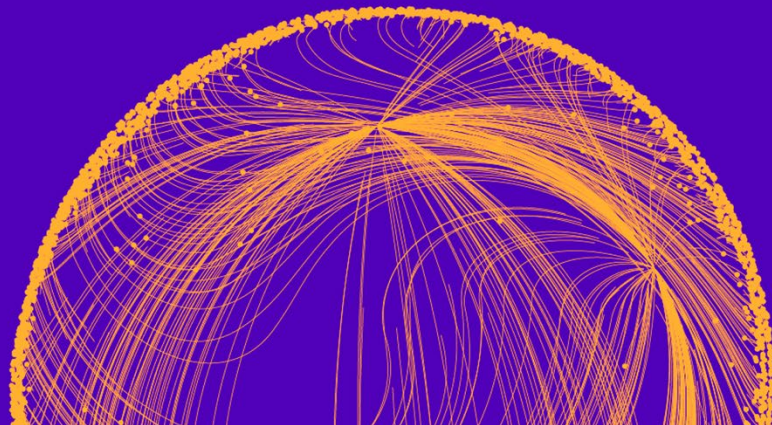


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# Family taxation and labor supply

Juuso Mäkinen



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# Family taxation and labor supply\*

Juuso Mäkinen<sup>†</sup>

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## Abstract

I study a tax policy in Finland in 1976 that changed the basis for income taxation from couple's joint income to individual income. Following the shift from family taxation to individual taxation, secondary earners within households experienced large drops in their participation tax rates and marginal tax rates. Because secondary earners were predominantly women, the reform leveled the differences in labor market opportunities between men and women. I find that the reform-induced changes in participation tax rates contributed to the rise in female employment over the 1970s – I estimate that the policy encouraged around 7,800 women to participate in the labor market, increasing married women's employment rate by 1.7 percentage points. The effects correspond to an average participation elasticity of 0.17. The increases in employment were driven by women with compulsory education and mothers with school-age children. For mothers, the participation elasticities range from zero to 0.3 depending on the age of the youngest child. Finally, I show that the shift from family to individual income taxation influenced how income is shared within households among self-employed couples, generating bunching at 0.5 in the share distribution.

*Keywords:* family tax reform, joint taxation, individual taxation, labor supply

*JEL Codes:* H24, J22, J16

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# 1 Introduction

Most people form a family at some point in their lives. Finding a partner, setting up a household with joint resources or the arrival of children can significantly steer one’s career. A consensus has emerged that this is especially true for women after having children, which negatively affect women’s labor market trajectories (e.g. [Kleven et al. 2024](#); [Cortés and Pan 2023](#); [Lundborg et al. 2017](#)). Governments can support women’s labor market attachment with family policies that help combine family and career. At the same time, the tax treatment of families has potential to shape women’s labor market choices already before and regardless of children. Family or joint taxation, in which taxation is based on couple’s pooled earnings, leads to higher effective tax rates for secondary earners within households, possibly hindering married women’s careers by steering households towards within-household specialization in which one partner specializes in market work and the other in household production.<sup>1</sup>

Career success of women is of high policy relevance not only because of its consequences on equality but also because barriers on labor market participation and career progress can lead to talent misallocation that has important implications for economic growth ([Hsieh et al., 2019](#); [Chiplunkar and Goldberg, 2024](#); [Brouillette, 2025](#)). While income taxation is based on individual earnings in most OECD countries, some large economies, including the US, Germany and France, base their tax systems on couples’ joint incomes.<sup>2</sup> In these economies, taxation is an important candidate for contributing to the gender difference in labor market participation and earnings. [Bick and Fuchs-Schündeln \(2017\)](#) show that family taxation creates significant disincentive effects for secondary earners’ labor market decisions. Furthermore, evidence shows that the tax treatment of married couples is an important factor in explaining variation in women’s labor supply – both across countries ([Bick and Fuchs-Schündeln, 2018](#)) and within countries over time ([Bick et al., 2019](#)). Scarce quasi-experimental evidence suggests that the relationship between the choice of family tax system and women’s labor market participation is causal ([Isaac, 2025](#); [Selin, 2014](#); [Kalíšková, 2014](#); [LaLumia, 2008](#)). If family taxation curtails women’s labor market participation, a shift to individual taxation can generate aggregate output effects ([Guner et al., 2012](#)) as well as increases in within-household and gender equity.

In this paper, I study how the tax treatment of families shapes married women’s labor supply choices. In particular, I study a tax reform in Finland in 1976 that replaced a long-standing family tax system with an individual tax system. As a consequence, married individuals’ tax rates became less dependent on spouse’s earnings, leading to significant drops in marginal and participation tax rates for secondary earners. Because at the time approximately 90 percent of secondary earners were women, the reform leveled labor market opportunities between men and women. I use reform-induced changes in married women’s marginal and participation tax rates to measure how the reform affected women’s labor market participation and earnings. The identification strategy is based on difference-in-differences with continuous treatment inten-

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<sup>1</sup>Specialization can also take place across time-demand in which one spouse specializes in a more time-intensive career while the other works in an occupation that is more flexible, leading to within-household earnings differences ([Goldin, 2024](#)).

<sup>2</sup>Broadly, there are three categories of family taxation including 1.) separate filing, 2.) joint filing and 3.) optional joint filing. According to [OECD \(2024\)](#), in 2023, a total of nine OECD countries based their tax system on joint filing while 29 OECD countries based income taxation of married couples on individual earnings. United States and Germany, base their tax system on optional joint filing, in which couples can decide whether their taxation is based on pooled or individual incomes. In practice, however, one-earner couples opt for joint filing if it leads to lower household level taxation. Few OECD countries, including Switzerland and France, rely on mandatory joint filing. The decision between joint and individual taxation is not binary in the sense that each tax system has a degree of jointness that depends on the details of the tax system. For instance, the unit of tax reliefs can be on household level even though the tax unit is on individual level. Information on tax systems, including tax unit and tax reliefs: [OECD \(2024\)](#), Annex 2.A.

sity, measuring either the change in an individual's participation or marginal tax rate. The strategy relies on tracking the labor supply choices of married women with different levels of spousal earnings. The evolution of outcomes around the reform and placebo regressions suggest that neither husbands' income rank nor the treatment intensity (reform-induced changes in participation tax rate) predict changes in women's labor supply before the reform, offering support to the credibility of the empirical approach.

I find that the reform lowered participation tax rates for married women on average by 8 percentage points and marginal tax rates for working married women by 6 percentage points. I find that the reform increased married women's labor market participation by 1.7 percentage points four years after the reform, suggesting that the policy encouraged around 7,800 women to participate in the labor market. These effects correspond to an average participation elasticity of 0.17. Wage income increased by 2.6 percent because of the policy. At the intensive margin, the effects were small or zero, suggesting that the reform's effects on the labor market materialized through extensive margin responses. Overall, the results suggest that around 8 percent of the rise in married women's participation rate during the 1970s can be attributed to the change in tax policy.

I uncover heterogeneity in responses to the reform. I find that most of the increases at the extensive margin were driven by mothers with school-aged children. In contrast, mothers with young children did not respond to the changes in their participation incentives. I find that the positive labor market responses were increasing in married women's own-age, underlining the role of middle and end of career in explaining the positive labor supply responses. This pattern of results suggests that labor supply responded more when constraints related to children were less restrictive. At the same time, the evidence is consistent with a labor supply model in which the value of leisure is higher for mothers of young children. Scarce public childcare during this period potentially explains the observed pattern in effect heterogeneity. The participation elasticities vary between 0 and 0.3 depending on the age of the youngest child. Along other dimensions, the increases were driven by women with compulsory education while women with secondary and tertiary education did not respond to the changes, possibly reflecting that educated women were more likely to participate in the labor market already before the reform.

I find that the reform's effects at the intensive margin were zero or small. Even though marginal tax rates dropped significantly for women who were working before the reform, I do not detect changes in wage income or taxable income in response to these changes. At the intensive margin – given the pre-reform labor supply – working women experienced increases in households' net income through decreases in the income taxation of two-earner couples. Therefore, one possible explanation for the small or null effects is that a positive substitution effect and a negative income effect worked in the opposite directions. Together, the intensive and extensive margin results suggest that the reform shaped labor markets exclusively through the participation margin, which is consistent with the view that labor supply is mostly driven by extensive margin responses (Heckman, 1993; Bargain et al., 2014), which has implications for optimal policy (Saez, 2002).

The reform shaped participation incentives for secondary earners in two ways. First, the reform lowered secondary earners' marginal tax rates as the tax rates became less dependent of primary earnings. Second, the reform lowered the taxation of two-earner couples relative to one-earner couples. Following this observation, I decompose the reform-induced incentive change to 1.) a change in wife's net wage (net income

conditional on working) and 2.) a change in unearned income conditional on not working. At the extensive margin, this decomposes the policy’s effect on labor supply into an own-wage effect and an income effect. Furthermore, the decomposition allows measurement of how married women’s budget constraints shifted because of the reform. The decomposition shows that, in terms of the shift in the budget constraint, the family tax reform corresponded to a combination of a tax cut (change in own net income conditional on employment) and a reduction in means-tested transfer (change in unearned income conditional on non-employment). The approach is related to previous empirical work that decomposes labor supply effects into income and substitution effects under a family labor supply framework (Isaac, 2025; Ashenfelter and Heckman, 1974). In particular, Isaac (2025) studies how a shift from individual to joint taxation for same-sex couples affected labor supply through the change in net wage and a change in household income. Looking through the lens of the shifts in budget constraint, the empirical approach follows on a similar path as research that quantifies sources of financial incentives to work that arise from the interaction of multiple policies (e.g. Meyer and Rosenbaum 2001). The decomposition has important implications for optimal design of tax and transfer policies as the magnitude of substitution and income effects are important in minimizing distortions given a targeted level of redistribution.

I find that both components – own net wage and unearned income conditional on not working – were quantitatively important in improving married women’s incentives to participate in the labor market. Consequently, the tax policy created similar changes in financial incentives to work as a combination of a tax change and a reduction in a transfer that is conditional on no or low earnings. The decomposition estimates suggest that the labor supply responses at the extensive margin varied depending on how the budget constraint shifted as the effect through own net wage was relatively more important for generating positive participation responses compared to the effect through non-labor income. The estimates imply an average elasticity of 0.35 for own wage and -0.12 for non-labor income. These separate estimates allow to understand participation responses to policies that differ in how they shift the budget constraint, depending on whether the shift is based on a change in net-earnings in the employed state or in the non-employed state. The findings imply that, on average, the substitution effect (the effect of own wage) was larger than the income effect (the effect of unearned income). From a within-family perspective, the estimates are in line with the view that married women’s labor supply is more responsive to own wage compared to spouse’s wage (Blau and Kahn, 2007). From a policy perspective, the estimates are qualitatively similar to Meyer and Rosenbaum (2001) who evaluate the effects of multiple policies, finding that EITC and other tax changes were relatively more important to generate labor supply responses compared to welfare policy changes.<sup>3</sup>

To evaluate how effective the policy was in producing benefits relative to its costs, I utilize the marginal value of public funds (MVPF) framework by Hendren and Sprung-Keyser (2020). Because the policy had positive labor supply effects, generating positive fiscal externalities, the policy’s net cost to the government was less than its mechanical cost, which assumes no behavioral responses. I find that the fiscal externality offset around 10 percent of the direct costs. Depending on how the individuals who entered employment because of the policy valued additional net income, the MVPF of the policy was between 1.1 and 1.5. This suggests that one FIM spent on the policy produced 1.1-1.5 FIM worth of benefits to the policy beneficiaries.

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<sup>3</sup>However, welfare policies are not directly comparable to the change in unearned income generated by the family tax reform because welfare reforms tend to bundle different treatments, e.g. sanctions and time limits, together instead of only shifting cash benefits. A plausible policy that shifts participation incentives similarly as the family tax reform is, for instance, combined shifts in the profile of income taxation that also allows negative income taxes.

Because the reform was a combination of a tax cut and a transfer cut conditional on non-employment or low earnings, it is natural to compare the reform’s effectiveness to these types of policy changes. [Hendren and Sprung-Keyser \(2020\)](#) find that in-work benefits, such as the EITC, have MVPFs of around 1.1-1.2. The MVPF of the tax reform is largely in line with these efficiency estimates.

The main threats for the validity of the identification strategy include *different income trends* and *non-policy related changes* that are correlated with the tax rate variation. These threats reflect violations of the parallel trends assumption in a difference-in-differences strategy. The violations differ in their timing – different trends should appear already before the reform while other changes would cause differences in trends simultaneously with the tax-policy. In general, the parallel trends assumption would be violated if individuals with similar pre-reform earnings, education and family situation but with different spousal earnings would be on different earnings trajectories in the absence of the family tax reform. The second threat is related to confounding shocks that affect women with different levels of spousal earnings. These could, for instance, include other changes in the tax and benefit system. In terms of measurement, when using panel data, one potential issue is related to *mean reversion*, which refers to transitory shocks in either husband’s or wife’s earnings during the pre-period, leading to mismeasurement of the tax changes and potentially causing bias in the estimates.<sup>4</sup>

I evaluate the parallel trends assumption and the degree of potential bias due to mean reversion. First, I evaluate the income trends assumption by plotting how employment and earnings evolved before the individual tax system was adopted. In addition, I run placebo regressions that explicitly correlate the tax rate variation and changes in outcomes, using only pre-reform data. I find that using pre-reform data, the tax variation predicts zero effect for participation. For wage income and taxable income, the effects are negative and not statistically distinguishable from zero. To test how mean reversion potentially affects my estimates, I use lagged husband taxable income measure in constructing the reform-induced changes in wife’s tax rates. [Weber \(2014\)](#) shows that a lagged instrument could alleviate the mean reversion issue by diminishing the role of transitory shocks. I use reform-induced changes in participation and marginal tax rates that are based on husband earnings five years before the reform and show that the estimates are not substantially different when using lagged husband earnings. To alleviate the concern that other changes in the tax and benefit system might be behind the results, I exclude families with very low or very high husband earnings in order to create an estimation sample that is less sensitive to changes that shift incentives either in the top or the bottom part of the husband earnings distribution.

Finally, I turn the attention to women who were self-employed or their husband was self-employed before the reform. These self-employed couples are excluded from the main estimation sample because of the difficulties in distinguishing whether the changes in earnings are due to actual labor supply responses or changes in income reporting.<sup>5</sup> The reform significantly altered incentives for dividing income between family members. The reform generated a strong incentive to divide family income equally between spouses as this minimizes the tax burden under the individual income tax system. I find that after the reform, wives’ share of household income increased considerably within the self-employed couples sample. In addition, there is

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<sup>4</sup>Earlier research discusses both non-tax related changes and mean reversion in panel data, e.g. [Weber \(2014\)](#), [Saez et al. \(2012\)](#)

<sup>5</sup>For instance, [Harju and Matikka \(2016\)](#) show, using data around 2005 dividend tax reform, that for Finnish business owners, majority of the elasticity of taxable income is due to income-shifting rather than changes in real economic activity.

evident bunching at exactly 0.5, implying that many couples shared income equally after the reform. Furthermore, this bunching is also evident in the share-distribution of all couples as the number of self-employed couples is sufficiently large.

Through the analysis of self-employed couples, I contribute to the discussion on why there exists a discontinuity at 0.5 in the distribution of wives' share of household income. [Bertrand et al. \(2015\)](#) argue that the discontinuity is due to gender identity norms, for which wives have a tendency to avert situations in which they earn more than their husbands. An alternative hypothesis is provided by [Zinovyeva and Tverdostup \(2021\)](#) who argue that the discontinuity exists because of coworking spouses.<sup>6</sup> Research also shows that the discontinuity exists because of a spike at exactly 0.5 both in Sweden ([Hederos and Stenberg, 2022](#)) and in the US ([Binder and Lam, 2022](#)). I provide descriptive evidence that fiscal incentives of self-employed couples to report equal earnings are important in generating the discontinuity. I show that the equalization of taxable income and the bunching at exactly 0.5 in couples' share-distribution is a direct consequence of the individual income tax reform that suddenly changed the economic incentives of self-employed couples to report identical earnings. This observation suggests that the discontinuity is not due to gender identity norm but rather the result of fiscal incentives to report identical earnings among self-employed couples.

The findings are relevant for understanding what explains differences in labor market participation of women across countries ([Bick and Fuchs-Schündeln, 2018](#)). The paper builds up scarce quasi-experimental evidence on how a shift between different family tax systems affects the employment and earnings of married women. A recent paper by [Isaac \(2025\)](#) utilizes a shift from individual filing to joint filing for same-sex married couples in 2013 as a result of the federal government's recognizing same-sex marriages. He finds that the shift from individual to joint taxation lead to decreases in the participation of lower earners by 0.8 percentage points. Secondly, [Selin \(2014\)](#) explores how the individual tax reform in Sweden in 1971 affected participation, finding large effects on employment. [Kalíšková \(2014\)](#) studies a shift to joint taxation in Czech Republic, finding that the employment rate of women with children dropped by 3 percentage points. [LaLumia \(2008\)](#) studies a shift to joint taxation in the US in late 1940s and finds that the policy decreased women's employment by 2 percentage points. Furthermore, [Crossley and Jeon \(2007\)](#) study the relationship between the degree of tax jointness and the participation of secondary earners, finding that the replacement of spousal tax deduction with a tax exemption increased the participation of women married to high-income husbands.<sup>7</sup> In addition, the study contributes to the quasi-experimental evidence of different welfare and tax reforms on women's employment, including studies on EITC ([Kleven, 2024](#); [Bastian, 2020](#); [Eissa and Liebman, 1996](#); [Eissa and Hoynes, 2004](#)), as well as empirical labor supply literature more broadly (e.g. [Killingsworth and Heckman 1986](#); [Blundell and MaCurdy 1999](#); [Keane 2011](#)). Depending on policy objectives, the results can be relevant in comparison to various family policies that aim to support female employment (e.g. [Olivetti and Petrongolo 2017](#)).

Along with the empirical labor supply literature, the study also contributes to understanding the welfare implications of family taxation. [Kleven et al. \(2009\)](#) conclude that if secondary earners' labor market participation is considered a signal that the couple is better off, the optimal tax scheme involves a decreas-

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<sup>6</sup>In [Zinovyeva and Tverdostup \(2021\)](#), coworking spouses include households in which both spouses are self-employed and spouses that work at the same firm.

<sup>7</sup>The tax deduction created a disincentive for secondary earners with high-earning spouse. Thus, the replacement of the deduction increased the labor market incentives of this group.

ing secondary earner's tax rate in primary earnings.<sup>8</sup> Assuming a society in which secondary earnings are considered a positive signal, the shift from joint to individual taxation brought the tax system more in line with an optimal tax schedule, implying welfare gains. Second, optimality could also be derived from the relative labor supply elasticities of primary and secondary earners (Boskin and Sheshinski, 1983). It is efficient to decrease taxation for secondary earners if they have larger labor supply elasticity as it leads to lower distortions – a family tax system typically does the opposite. Furthermore, the study contributes to understanding how financial incentives steer within-household specialization. Higher marginal tax rates steer secondary earners to specialize in home production – an argument that is formally derived by Alesina et al. (2011). Therefore, a shift to individual taxation can equalize within-household allocation between market work and household production. The findings suggest that within-household equality increased through the positive employment responses of secondary earners.<sup>9</sup> The optimality of the tax system, however, ultimately depends on society's welfare weights – for example how society values equality between households (e.g. one-earner couples relative to two-earner couples), equality within households as well as gender equality.

The rest of the paper is organized as follows. In the second section, I present the institutional context. Third, I show how the reform maps into the unitary household labor supply model both at the extensive and intensive margins. Fourth, I describe the data and the sample. In the fifth section, I present the empirical strategy both for measuring tax rate changes and estimating labor supply responses. In the sixth section, I present the main results. In the seventh section, I evaluate the identifying assumptions by studying pre-reform trends. In the eighth section, I present various robustness checks. The final section concludes.

## 2 Institutional context

State income taxation in Finland was based on taxing couples' joint earnings already in 1920s when Finland adopted its first progressive income tax system (Myrsky, 1997). Finland shifted to individual state income taxation in 1934, after which secondary earners were taxed separately. This policy was not, however, long-standing as joint taxation was readopted in 1943 (Law 888/1943, 1943). The adopted family tax system was in effect until 1975 when the parliament passed the taxation act (Act 608/1975, 1975) that largely unified the tax treatment of married and non-married individuals. From 1976 onwards, all individuals were taxed under a single tax schedule, replacing the system with separate schedules based on marital status.

The sentiment around family taxation changed together with rising female employment over the 1960s and early 1970s. This era saw a steep rise in female employment and joint taxation was seen to hinder further increases in female employment. At the same time, the choice of the family tax system was fundamentally a question about gender equality: joint taxation imposed higher marginal tax rates for secondary earners and around 90 percent of married women were secondary earners in 1975. The question on gender equality was also reflected in political activism in the late 1960s and 1970s when women's right to participate in the

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<sup>8</sup>Kleven et al. (2009) expand the traditional optimal tax theory to couples. Their model is based on the unitary household model without income effects where the primary earner makes an intensive margin decision, and the secondary earner makes an extensive margin choice. They ask how the optimal tax rates should vary with their spouse's earnings, which then implies an "optimal form of jointness" in family taxation. They find that if secondary earner participation is considered a signal that the couple is better off, the optimal tax scheme imposes a positive tax on secondary earnings and the tax decreases with primary earnings (implying a negative tax jointness).

