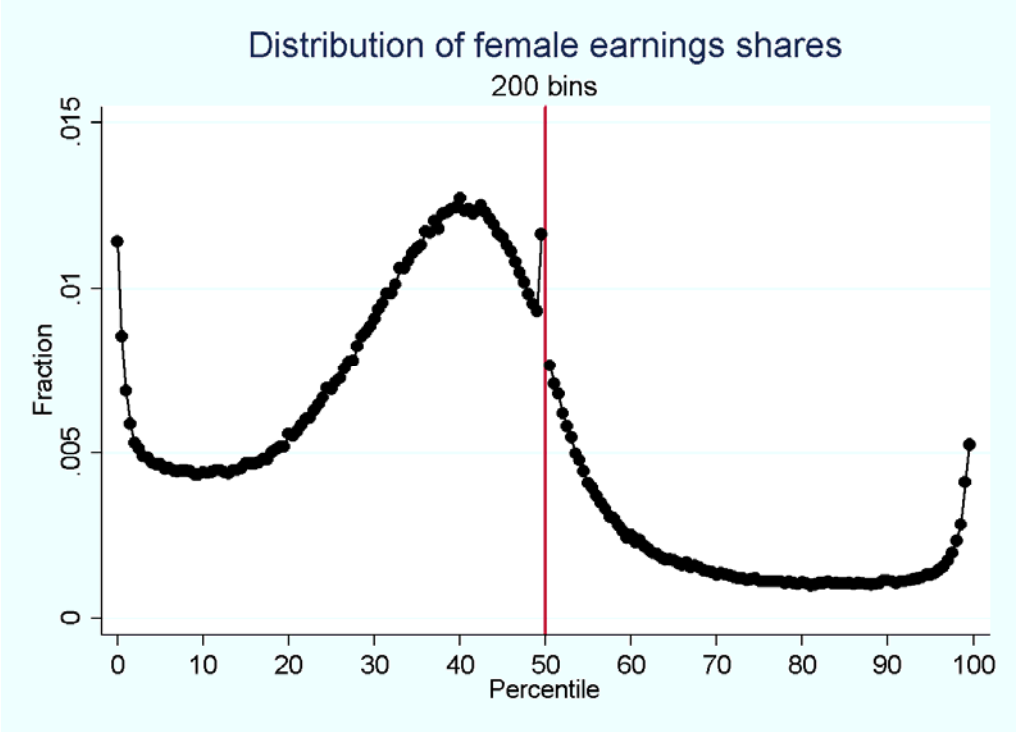


Table 3: First year in registers. Descriptive statistics around .500. [a)]

	(1) All	(2) >.4985	(3) .50	(4) <.5015	Difference Col (3) – col (2)	Difference Col (3) – col (4)
Share	.378	.499	.500	.501	.001	-.001
Above .50	.209	.000	.000	1.000	.000	1.000
Years married	9.852	9.919	15.590	9.550	5.671*	6.040*
Age	38.309	39.273	42.681	39.035	3.407*	3.646*
Age husband	40.919	41.571	45.463	41.332	3.893*	4.132*
Age difference wife-husband	-2.610	-2.297	-2.783	-2.297	-.486*	-.486*
College degree wife	.194	.293	.123	.297	-.170*	-.174*
College degree husband	.184	.204	.129	.212	-.075*	-.083*
No tertiary wife	.649	.551	.716	.548	.165*	.168*
No tertiary husband	.673	.662	.723	.663	.061*	.060*
School years wife	11.938	12.478	11.308	12.534	-1.170*	-1.225*
School years husband	11.914	11.941	11.385	11.973	-.556*	-.589*
School yrs diff. wife-husband	.024	.537	-.076	.560	-.614*	-.637*
Earnings wife	4.641	5.445	4.177	5.472	-1.268*	-1.295*
Earnings husband	5.228	5.449	4.177	5.469	-1.271*	-1.292*
Family disposable inc.	4.694	4.798	4.612	4.830	-.186*	-.218*
- Lowest quartile	.365	.268	.518	.261	.250*	.257*
- Highest quartile	.190	.224	.207	.228	-.017*	-.021*
Unemployed wife [b)]	.097	.040	.035	.038	-.005	-.004
Unemployed husband [b)]	.047	.043	.020	.037	-.022*	-.022*
Foreign born wife	.164	.137	.294	.131	.157*	.169*
Foreign born husband	.051	.052	.071	.051	.019*	.020*
Stockholm county	.217	.224	.223	.227	-.002	-.004
No. of children	1.273	.983	1.221	.970	.238*	.251*
Child aged 0-3	.268	.121	.115	.125	-.006	-.010
Same SNI 5-digit	.120	.230	.790	.211	.560*	.580*
Self-employed wife	.018	.015	.170	.014	.155*	.156*
Self-employed husband	.038	.028	.057	.028	.029*	.029*
At least one self-employed	.056	.042	.221	.042	.179*	.179*
No. of observations	1,857,155	4,720	5,271	4,423		

Notes:

* Significantly different from zero, with p-value < .05.

[a)] Column (1), couples with .4985 < s_{ijt} < .500, i.e. marginally to the left of .50. Column (2), couples with s_{ijt} = .50. Column (3), couples with .500 < s_{ijt} < .5015, i.e. marginally to the left of .50. Column (4), difference in means between couples with s_{ijt} = .50 and couples marginally to the left. Column (5), difference in means between couples with s_{ijt} = .50 and couples marginally to the right.

[b)] Binary indicator value which equals one if annual UI benefits are positive, otherwise zero.

Table 4: First year in registers. Descriptive statistics around .500. [a)]

	$S_{ijt} \neq .50$	Share = .50			Difference compared with column (1)		
	(1) >.4985 - <.5015	(2) Self-employed	(3) Same sector	(4) Neither	Self-employed	Same sector	Neither
Share	.500	.500	.500	.500	.000	.000	.000
Above .50	.500	.000	.000	.000	.000	.000	.000
Years married	9.740	14.106	16.679	12.791	4.366*	6.939*	3.051*
Age wife	39.158	44.000	42.888	39.485	4.824*	3.730*	.327
Age husband	41.455	47.027	45.568	42.364	5.572*	4.113*	.909*
Age diff. wife-husband	-2.297	-3.027	-2.680	-2.879	-.729*	-.382*	-.582*
College degree wife	.295	.126	.117	.145	-.169*	-.178*	-.150*
College degree husband	.208	.116	.132	.137	-.092*	-.076*	-.071*
No tertiary wife	.549	.738	.716	.676	.189*	.167*	.126*
No tertiary husband	.662	.774	.711	.694	.111*	.049*	.032
School years wife	12.505	11.359	11.221	11.633	-1.146*	-1.284*	-.872*
School years husband	11.957	11.299	11.368	11.611	-.658*	-.589*	-.346*
School diff. wife-husband	.549	.060	-.146	.022	-.489*	-.695*	-.526*
Earnings wife	5.458	3.996	4.230	4.222	-1.462*	-1.228*	-1.237*
Earnings husband	5.458	3.996	4.230	4.222	-1.462*	-1.228*	-1.237*
Family disposable inc.	4.814	5.207	4.414	4.579	.394*	-.399*	-.234*
- Lowest quartile	.265	.457	.538	.522	.192*	.274*	.257*
- Highest quartile	.226	.237	.213	.132	.011	-.013	-.094*
Unemployed wife [b)]	.039	.021	.026	.098	-.018*	-.013*	.059*
Unemployed husband [b)]	.040	.008	.017	.060	-.032*	-.023*	.020*
Foreign born wife	.131	.207	.320	.317	.075*	.188*	.186*
Foreign born husband	.051	.076	.076	.040	.025*	.024*	-.012
Stockholm county	.226	.217	.231	.192	-.009	-.005	-.033*
No. of children	.976	1.246	1.222	1.176	.269*	.245*	.200*
Child aged 0-3	.122	.111	.106	.165	-.012	-.017*	.042*
Same SNI 5-digit	.221	.656	1.000	.000	.435*	.779*	-.221*
Self-employed wife	.014	.766	.000	.000	.752*	-.014*	-.014*
Self-employed husband	.028	.255	.000	.000	.228*	.028*	.028*
At least one self-employed	.042	1.000	.000	.000	.958*	-.042*	-.042*
No. of observations	9,143	1,167	3,401	703			