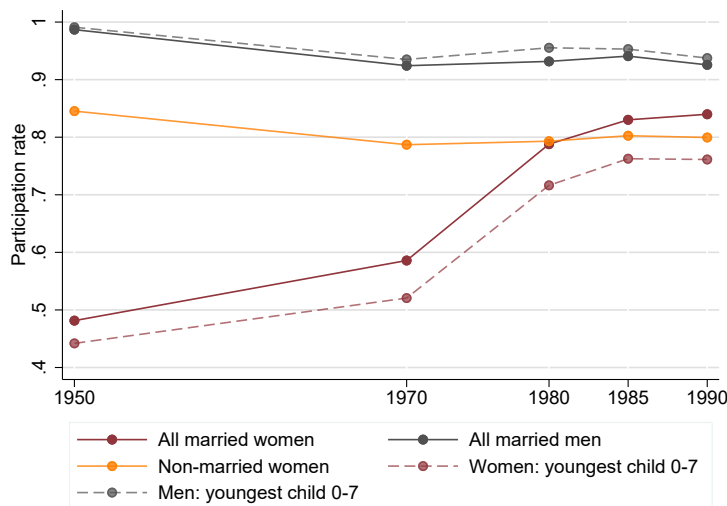
<sup>9</sup>Assuming that husbands' labor supply responses to the reform were smaller than that of women. The distribution of wives' share of household earnings shifted to the right between 1975 and 1980 (appendix, figure 21) – the participation effects imply that the reform increased married women's earnings, which is suggestive that the policy contributed to the shift.

labor market equally to men was a high priority in the feminist movement (Holli, 2003). This priority also echoed in the political discussions. For instance, The Council for Gender Equality raised the need to base taxation on individual earnings to promote gender equality.<sup>10</sup>

The political developments around family taxation during the 1970s were not unique to Finland. Many other OECD countries shifted from joint to individual taxation during this period, including Denmark, Sweden, Austria, the Netherlands and Italy (Brierbauer et al., 2025).

Figure 1 illustrates that the 1970s was a period that saw a steep rise in married women’s employment rate in Finland:

Figure 1: Labor market participation rates for 25–50-year-olds in different groups



*Notes:* The figure is based on full population census for years 1970, 1980, 1985 (Statistics Finland, 1970; 1975; 1980; 1985) as well as on full population data for 1990 (Statistics Finland, 1990). Data for year 1950 is a 10 percent sample of the original census data (Statistics Finland, 1950). For 1950, all people whose work generated income in some form are counted as employed. For census years (1970, 1980, 1985) and for year 1990, participation is based on the main activity during the census week. The methodology for measuring activity might vary across years. Main activity during census week is not available in the 1975 census. Note that elsewhere in the paper, I use a different participation definition that is based on wage income because the surveyed participation status is missing for the main pre-reform year, 1975. Participation rates using the wage income definition are presented in figure 15 in appendix.

Figure 1 shows that the gap in participation rate between married men and women narrowed considerably during the 1970s. At the same time, the participation rate of married and non-married women converged in 1980. This was a significant change as the employment rate of nonmarried women was around 20 percentage points higher still in 1970. The growth of employment among mothers with young children tracked that of all married women, underlining that mothers of young children also contributed to the overall growth in employment during this period.

The government explicitly listed improving employment and gender equality as policy goals. The gov-

<sup>10</sup>Tasa-arvoasiain neuvottelukunta 1975. The council also advised this in 1973: Helsingin Sanomat, August 10, 1973: figure 24.

ernment wanted to support the labor market participation of married women by lowering secondary earners' tax burden (HE 63/1975 I vp, 1975). Furthermore, the government's goal was not only to increase horizontal equity – that individuals with equal earnings should face equal tax treatment – but also increase economic independence from one's spouse (HE 63/1975 I vp, 1975). This motivation can be interpreted as a shift towards weighing within-household equality and equality across individuals relative to equality across households. The shift in policy priorities is evident as the government had motivated the 1943 shift to joint taxation with equality between households (HE 77/1943 vp, 1943).

The sentiment in promoting equal opportunities between men and women shaped social policy at large during the early 1970s. Other reforms that took place to support gender equality and women's employment included the law on universal childcare in 1973 (Law 36/1973, 1973) and changes in maternity leave duration.<sup>11</sup>

During this period, the scarcity of affordable childcare was a significant barrier for mothers' labor market participation. During the 1970s, there was a large deficit in childcare and public childcare was not available to all families. The scarcity gradually eased after the universal childcare law was passed in 1973 after which the supply increased at a pace of around 5,000 spots per year.<sup>12</sup> However, the pace was not sufficient to meet the aggregate need for childcare in 1980 – the year when labor market outcomes are measured in estimating the labor supply effects of the tax policy. In 1970, there were around 37,000 childcare seats against 490,000 children under school age (Hulkko, 1971). Government assessed that, given the availability of qualified personnel, the need would be met approximately in year 1990 (HE 138/1972, 1972).

Before the tax reform in 1975, Finland's income tax system remained largely unchanged between 1943 and 1974. The tax system installed in 1943 (Law 888/1943, 1943) included three state income tax schedules. Couples with dependent children were taxed under the lowest marginal tax schedules based on their joint earnings. Married couples with no dependent children and non-married individuals who were younger than 24 were taxed under a schedule with higher tax rates and non-married individuals who were 24 or older under the highest marginal tax rates. Under this system, individuals with no dependent children received a tax hike when they turned 24.<sup>13</sup>

The tax reform in 1974 (Law 1043/1974, 1974) replaced the three-schedule system with two income tax schedules. Married couples and individuals with dependent children were now taxed under the lower tax rates. Taxation of couples was still based on joint earnings. Non-married individuals who had no dependent children were generally taxed under the higher marginal tax rate schedule. The tax increase for individuals with no dependent children after turning 24 was removed. This tax system was only applied in 1975 taxation.

In 1976, Finland adopted the individual tax system that was based on a single-tax schedule. The reform was salient – major news outlets like Helsingin Sanomat, Finland's leading daily national newspaper, featured discussions on the reform (figure 24 in appendix). In addition, in 1977 the tax authority, in its tax filing guidelines included information on individual taxation (figure 25a in appendix). In a survey (1020

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<sup>11</sup>Troccoli (2023) provides an overview of changes in parental leave duration in the 1960s and the 1970s.

<sup>12</sup>More information on the 1973 childcare law and its implementation is provided in essays 2 and 3 of the dissertation.

<sup>13</sup>The different tax treatment of individuals with no children based on age was informally called "vanhanpiian vero" in Finnish. It was removed in the 1975 taxation.

respondents) conducted in 1975 by Helsingin Sanomat, 76% of the respondents said that they believed that an individual tax reform would increase housewives' willingness to participate in the labor market (figure 26 in appendix), suggesting that it was a common view that the family tax system discouraged women's work.

From 1977 onwards, income taxation was systematically adjusted for inflation, extending also to deductions (Turkkila, 1989). As a result, the increases in wages and prices no longer affected the level of taxation. Before 1976, overall increase in prices had made taxation stricter in real terms as wages and prices were increasing rapidly. For example, during 1967-1973, the same nominal tax brackets were applied even though inflation was running high during the period.<sup>14</sup> Consequently, taxation got stricter in real terms between 1960 and 1975 (Turkkila 1989). After 1975, the tax rates remained relatively similar between 1976 and 1980. In addition, due to the annual inflation adjustments, the overall price level did not affect the relative taxation between high- and low-income individuals.

In 1975, a year before the tax reform, the median taxable income for married men was around 50,000 FIM. If wife's earnings corresponded to women's median earnings at the time, corresponding to around 30,000 FIM, a marginal increase in earnings would have been taxed at a rate of 37% under the joint tax system in 1975. Under the 1976 and 1980 individual tax system, the marginal increase in earnings would have been taxed at 28% tax rate. On aggregate, taxation eased after the reform as the share of aggregate income taxes to aggregate earnings was lower in 1976 and 1980 compared to 1975 (Turkkila, 1989). The easing of overall level of income taxation was anticipated by the government before passing of the law.<sup>15</sup>

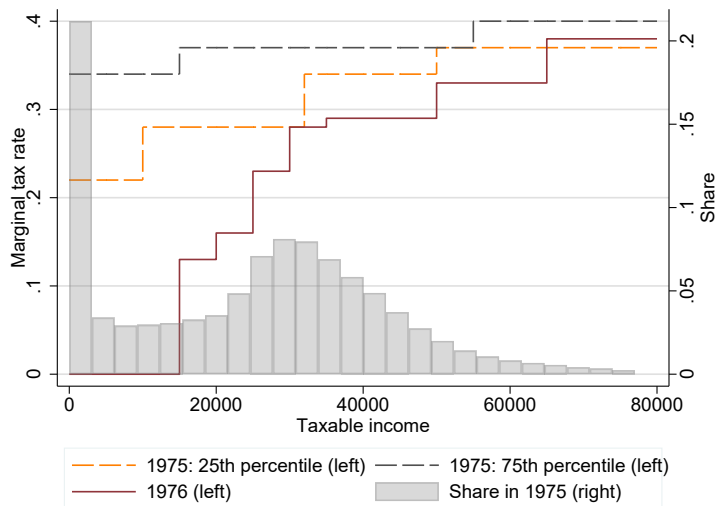
Figure 2 illustrates how changes in marginal tax rates (MTRs) for secondary earners depended on primary earnings before the reform in 1975. The figure plots the marginal tax rates for women with a low-earning husband (at 25th percentile) and women with a high-earning husband (at 75th percentile) for different levels of own earnings.

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<sup>14</sup>On average, annual CPI-inflation was 6.4 percent during this period.

<sup>15</sup>The Government Proposal to Parliament (HE 63/1975 I vp, 1975) assessed that the revenue from income taxation from year 1976 would decrease at least by 800 million FIM.

Figure 2: Marginal tax rates at different levels of wage income for women with a husband that had relatively low earnings (25th percentile) and high earnings (75th percentile) before and after the tax reform



*Notes:* The dashed lines in the figure represent marginal tax rates in 1975, a year before the individual tax reform in 1976. Dashed lines represent the marginal tax rates (left y-axis) of married women at different levels of own-earnings (x-axis) if husband is either at 25th percentile (orange dashed line) or 75th percentile (grey dashed line) in the husband taxable income distribution. The percentiles are based on the taxable income distribution of husbands in 1975. Red solid line represents the MTRs at different levels of earnings for both types of women after the individual tax reform, in 1976. The histogram in the background measures the shares of married women in 1975 at different levels of wage income (right y-axis). All values are in 1980 FIM. The MTRs do not take into account deductions that wage-earners were allowed to make from their taxable incomes. The marginal tax rates before and after the reform are presented in table 4 in appendix.

The dashed lines in figure 2 are MTRs for secondary earners one year before the reform. The orange dashed line is the MTR for an individual whose husband’s pre-reform taxable income was at the 25th percentile of husbands’ earnings distribution and the grey dashed line is the MTR for an individual whose husband was at the 75th percentile. The solid red line is the MTRs after the reform. The histogram in the background is the wage income distribution of married women in 1975, showing that MTRs changed also for women with relatively high pre-reform earnings. The figure illustrates that marginal tax rates generally decreased for married women in 1976 compared to 1975 and that the variation in MTR-changes were dependent on husband’s earnings. Similarly, the changes in marginal tax rates resulted in variation in policy-induced changes in participation tax rates (figure 16 in appendix).

### 3 Conceptual framework

In this section, I describe how the tax reform affects labor supply decisions using a static unitary household labor supply framework (e.g. Immervoll et al. 2011, Immervoll et al. 2007). Using the unitary model, I introduce important mechanisms that link the reform to labor market choices both at the extensive and intensive margins.

Under a unitary household model, income is pooled within the household and household maximizes utility as a single agent. A key shortcoming of the unitary model is that it does not recognize the role of within-household bargaining in family decision making, which is generally not consistent with empirical evi-

dence (e.g. Cesarini et al. 2017). Despite the model’s shortcomings, the unitary model provides a transparent framework for measuring changes in secondary earners’ economic incentives – a key parameter for understanding the effects of the family tax reform. Importantly, the approach allows to connect the conceptual framework to the empirical section, which includes measurement of reform-induced changes in labor market incentives. Next, I present the simple static labor supply model at the extensive margin and intensive margin and highlight the important mechanisms that lead to changes in labor market incentives.

**Extensive margin choice.** A household consists of a primary and a secondary earner,  $j \in \{p, s\}$ , that choose whether to participate or not in the labor market. First, I assume that the primary earner  $p$  always participates and earns  $z_p$ . Second, I assume that the household members share resources within the household and the secondary earner  $s$  decides whether to participate in the labor market after observing  $z_p$ . If secondary earner participates, she earns  $z_s > 0$ .

The secondary earner’s problem is:

$$\max_{z_s} u(c, z_p, z_s, q_s) = v(c) - f_s(q_s) \cdot 1(z_s > 0) - f_p(q_p), \quad (1)$$

subject to a budget constraint  $c = z_p + z_s - T(z_p, z_s)$ , where  $c$  is household consumption and  $T(z_p, z_s)$  is household’s total tax burden.  $v(c)$  is household’s utility drawn from consumption. Costs,  $q_s$ , include both the disutility of work and other work-related costs, including childcare costs, that only materialize if secondary earner works. Childcare costs are included in  $q_s$  as primary earner makes the participation decision first and childcare reduces net income through childcare costs only if the secondary earner works. Costs are drawn from distributions  $f_p$  and  $f_s$ . The marginal cost function is increasing if working full-time is increasingly costly, e.g. due to restrictive social norms or expensive full-time childcare. Preferences could depend on the presence of children if children increase the value of leisure. In addition, preferences might depend on children’s age if time with young children is seen especially valuable.

At the extensive margin, participation is determined by comparing utilities by participation status. I assume that the tax reform only affects household’s taxes,  $T(z_p, z_s)$ , without affecting preferences or costs. The reform’s effect on the participation status depends on whether it flips the sign of the participation condition after the reform. Individual changes from non-employment before the reform (*pre*) to employment after the reform (*post*) if both conditions hold:

$$u(c, z_p, z_s, q_s, T_{pre}(z_p, z_s)) < u(c, z_p, 0, T_{pre}(z_p, 0)), \quad (2)$$

$$u(c, z_p, z_s, q_s, T_{post}(z_p, z_s)) \geq u(c, z_p, 0, T_{post}(z_p, 0)), \quad (3)$$

Conversely, if the sign does not change, the reform does not affect participation. I define the *participation tax rate* (PTR), which measures how much the secondary earner pays taxes out of gross earnings if she decides to participate in the labor market. PTR corresponds to the effective tax rate at the extensive margin:

$$PTR_{s,t} = \frac{T_t(z_p, z_s) - T_t(z_p, 0)}{z_s}, t \in \{pre, post\}, \quad (4)$$

which includes all the changes in household’s tax burden that follow from participation. Note that before the reform,  $T_{pre}(z_p, z_s)$  was determined jointly and the reform significantly decreased the degree of dependence (or the degree of jointness) between spouses after-tax earnings. The change in secondary earner’s take-home pay is measured as the share of net-earnings out of the gross earnings. This is defined as  $\Delta(1 - PTR_s) = (1 - PTR_{s,post}) - (1 - PTR_{s,pre})$ , which measures the reform-induced change in the economic incentive to participate in the labor market.<sup>16</sup>

Another central concept in measuring changes in participation incentives is non-labor income (from the secondary earner’s perspective) denoted by  $R(z_s = 0)$ . I define *the change in non-labor income conditional on non-employment* as the difference between non-labor income before and after the reform, conditional on secondary earner’s non-participation:

$$\Delta R(z_s = 0) = T_{pre}(z_p, 0) - T_{post}(z_p, 0), \tag{5}$$

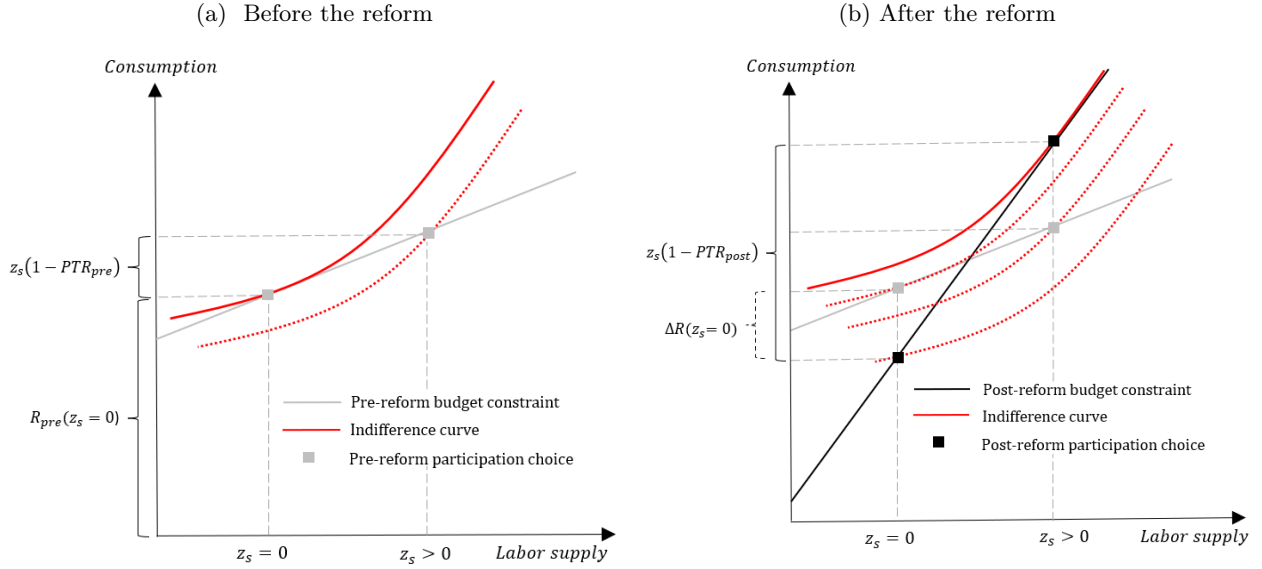
which measures the change in household disposable income if the secondary earner remains non-employed after the reform.

Next, I explore how the reform affected labor supply of secondary earners under a static labor supply model. Figure 3 illustrates the labor supply choice of a secondary earner with convex preferences.

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<sup>16</sup>In the empirical section, I use individual-level variation in  $\Delta(1 - PTR_s)$ . Therefore, the assumptions made here in defining the participation tax rate also extend to the empirical section, including the assumption on fixed primary earnings  $z_p$  around the reform.

Figure 3: Labor supply choice at the extensive margin



*Notes:* Figure 3a depicts the labor supply choice before the reform for an individual who has two potential labor supply choices: either participate,  $z_s > 0$ , or do not participate,  $z_s = 0$ . These two choices are represented by grey squares. The horizontal distance between the two choices measures the number of hours that participation entails. The vertical distance is the increase in household net income if the individual decides to participate before the reform, measured by  $z_s \cdot (1 - PTR_{pre})$ . In figure 3b, the black line is the new budget constraint and black squares are the labor supply choices after the reform. The vertical distance between black squares is the increase in household net income if she decides to participate after the reform,  $z_s \cdot (1 - PTR_{post})$ . The indifference curves depict the consumption-labor supply-combinations that yield the same level of utility. Individuals value both consumption and leisure so the indifference curves in the upper left yield higher utility and are thus preferred as they provide more consumption and more leisure. The indifference curve is upward sloping because, to stay on the same level of utility, individual requires more consumption for working more as working involves utility costs. The shape of the utility curve captures preferences. The more marginal cost of working increases with working hours, the more convex the utility curve is. In this case, there are only two labor supply choices available at the extensive margin, and, for illustration, these options lie on a hypothetical budget constraint that includes all the consumption-labor supply-combinations that would be available in the continuous case.

In figure 3a, the individual chooses not to work because non-employment yields higher utility than entering employment. Figure 3b shows how the reform changes the budget curve of the secondary earner. First, the budget constraint becomes steeper because of two separate shifts: 1.) lower non-labor income if only the primary earner participates in the labor market,  $\Delta R(z_s = 0) < 0$ , as the reform increased taxation for one-provider families. 2.) The change in net income is positive if both spouses participate in the labor market as the reform lowered taxation for two-earner couples. In this illustrative example, it is optimal for the secondary earner to switch participation status as participation yields higher utility compared to non-participation after the reform.

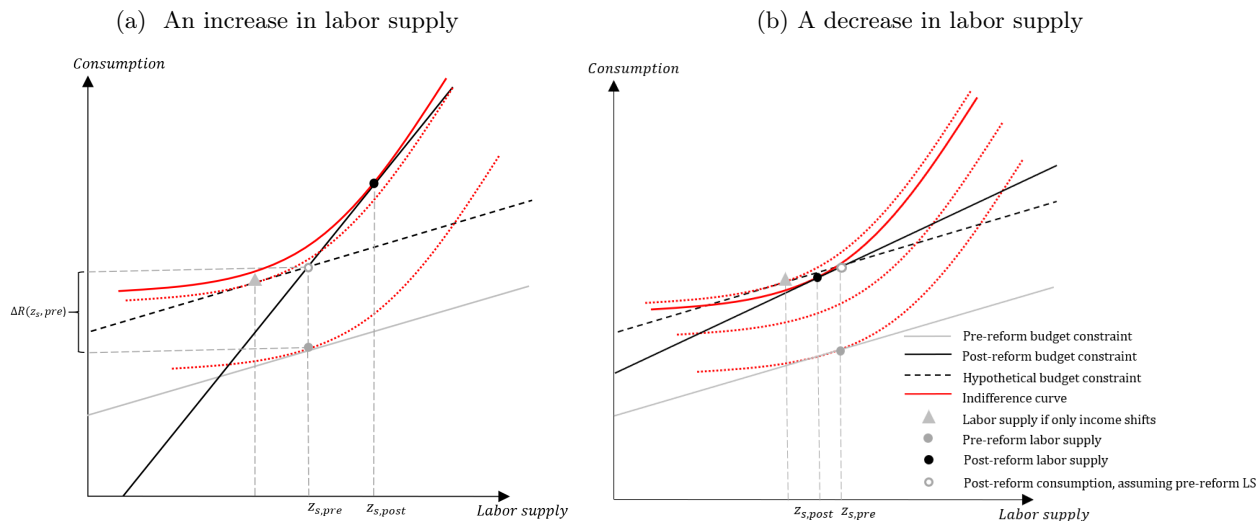
For an individual with identical preferences and budget constraint, a small change in the participation tax rate is not sufficient to influence the participation status (figure 18a in appendix), illustrating that, given preferences, variation in the participation incentive can yield different labor supply responses. At the same time, an individual with strong preferences for not working full-time, would not change her participation status even when participation incentive changes substantially (figure 18b in appendix). For example, high childcare costs or preferences to spend time with young children are captured by a large degree of convexity in the indifference curves.

The extensive margin labor supply model models the participation decision as binary. Labor supply model could include more flexibility by allowing for more choices, e.g. including part-time work, or a continuous choice set. In the latter case, the participation decision would depend on the reservation wage, which captures the wage at which the person is indifferent between working marginally and not working at all.