Notes:

* Significantly different from zero, with p-value < .05.

[a)] Column (1), couples with .4985 < s_{ijt} < .5015, but $s_{ijt} \neq .50$. Column (2), s_{ijt} = .50 and at least one of the spouses registered as self-employed. Column (3), s_{ijt} = .50 and spouses registered in the same sector at the 5-digit level. Column (4), s_{ijt} = .50 and not belonging to either groups in the two previous columns. Columns (5), (6) and (7), the difference in mean values of each column with s_{ijt} = .50 compared to the first column.

[b)] Binary indicator value which equals one if annual UI benefits are positive, otherwise zero.

Appendix

Figure A.1: 1990 cross section, female shares of household labor earnings.

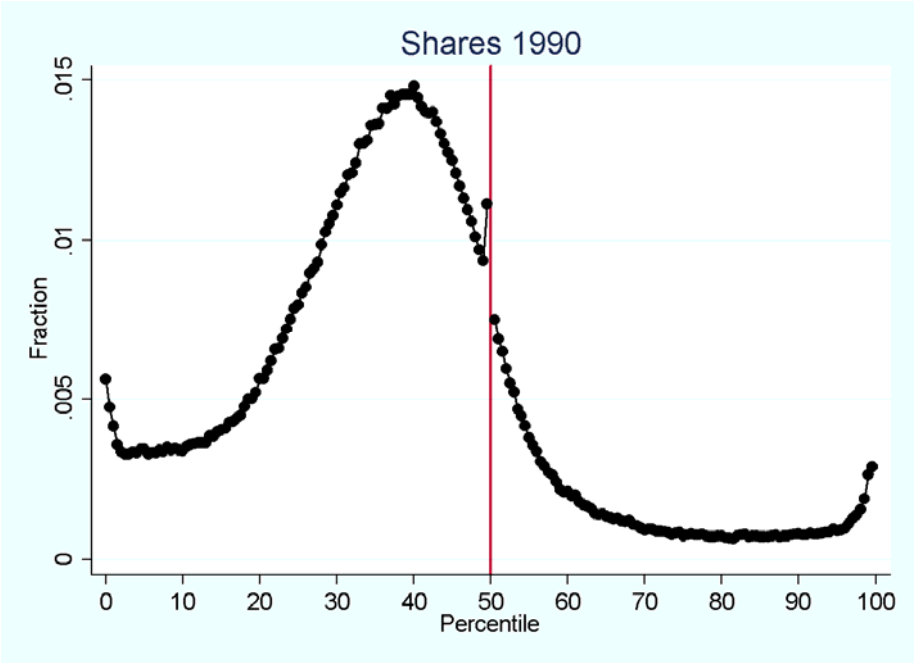


Figure A.2: 2011 cross section, female shares of household labor earnings.