**Intensive margin choice.** At the intensive margin, the secondary earner is already working before the reform and is allowed to make a continuous labor supply choice. The main concept for the intensive margin is the marginal tax rate (MTR). Corresponding to the measurement of extensive margin incentives, 1-MTR measures the change in incentives to work marginally more, measured by the change in household disposable income following a small change in hours. This corresponds to a change in the slope of the budget constraint or the net wage of an additional hour. Because the individual can choose any point on the budget constraint, the first-order condition implies that the indifference curve is tangent to the budget constraint at the interior optimum.

Figure 4 illustrates that the direction of the reform’s effect at the intensive margin is ambiguous. Labor supply might either increase or decrease, depending on the relative magnitudes of the change in unearned income and the change in marginal tax rate. In general, the reform both increased unearned income through lower taxation of two-earner couples and steepened the budget constraint as the net income increases due to lower marginal tax rates for secondary earners.

Figure 4: Examples on the reform’s effect on labor supply at the intensive margin



*Notes:* The hypothetical budget constraint (dashed black line) only includes a positive shift in disposable income, which illustrates the income effect for the secondary earner of a two-earner couple. The hypothetical budget constraint answers the question: what if the reform only shifted disposable income given by the pre-reform labor supply choice:  $\Delta R(z_{s,pre}) = T_{pre}(z_p, z_s) - T_{post}(z_p, z_s)$ . The reform also lowered marginal tax rates for secondary earners, steepening the budget constraint. This can be illustrated through the rotation of the after-reform budget constraint around the point  $(R_{post}(z_{s,pre}, z_p), z_{s,pre})$ , which is depicted by the white circle, which assumes that labor supply is fixed at  $z_{pre}$ . Note that the graph is an illustration of a marginal change in labor supply, meaning that both the steepening of the budget constraint and the shift in the budget constraint are defined only in the vicinity of the pre-reform labor supply choice.

Figure 4a illustrates how the reform affects an individual’s labor supply incentives at the intensive margin.

First, the figure shows that two-earner couples experienced a positive income shock given the pre-reform labor supply, illustrated by the shift  $\Delta R(z_{s,pre})$  that measures the upward shift in the budget constraint (pre-reform budget constraint  $\rightarrow$  hypothetical budget constraint). Second, the reform lowered marginal tax rates for secondary earners, which is illustrated by the steepening of the budget constraint compared to the pre-reform state, depicted by the rotation in the hypothetical budget constraint (hypothetical budget constraint  $\rightarrow$  post-reform budget constraint). Post-reform budget constraint includes both the shift in disposable income and the change in marginal tax rate. In this case, the secondary earner increases labor supply as the positive substitution effect – the increased price of leisure – dominates the negative income effect.

Figure 4b illustrates the intensive margin choice of an individual with identical preferences who faces an identical change in unearned income but a smaller change in marginal tax rate, leading to a smaller steepening of the budget constraint. Consequently, the individual would work less because the substitution effect is not sufficient to outweigh the income effect. Therefore, the reform’s effect at the intensive margin depends on whether the substitution or income effect dominates. Compared to a standard labor supply choice at the intensive margin, in which a change in the wage rate produces both an income and a substitution effect, the family tax reform produces a larger income effect due to the upward shift in the budget constraint.

## 4 Data and sample

I use population-wide census data for years 1970, 1975 and 1980 (Statistics Finland, 1970; 1975; 1980). The data includes individual identifiers, information on taxable income and wage income as well as a wide range of background information, including birth year, education, municipality of residence, marriage status and number of children.<sup>17</sup> Because the reform took place in 1976, I consider 1975 census to represent the last pre-reform year while 1980 is the first observable post-reform year. I use 1970 census for sensitivity analysis and for evaluating developments before the reform.

The main sample consists of women aged 25-50 (birth cohorts 1925-1950) who were married in 1975. I exclude women who were self-employed or whose husband was self-employed in 1975 because entrepreneurs self-reported their earnings, potentially leading to reporting changes that were not related to actual labor supply changes, which makes it difficult to separate actual labor supply changes. In section 9, I explore how self-employed couples shared earnings within family before and after the reform. In order to focus on married women whose husband was employed before the reform, I exclude women married to husbands that had very low taxable income in 1975, which I define to be below the lowest taxable income threshold in the 1975 tax schedule (8,300 FIM). As I only include couples that were married in 1975, cohabiting partners are not included in the sample.

I define a married couple to consist of two married individuals, female and male, that lived in the same household in 1975. I use individuals’ household-identifiers to link households-members to each other. I only include households with one married male and one married female so I, for instance, exclude couples living in households with more than one couple. Because marriage-status is based on the status in December 1975, all couples in the sample were taxed based on their joint earnings in 1975 as joint filing was also imposed on married couples that got married during the same calendar year.

<sup>17</sup>Note that taxable income and wage income in the 1970 census is based on the 1971 fiscal year.

There were around 840,000 women aged 25-50 in 1975. Of them, 630,000 were married at the end of 1975. I identify 590,000 women with a uniquely identified husband using household-level identifiers. Of them, I exclude around 110,000 women because either they or their husband was self-employed in 1975. I also exclude around 16,000 women with a husband that earned below the lowest income tax bracket in 1975 (8,300 FIM). The final sample size is approximately 460,000 married women.

The main outcome variable is wage income, which is a function of hours and wages. I do not observe wages and hours separately. Another main outcome is taxable income, which includes self-employment income, wage income and part of the transfers. All wage and taxable incomes across the census years are converted to 1980 Finnish markkas (FIM) using Statistics Finland's cost of living index (1 FIM in 1980 corresponds approximately to 0.6 € in 2024). Wives' participation and marginal tax rates are calculated based on husbands' taxable income in 1975, a year before the reform.

I use information on wage income to infer individuals' employment status across all years.<sup>18</sup> Throughout the paper, I define that individual participates in the labor market if her wage income during a given census year is above zero. In practice, this means that all individuals who received some wage income at any point during the calendar year are defined as being employed.

Column 1 in table 1 provides information on the main sample, including more than 460,000 married women. 84% of married women in the sample were participating in the labor market in 1975. Among all women, the mean wage income was around 25,000 FIM. A large share of women in the sample has children: 81% had at least one child (aged under 18) living in the same household. 40 percent had at least one child under seven. Women in the sample had relatively low education level: 61% did not have more than compulsory education and less than one fifth of women had a tertiary degree.

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<sup>18</sup>All other census years besides 1975 include information on surveyed employment status during the census week. Therefore, I cannot use this employment definition as the 1975 is the pre-reform year.

Table 1: Summary statistics for the main sample, year 1975

	Full sample	By husband's taxable income quantile				
		Q1	Q2	Q3	Q4	Q5
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Income and employment</i>						
Participation	0.84 (0.37)	0.82 (0.38)	0.87 (0.34)	0.87 (0.34)	0.85 (0.35)	0.80 (0.40)
Wage income	25,187 (19,265.30)	22,114 (17,080)	24,508 (16,221)	25,522 (16,996)	26,559 (19,269)	27,226 (24,993)
Taxable income	25,631 (19,703)	22,424 (17,113)	24,773 (16,179)	25,822 (16,962)	26,918 (19,283)	28,218 (26,596)
<i>Panel B: Household income</i>						
Husband's taxable income	60,106 (34,868)	29,365 (8,823)	44,798 (2,684)	53,825 (2,701)	65,743 (4,514)	106,774 (50,373)
Secondary earner	0.90 (0.30)	0.67 (0.47)	0.92 (0.28)	0.96 (0.19)	0.98 (0.15)	0.99 (0.10)
Share of household's taxable income	0.29 (0.19)	0.37 (0.23)	0.32 (0.17)	0.29 (0.16)	0.26 (0.16)	0.20 (0.15)
<i>Panel C: Education</i>						
Compulsory	0.61 (0.49)	0.70 (0.46)	0.69 (0.46)	0.65 (0.48)	0.58 (0.49)	0.41 (0.49)
Secondary	0.22 (0.42)	0.21 (0.40)	0.23 (0.42)	0.24 (0.42)	0.24 (0.42)	0.22 (0.41)
Tertiary	0.17 (0.38)	0.09 (0.29)	0.09 (0.28)	0.11 (0.31)	0.19 (0.39)	0.38 (0.48)
<i>Panel D: Demographics</i>						
Age	36.06 (7.51)	36.58 (8.24)	35.51 (7.66)	35.63 (7.43)	35.73 (7.18)	36.85 (6.87)
Age at first birth	24.36 (4.17)	24.20 (4.34)	24.01 (4.19)	24.08 (4.14)	24.39 (4.10)	25.13 (3.95)
Share with children under age 18	0.81 (0.39)	0.76 (0.43)	0.80 (0.40)	0.81 (0.39)	0.83 (0.38)	0.85 (0.36)
Share with children under age 7	0.40 (0.49)	0.37 (0.48)	0.41 (0.49)	0.40 (0.49)	0.41 (0.49)	0.40 (0.49)
Individuals	466,454	93,269	93,205	93,347	93,331	93,302

*Notes:* This table reports the means and standard deviations of the background characteristics for the full sample and the sub-samples that are based on husband's taxable income quantile in 1975. Variable definitions: employment is defined as having positive wage income. Share with children refers to mothers with children aged under 18 that live in the same household. Compulsory education refers to having no degrees beyond compulsory schooling, also including individuals for whom the information for the highest degree is missing. Secondary education refers to individuals with vocational or high school education as their highest degree. Tertiary education includes all post-secondary degrees. All monetary values are in 1980 FIM.

Columns 1-6 in table 1 include sample means for married women in the whole sample and by husband's

taxable income quantile in 1975. The table shows that the participation rates among women married to husbands at the bottom and top quantile were lower than women with husbands that had closer to median earnings. The descriptive statistics suggest a pattern of positive assortative mating: 10% of women who had a husband in the bottom earnings quantile had a tertiary degree while the share in the top quantile was 38%, while the shares for husbands were 8% and 65 %, respectively. Descriptive statistics for the husbands are presented in table 14 in appendix.

## 5 Evaluating the reform’s effects on married women’s labor supply

In this section, I first define how I measure the reform-induced tax changes at both the extensive and intensive margins. Second, I present the empirical model used to estimate behavioral responses to changes in participation and marginal tax rates. I also present the empirical model for estimating heterogeneous responses based on own age, youngest child’s age and education level.

### 5.1 Extensive and intensive margin incentives

I quantify the participation and marginal tax rate changes as a result of the reform. In order to measure the change in participation tax rates for each individual, I estimate what an individual would earn if she decided to participate in the labor market. The issue is that for women who do not participate in the labor market or had low earnings due to working part time do not have earnings that realistically reflect their earnings if they decided to work full-time.

**Extensive margin.** Because many women did not participate in the labor market before the reform, I do not observe their actual earnings. At the same time, some women worked part-time in which case their earnings potential differs from their actual earnings. To solve this missing data issue, I predict potential earnings – defined as earnings that each individual would earn if she decided to participate in the labor market – for all women in the sample based on their pre-reform background characteristics. To do this, I estimate the following regression model, which includes a full set of indicator variables for each municipality, birth year and broad education level:

$$z_{i,1975} = \alpha + \pi_m + \gamma_c + \theta_i + e_i \tag{6}$$

where  $z_{s,1975}$  is individual  $i$ ’s wage income in 1975,  $\pi_m$  is a municipality fixed effect,  $\gamma_c$  is a birth year fixed effect and  $\theta_i$  is an education level fixed effect. Education level is based on the highest obtained degree, including category variables for compulsory, secondary and tertiary education. All data used in the estimation of potential earnings is drawn from 1975 census.

The sample that is used to predict potential earnings includes all women, both married and non-married, aged 25-50 in 1975. I exclude low earnings so that the predicted earnings would better reflect potential annual earnings as some of the low earnings are likely based on part-time work or individuals who only worked part of the year. I only include individuals who had wage income above the 15th percentile of the women’s wage income distribution.<sup>19</sup> After obtaining the estimated coefficients for the fixed effects, I use them, together with the intercept, to predict potential earnings,  $\hat{z}_{i,1975}$ , for each married woman in the

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<sup>19</sup>In the robustness-section, I evaluate the sensitivity of the results to different thresholds.

sample. The distribution of  $z_{i,1975}$  and  $\hat{z}_{i,1975}$  are presented in figure 20 in appendix.

After imputing the potential earnings for each individual, I use the predicted earnings to calculate a participation tax rate (PTR) for each individual in the estimation sample, both before the reform, in year 1975, and after the reform, in year 1980. I use year 1980 to calculate the after-reform PTR because it is the first post-reform year that I observe in the data. In calculating the PTRs, I follow the definition presented in the conceptual framework section:

$$PTR_{i,1980} = \frac{T_{i,1980}(z_{p,1975}, \hat{z}_{i,1975}) - T_{i,1980}(z_{p,1975}, 0)}{\hat{z}_{i,1975}} \quad (7)$$

$$PTR_{i,1975} = \frac{T_{i,1975}(z_{p,1975}, \hat{z}_{i,1975}) - T_{i,1975}(z_{p,1975}, 0)}{\hat{z}_{i,1975}} \quad (8)$$

In calculating household's taxes,  $T_i$ , I use the tax schedules in 1975 and 1980 presented in table 4. Importantly, the taxation is based on pooled earnings in 1975 and individual earnings in 1980. The calculations take into account important deductions that couples or individuals were allowed to make from their taxable incomes. Because deductions imposed jointness between spouses' earnings after the reform, I calculate household level taxation,  $T_{i,1980}$ , which is the sum of separate taxes for spouses,  $T_{p,1980}$  and  $T_{i,1980}$ .<sup>20</sup> Because the calculation of PTRs relies on imputed potential earnings, the measure includes measurement error, likely leading to an attenuation of labor supply estimates. I discuss the sources of attenuation bias further in the section 8.2.

The distribution of participation tax rates shifted and narrowed significantly after the reform. Before the reform, the variation in participation tax rates stemmed from own earnings potential and husband's earnings. The source of variation narrowed after the reform as PTRs became largely independent of husband earnings, leading to a significantly less dispersed distribution. Figure 19 in appendix shows that both the mean and the dispersion of the PTR distribution decreased substantially after the reform. Mean participation tax rate dropped by 7.9 percentage points while the standard deviation dropped by 38 percent of the baseline.

In order to focus on policy-induced tax rate changes, the main interest in the empirical section is the change in net-of-tax rate,  $\Delta(1 - PTR)$ , which is defined in the following way:

$$\Delta(1 - PTR_i) = (1 - PTR_{i,1980}) - (1 - PTR_{i,1975}), \quad (9)$$

where  $\Delta(1 - PTR_i)$  is the change in net-of-tax rate for individual  $i$  in 1980 compared to 1975. The change in net-of-tax-rate measures what is the percentage point change in net-earnings relative to potential earnings due to the policy.

**Intensive margin.** In order to assess how the reform changed incentives at the intensive margin, I calculate

<sup>20</sup>Deductions taken into account in 1975 taxation: own income deduction, own additional income deduction, spouse's income deduction and spouse's additional income deduction. The additional income deduction was allowed only for the secondary earner. The corresponding deductions are also taken into account in the 1980 tax calculations as well as an additional income deduction called spousal deduction ("puolisovähennys") that was introduced for the primary earner if the lower income spouse had either zero earnings or sufficiently low earnings. The purpose of this deduction was to ease the transition to individual tax system for one-earner families. Therefore, the new individual tax system also included some degree of jointness in couples' taxation. I do not include all deductions in the tax rate calculations. For instance, under the 1975 tax law, secondary earners with dependent children were allowed to make an additional deduction in taxable income.

reform-induced changes in marginal tax rates (MTRs) for married women who were already working before the reform:

$$MTR_{i,year} = \frac{T_{i,year}(z_{p,1975}, z_{i,1975} + X) - T_{i,year}(z_{p,1975}, z_{i,1975})}{X} \quad (10)$$

where  $year \in \{1975, 1980\}$ .  $X$  is an incremental amount that is added on top of the pre-reform income  $z_{i,1975}$ . In the main specification, I assume  $X = 3000$ , which corresponds to around 10% of women’s median earnings in 1975. In the robustness-section, I evaluate whether the results are sensitive to the choice of  $X$ . I calculate the changes in MTRs based on both wage income and taxable income separately, so that  $z_{i,1975}$  is based either on wife’s taxable income or wage income in 1975. The use of the MTR-measure then depends on whether the outcome variable of interest is wage income or taxable income. I calculate the change in 1-MTR both in levels and in logs:

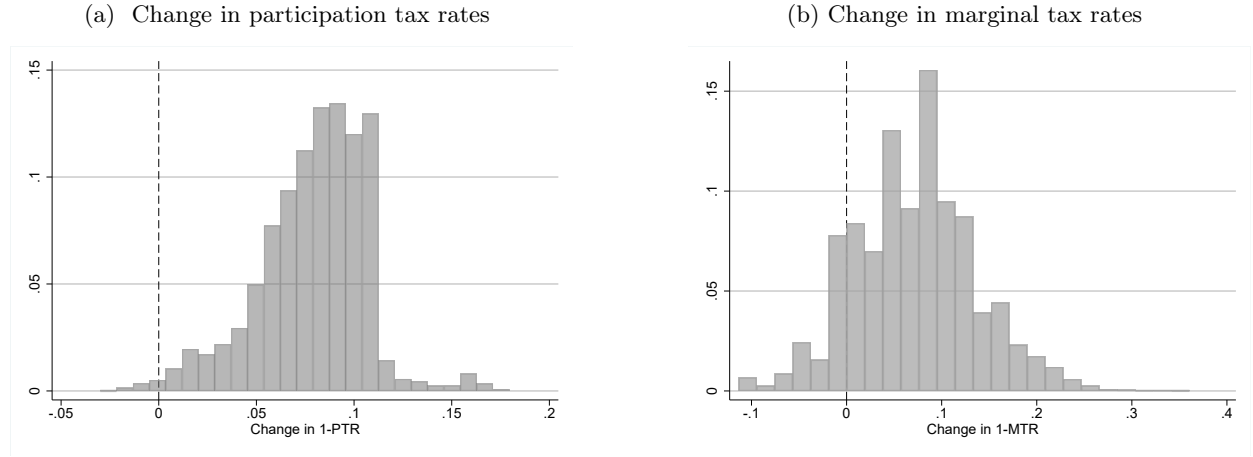
$$\Delta(1 - MTR_i) = (1 - MTR_{i,1980}) - (1 - MTR_{i,1975}), \quad (11)$$

$$\Delta \ln(1 - MTR_i) = \ln(1 - MTR_{i,1980}) - \ln(1 - MTR_{i,1975}) \quad (12)$$

In the estimation of the effects of marginal tax rates, I use the log-changes as the coefficient can be directly interpreted as an elasticity estimate. I use the level-change as descriptive statistics for changes in intensive margin incentives. I estimate that the mean change in 1-MTR was 7 percentage points among married women who were employed before the reform.

**Changes in labor market incentives.** Figure 5 presents the distribution of  $\Delta(1 - PTR_i)$  for the estimation sample and  $\Delta(1 - MTR_i)$  for the sample of married women who were working before the reform.

Figure 5: Distribution of tax rate changes between 1975 and 1980



*Notes:* This figure presents the histograms of the estimated changes in net-of-participation-tax rates,  $\Delta(1 - PTR_i)$ , and the changes in net-of-marginal-tax rates,  $\Delta(1 - MTR_i)$ , following equations 9 and 11. Figure 5a plots the changes in  $1 - PTR$  for the estimation sample while figure 5b plots the changes in  $1 - MTR$  for the sample of women who had wage income above 8,300 FIM before the reform.

Figure 5a shows that the reform increased married women’s economic incentives to participate in the labor market for almost all the married women in the estimation sample. Furthermore, the changes were economically significant as the net-of-participation-tax rates increased on average by 7.9 percentage points. At the same time, the change distribution suggests that there was variation in the tax rate changes, ranging mostly

between 5 and 12 percentage points. Figure 5b shows that the variation in marginal tax rate changes was substantial, ranging mostly from around zero to 15 percentage points.

**Decomposition of participation tax rate changes.** Because the policy affected participation tax rate through either 1.) the changes in non-labor income if non-employed and 2.) the changes in net-earnings if employed, I decompose the  $\Delta(1 - PTR)$  in the estimation sample into these two components, allowing to better understand how the participation incentives changed because of the reform. First, we can rewrite the  $\Delta(1 - PTR)$ :

$$\Delta(1 - PTR_i) = \left( \frac{T_{i,1975}(z_{p,1975}, \hat{z}_{i,1975}) - T_{i,1980}(z_{p,1975}, \hat{z}_{i,1975})}{\hat{z}_{i,1975}} \right) - \left( \frac{T_{i,1975}(z_{p,1975}, 0) - T_{i,1980}(z_{p,1975}, 0)}{\hat{z}_{i,1975}} \right)$$

where the first component measures how much household's after-tax earnings change given that wife earns her potential earnings,  $\hat{z}_{i,1975}$ , and husband earns his actual taxable income in 1975.<sup>21</sup> The second component measures the change in household net-earnings conditional on wife not participating, given husband's actual taxable income in 1975. I denote the first component – the change in household's net-earnings conditional on participation – as  $\Delta OwnWage_i(z_i = \hat{z}_{i,1975})$  and the second component – the change in household's net-earnings conditional on non-participation – as  $\Delta R_i(z_i = 0)$ :

$$\Delta(1 - PTR_i) = \frac{\Delta OwnWage_i(z_i = \hat{z}_{i,1975})}{\hat{z}_{i,1975}} - \frac{\Delta R_i(z_i = 0)}{\hat{z}_{i,1975}}, \quad (13)$$

This decomposition maps to the conceptual framework. At the extensive margin,  $\Delta R_i(z_i = 0)$  is the shift in the budget line when individual is non-employed, corresponding to an income effect.  $\Delta OwnWage_i$  corresponds to the shift in the budget line conditional on participation, capturing the substitution effect.<sup>22</sup>  $\Delta(1 - PTR_i)$  is increasing in  $\Delta OwnWage_i(z_i = \hat{z}_{i,1975})$  because the higher the change in net income conditional on participation, the more attractive it is to work. Conversely,  $\Delta(1 - PTR_i)$  is decreasing in  $\Delta R_i(z_i = 0)$  because the larger the negative shift in non-labor income, the less attractive it is to be non-employed.

Evaluated at the mean, the change in participation tax rate was driven by shifts in both components:

$$\Delta(1 - \overline{PTR}_i) \approx 0.052 - (-0.027) = 0.079, \quad (14)$$

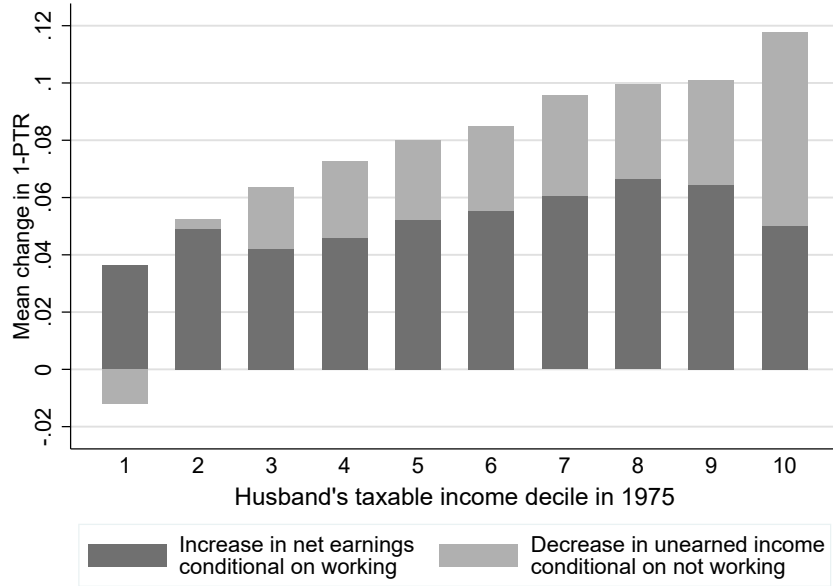
where the mean change in PTR, denoted by  $\overline{PTR}_i$ , is decomposed into the mean of the two components as presented in equation 13. At the mean, around two thirds of the reform-induced change in the participation tax rate was due to changes in own wage while one third was due to changes in unearned income conditional on non-employment.

Figure 6 presents the average decomposition results within the estimation sample by husband's taxable income decile. The sum of the two components is the mean change in  $1 - PTR$ .

<sup>21</sup>The arithmetic behind the decomposition is presented in appendix A.4.

<sup>22</sup>These shifts are presented in figure 3b in the conceptual framework section.

Figure 6: Decomposition of  $\Delta(1 - PTR)$  by husband's taxable income decile in 1975



*Notes:* This figure plots the stacked changes in the decomposed components in the net-of-participation-tax-rate following equation 13. I divide the sample into 10 categories by husband's taxable income in 1975 and calculate the mean of each component within each category.

First, the figure 6 shows that the mean change in participation tax rate was increasing in husband's earnings. Second, both components were quantitatively important in producing changes in participation incentives. The change in own income conditional on working was relatively more important for most individuals in the estimation sample. However, the change in unearned income was relatively more important in the top decile of husband taxable income distribution, which reflects that higher husband earnings in one-earner couples lead to larger tax increases because of the reform.

Figure 6 suggests that the reform changed the relative taxation of one-earner and two-earner couples as the reform significantly shifted household income depending on wife's participation status. To illustrate redistribution by household type, I calculate changes in the households' net-earnings given the pre-reform labor supply choices. These calculations illustrate that the reform redistributed resources from one-earner households to two-earner households, assuming no behavioral changes (figure 17 in appendix).

## 5.2 Estimation of labor supply responses

In this section, I present how the reform-induced tax rate changes are used to estimate behavioral responses to the tax policy. The identification strategy is based on a difference-in-differences strategy with continuous treatment intensity. The treatment intensity is based on the estimated tax rate changes, which is the function of wife's own potential earnings and husband's observed pre-reform taxable income.

**Extensive margin.** I estimate the following equation in order to measure how the reform affected la-

bor supply at the extensive margin:

$$Y_{i,1980} = \alpha + \beta \cdot \Delta(1 - PTR_i) + \gamma Y_{i,1975} + \theta_m + \kappa_t + \mathbf{X}'_i \rho + \epsilon_i, \quad (15)$$

where  $Y_{i,1980}$  is outcome variable in 1980, including participation, labor income and taxable income.  $\Delta(1 - PTR_i)$  is percentage point change in participation tax rate.  $Y_i$  is pre-period labor income, measured in 1975,  $\theta_m$  is municipality and  $\kappa_t$  is birth year fixed effects,  $\mathbf{X}'_i$  includes other pre-reform background characteristics, including the following: indicator variable for education (compulsory, secondary, tertiary), number of children (under age 18) in the household, age of the youngest child (indicator variables for age). Including the pre-reform labor income fixed effects capture heterogeneity in otherwise unobserved characteristics such as taste for work.

**Estimation across different groups.** I estimate heterogeneous treatment effects by three pre-reform characteristics: age, youngest child's age and highest degree. To estimate treatment effect heterogeneity, I interact the indicator variable of interest with the tax change intensity variable:

I interact the participation tax rate change  $\Delta(1 - PTR_i)$  with an indicator variable,  $\mathbf{1}[g_i = g]$ , where  $g \in \{1, \dots, n\}$ , denotes the categories either for own age, youngest child's age or highest degree measured before the reform. I estimate the following conditional average treatment effect model:

$$Y_{i,1980} = \alpha + \sum_{g_i=1}^n \beta_g \cdot \Delta(1 - PTR_i) \times \mathbf{1}[g_i = g] + \gamma Y_{i,1975} + \theta_m + \kappa_t + \mathbf{X}'_i \rho + \epsilon_i, \quad (16)$$

I obtain estimates for  $\beta_g$  separately by each category  $g$ . The category indicators,  $g_i$ , are included in the vector  $\mathbf{X}'$  that includes an indicator variable for youngest child's age (for each age separately), and an indicator for the highest degree in 1975. Own-age is captured by birth year fixed effects,  $\kappa_t$ .

**Estimating the effects of decomposed participation incentives.** I use the decomposed extensive margin incentive changes to study whether the change in own net income conditional on working – the "pull" factor – or the changes in household's net earnings conditional on not working – the "push" factor – matters relatively more for the labor supply responses as presented in equation 13. To do this, I estimate the following empirical model:

$$Y_{i,1980} = \alpha + \beta_1 \frac{\Delta OwnWage_i(\hat{z}_{i,1975})}{\hat{z}_{i,1975}} + \beta_2 \frac{\Delta R_i(z_i = 0)}{\hat{z}_{i,1975}} + \gamma Y_{i,1975} + \theta_m + \kappa_t + \mathbf{X}'_i \rho + \epsilon_i, \quad (17)$$

where the coefficient  $\beta_1$  measures the effect of net-earnings conditional on participation, which at the extensive margin corresponds to the substitution effect.<sup>23</sup> The second parameter of interest,  $\beta_2$ , measures the effect of non-labor income conditional on non-participation – an income effect – in the extensive margin choice. Because the changes in participation tax rates are based on the variation in both husbands' earnings and own potential earnings, it generates variation in these two components that is not perfectly collinear and therefore the parameters  $\beta_1$  and  $\beta_2$  can be separately identified.

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<sup>23</sup>Allowing for a continuous labor supply choice, the parameter would include both a substitution effect and income effect as the higher income conditional on working would possibly lead to the individual reducing hours. However, at the extensive margin with only two labor supply choices (participate or not), the income effect cannot materialize through this component.

**Intensive margin.** For women who were already working before the reform, I estimate a log-log-model in which both the outcome and the marginal tax rate is measured in logs.

$$\ln(Y_{i,1980}) = \alpha + \beta \cdot \Delta \ln(1 - MTR_i) + \gamma \ln(Y_{i,1975}) + \theta_m + \kappa_t + \mathbf{X}'_i \rho + \epsilon_i, \quad (18)$$

where  $\Delta \ln(1 - MTR_i)$  is the log-change in marginal tax rate, approximating percentage changes in the marginal tax rate, following equation 12. I use the lowest threshold in the tax schedule in 1975 to define who is included so only individuals who earned above 8,300 FIM in 1975 are included in the intensive margin estimation sample. By using a log-log model, I estimate intensive margin elasticity directly. I estimate the model 18 for wage income and taxable income separately.

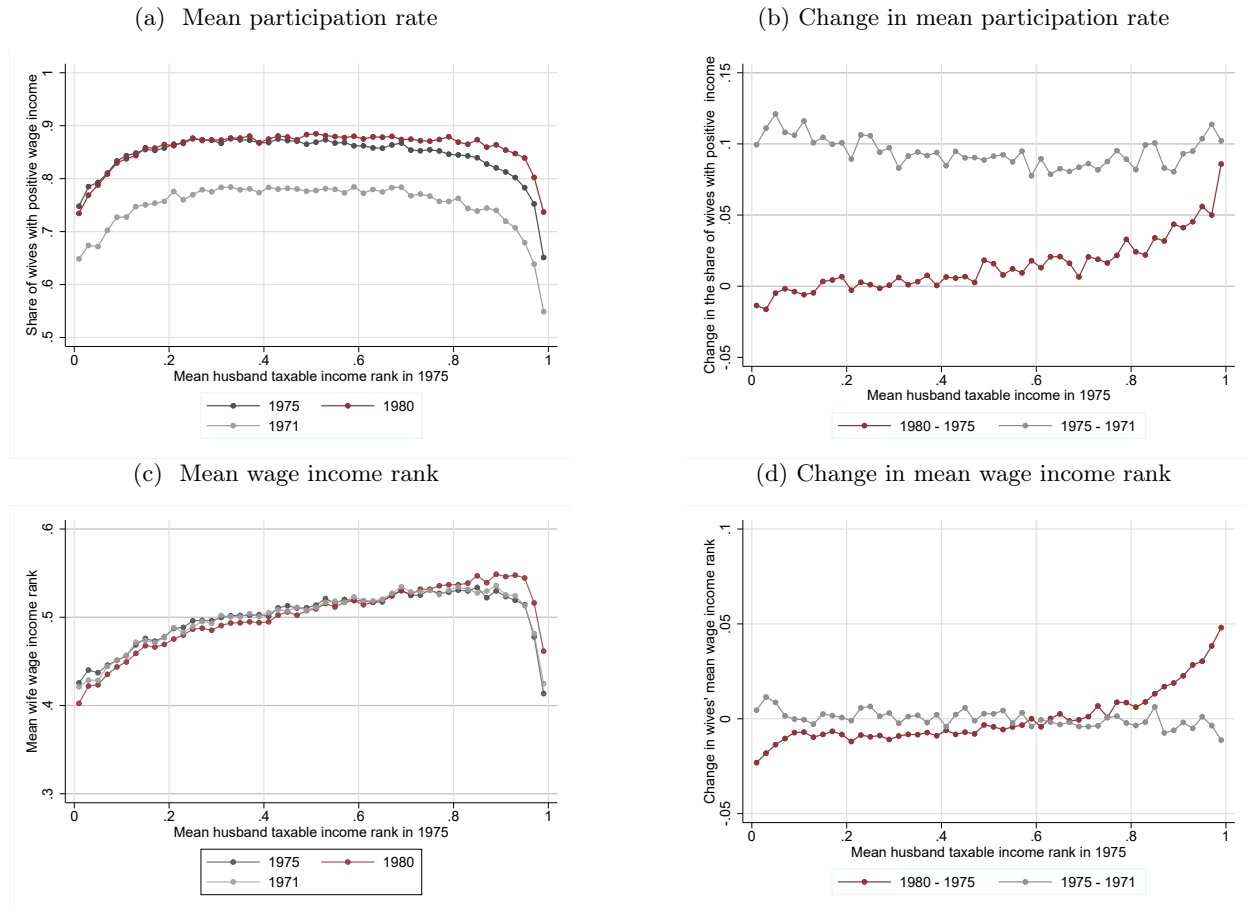
## 6 The effects of the tax policy on married women's labor supply

In this section, I present evidence on how the reform affected the labor supply of married women. First, I measure whether married women's employment and earnings evolved differently by husband's pre-reform earnings around the reform. Second, I present the estimation results.

### 6.1 Evolution of participation and income by husband's income

Because the changes in participation tax rates were increasing in husband's earnings, I describe how married women's labor market outcomes evolved around the reform among women with different levels of spousal earnings. In figure 7, I provide a simple graphical representation of the main estimation data by husband income rank in 1975.

Figure 7: Married women’s participation and income rank by husband’s taxable income rank in 1975



*Notes:* In these figures, the estimation sample is divided into 50 categories by husband’s taxable income one year before the tax reform, in 1975. On the x-axis, smaller rank implies lower husband earnings and highest rank category includes wives with highest earning husbands. Husband’s taxable income rank is calculated among the husbands in the estimation sample. Correspondingly, married women’s wage income ranks in 7c are calculated among married women in the estimation sample. As the reform year is 1976, years 1971 and 1975 are pre-reform years and year 1980 is post-reform year. The estimation sample includes married women, aged 25-50 in 1975, with husbands that earn above 8,300 FIM. The changes in figures 7b and 7d are calculated within each rank category.

Figure 7a plots the share of women, within husband taxable income percentile, who had positive wage income in 1975, which is the definition of labor market participation. Figure 7b plots the difference in mean participation within husband taxable income rank. Figure 7c plots married women’s mean wage income rank by husband taxable income rank and figure 7d plots the change in income rank within husband taxable income rank in 1975.

Figure 7a shows an inverted U shape, implying that women with either low or high earning husbands were less likely to participate in the labor market. Figure 7a shows that before the reform, between years 1971 and 1975, there is a significant increase in participation rates across the husbands’ taxable income distribution. Figure 7b shows that the changes within husband rank is around 10 percentage points across the distribution – the changes in are relatively stable across husband taxable income rank. Figure 7a also shows that the rate of increase in participation were more modest between 1975 and 1980 but the increases were concentrated in the upper parts of the husband taxable income distribution. Figure 7b shows that the

changes in participation were increasing in husband's taxable income rank after the reform, between years 1975 and 1980.

Figure 7c shows that beside the top husband decile, there is a positive rank-rank correlation between spouses' earnings. Figure 7d shows that after the reform, the increases in wage income ranks were concentrated to women who had high-earning husbands. The figure shows that the more husband earned, the larger the change in women's income rank after the reform while the changes were close to zero before the reform.

The evolution in both participation and wage income rank imply that husband earnings did not predict differential changes before the reform while after the reform, the changes in the probability of wife earning positive wage income or wife's rank in the income distribution were positively associated across the husband's taxable income distribution. The changes in wives' income rank were largest among the top earning husbands for whom the changes in participation tax rates were the largest. The pre-reform evolution supports the identifying assumption that the evolution of labor market participation of wives across husband earnings would have evolved in parallel manner in the absence of the reform.

## 6.2 Labor supply estimates

**Extensive margin.** In this section, I follow equation 15 to estimate how reform-induced changes in participation tax rates affect labor market outcomes. Table 2 presents the main results for the extensive margin effects for three outcomes: 1.) indicator variable for participation (wage income above zero), 2.) wage income and 3.) taxable income. Continuous outcome variables, wage income and taxable income, capture all changes in labor supply while participation captures the effect on the probability of having positive wage income.

Table 2: Effects on labor supply at the extensive margin

	Participation	Wage income	Taxable income
Main estimate	0.216*** (0.065)	8,299*** (1,870.761)	9,534*** (1,981)
Scaled estimate	0.017*** (0.0052)	657.55*** (148.23)	755.42*** (156.99)
Pre-period mean	0.841	25,187	25,631
Percent change	2.03 %	2.61 %	2.95 %
Implied elasticity	0.170 [0.069, 0.271]	0.218 [0.122, 0.315]	0.246 [0.146, 0.347]
<i>Participation tax rate</i>			
Mean $\Delta(1 - PTR)$	7.92 %-points		
Pre-period mean ( $PTR$ )	33.76 %		
Percent change ( $1 - PTR$ )	11.96 %		
Individuals	459,544	459,544	459,289

*Notes:* Significance levels (\*=0.10, \*\*=0.05, \*\*\*=0.01). The table includes estimates based on equation 15 in which the changes in participation-tax-rates follow equations 8, 7 and 9. I scale the main estimate with the mean  $\Delta(1 - PTR)$  in the sample to arrive at the scaled estimate. The mean participation tax rate includes a mean municipality tax rate (15 percent). Implied elasticity =  $\frac{\beta \cdot \Delta(1 - PTR)/Y_{1975}}{\Delta(1 - PTR)/(1 - PTR_{1975})}$ , where  $Y$  is the mean outcome,  $\Delta(1 - PTR)$  is the mean change in  $PTR$ ,  $PTR_{1975}$  is the mean PTR before the reform and  $\beta$  is the coefficient for the tax rate change in equation 15. The standard errors are clustered at the municipality level.

The first row in table 2 includes the main extensive margin estimates for married women’s labor market participation, wage income and taxable income. The effect magnitude implies that a 10 percentage point decrease in participation tax rate (PTR) increases participation rate by 2.2 percentage points. A similar sized drop in PTR implies an increase in wage income, through the participation margin, of 830 FIM, which corresponds to 3.3 percent of the pre-reform mean. The effect size for taxable income is largely in line with wage income at 3.7 percent.

The second row in table 2 scales the main estimates in row 1 by the mean change in reform-induced changes in the participation tax rate (the mean treatment intensity). The mean change in net-of-participation-tax rate is around 8 percentage points (12 percent). The scaled estimates (mean treatment intensity · main estimate) suggest that the reform increased married women’s participation rate by 1.7 percentage points and income by around 3 percent relative to the pre-reform mean. I observe outcomes in 1980, which is four years after the reform. Bastani et al. (2021) show that the extensive margin responses to a participation tax rate change seem to amplify up to 4-5 years after the reform, suggesting that the outcome measured four years after the reform already should identify the full policy effect even if it took time for people to adjust their behavior to the reform.

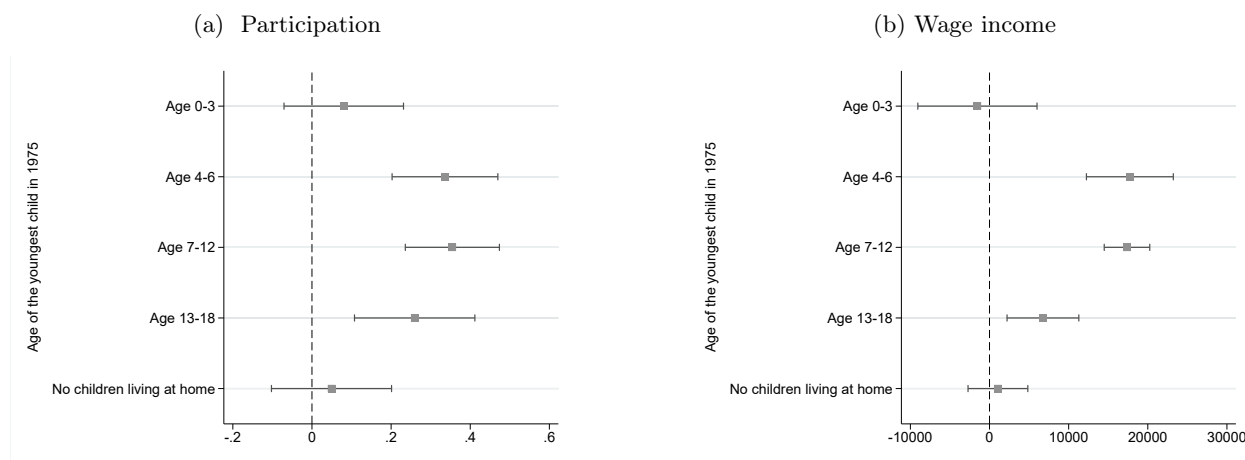
In order to calculate the participation elasticity, I compare the percent-change in participation (or participation-induced changes in income) to the percent-change in participation tax rate. The relative changes are calcu-

lated relative to the pre-reform means. The implied participation elasticity, evaluated at the mean, is 0.17 for the participation, 0.22 for wage income and 0.25 for taxable income.

To understand how the reform's effects vary across different demographic groups, I estimate heterogeneous treatment effects following equation 16. I estimate effects separately across three dimensions: 1.) age of the youngest child, 2.) own age and 3.) highest degree.

**Extensive margin responses by age of the youngest child.** Figure 8 includes extensive margin estimates for different groups of women based on the age of their youngest child in 1975.

Figure 8: Reform's effects on married women's labor supply by the youngest child's age

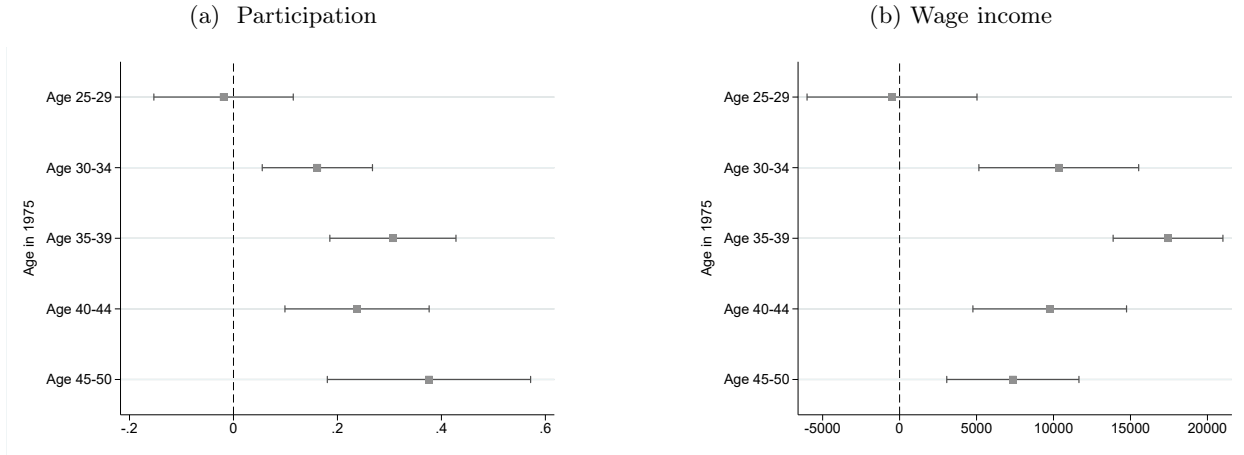


*Notes:* The category "no children living at home" includes women who have no children under age 18 living at home. The figures include coefficients,  $\beta_g$ , from equation 16 where  $g$  is based on the age of the youngest child in 1975. The figure includes 95 percent confidence intervals for each coefficient. The standard errors are clustered at the municipality level. Baseline employment rates for these groups were: 77 % (age 0-3), 83 % (age 4-6), 87 % (age 7-12), 86 % (age 13-18) and 87 % (no children living at home).