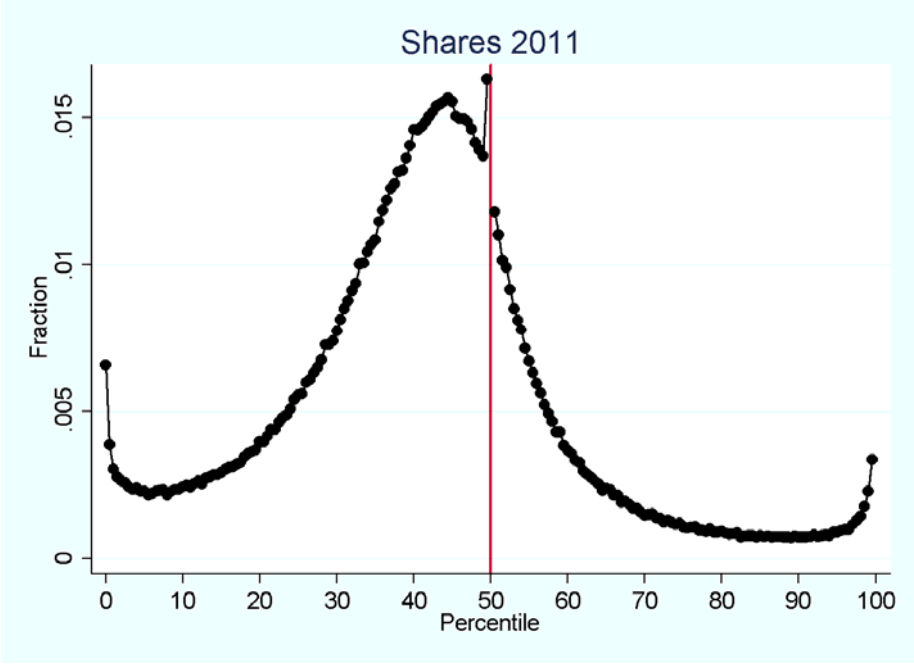


Figure A.3: Distributions after smoothing the local spike at .50.

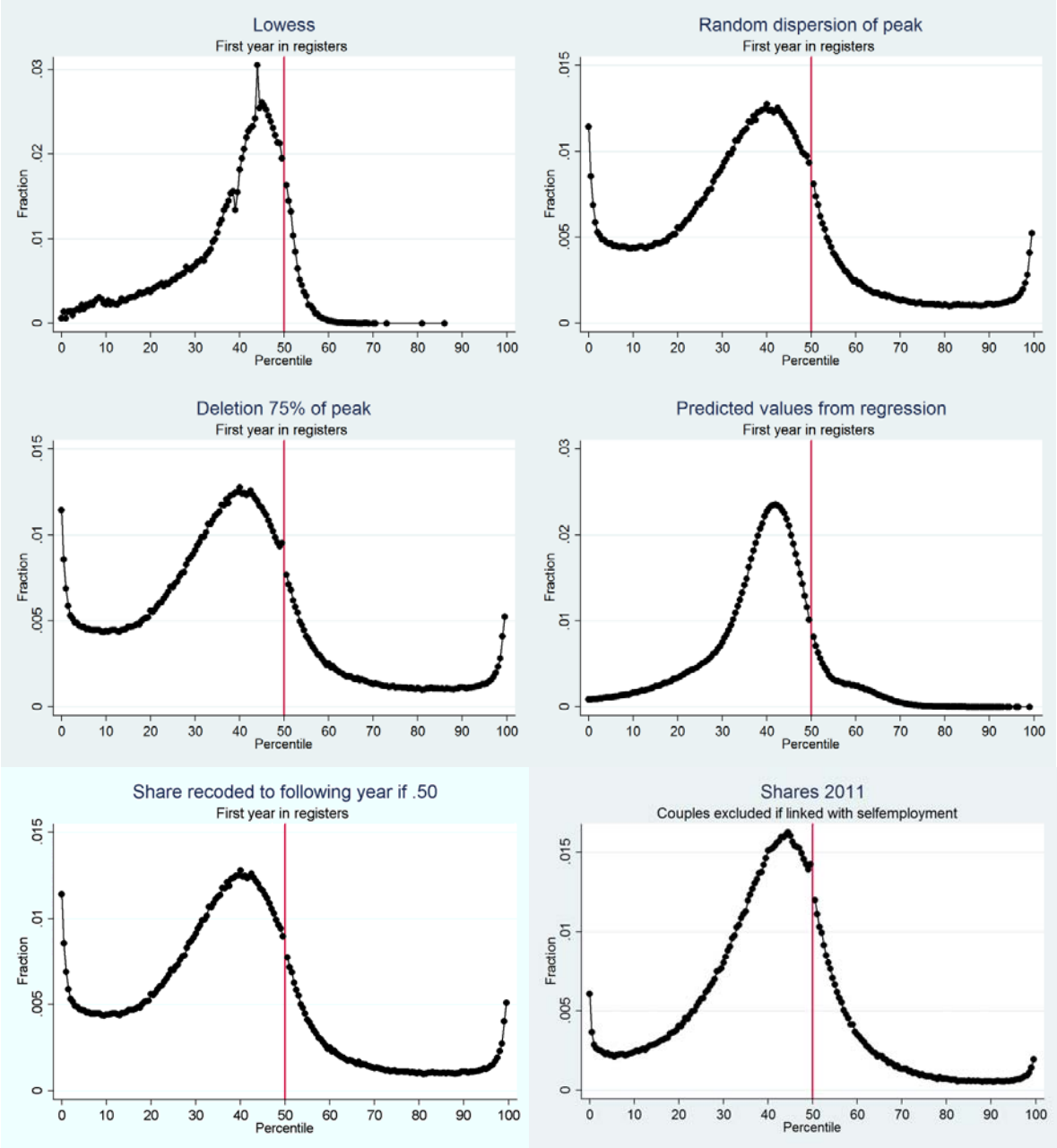
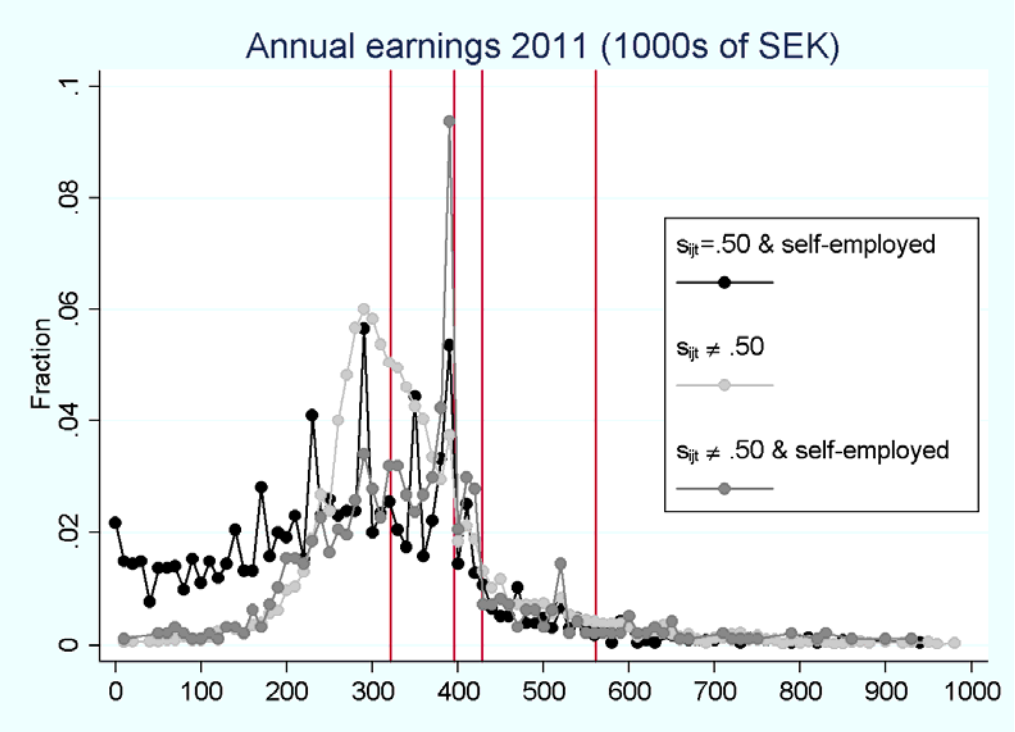


Figure A.4: Histogram of annual earnings in 2011 of (1) wives in couples with s_{ijt} = .50 and where at least one spouse is self-employed; (2) wives in couples just around s_{ijt} = .50 and: (3) wives in couples just around s_{ijt} = .50 where at least one spouse is self-employed.