The results in figure 8 suggest that there is considerable heterogeneity in the responses by child's age. Mothers with school-age children were more responsive to the reform as their effect size is around 0.35, implying that a 10 percentage point decrease in participation-tax-rate increased participation by 3.5 percentage points. For wage income, the corresponding effect is around 1,800 FIM – around 7 percent of the pre-reform mean. I cannot detect participation effects for women with young children, aged 0-3, in 1975, nor for women who had no children under age 18 living at home. This heterogeneity in estimated effects is consistent with a labor supply model in which either the value of leisure or costs of work are higher for mothers with young children.

**Extensive margin responses by own age.** Figure 9 includes extensive margin estimation results across women by age.

Figure 9: Reform's effects on married women's labor supply by own age

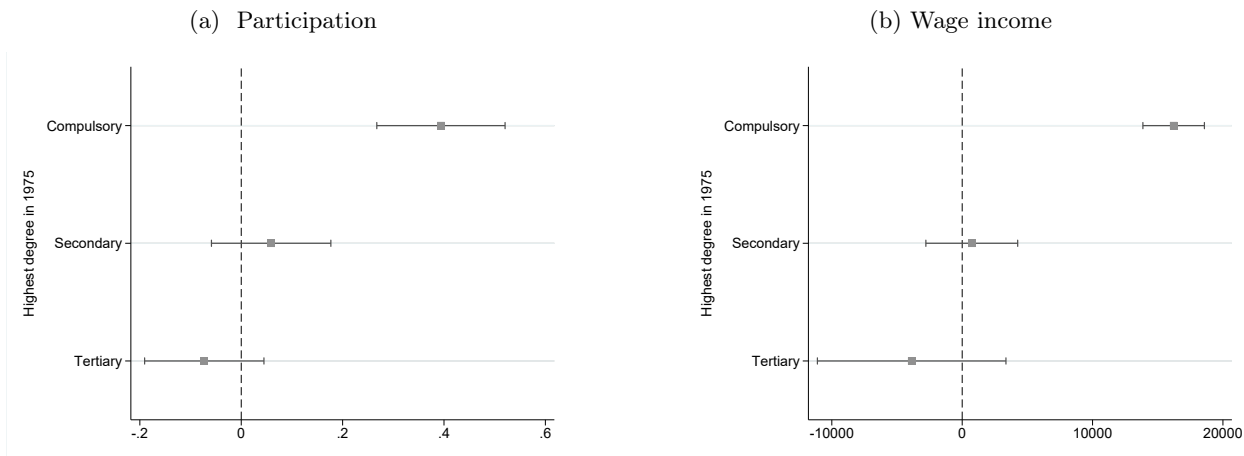


Notes: The figures include coefficients,  $\beta_g$ , from equation 16 where  $g$  is based on own age in 1975. The figure includes 95 percent confidence intervals for each coefficient. The standard errors are clustered at the municipality level. Baseline employment rates for these groups of women were: 84 % (25-29), 86 % (age 30-34), 87 % (age 35-39), 86 % (age 40-44), 78 % (age 45-50).

The results in figure 9 suggest that the treatment effects are mostly driven by women above age 35. These results highlight that mid and end of careers are important for the realization of the reform's labor supply effects. The results are consistent with the results based on youngest child's age, both suggesting that women with children old enough to attend school can adjust their labor supply.

**Extensive margin responses by highest degree.** Figure 10 includes extensive margin estimation results across women with different levels of education.

Figure 10: Reform's effects on married women's labor supply by highest degree



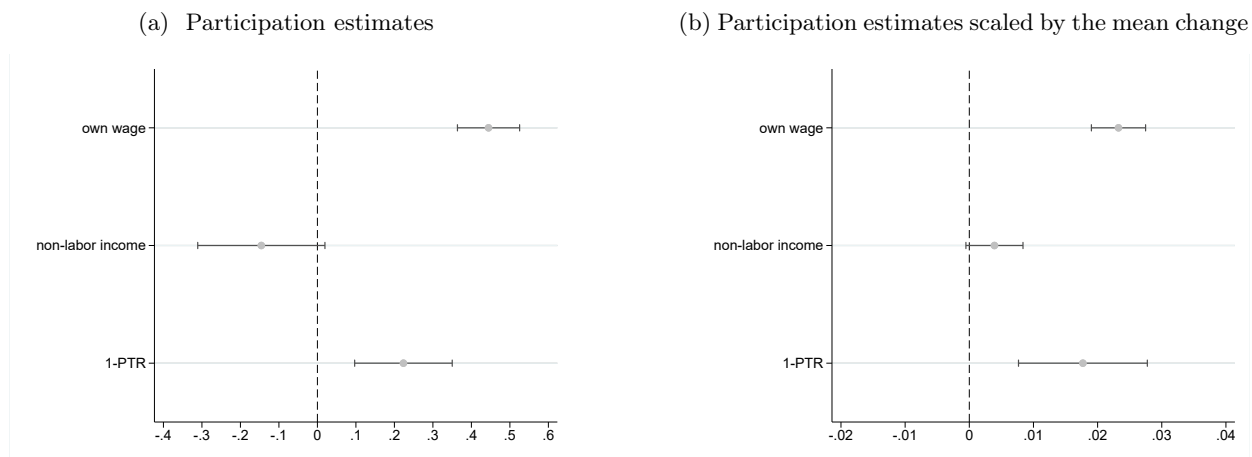
Notes: The figures include coefficients,  $\beta_g$ , from equation 16 where  $g$  is based on highest degree that is completed until 1975. The figure includes 95 percent confidence intervals for each coefficient. The standard errors are clustered at the municipality level.

The results in figure 10 suggest that the labor supply effects are mostly driven by women with compulsory education. One plausible explanation behind the effect heterogeneity is that women with more education were more likely to work before the reform, limiting the possibility to adjust behavior at the extensive mar-

gin. Before the reform, 92 % of tertiary educated were employed while 85 % of secondary educated and 82 % of compulsory educated were working. These effects suggest that less educated women were more responsive to changes in economic incentives.

**The effects of decomposed participation incentives.** I plot the results from the decomposition estimation equation 15, measuring how changes in net return to work and unearned income affect labor supply. For reference, I also plot the main estimate. I rescale the main estimate using the mean change in the given component – 0.052 for own wage and -0.027 for non-labor income – as presented in equation 14.

Figure 11: Decomposition of the responses to the changes in the participation tax rates



*Notes:* The figures include coefficients, "own wage" and "non-labor income" that are based on equation 17. The coefficient for  $1 - PTR$  is based on equation 15. The figure includes 95 percent confidence intervals for each coefficient. The standard errors are clustered at the municipality level. The reform effects in figure 11b are based on the estimates in figure 11a, which are scaled by the mean change in either own wage component or non-labor income.

Figure 11a includes the estimates for the own wage, measuring the own wage or substitution effect, and non-labor income, which measures the income effect. The estimates answers to question: what is the labor supply response if a change in PTR is only based on one channel – either thorough own wage or non-labor income? Because the coefficient for own wage is positive, it implies that improving the net income from working (holding non-labor income conditional on non-employment constant), increases the probability to participate in the labor market. The negative coefficient for non-labor income suggests an increase in unearned income decreases the probability to work. A negative income effect also implies that leisure is a normal good as loosening the budget constraint leads to higher consumption of leisure.

The effect magnitude for own wage is above 0.4, implying that a change in own net wage that corresponds to 10 percents of potential earnings increases employment by over 4 percentage points. The estimate for non-labor income is -0.15, implying that an increase in non-labor income of equal magnitude decreases participation by 1.5 percentage points. Another interpretation for the estimates is through the participation tax rate (PTR). First, a 10 percentage point decrease in the PTR by only changing own wage increases participation by over 4 percentage points. Second, an equal sized drop in the PTR by only changing non-labor income increases participation by 1.5 percentage points. The implied elasticities for the components separately are 0.35 for own wage elasticity (keeping unearned income fixed) and -0.12 for unearned income

elasticity (keeping own wage fixed).<sup>24</sup>

Figure 11b shows that scaling the estimates by the mean change in the variable flips the sign of the income effect as the mean change in unearned income conditional on non-employment is negative. This is because one-provider families were taxed more strictly after the reform. Together, the scaled estimates suggest that both components contributed to the reform’s positive participation effect. Further, the scaled estimates suggest that the contribution of own wage change was larger relative to the shift in non-labor income. The pattern of effects for wage income is in line with effects on participation (figure 22 in appendix).

**Intensive margin.** For intensive margin responses, I estimate log-log model presented by equation 18 that measures how the changes in marginal tax rates (MTRs), in logs, affects the log of wage income and taxable income for women who were already working before the reform. Because of the log-log model, the estimates can be directly interpreted as elasticity estimates.

Table 3: Main empirical results: MTR

	Wage income	Taxable income
Elasticity estimate	0.017 (0.020)	-0.025 (0.020)
Pre-period mean	33,705	33,902
<i>Marginal tax rate and income</i>		
Mean $\Delta(1 - MTR)$	7.04 %-points	
Pre-period mean	43.82 %	
Percent change	12.54 %	
Change in household income	13.20 %	
Individuals	321,490	329,433

*Notes:* Significance levels (\*=0.10, \*\*=0.05, \*\*\*=0.01). The table includes estimates based on equation 18 in which the changes in marginal-tax-rates follow equation 12. The sample includes married women who earned above 8,300 FIM in 1975. The mean marginal tax rate includes a mean municipality tax rate (15 percent). The change in household income assumes no behavioral responses. The standard errors are clustered at the municipality level.

Table 3 includes the results for the labor supply responses at the intensive margin. The first row includes the estimated elasticities, which are either null or small for both the wage income and taxable income. The estimated elasticities are not statistically significantly different from zero.

I find that marginal tax rates decreased significantly, on average by 7 percentage points, for working women. At the same time, the non-earned income increased significantly as well through the lower taxation of two-

<sup>24</sup>Implied participation elasticities for different sources of incentive change are evaluated at the mean in the following way:  $\epsilon_{OwnWage}$  is the ratio of %-change in participation due to the change in own wage conditional on employment and the %-change in 1-PTR due to the change in own wage. Relative change in employment:  $\frac{(0.4445-0.0523)}{0.841} \approx 0.0276$ . Relative change in 1-PTR due to own wage:  $\frac{0.0523}{0.6624} \approx 0.0790$ . Implied elasticity for own wage is then:  $\frac{0.0276}{0.0790} \approx 0.349$ . Similarly,  $\epsilon_R$  is the relative change in employment due to the shift in unearned income and the relative change in 1-PTR due to the shift in unearned income. Relative change in employment due to the change in unearned income:  $\frac{-0.1457-0.027}{0.841} \approx -0.0047$  and relative change in 1-PTR due to the change in unearned income:  $\frac{0.027}{0.6624} \approx 0.0408$ . Implied elasticity for unearned income is then:  $\frac{-0.0047}{0.0408} \approx -0.1152$ .

earner couples under the individual tax system. It is plausible that the two opposing effects, a positive substitution effect and a negative income effect, worked in opposite directions, leading to the small or null effects at the intensive margin.

## 7 The marginal value of public funds

In this section, I evaluate how effective the tax policy was in generating benefits to the recipients. To achieve this, I use the MVPF framework by [Hendren and Sprung-Keyser \(2020\)](#), measuring the welfare effects of changes in government policies. The idea of the framework is to calculate the ratio of benefits to government net costs. The benefits are measured by how much recipients would be willing to pay for the policy change. The net costs to the government are calculated based on how the policy affects the government budget, taking into account fiscal externalities that the policy generates.

In case of the tax policy, the net cost to the government includes two components: 1.) a mechanical cost from lower taxes of married women and 2.) fiscal externalities from the changes in the tax revenue due to policy-induced increases in taxable incomes. I assume no effects on transfers, which potentially somewhat underestimates the fiscal externality and leads to an overestimation of net costs.

The mechanical cost to the government is the difference in government’s tax revenue before and after the reform, assuming no behavioral responses. The income tax revenue was on average around 8,700 FIM per person before the reform.<sup>25</sup> After the reform, the average tax revenue – assuming no behavioral response – was around 6,800 FIM.<sup>26</sup> Together, the revenues imply a mechanical cost to the government of around 1,900 FIM.<sup>27</sup> In order to calculate the fiscal externality – the mean change in tax revenue because of the policy – I utilize the estimate on taxable income elasticity, which captures the behavioral response, and the mean percent change in net of participation tax rate. The fiscal externality was around 200 FIM.<sup>28</sup> Consequently, the net cost of the policy was around 1,700 FIM per recipient.<sup>29</sup>

In MVPF calculations, the benefits are based on recipients’ willingness to pay (WTP) for the policy. Mechanical costs to the government can be seen as transfers to the recipients that are valued at 1:1. How individuals who change their behavior value additional earnings is not clear-cut. MVPF leans on the envelope theorem, stating that marginal recipients have a valuation of zero to marginal changes in the policy. However, if the policy removed barriers for women’s labor market participation, then it is not clear whether one should value behavioral changes to have a WTP of zero. For instance, if the policy shifted attitudes around women’s work or if women had not internalized all the benefits that labor market participation brings, giving support to assuming higher than zero valuation for the behavioral responses.

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<sup>25</sup>To calculate the mean tax revenue before the reform, denoted by  $\tau_{1975}$ , I use the pre-reform mean taxable income among married women,  $TI_{1975}$ , and the mean pre-reform participation tax rate,  $PTR_{1975}$ :  $\tau_{1975} = TI_{1975} \cdot PTR_{1975} = 25,410 \cdot 0.3406 \approx 8,655$ .

<sup>26</sup>Tax revenue after the reform, assuming no behavioral response, is:  $\tau_{1980}^m = TI_{1975} \cdot PTR_{1980} = 25,410 \cdot 0.2657 \approx 6,751$ .

<sup>27</sup> $\tau_{1975} - \tau_{1980}^m = 8,655 - 6,751 = 1,904$ .

<sup>28</sup>First, I calculate the change in taxable income due to the policy, denoted by  $\Delta TI$ , which is a function of the taxable income elasticity (with respect to PTR), denoted by  $\epsilon_{TI}$ , and the mean percent-change in net of participation tax rate because of the reform, denoted by  $\% \Delta(1 - PTR)$ .  $\Delta TI = TI_{1975} \cdot \% \Delta(1 - PTR) \cdot \epsilon_{TI} = 25,410 \cdot 0.1136 \cdot 0.254 \approx 733$ . Second, I use the mean PTR after the reform,  $PTR_{1980}$ , to calculate the fiscal externality:  $\Delta \tau = \Delta TI \cdot PTR_{1980} = 733 \cdot 0.2657 \approx 195$ .

<sup>29</sup>The net cost is the sum of the mechanical cost and the fiscal externality:  $1,904 - 195 = 1,709$ .

To take these considerations into account, I bracket the MVPF calculation by 1.) assuming that the valuation for marginal recipients, that change their behavior due to the policy, is zero, and 2.) assuming that marginal recipients value additional earnings 1:1. The benefits or WTP for the policy are then around 1,900 FIM and 2,600 FIM, respectively.<sup>30</sup> The net cost and WTP estimates together imply that the MVPF of the policy is between 1.1 and 1.5.<sup>31</sup>

**Comparison to other policies.** The tax reform was a combination of transfer cuts conditional on not working and an income tax cut. Both improve married women’s incentives to participate in the labor market. Therefore, the policy can be compared against other policies that change taxes and transfers. At the same time, because family taxation shapes women’s labor market outcomes, the policy’s effectiveness is relevant in comparison to policies that target married women, including different family policies.

An important benchmark policy is earned income tax credit (EITC) system in the US that provides an earnings subsidy to low-income workers. [Hendren and Sprung-Keyser \(2020\)](#) find that the MVPF for EITC is around 1.1-1.2. [Bastian and Jones \(2021\)](#) find that the MVPF of around 3-4. EITC is a benefit or cash transfer that is conditional on employment. Unconditional cash transfers, such as Alaska UBI, or cash transfers conditional on no or very low income, such as AFDC generosity, have an MVPF of less than 1 ([Hendren and Sprung-Keyser, 2020](#)).<sup>32</sup> Because the tax reform is a combination of a reduction in cash transfer conditional on no or very low income and a cut in payroll tax or an income subsidy, the MVPF of 1.1-1.5. is largely in line with estimates of these policies’ MVPFs.

## 8 Evaluating the validity of the empirical strategy

In this section, I evaluate the plausibility of the identifying assumptions by focusing on how the treatment intensity predicts changes in labor market outcomes before the reform took place. Secondly, I assess result robustness and sensitivity to various modelling choices.

### 8.1 Estimating the effects using pre-reform data

To evaluate the plausibility of the identifying assumption, I redo the analysis using identical sample restrictions as in the main analysis but relying only on pre-reform data. I limit the sample to married women who were between ages 25 and 50 in 1970 (cohorts born between 1920 and 1945). The women included in this placebo sample were married and cohabiting in 1970. Sample size is around 380,000 individuals.

I estimate these so-called placebo regressions to test how the treatment intensity measure predicts changes in participation between 1970 and 1975. The placebo analysis relies on census data that is available for years 1970 and 1975. For 1970 census, the income data is for 1971 tax year and changes in outcomes are measured between 1971 and 1975 while the background characteristics are based on year 1970.

<sup>30</sup>The benefit if WTP is zero for marginal recipients, denoted by  $B_l$  is:  $B_l = \tau_{1975} - \tau_{1980} \approx 1,903$  and the benefit or WTP for recipients if higher earnings are valued 1:1, denoted by  $B_u$ , are:  $B_u = (\widehat{TI}_{1980} - \tau_{1980}) - (TI_{1975} - \tau_{1975}) \approx 2,636$ , where  $\widehat{TI}_{1980}$  is based on the elasticity estimate.

<sup>31</sup> $MVPF_l = \frac{1,903}{1,709} \approx 1.1$  and  $MVPF_u = \frac{2,636}{1,709} \approx 1.5$ .

<sup>32</sup>[Hendren and Sprung-Keyser \(2020\)](#) find that the MVPF of Alaska UBI and AFDC generosity are around 0.9. MVPF measures the benefit of an additional dollar spent on these transfers. Because the tax reform was a cut on transfer conditional on no income, a comparable MVPF is a cut on these benefits, which, assuming symmetry, has an MVPF of  $1/0.9 \approx 1.1$ .

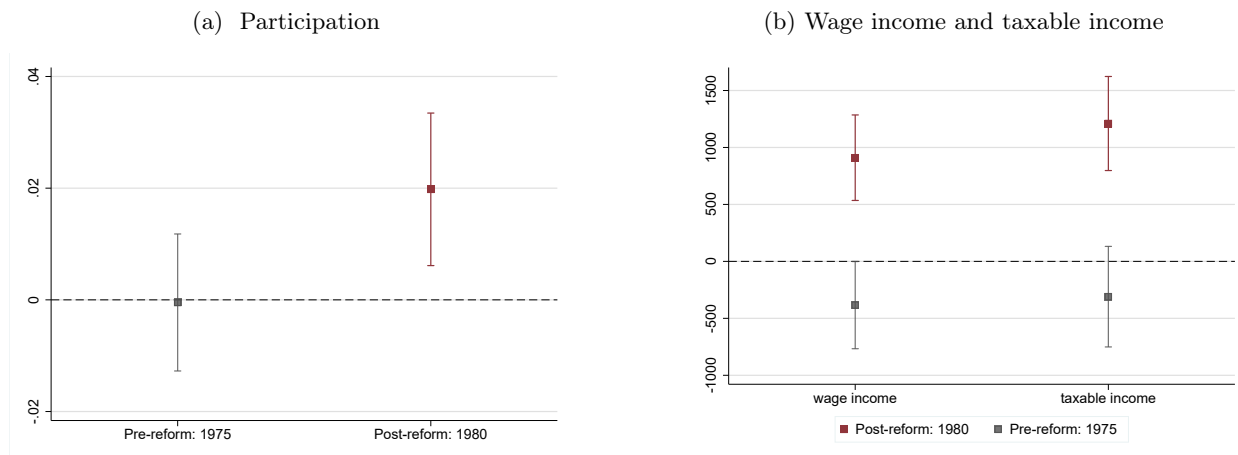
**Extensive margin responses.** For the participation tax rate changes, I estimate the following empirical model:

$$Y_{i,year} = \alpha + \beta \cdot \Delta(1 - \widehat{PTR}_i) + \gamma Y_{i,1971} + \theta_m + \kappa_t + \mathbf{X}'_i \rho + \epsilon_i, \quad (19)$$

where all the background information in  $\mathbf{X}_i$ , as well as the municipality of residence,  $\theta_m$ , is based on the year 1970. The change in participation tax rate,  $\Delta(1 - \widehat{PTR}_i)$ , is calculated using the tax schedules of 1975 and 1980, as in the main analysis, but using 1971 earnings information.<sup>33</sup> Potential earnings are calculated based on the equation 6 but using 1970 (1971 for earnings) census data.<sup>34</sup> The outcome of interest is measured either before the reform,  $year = 1975$ , or after the reform,  $year = 1980$ , to examine whether the effects appear only after the reform.

In figure 12, I plot the coefficients from equation 19 for outcomes that were measured either in 1975 or in 1980 using the placebo sample. I plot the results from the placebo regressions using pre-reform data (1975) and post-reform data (1980) for the outcome variable.

Figure 12: Labor supply effects using pre-reform and post-reform outcomes



*Notes:* In this figure, I plot the coefficients from equation 19 using the placebo sample that consists of married women who were 25-50 years of age in 1970. I estimate the empirical model for three outcome variables: participation (positive wage income) in figure 12a and for wage income and taxable income in 12b. The outcomes are measured before the reform (grey squares) and after the reform (red squares). The estimates are scaled with the mean change in estimated participation tax rate within the placebo sample (mean 6.7 percentage points). The figure includes 95 percent confidence intervals for each coefficient.

Figure 12a shows that the effects on participation do not differ significantly from zero when using pre-reform outcomes. In contrast, when using post-reform participation outcome, the positive effect appears. The effect size is comparable to the main estimate in table 2. Figure 12a shows that the positive effects are not dependent on measuring husband earnings in 1975 as the effects also hold when measuring the treatment intensity using 1971 earnings.

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$$\widehat{PTR}_{i,year} = \frac{T_{i,year}(z_{p,1971}, \hat{z}_{i,1971}) - T_{i,year}(z_{p,1971}, 0)}{\hat{z}_{i,1971}}, \quad (20)$$

where  $taxyear \in \{1980, 1975\}$

<sup>34</sup>In the main estimates, calculating potential earnings is based on the 1975 earnings data.

**Intensive margin responses.** I calculate placebo tax rate changes at the intensive margin. In calculating the changes in marginal tax rates, I use husbands’ taxable incomes in 1971. For married women, I use the observed wage income in 1971 when calculating the placebo marginal tax rate for both 1975 and 1980. Marginal tax rate calculations are based on husband’s taxable income in 1971. I calculate reform-induced changes in marginal tax rates ( $MTR$ ) for women who were working in 1971. I estimate the following empirical model where both the outcome and the marginal tax rate is measured in logarithmic scale.

$$\ln(Y_{i,1975}) = \alpha + \beta \cdot \Delta \ln(1 - \widehat{MTR}_i) + \gamma \ln(Y_{i,1971}) + \theta_m + \kappa_t + \mathbf{X}'_i \rho + \epsilon_i, \quad (21)$$

where  $\Delta \ln(1 - \widehat{MTR}_i)$  is the log-change in marginal tax rate, approximating percentage changes in the marginal tax rate only using pre-reform data.<sup>35</sup> I use the lowest threshold in the tax schedules to define who is included in the intensive margin sample so only individuals who earned above 8,300 FIM in 1971 are included. By using logarithmic scale, I estimate intensive margin elasticity directly. For the intensive margin, the placebo estimates are not significantly different from zero (table 12 in appendix).

The pre-reform period between 1971 and 1975 was not a pure pre-period as it is possible that the lack of inflation-adjustments in the tax schedules produced differences in taxation across women with husbands that had different levels of earnings. An important feature of state income tax system before 1976 was that tax brackets were not adjusted for inflation between 1967-1973 (Turkkila, 1989), leading to stricter income taxation in real terms as nominal earnings increased during the same period. This also affected the relative taxation of individuals who had spouses with different incomes. Example calculations of the development of real income taxation suggest that income taxation got stricter during early 1970s and loosened after 1975 (Turkkila 1989, Honkanen 2000).

## 8.2 Robustness and sensitivity to modeling choices

In this section, I assess the robustness of the main estimates to different modeling choices. I also discuss potential bias due to measurement error.

**Mean reversion.** The empirical approach is subject to two sources of mean reversion. First, it is possible that husbands’ earnings are measured with error due to mean reversion. For instance, if husband has high earnings in 1975 because of a transitory earnings shock, then the change in participation tax rate is measured with error as the husband would earn less the next year, producing a lower participation tax rate change for the wife. The opposite holds for women with low earning husbands. Because of mean reversion in husbands’ earnings, the empirical estimates would likely be biased downwards. The second source of mean reversion is married women’s own earnings.

To test whether my estimates are robust to mean reversion, I run two different specifications: 1.) I construct the tax variation variable using lagged husband’s taxable income, using census data from 1971. 2.) I use the mean of wife’s earnings in 1971 and 1975 to control for own earnings before the reform. For this, I assign

<sup>35</sup>The marginal tax rates for the placebo estimation are calculated in the following way:

$$\widehat{MTR}_{i,taxyear} = \frac{T_{i,taxyear}(z_p, 1971, z_i, 1971 + X) - T_{i,taxyear}(z_p, 1971, z_i, 1971)}{X} \quad (22)$$

where  $taxyear \in \{1980, 1975\}$  and  $X$  is some incremental amount to pre-reform income  $z_i$ . As in the main specification, I assume  $X = 3000$ . I calculate the change in marginal tax rate in logs:  $\Delta \ln(1 - \widehat{MTR}_i) = \ln(1 - \widehat{MTR}_{1980}) - \ln(1 - \widehat{MTR}_{1975})$

individuals into 500 different bins based on mean earnings to limit the number of categories in the fixed effects estimation model. I find that the results using lagged husband earnings are largely in line with the main estimates (appendix, table 8). The same conclusion applies to using the mean of own earnings before the reform (1971 and 1975) as a control variable (appendix, table 9).

**Sensitivity to additional controls.** One concern in interpreting the estimates is if there were differences in the earnings trajectories for individuals with different income levels before the reform. I estimate sensitivity to adding different controls, including fixed effects for industry and occupation for the husband. The results are robust to the inclusion of additional controls (Appendix, table 6).

**Sensitivity to estimating potential earnings.** Next, I assess the sensitivity of the results to the estimation of potential earnings of wives. In the estimation of potential earnings, I restrict the sample of individuals who are included in the estimation sample with a threshold on the earnings distribution. In the main estimation, I restrict the sample to women who earn above 10th percentile of all women who have positive earnings. I do this to estimate potential earnings correctly without the inclusion of part-time workers. I find that the results are not sensitive to the choice of earnings threshold when estimating potential earnings (appendix, figure 23).

**Attenuation bias due to measurement error.** The empirical approach is subject to measurement error from various sources. First, the estimation of potential earnings likely does not capture all the differences in earnings potential due to unobserved characteristics. However, I control for pre-reform earnings, which captures some of these unobservable characteristics like taste for work. Still, potential earnings are estimated with error, leading to measurement error also in treatment intensity. This causes attenuation bias, which leads to downward bias in the estimates. Together with the likely downward bias due to mean reversion, it is likely that the estimates understate the true effect.

**Sensitivity to sample restrictions.** In the main estimation sample, 90 percent of wives are secondary earners. If I further restrict the estimation sample to married women who were secondary earners in 1975 (based on taxable income), the estimated elasticities are somewhat larger. The estimates for the secondary earner sample is presented in table 5 in appendix.

**Simultaneous reforms: the expansion of housing benefits.** Finland's welfare state was expanding during this period. Therefore, the family tax reform was not the only reform that shaped labor market incentives in the late 1970s. Importantly, there was an expansion of housing allowance from 1975 onwards. Consequently, the number of households that received housing benefits doubled during 1975-1980, from 50,000 households to around 105,000 households. In assessing sensitivity to this policy change, I focus on households that lived in owner-occupied housing in 1975 as less than one third of beneficiary households lived this type of housing.<sup>36</sup> In the main estimation sample, around 65 % of households lived in owner-occupied housing in 1975. Based on the statistics on recipients, I assume that a total number of 21,000 households in owner-occupied housing were eligible for housing allowance.<sup>37</sup>

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<sup>36</sup>In 1980, 67% of households that received housing benefit were two-adult households with children and 30 % were single-parent households, couples with no children constituted less than 3% of the recipient households. Around 71% of recipient households lived in rental apartments and 29% lived in owner-occupied housing (Kela 2020.)

<sup>37</sup> $(105,000 \cdot (0.67 + 0.03) \cdot 0.29 \approx 21,000$ . 105,000 is the total number of households that received housing allowance in 1980.  $0.67 + 0.03$  is the share of recipient households that were two-adult households, 0.29 is the share of recipient households that

In 1975, the number of households in the estimation data, where wife is between ages 25 and 50, that live in owner-occupied housing was around 390,000. I assume that 90 percent of eligible households fall into this age group. Consequently, the share of owner-occupied households potentially eligible would be  $21,000/390,000 \cdot 0.9 \approx 5.0\%$ . In estimating the reform effects among households living in the owner-occupied hous, I exclude households that belong to the bottom 5 percent of owner-occupied households based on husband's taxable income in order to remove households that were potentially eligible for housing allowance. When excluding households, I only condition on husband's taxable income so that I would not condition on wife's employment status before the reform. I find that the estimates using this sample is in line with the main estimates (appendix 10).

## 9 Income sharing among self-employed couples

In this section, I turn the attention to self-employed couples. This group includes married women who were themselves self-employed or their husband was self-employed before the reform. This group is excluded from the main estimation sample because the reform significantly altered the incentives on how to split self-employment income between spouses. Following the reform, the fiscal incentive to report identical earnings across spouses increased significantly. Before the reform, pooling of family earnings lead to indifference on how to allocate earnings between household members. I study how the within-household distribution of taxable income changed after the changes in the fiscal incentives.

Under individual taxation, couples could demand that the income from a business is divided between spouses. The requirement was that both spouses' contribution should be sufficiently large. In this case, either spouse had to request that income is split equally. This provided the possibility for self-employed couples to split incomes in a straightforward manner when both contributed to the business.

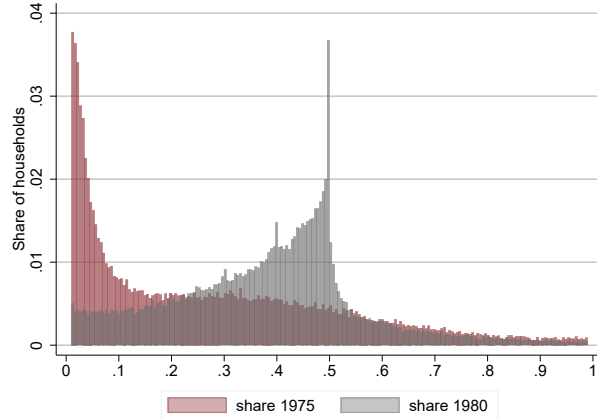
I use the sub-sample of self-employed couples to study how the income-shares of spouses changed after the reform. I define self-employed couples to include all couples in which at least one spouse was self-employed in 1975. There are around 110,000 couples in the self-employed sample. Before the reform, wife's share of household taxable income was zero in around 44 percent of couples. After the reform, the share drops to around 7 percent.

In figure 13, I plot wife's share of total household taxable income in 1975 and in 1980 among couples in which at least one spouse was self-employed in 1975, and both spouses earned positive taxable incomes during the tax year.

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lived in owner-occupied housing. This calculation assumes that the recipient housing-type shares are distributed equally among recipient family-types.

Figure 13: Distribution of relative incomes among self-employed couples



*Notes:* This figure plots the share of wife's taxable income within household among couples in which at least one spouse was self-employed in 1975. Furthermore, the sub-sample includes couples in which the wife was between ages 25 and 50 in 1975. For clarity, I exclude couples from the figure in which wife earned either below 1 percent or above 99 percent share of total household taxable income during the tax year. Total share of couples included in the graph is 49 % of all couples in the sub-sample for 1975 and 86 % for 1980.

Figure 13 shows that, among self-employed couples, bunching at 0.5 was not evident before the shift to the individual income taxation. Rather, the figure suggests that the excess mass or bunching in the distribution for wife's share of household taxable income at 0.5 (and missing mass above 0.5) is a consequence of the individual tax reform. This is because there is no evident bunching before the reform, in 1975, but the bunching appears after the reform, in 1980. For comparison, the share distribution among the main estimation sample, which excludes the self-employed couples, shows no clear bunching neither before nor after the reform (figure 21a in appendix).

## 9.1 Implications for gender identity norm hypothesis

It has been documented that there exists a discontinuity at 0.5 and missing mass above it in the distribution of wives' share of household income in several countries.<sup>38</sup> Bertrand et al. (2015) argue that the discontinuity is generated by gender identity norm, stating that women should not outearn their husbands. In consequence to this norm, wives would have a tendency to avert situations in which they earn more than their husbands. Zinovyeva and Tverdostup (2021) offer an alternative hypothesis that coworking spouses are behind the discontinuity.<sup>39</sup> Hederos and Stenberg (2022) use data from Sweden for years 1990–2011 and show that bunching at exactly 0.5 explains the discontinuity in the share distribution. Similarly, Binder and Lam (2022) show that the discontinuity reflects a point-mass of equal-earning spouses in the US data.

Zinovyeva and Tverdostup (2021) suggest that fiscal incentives could be behind the discontinuity. Furthermore, they discuss that Finland's individual tax system may generate fiscal incentives to equalize earnings.<sup>40</sup>

<sup>38</sup>The discontinuity is documented at least in the US, Sweden and Finland in (Bertrand et al., 2015; Zinovyeva and Tverdostup, 2021; Binder and Lam, 2022; Hederos and Stenberg, 2022).

<sup>39</sup>Using data from Finland for years 1988–2014, the authors show that the discontinuity is a result of equalization and convergence of earnings among coworking spouses that are defined as couples in which both spouses are self-employed and couples that work in the same firm.

<sup>40</sup>Zinovyeva and Tverdostup (2021) write that: "There are several factors that may generate earnings equalization in self-employed couples. Self-employed spouses may report identical earnings when they face strong fiscal incentives to do so. In

In addition, [Hederos and Stenberg \(2022\)](#) acknowledge that individual income taxation creates incentives to bunch at 0.5 in Sweden.<sup>41</sup> I refer to this as the financial incentive hypothesis.

The shift from joint to individual income taxation provides a direct test for the hypothesis that fiscal incentives generate earnings equalization and the point-mass in the share distribution. The reform provides a setting in which the incentives of self-employed couples to report identical earnings changed dramatically. Before the reform, couples did not have incentives to split their joint income due to the taxation of pooled incomes. After the reform, couples faced significant fiscal incentives to split their income exactly half as it minimized their total household tax burden.

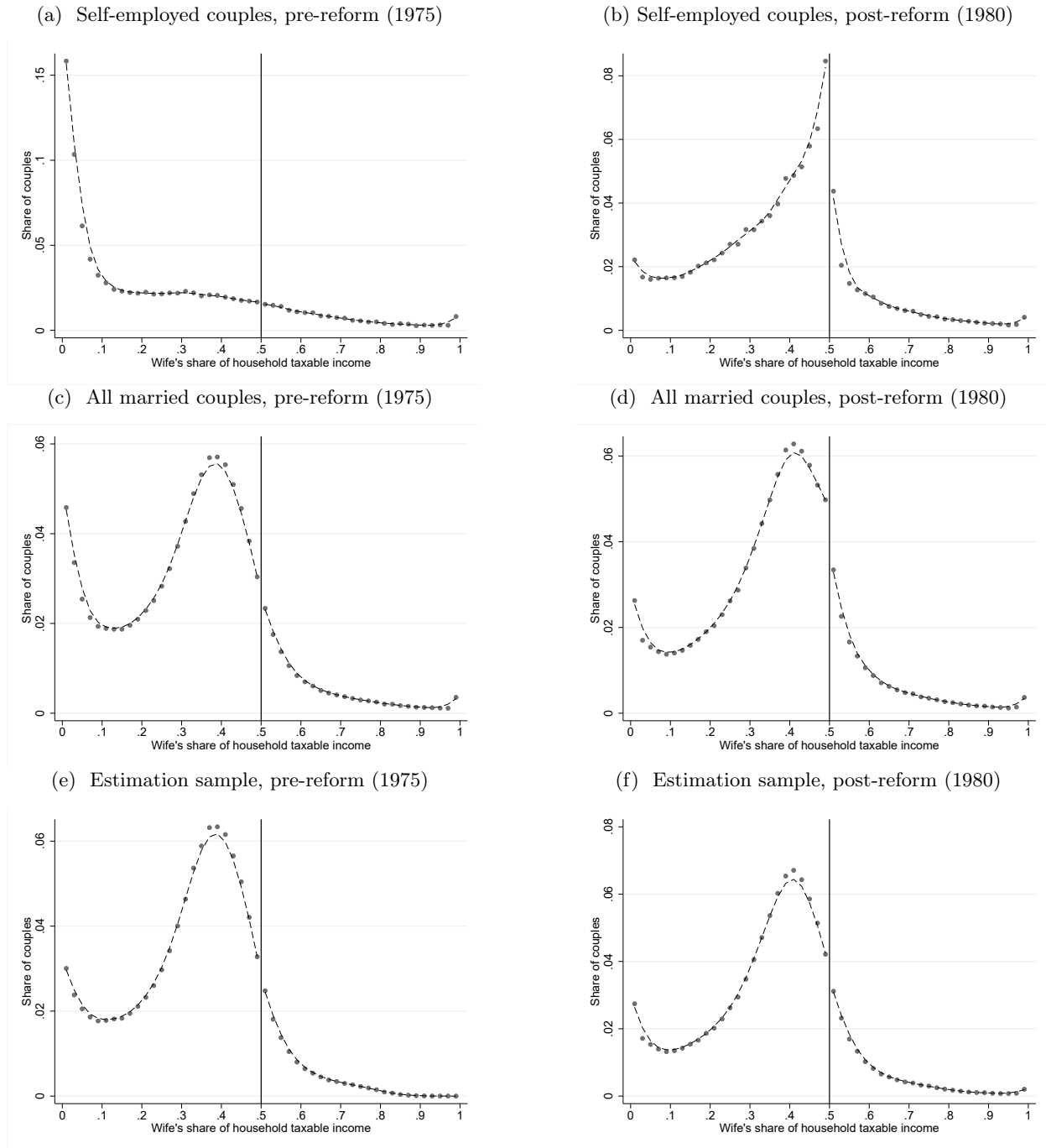
**Detecting the discontinuity in share distributions before and after the reform.** First, I follow the method of [Bertrand et al. \(2015\)](#) and [Zinovyeva and Tverdostup \(2021\)](#) in plotting the discontinuity graphically. I divide the sample into 50 equal-width bins based on wife's share of household income (each bin has a width of 2 percentage points). I calculate the fraction of couples that belong to each bin. I plot the bins and fit a lowess smoother for which I allow a discontinuity at 0.5. Figure 14 includes the share distributions among self-employed couples before (figure 14a) and after the reform (figure 14b) as well as the distributions for all married couples and for couples in the main estimation sample.

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*Finland, such incentives may be generated by individual income tax filing under a progressive scale."*

<sup>41</sup>[Hederos and Stenberg \(2022\)](#) write that: "*Because the earnings of Swedish spouses are taxed separately, setting earnings equal will be a tax minimizing strategy.*" Individual income taxation was implemented in Sweden in 1971.

Figure 14: Distribution of wife's share of couple's taxable income



*Notes:* In these figures, the sample is divided into 50 bins, so that the width of each category is 2 percentage points, by wife's share of household's taxable income. For each sample, I exclude couples for which the share for either spouse is below 1 percent or above 99 percent. The dashed line is a lowess smoother that allows a discontinuity at 0.5. All three samples include married couples in which wife is 25-50 years old in 1975. Self-employed couples restrict the sample further to couples in which either spouse was self-employed in 1975. Estimation sample restricts the sample to couples in which neither spouse was self-employed in 1975 and husband earned more than 8,300 FIM in 1975.

Figure 14 shows that there appears to be no discontinuity at 0.5 before the reform either in any of the three samples. After the reform, the discontinuity is evident in the sample consisting of self-employed couples

(figure 14b). The discontinuity also appears in the distribution of all couples (figure 14d) but is not visible in the estimation sample (figure 14f).

Next, I examine formally whether the distribution includes a discontinuity at 0.5. To do this, I statistically test whether a discontinuity exists in each distribution. I use individual level data on wives' share of household taxable income to test whether I can statistically detect a discontinuity in the distribution within different samples. I conduct the statistical test for the three samples: 1.) self-employed couples sample, 2.) all married women sample and 3.) estimation sample, which excludes self-employed couples. I conduct the statistical test for both the pre-reform year (1975) and post-reform year (1980).

I find that for the pre-reform year, I do not find a statistically detectable discontinuity in any of the three samples.<sup>42</sup> For the post-reform year, I can detect the discontinuity for the self-employed couples and all couples but not for the estimation sample.<sup>43</sup> The results are presented in table 13 in appendix. Together, these results suggest that the discontinuity in the share distribution of all married couples appears only after the reform and that it is generated by the bunching of self-employed couples.

**Implications for different hypothesis.** What do these results imply for the hypothesis on what generates the discontinuity or the missing mass in the share distribution? The changes in the share distribution after the tax reform suggest that the discontinuity is a direct consequence of the changes in fiscal incentive for self-employed couples to report identical earnings. This finding offers evidence in favor of the financial incentive hypothesis, according to which the incentives to equalize earnings generate the discontinuity and missing mass right from 0.5, and not supporting the gender identity norm hypothesis, in which the aversion of wives to outearn their husbands generate the characteristics in the share distribution.

## 10 Conclusion

In this paper, I provide evidence on how a shift from family taxation to a tax system based on individual earnings taxation affects married women's employment and earnings. The reform generated changes in married women's participation tax rates depending on husband's earnings, allowing to employ a difference-in-differences strategy, with continuous treatment intensity, in which I compare how the earnings and labor market participation of married women evolved around the reform depending on husband's earnings.

I find that the reform increased married women's labor market participation by 1.7 percentage points. The changes in participation tax rates and participation rate imply a participation elasticity of 0.17. The reform shaped women's labor market outcomes through the extensive margin – I find that the effects on the intensive margin were zero or small. Furthermore, I find that the labor supply responses varied based on the age of the youngest child, own age and education.

The estimated participation elasticity was modest in magnitude compared to the elasticity identified using variation from the individual tax reform in Sweden during the same period, finding that the participation

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<sup>42</sup>Formally, I cannot reject the null hypothesis of no discontinuity at any typical significance levels for any of the three samples.

<sup>43</sup>I can reject the null hypothesis of no discontinuity for samples 1 (self-employed couples), 2 (all couples) but not 3 (estimation sample, which excludes self-employed couples).

elasticity was between 0.5 and 1.0 (Selin, 2014).<sup>44</sup> The estimated elasticity is also relatively low in comparison to across-country evidence on labor supply elasticities: Bargain et al. (2014) estimate own-wage elasticities for married women across countries and find that they fall in the range between 0.2 and 0.6, setting the estimated elasticity at the range's lower end. The estimated participation elasticity is also relatively low considering the period when the reform took place – during the late 1970s – as evidence shows that labor supply elasticities have decreased over time (Blau and Kahn, 2007; Lundberg and Norell, 2020). Compared to the estimates of Blau and Kahn (2007), who estimate labor supply elasticities for married women at different periods in the US, the estimated participation elasticity is closer to the labor supply elasticity in the US in year 2000 (0.36) compared to that of 1980 (0.77).<sup>45</sup> However, the reform's effect on married women's participation rate was close to that of an opposite family tax reform in the US – LaLumia (2008) finds that a shift from separate to joint income taxation decreased married women's employment by 2 percentage points.<sup>46</sup>

What could explain the differences in the estimated labor supply elasticities across settings and across studies? One proposed explanation is that baseline employment rate varies across countries and periods. A high baseline employment lowers the scope for further increases, which might attenuate elasticity estimates. In Finland, one year before the reform in 1975, 84 percent of married women in the estimation sample had positive wage income, which is used as the measure of labor market participation. In Sweden, the corresponding pre-reform participation rate was around 67 percent.<sup>47</sup> Consistent with this interpretation, Bargain et al. (2014) finds that labor supply elasticities are higher in countries with lower female labor market participation. Furthermore, compared to Blau and Kahn (2007), both the estimated participation elasticity magnitude and the baseline employment for married women (elasticity at 0.17 and baseline employment rate at 84 percent) were closer to the estimates in the US in year 2000 (elasticity at 0.36 and baseline employment rate at 78 percent) compared to 1980 (elasticity at 0.77 and baseline employment rate at 67 percent).<sup>48</sup>

Heterogeneity in the labor supply estimates across groups further support the idea that baseline employment was likely an important factor in explaining differences in labor supply elasticities. For instance, I find that the effects for women with compulsory education were largest while women with tertiary education did not respond to the reform. At the same time, the baseline employment rate of compulsory educated was 82 percent while 92 percent of tertiary educated were employed before the reform. Furthermore, based on own age, the labor supply responses were larger for those age-groups that had relatively low baseline employment rates.<sup>49</sup> These findings are line with Bastani et al. (2021) who find that the labor supply elasticities are larger for groups that have lower baseline employment level.