Note: The vertical lines indicate earnings thresholds which represent, from left, the cap for unemployment insurance benefits and the cap for sick-leave benefits.

Table A.1. McCrary tests for discontinuity. Data on couples when appearing in register data.

Sample: 1st year in registers

Cut-off value	theta	t-stat
.475	-.022	*.30*
.480	.004	*.04*
.485	.047	*.60*
.490	.087	*1.09*
.495	.172	*2.14*
.505	-.225	*2.69*
.510	-.159	*1.80*
.515	-.097	*1.04*
.520	-.048	*.49*
.525	.074	*.70*

Note: Placebo estimations using cut-off points at each half percentage between .100, .105… .895, .900 (160 points) yield standard errors which throughout exceed the estimated theta values.

Table A.2: 2011 cross section. Descriptive statistics around .500.[a)]

	(1) All	(2) >.4985	(3) .50	(4) <.5015	Difference Col (3) – col (2)	Difference Col (3) – col (4)
Share	.414	.499	.500	.501	.001	-.001
Above .50	.254	.000	.000	1.000	.000	1.000
Years married	15.036	16.224	19.573	16.088	3.349*	3.485*
Age wife	44.965	46.412	48.782	46.210	2.370*	2.572*
Age husband	47.264	48.541	51.220	48.462	2.679*	2.758*
Age difference wife-husband	-2.299	-2.129	-2.438	-2.252	-.309*	-.186
College degree wife	.344	.370	.215	.356	-.155*	-.141*
College degree husband	.256	.242	.213	.222	-.029*	-.008
No tertiary wife	.487	.458	.604	.470	.146*	.135*
No tertiary husband	.578	.603	.639	.628	.035*	.011
School years wife	13.015	13.178	12.320	13.109	-.859*	-.790*
School years husband	12.543	12.410	12.154	12.289	-.256*	-.135*
School years diff. wife-husband	.472	.768	.166	.820	-.603*	-.655*
Earnings wife	5.364	5.816	5.351	5.797	-.465*	-.445*
Earnings husband	5.789	5.819	5.351	5.794	-.468*	-.442*
Family disposable inc.	6.369	6.408	6.328	6.389	-.080*	-.062*
- Lowest quartile	.250	.181	.328	.206	.146*	.122*
- Highest quartile	.250	.255	.346	.241	.090*	.105*
Unemployed wife [b)]	.047	.015	.012	.022	-.003	-.009*
Unemployed husband [b)]	.033	.025	.006	.031	-.019*	-.026*
Foreign born wife	.158	.161	.227	.155	.066*	.072*
Foreign born husband	.047	.046	.053	.046	-.007	-.007
Stockholm county	.217	.204	.259	.197	.056*	.062*
No. of children	1.393	1.311	1.221	1.285	-.090*	-.064*
Child aged 0-3	.179	.101	.054	.107	-.047*	-.053*
Same SNI 5-digit	.099	.218	.897	.172	.679*	.725*
Self-employed wife	.031	.045	.518	.037	.473*	.481*
Self-employed husband	.086	.089	.193	.088	.103*	.104*
At least one self-employed	.115	.134	.706	.125	.572*	.581*
No. of observations	769,049	3,088	2,353	2,989		

Notes:

* Significantly different from zero, with p-value < .05.