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<sup>44</sup>The reform's effects vary both in terms of elasticities and absolute magnitudes. Selin (2014) finds that the reform increased married women's employment rate by 9-18 percentage points.

<sup>45</sup>Table 1 in Blau and Kahn (2007) reports labor supply elasticities at different periods: the own wage elasticity was around 0.36 in 1999-2001 and 0.77 in 1979-1981, for specifications that include education and child controls.

<sup>46</sup>LaLumia (2008) studies a family tax policy in the US in 1948 when joint taxation was adopted as a federal policy. Because some states applied a form of joint taxation already before the reform, they serve as a natural control group for the states that adopted joint taxation because of the reform.

<sup>47</sup>Table 8 in Selin (2014) Even though the reforms in Finland and Sweden took place only 5 years apart, it had large implications for the baseline female employment rates. In Finland, the share of women who had positive wages expanded rapidly between 1971 and 1975 (figure 15 in appendix): participation rate rose from around 60 percent to 75 percent during the years leading up to the reform.

<sup>48</sup>Table A2 in Blau and Kahn (2007) reports the employment rates for married women in the US: the average share of married women who worked positive hours was around 67 percent in 1979-1981 and 78 percent in 1999-2001.

<sup>49</sup>Based on figure 9, the labor supply responses were largest for women aged 45-50, whose baseline employment was at 78 percent, and lowest for women aged 25-29, whose baseline employment was 84 percent. The figure also shows that the effect magnitude for women aged 35-39 and 40-44 were larger than for women aged 25-29 even though the groups had larger baseline employment rates.

Other factors besides baseline employment also contributed to the effect heterogeneity. The obvious example is that mothers whose youngest child was aged 0-3 before the reform had the lowest labor supply responses as well as the lowest baseline employment rate. This suggests that preferences and constraints, including the availability of childcare, likely played a role in shaping labor supply responses as well as in explaining elasticity differences across settings.<sup>50</sup>

The decomposition results imply that one potential explanation on the differences in elasticity estimates is that different policy changes shift participation incentives in different ways. For instance, EITC reforms increase the financial benefit of working while keeping the income in non-participation state constant. At the same time, conditional cash transfers can increase transfers conditional on non-participation while keeping the net wage constant. I decompose the change in the participation tax rate into these two components: 1.) the change in net income, conditional on working and 2.) the change in unearned income, conditional on non-participation. I show that both components generated increased in financial incentives to work but the first component accounted for around two thirds of the change in the participation tax rate. I find that the elasticity for own wage change is around 0.35 while the elasticity of unearned income is around 0.12 (in absolute magnitude). Consistent with this, [Blau and Kahn \(2007\)](#) find that own wage elasticities are considerably larger than elasticities based on spouse's wage.<sup>51</sup> The result is also consistent with [Isaac \(2025\)](#) who finds that the substitution effects was larger in absolute magnitude than the income effect identified by a shift from individual to joint taxation for same-sex couples. The decomposition results suggest that employment effects of a reform that shifts participation incentives could be a linear combination of these two elasticities, depending on the relative contributions of the two components in shifting participation incentives.

[Kleven \(2024\)](#) proposes that one potential explanation for differences in labor supply responses is related to optimization frictions, arguing that the limited employment responses to the EITC in the US could be due to the system's complicated incentive structure as well as the observation that not all potential recipients are aware of the system. I argue that the family tax reform in Finland was salient, which is supported by the active discussions around family taxation in the 1970s and the tax reporting guidelines, distributed to households, that included information on the adopted individual taxation (section [A.7](#) in appendix). In addition, saliency is supported by the extent to which self-employed couples changed their behavior by splitting their incomes after the reform (figure [13](#)), as either spouse had to request for income splitting ([HE 63/1975 I vp, 1975](#)). This reflects the measure of saliency by [Chetty et al. \(2013\)](#) in which bunching in the income distribution captures the degree of understanding of tax incentives. From this perspective, lack of information is likely not an important factor in explaining the relatively low labor supply responses to the reform.

Finally, I provide evidence that the reform not only steered labor supply but also influenced how taxable income is shared within self-employed households. I find that, after the shift from family to individual

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<sup>50</sup>For instance, [Selin \(2014\)](#) discusses how the large employment response to the individual tax reform in Sweden could potentially be due to the simultaneous childcare expansion during the 1970s.

<sup>51</sup>Based on the estimates in [Blau and Kahn \(2007\)](#), the ratio of own wage effect and the effect through spouse's wage was between 2.2 and 2.9, depending on the period. These ratios are calculated based on the estimation results presented in table 6 in [Blau and Kahn \(2007\)](#), using the specifications with full set of controls. The ratio of the participation effect for own log wage and spouse's log wage was 2.2 in 1979-1981, 2.9 in 1989-1991 and 2.5 in 1999-2001. Furthermore, [Selin \(2014\)](#) controls for unearned income in one specification, finding a lower elasticity, which suggests that both shifts in own wage and unearned income mattered in the Sweden's family tax reform as well.

taxation, many self-employed couples split their earnings, leading to bunching at 0.5 in the share distribution. This finding is relevant for the discussion on what is behind the missing mass right from 0.5 in the share distribution of married couples. [Bertrand et al. \(2015\)](#) propose that gender identity norm is behind this feature in the data while an alternative hypothesis proposes that the feature is created by households' financial incentives to equalize earnings ([Zinovyeva and Tverdostup, 2021](#); [Hederos and Stenberg, 2022](#)). I find that the observed bunching in the share distribution appeared only after the significant shift in families' incentives to split incomes equally, which is consistent with the financial incentive hypothesis, according to which the economic incentive to equalize earnings generate the discontinuity.

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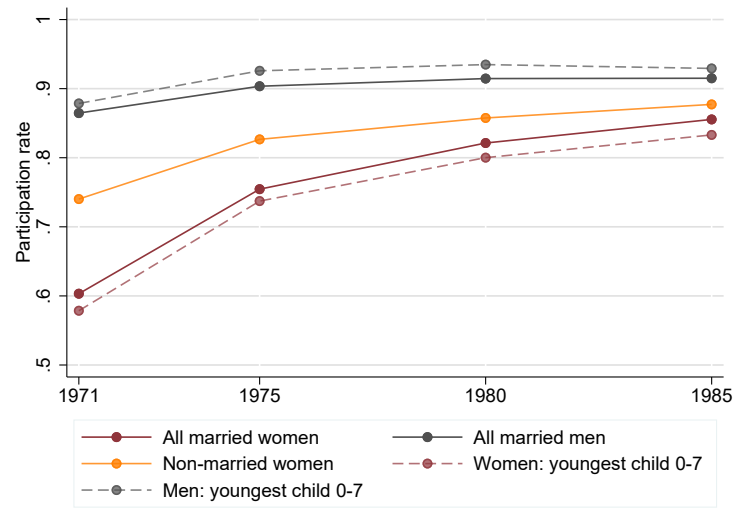
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# A Appendix

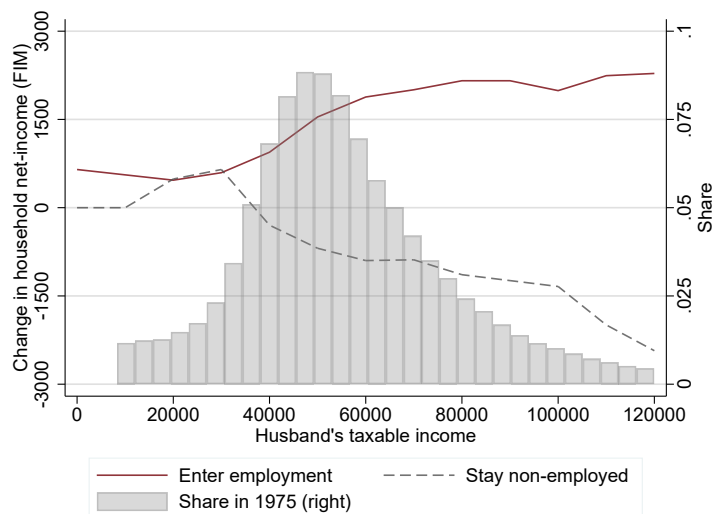
## A.1 Figures

Figure 15: Participation: positive wage income



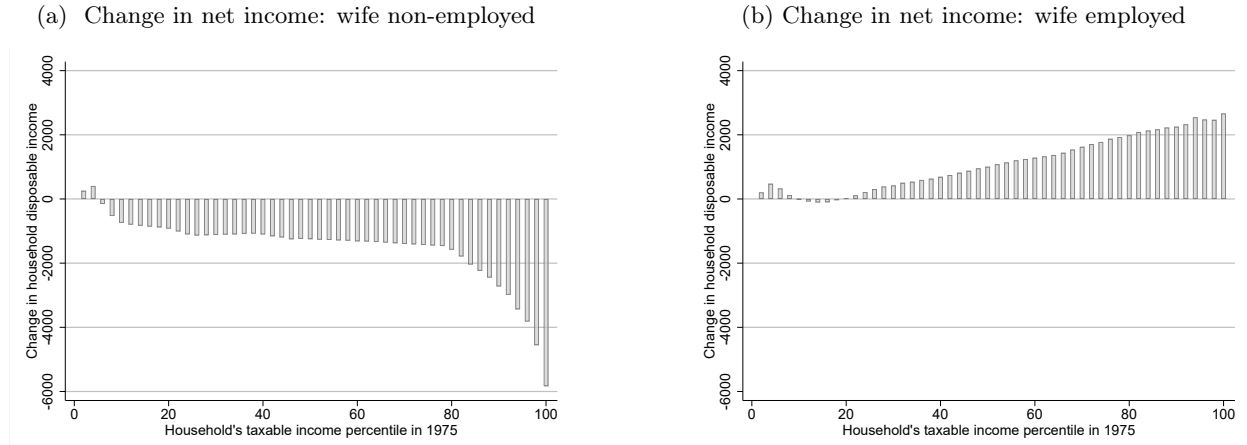
*Notes:* This figure plots the share of individuals who had wage income above zero among individuals between ages 25 and 50 in different groups. The data is from full population censuses for years 1970, 1975, 1980 and 1985. I use this definition for employment in the empirical section.

Figure 16: The difference in household's net income under 1976 taxation and 1975 taxation, when wife has median earnings (30,000 FIM) in comparison to staying non-employed, at different husband earnings



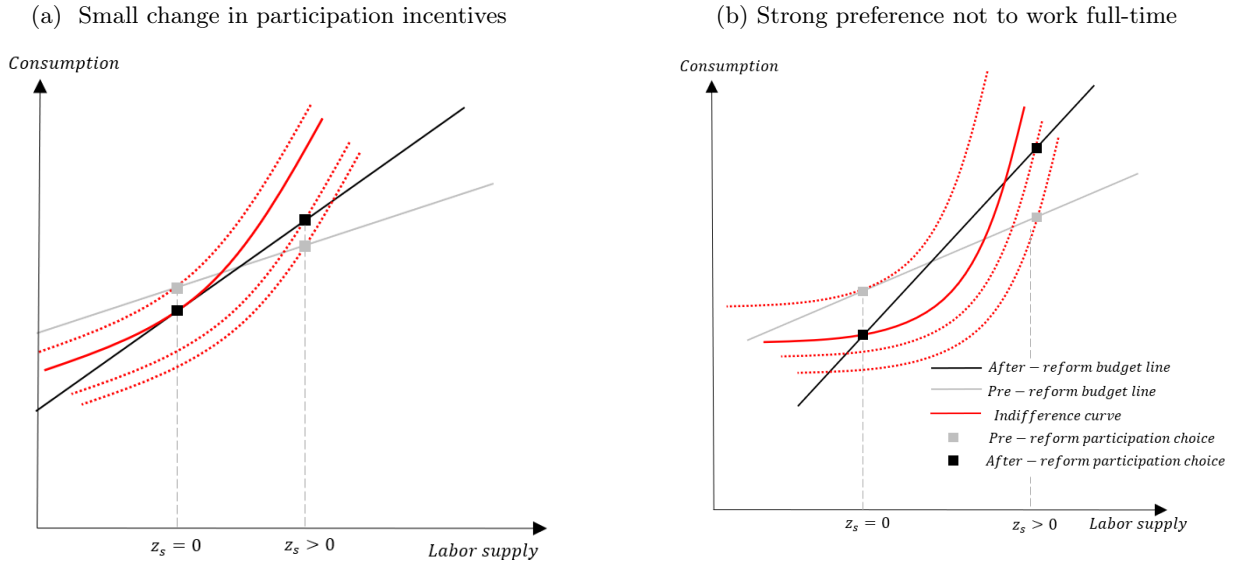
Notes: Figure 16 plots the change in household's net-earnings if wife decides to participate in the labor market under the new individual tax system in 1976 compared to the family tax system in 1975. Calculations are based on an assumption that wife earns 30,000 FIM per year, which corresponds to the median earnings for married women. **Solid line:** change in household's after-tax earnings (left y-axis) if wife earns median earnings compared to non-employment at different levels of husband earnings (x-axis). **Dashed line:** change in household's after-tax earnings (left y-axis) in 1976 compared to 1975 if wife stays non-employed at different levels of husband earnings (x-axis). **Histogram:** Husbands' taxable income distribution in 1975. All values are in 1980 FIM. These calculations take into account the main deductions, including: earned income deduction ("ansiotulovähennys") and additional earned income deduction in 1975. Earned income deduction, additional earned income deduction and spousal deduction ("puolisovähennys") in 1976. Based on the calculations by Turkila (1983), these three types of deductions covered 68.5% of all deductions that individuals claimed in their state income taxation in 1976.

Figure 17: Change in household net income for couples between the tax systems in 1975 and 1980, assuming no behavioral changes



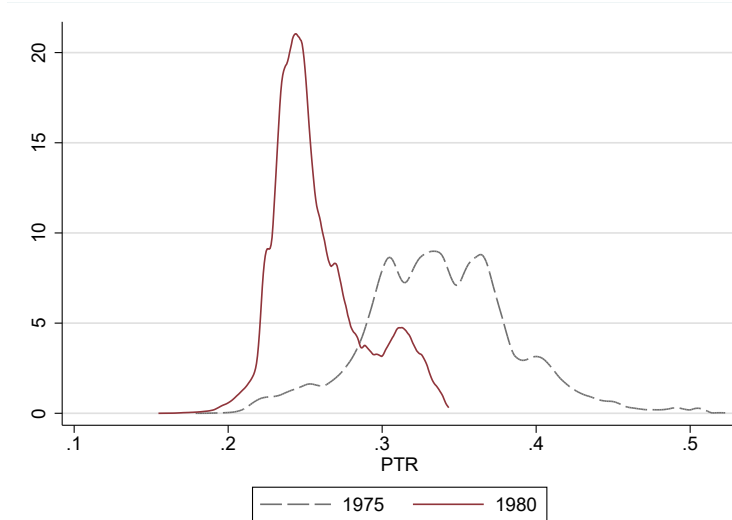
*Notes:* These figures include calculations on the change in households' net-earnings under the 1980 tax schedules compared to the 1975 tax schedules for women who had zero wage income in 1975 (figure 17a) or positive wage income in 1975 (figure 17b). Husband's earnings rank in both figures are based on 1975 taxable income. After calculating the changes in disposable incomes, I divide the married women  $i$  into groups by husband's taxable income in 1975 (50 groups). Then I plot the mean change in disposable income by husband percentile group and wife's participation status. 16 % of couples belong to group a.) and 84 % to group b.). Formally, the household disposable income is based on the following calculations. For one-earner households the change in disposable income is:  $\Delta R(z_i = 0) = T_{i,1975}(z_p,1975,0) - T_{i,1980}(z_p,1975,0)$ . This corresponds to equation 5 in the conceptual framework section, measuring the shift in the budget line (at  $z_s = 0$ ) in figure 3. For two-earner households, the change in disposable income is:  $\Delta R(z_i > 0) = T_{i,1975}(z_p,1975,z_i,1975) - T_{i,1980}(z_p,1975,z_i,1975)$ , which corresponds to the shift in the budget line in figure 4 in the conceptual framework section. All values are in 1980 FIM.

Figure 18: Examples on the reform's effect on labor supply at the extensive margin



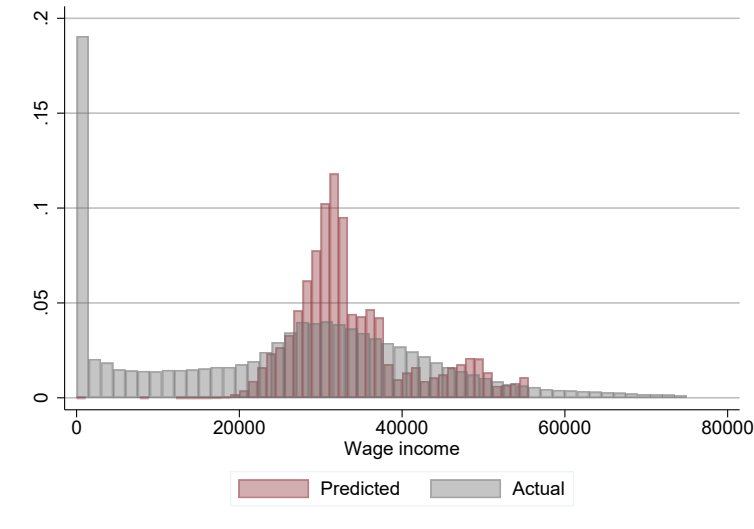
Notes: Figures 18a and 18b depict labor supply choice before and after the family tax reform for an individual who has two potential labor supply choices: either participate,  $z_s > 0$ , or do not participate,  $z_s = 0$ . These two choices before the reform are represented by grey squares while the black squares represent the situation after the reform. In figure 18a, the change in participation tax rate is not large enough to induce a change in participation status as the  $z_s = 0$  yields higher utility both before and after the reform. Similarly, in figure 18b, the individual does not change their participation status due to strong preferences not to work full-time, represented by the convexity of the utility function.

Figure 19: Density of participation tax rates (PTRs) before and after the reform



Notes: This figure shows the kernel density distribution of participation tax rates (PTRs) a year before the reform, in 1975, and four years after the reform, in 1980, for the full sample. The PTRs are calculated based on equations 7, 8 and using the predicted earnings of individuals,  $\hat{z}_{i,1975}$ , that are calculated based on the coefficients estimated using equation 6.

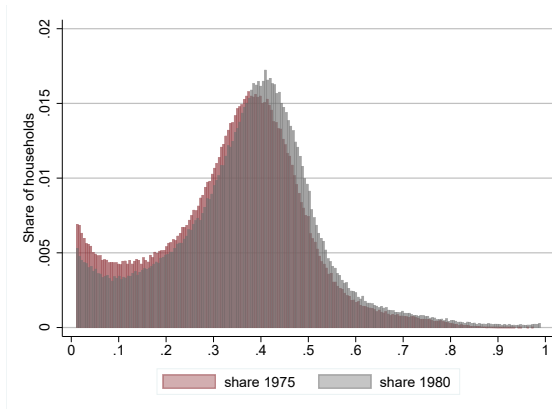
Figure 20: Distribution of actual wage income and predicted wage income in 1975



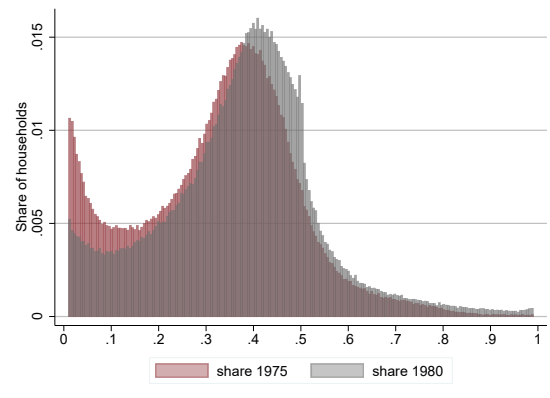
*Notes:* I plot the histograms for potential wage income and observed wage income for women in the estimation sample. Potential earnings are estimated following equation 6. The actual wage income is from 1975 census data. All values are in 1980 FIM.

Figure 21: Distribution for wives share of households' taxable income

(a) Estimation sample

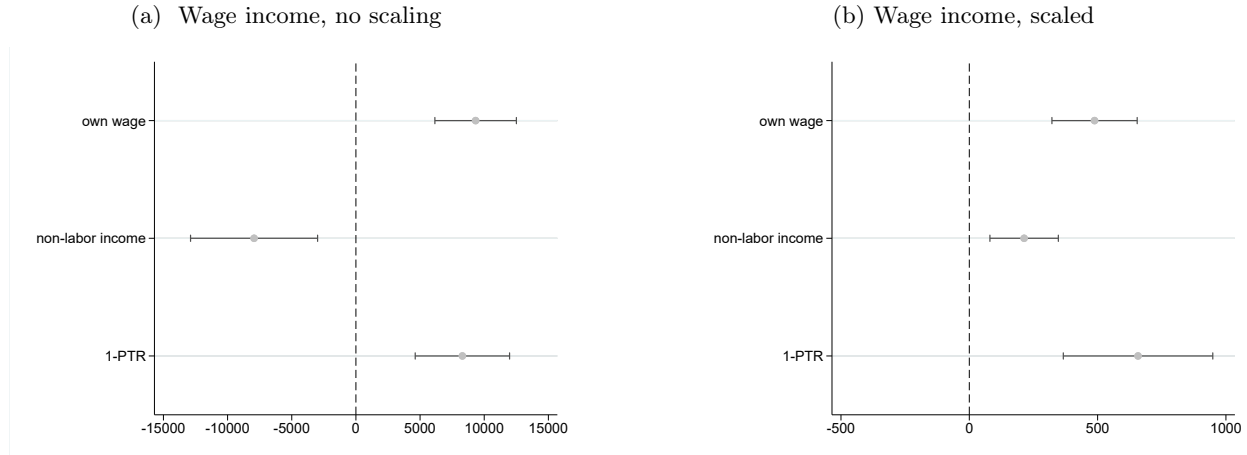


(b) Sample of all married couples



*Notes:* Figure 21a includes histograms of the share of wife's taxable income within household among couples in the main estimation sample before and after the reform. For clarity, I exclude couples from the figure that earn either below 1 percent or above 99 percent of total household taxable income during the tax year. Figure 21b includes a corresponding histogram for all couples, also including self-employed in 1975, in which wife was between ages 25 and 50 in 1975.