[a)] Column (1), couples with .4985 < s_{ijt} < .500, i.e. marginally to the left of .50. Column (2), couples with s_{ijt} = .50. Column (3), couples with .500 < s_{ijt} < .5015, i.e. marginally to the left of .50. Column (4), difference in means between couples with s_{ijt} = .50 and couples marginally to the left. Column (5), difference in means between couples with s_{ijt} = .50 and couples marginally to the right.

[b)] Binary indicator value which equals one if annual UI benefits are positive, otherwise zero.

Table A.3: 2011 cross section. Descriptive statistics around .500.[a)]

	Sijt ≠ .50	Share = .50			Difference compared with column (1)		
	(1) >.4985 - <.5015	(2) Self-employed	(3) Same sector	(4) Neither	Self-employed	Same sector	Neither
Share	.500	.500	.500	.500	.000	.000	.000
Above .50	.492	.000	.000	.000	.000	.000	.000
Years married	16.157	20.361	18.084	16.106	4.204*	1.927*	-.051
Age wife	46.312	49.921	46.290	45.085	3.609*	-.023	-1.228
Age husband	48.502	52.190	49.104	48.049	3.688*	.602	.453
Age diff. wife-husband	-2.190	-2.269	-2.814	-2.965	-.079	-.625*	-.775*
College degree wife	.363	.209	.208	.317	-.154*	-.156*	-.046
College degree husband	.232	.207	.228	.232	-.025*	-.004	.000
No tertiary wife	.464	.620	.581	.507	.156*	.117*	.043
No tertiary husband	.615	.649	.607	.648	.033*	.009	.033
School years wife	13.144	12.307	12.198	12.915	-.837*	.946*	.229
School years husband	12.351	12.137	12.192	12.211	-.214*	-.158	-.139
School diff. wife-husband	.794	.170	.006	.704	-.624*	-.788*	-.090
Earnings wife	5.807	5.404	5.193	5.355	-.403*	-.614*	-.452*
Earnings husband	5.807	5.404	5.193	5.355	-.403*	-.614*	-.452*
Family disposable inc.	6.399	6.375	6.220	6.195	-.024*	-.179*	-.204*
- Lowest quartile	.193	.298	.395	.415	.104*	.202*	.222*
- Highest quartile	.248	.373	.313	.148	.125*	.065*	-.100*
Unemployed wife [b)]	.018	.004	.029	.049	-.015*	.011	.031*
Unemployed husband [b)]	.028	.001	.009	.042	-.027*	-.019*	.014
Foreign born wife	.158	.170	.404	.204	.012	.247*	.046
Foreign born husband	.046	.055	.042	.070	.009	.004	-.025
Stockholm county	.201	.253	.301	.169	.053*	.100*	-.032
No. of children	1.298	1.141	1.403	1.458	-.157*	.105*	.160
Child aged 0-3	.104	.035	.086	.155	-.069*	-.018	.051*
Same SNI 5-digit	.195	.939	1.000	.000	.744*	.805*	-.195*
Self-employed wife	.041	.733	.000	.000	.692*	-.041*	-.041*
Self-employed husband	089	.273	.000	.000	.184*	.089*	.089*
At least one self-employed	.130	1.000	.000	.000	.870*	-.130*	-.130*
No. of observations	6,077	1,662	549	142			

Notes:

* Significantly different from zero, with p-value < .05.

[a)] Column (1), couples with .4985 < s_{ijt} < .5015, but $s_{ijt} \neq .50$. Column (2), $s_{ijt} = .50$ and at least one of the spouses registered as self-employed. Column (3), $s_{ijt} = .50$ and spouses registered in the same sector at the 5-digit level. Column (4), $s_{ijt} = .50$ and not belonging to either groups in the two previous columns. Columns (5), (6) and (7), the difference in mean values of each column with $s_{ijt} = .50$ compared to the first column.

[b)] Binary indicator value which equals one if annual UI benefits are positive, otherwise zero. .