Figure 22: Decomposition of the reform's effects on married women's labor supply



Notes: The figures include coefficients, "own wage" and "non-labor income" that are based on equation 17. The coefficient for  $1 - PTR$  is based on equation 15. The figure includes 95 percent confidence intervals for each coefficient. The standard errors are clustered at the municipality level.

## A.2 Tables

Table 4 includes real marginal tax rates (MTRs) for married individuals under 1975, 1976 and 1980 tax codes.

Table 4: Marginal tax rates (MTRs) in 1975, 1976, 1980.

1975		1976		1980	
Joint income	MTR	Individual income	MTR	Individual income	MTR
(1)	(2)	(3)	(4)	(5)	(6)
8,300-10,000	10	8,700-11,600	10	9,300-12,400	6
10,000-13,300	10	11,600-14,500	13	12,400-15,000	13
13,300-16,600	13	14,500-17,400	16	15,000-19,000	19
16,600-24,900	16	17,400-21,000	23	19,000-23,000	23
24,900-33,200	22	21,700-29,000	23	23,000-31,000	28
33,200-49,800	28	29,000-43,500	28	31,000-44,000	29
49,800-66,400	34	43,500-58,000	29	44,000-60,000	33
66,400-99,600	37	58,000-87,000	33	60,000-92,000	38
99,600-132,900	40	87,000-145,000	38	92,000-153,000	45
132,900-166,100	43	145,000-290,000	44	153,000-275,000	50
166,100-332,100	49	290,000-	50	275,000-	51
332,100-	51				

Notes: The table includes the tax schedules or marginal tax rates a year before the reform, in 1975, for married couples. In 1975, the marginal tax rates were based on joint income. The table also includes the marginal tax rates during the first year after the reform, in 1976 and four years after the reform in 1980. During the post-reform years, in 1976 and 1980, taxation was based on individual incomes. The tax schedules are obtained from the Finnish Tax Administration ([Verohallitus 74/1976, 1976](#); [Verohallitus 159/1980, 1980](#)). The tax schedules are not directly comparable because deductions differ by year. All taxable incomes are in 1980 Finnish markkas (FIM) and rounded to nearest 100.

## A.3 Robustness

### A.3.1 Tables

Table 5: Effects on labor supply at the extensive margin: sample restricted to wives that are secondary earners in their households

	Participation	Wage income	Taxable income
Main estimates	0.321*** (0.090)	6,324** (3,044.705)	9,453*** (3,039)
Scaled estimates	0.027*** (0.0075)	526.76** (253.62)	787.41*** (253.10)
Pre-period mean	0.824	23,035	23,387
Percent change	3.25 %	2.29 %	3.37 %
Implied elasticity	0.257 [0.116, 0.397]	0.181 [0.010, 0.351]	0.266 [0.098, 0.434]
<i>Participation tax rate</i>			
Mean $\Delta(1 - PTR)$	8.33 %-points		
Pre-period mean ( <i>PTR</i> )	34.18 %		
Percent change ( $1 - PTR$ )	12.66 %		
Individuals	415,084	415,084	414,988

*Notes:* Significance levels (\*=0.10, \*\*=0.05, \*\*\*=0.01). The table includes estimates based on equation 15 in which the changes in participation-tax-rates follow equations 8, 7 and 9. I scale the main estimate with the mean  $\Delta(1 - PTR)$  in the sample to arrive at the scaled estimate. The mean participation tax rate includes a mean municipality tax rate (15 percent). Implied elasticity =  $\frac{\beta \cdot \Delta(1 - PTR)/Y_{1975}}{\Delta(1 - PTR)/(1 - PTR_{1975})}$ , where  $Y$  is the mean outcome,  $\Delta(1 - PTR)$  is the mean change in *PTR*,  $PTR_{1975}$  is the mean *PTR* before the reform and  $\beta$  is the coefficient for the tax rate change in equation 15. The standard errors are clustered at the municipality level. The sample is restricted to wives who had lower taxable income than their husband in 1975.

Table 6: Extensive margin results: sensitivity to adding control variables

	(1)	(2)	(3)	(4)
Participation	0.290*** (0.059)	0.224*** (0.065)	0.216*** (0.065)	0.214*** (0.066)
Wage income	13,751*** (1,356)	10,765*** (1,543)	8,327*** (1,862)	8,378*** (1,787)
Taxable income	15,360*** (1,550)	12,410*** (1,731)	13,087*** (1,663)	13,679*** (1,612)
Pre-reform income, muni. and birth-year FEs	Yes	Yes	Yes	Yes
Children FEs	No	Yes	Yes	Yes
Education FEs	No	No	Yes	Yes
Husband industry FEs	No	No	No	Yes

*Notes:* Significance levels (\*=0.10, \*\*=0.05, \*\*\*=0.01). This table includes estimation results following equation 15 but varying the control variables that are included in the right-hand-side of the equation. In column 1, I include pre-reform labor-income, municipality of residence and birth year fixed effects. In column 2, I add fixed effects for education-level (indicator variables for compulsory, secondary, tertiary) and number of children (indicator variables for the number of children under age 18 that live in the same household and the age of the youngest child). In column 3, I add fixed effects for wife’s industry at one-digit level. In column 4, I add fixed effects for husband’s industry at one-digit-level. All control variables are measured using 1975 census data.

Table 7: Intensive margin results: sensitivity to adding control variables

	(1)	(2)	(3)	(4)
ln(wage income)	0.101*** (0.020)	0.017 (0.020)	0.019 (0.021)	0.009 (0.021)
ln(taxable income)	0.012 (0.022)	-0.025 (0.020)	-0.023 (0.019)	-0.028 (0.018)
Pre-reform income, munic. and birth-year FE	Yes	Yes	Yes	Yes
Education, children FE	No	Yes	Yes	Yes
Industry FE,	No	No	Yes	Yes
Husband industry FE	No	No	No	Yes

*Notes:* Significance levels (\*=0.10, \*\*=0.05, \*\*\*=0.01). This table includes estimation results following equation 18 but varying the control variables that are included in the right-hand-side of the equation. In column 1, I include pre-reform outcome variable (in logs), municipality of residence and birth year fixed effects. In column 2, I add fixed effects for education-level (indicator variables for compulsory, secondary, tertiary) and number of children (indicator variables for the number of children under age 18 that live in the same household and the age of the youngest child). In column 3, I add fixed effects for wife’s industry at one-digit level. In column 4, I add fixed effects for husband’s industry at one-digit-level. All control variables are measured using 1975 census data.

Table 8: Extensive margin: change in PTR is based on husband's 1971 taxable income

	Participation	Wage income	Taxable income
Main estimates	0.214*** (0.050)	10,919*** (1,151.519)	13,637*** (1,104)
Scaled estimates	0.013*** (0.0030)	664.51*** (70.08)	829.93*** (67.17)
Pre-period mean	0.841	25,187	25,631
Percent change	1.55 %	2.64 %	3.24 %
Implied elasticity	0.175 [0.095, 0.255]	0.298 [0.236, 0.360]	0.366 [0.308, 0.424]
<i>Participation tax rate</i>			
Mean $\Delta(1 - PTR)$	6.09 %-points		
Pre-period mean ( $PTR$ )	31.25 %		
Percent change ( $1 - PTR$ )	8.85 %		
Individuals	451,302	451,302	451,050

*Notes:* Significance levels (\*=0.10, \*\*=0.05, \*\*\*=0.01). The table includes estimates based on equation 15 in which the changes in participation-tax-rates follow equations 8, 7 and 9 but instead of using 1975 husbands' taxable incomes in calculating the participation tax rates as in the main estimation, I calculate changes in PTRs based on 1971 husband taxable incomes. I scale the main estimate with the mean  $\Delta(1 - PTR)$  in the sample to arrive at the scaled estimate. Implied elasticity =  $\frac{\beta \cdot \Delta(1 - PTR)/Y_{1975}}{\Delta(1 - PTR)/(1 - PTR_{1975})}$ , where  $Y$  is the mean outcome,  $\Delta(1 - PTR)$  is the mean change in  $PTR$ ,  $PTR_{1975}$  is the mean  $PTR$  before the reform and  $\beta$  is the coefficient for the tax rate change in equation 15. The standard errors are clustered at the municipality level.

Table 9: Extensive margin: control for own pre-reform mean-earnings (1971 and 1975)

	Participation	Wage income	Taxable income
Main estimates	0.192*** (0.059)	7,426*** (1,762.525)	9,667*** (1,962)
Scaled estimates	0.015*** (0.0047)	588.42*** (139.65)	765.96*** (155.48)
Pre-period mean	0.841	25,187	25,631
Percent change	1.81 %	2.34 %	2.99 %
Implied elasticity	0.151 [0.060, 0.242]	0.195 [0.104, 0.286]	0.250 [0.150, 0.349]
<i>Participation tax rate</i>			
Mean $\Delta(1 - PTR)$	7.92 %-points		
Pre-period mean ( $PTR$ )	33.76 %		
Percent change ( $1 - PTR$ )	11.96 %		
Individuals	450,617	450,617	450,617

*Notes:* The table includes estimates based on equation 15 in which the changes in participation-tax-rates follow equations 8, 7 and 9 but instead of using the pre-reform outcome as control, I use the mean of outcome in 1971 and 1975 as a control. I use 500 different categories for the mean outcome in order to reduce the number of fixed effects included in the regression. I scale the main estimate with the mean  $\Delta(1 - PTR)$  in the sample to arrive at the scaled estimate. Implied elasticity  $= \frac{\beta \cdot \Delta(1 - PTR)/Y_{1975}}{\Delta(1 - PTR)/(1 - PTR_{1975})}$ , where  $Y$  is the mean outcome,  $\Delta(1 - PTR)$  is the mean change in  $PTR$ ,  $PTR_{1975}$  is the mean  $PTR$  before the reform and  $\beta$  is the coefficient for the tax rate change in equation 15. The standard errors are clustered at the municipality level.

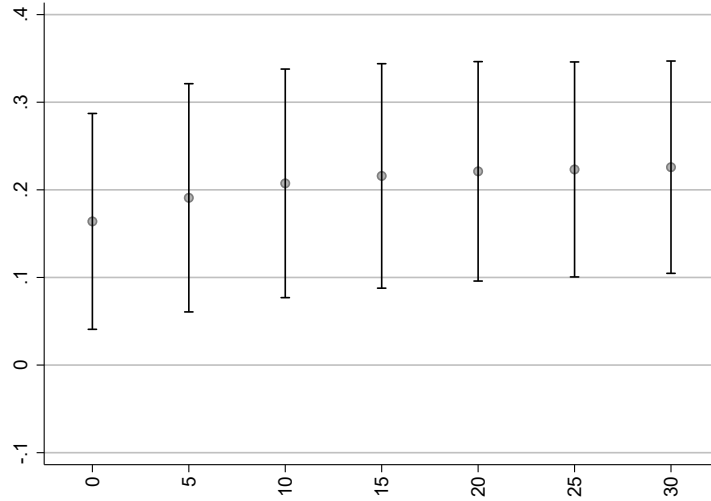
Table 10: Extensive margin: restrict sample to couples living in owner-occupied housing

	Participation	Wage income	Taxable income
Main estimates	0.216*** (0.080)	7,801*** (2,489.295)	9,561*** (2,535)
Scaled estimates	0.018*** (0.0065)	632.81*** (201.93)	775.62*** (205.66)
Pre-period mean	0.840	26,038	26,573
Percent change	2.09 %	2.43 %	2.92 %
Implied elasticity	0.170 [0.047, 0.292]	0.197 [0.074, 0.321]	0.237 [0.114, 0.360]
<i>Participation tax rate</i>			
Mean $\Delta(1 - PTR)$		8.11 %-points	
Pre-period mean ( $PTR$ )		34.12 %	
Percent change ( $1 - PTR$ )		12.31 %	
Individuals	280,104	280,104	279,853

*Notes:* The table includes estimates based on equation 15 in which the changes in participation-tax-rates follow equations 8, 7 and 9 but instead of using the estimation sample a use a sub-sample including only couples living in owner-occupied housing and that earn above x percentile in the subsample. I scale the main estimate with the mean  $\Delta(1 - PTR)$  in the sample to arrive at the scaled estimate. Implied elasticity =  $\frac{\beta \cdot \Delta(1 - PTR)/Y_{1975}}{\Delta(1 - PTR)/(1 - PTR_{1975})}$ , where  $Y$  is the mean outcome,  $\Delta(1 - PTR)$  is the mean change in  $PTR$ ,  $PTR_{1975}$  is the mean PTR before the reform and  $\beta$  is the coefficient for the tax rate change in equation 15. The standard errors are clustered at the municipality level.

### A.3.2 Figures

Figure 23: Extensive margin: robustness, participation, different sample restrictions in estimating potential earnings



*Notes:* The figure includes estimation results following equation 15. It illustrates the results' sensitivity to estimation of potential earnings following equation 6. I use different thresholds – for individuals who have an income above a given income-percentile (from 0 to 100) – in defining the sample that is used in estimating potential earnings. Instead of using a sample restriction of estimating potential earnings at 15th percentile of the earnings distribution, I restrict the sample above a given percentile in the income distribution, presented on the x-axis of the figure.

## A.4 PTR decomposition

I show the arithmetic behind decomposing  $\Delta(1 - PTR_i)$  into two components: 1.) change in own income conditional on employment and 2.) change in non-labor income conditional on non-employment.

Start from the definition of  $\Delta(1 - PTR_i)$ :

$$\Delta(1 - PTR_i) = (1 - PTR_{i,1980}) - (1 - PTR_{i,1975}),$$

and use the definitions of  $PTR_i$  from equations 7 and 8 :

$$\Delta(1 - PTR_i) = \left(1 - \frac{T_{i,1980}(z_{p,1975}, \hat{z}_{i,1975}) - T_{i,1975}(z_{p,1975}, 0)}{\hat{z}_{i,1975}}\right) - \left(1 - \frac{T_{i,1975}(z_{p,1975}, \hat{z}_{i,1975}) - T_{i,1975}(z_{p,1975}, 0)}{\hat{z}_{i,1975}}\right)$$

$$\Delta(1 - PTR_i) = 1 - \frac{T_{i,1980}(z_{p,1975}, \hat{z}_{i,1975})}{\hat{z}_{i,1975}} + \frac{T_{i,1980}(z_{p,1975}, 0)}{\hat{z}_{i,1975}} - 1 + \frac{T_{i,1975}(z_{p,1975}, \hat{z}_{i,1975})}{\hat{z}_{i,1975}} - \frac{T_{i,1975}(z_{p,1975}, 0)}{\hat{z}_{i,1975}}$$

$$z_{i,1975} \cdot \Delta(1 - PTR_i) = -T_{i,1980}(z_{p,1975}, \hat{z}_{i,1975}) + T_{i,1980}(z_{p,1975}, 0) + T_{i,1975}(z_{p,1975}, \hat{z}_{i,1975}) - T_{i,1975}(z_{p,1975}, 0)$$

$$z_{i,1975} \cdot \Delta(1 - PTR_i) = (T_{i,1975}(z_{p,1975}, \hat{z}_{i,1975}) - T_{i,1980}(z_{p,1975}, \hat{z}_{i,1975})) - (T_{i,1975}(z_{p,1975}, 0) - T_{i,1980}(z_{p,1975}, 0))$$

$$\Delta(1 - PTR_i) = \left(\frac{T_{i,1975}(z_{p,1975}, \hat{z}_{i,1975}) - T_{i,1980}(z_{p,1975}, \hat{z}_{i,1975})}{\hat{z}_{i,1975}}\right) - \left(\frac{T_{i,1975}(z_{p,1975}, 0) - T_{i,1980}(z_{p,1975}, 0)}{\hat{z}_{i,1975}}\right),$$

Following the definitions for  $\Delta OwnWage_i(z_i = \hat{z}_{i,1975})$  and for  $\Delta R_i(z_i = 0)$ :

$$\Delta(1 - PTR_i) = \frac{\Delta OwnWage_i(z_i = \hat{z}_{i,1975})}{\hat{z}_{i,1975}} - \frac{\Delta R_i(z_i = 0)}{\hat{z}_{i,1975}}$$

## A.5 Tables

## A.6 Additional tables

Table 11: Extensive margin: placebo results

	Participation	Wage income	Taxable income
Main estimates	-0.007 (0.093)	-5,741** (2,910.681)	-4,631 (3,357)
Scaled estimates	-0.000 (0.0062)	-384.10** (194.75)	-309.87 (224.64)
Pre-period mean	0.737	18,164	18,526
Percent change	-0.06 %	-2.11 %	-1.67 %
Implied elasticity	-0.007 [-0.179, 0.166]	-0.219 [-0.437, -0.001]	-0.174 [-0.420, 0.073]
<i>Participation tax rate</i>			
Mean $\Delta(1 - PTR)$	6.69 %-points		
Pre-period mean ( <i>PTR</i> )	30.58 %		
Percent change ( $1 - PTR$ )	9.64 %		
Individuals	371,377	371,377	371,104

*Notes:* The table includes estimates based on equation 15 in which the changes in participation-tax-rates follow equations 8, 7 and 9 but using the placebo sample in which the sample definition is applied to 1970 census. Consequently, the tax rate changes and pre-reform earnings controls are based on 1971 earnings information. The other control variables are based on information in 1970 census. The outcome variables are based on 1975 census, which is measured one year before the reform. I scale the main estimate with the mean  $\Delta(1 - PTR)$  in the sample to arrive at the scaled estimate. Implied elasticity =  $\frac{\beta \cdot \Delta(1 - PTR)/Y_{1975}}{\Delta(1 - PTR)/(1 - PTR_{1975})}$ , where  $Y$  is the mean outcome,  $\Delta(1 - PTR)$  is the mean change in *PTR*,  $PTR_{1975}$  is the mean *PTR* before the reform and  $\beta$  is the coefficient for the tax rate change in equation 15. The standard errors are clustered at the municipality level.

Table 12: Intensive margin: placebo results

	Wage income	Taxable income
Elasticity estimate	-0.154*** (0.021)	-0.115*** (0.025)
Pre-period mean	28,890	29,176
Individuals	215,647	220,425

*Notes:* Significance levels (\*=0.10, \*\*=0.05, \*\*\*=0.01). The results are based on the estimation of equation 21. Placebo sample includes women who were between ages 25 and 50 in 1970. The sample includes married women who earned above 8,300 FIM in 1971. The standard errors are clustered at the municipality level.

Table 13: Results for the statistical test:  $H_0$  of no discontinuity at 0.5

	All couples		Self-employed couples		Estimation sample	
	Pre-reform (1)	Post-reform (2)	Pre-reform (3)	Post-reform (4)	Pre-reform (5)	Post-reform (6)
P-value	0.1230	0.0000	0.2387	0.0000	0.1769	0.7550
Couples	589,003	569,140	108,851	105,025	466,454	450,097
below cutoff	521,066	479,247	96,889	85,802	421,211	386,428
above cutoff	67,937	89,893	11,962	19,223	45,243	63,669

*Notes:* I statistically test whether a discontinuity exists in the distribution. I use command `rddensity` in Stata, by [Cattaneo et al. \(2018\)](#), which follows the idea of running variable manipulation testing by [McCrary \(2008\)](#). The samples include couples in which wife was between ages 25 and 50 in 1975. Self-employment is defined as either wife or husband was self-employed in 1975. The estimation sample includes all couples included in the empirical part of the paper, husband earns above 8,300 FIM in 1975 and excluding self-employed couples.

Table 14: Summary statistics for the husbands in the main sample, year 1975

	Full sample (1)	<i>By husband's taxable income quantile</i>				
		Q1 (2)	Q2 (3)	Q3 (4)	Q4 (5)	Q5 (6)
Participation	0.97 (0.16)	0.89 (0.31)	0.99 (0.09)	1.00 (0.06)	1.00 (0.07)	0.99 (0.10)
Wage income	57,132.09 (31,806.46)	25,926.42 (13,443.51)	43,680.16 (6,852.59)	52,722.53 (6,157.16)	64,174.97 (8,652.25)	99,131.29 (41,593.91)
Taxable income	60,106.01 (34,867.58)	29,364.55 (8,823.49)	44,797.88 (2,684.09)	53,825.31 (2,700.70)	65,743.15 (4,513.85)	106,773.65 (50,372.67)
Compulsory	0.54 (0.50)	0.74 (0.44)	0.70 (0.46)	0.61 (0.49)	0.45 (0.50)	0.22 (0.41)
Secondary	0.22 (0.41)	0.20 (0.40)	0.24 (0.43)	0.27 (0.44)	0.24 (0.43)	0.13 (0.34)
Tertiary	0.24 (0.43)	0.06 (0.24)	0.06 (0.24)	0.12 (0.32)	0.31 (0.46)	0.65 (0.48)
Age	38.29 (8.50)	39.30 (9.97)	37.75 (8.58)	37.69 (8.16)	37.74 (7.84)	38.97 (7.62)
Individuals	466,454	93,269	93,205	93,347	93,331	93,302

*Notes:* This table reports the means and standard deviations of the background characteristics for the husbands of married women in the full sample and the sub-samples that are based on husband's taxable income quantile in 1975. Variable definitions: employment is defined as having positive wage income. Share with children refers to fathers with children that are under 18 and live in the same household. Compulsory education refers to having no degrees beyond compulsory schooling, also including individuals for whom the information for the highest degree is missing. Secondary education refers to individuals with vocational or high school education as their highest degree. Tertiary education includes all post-secondary degrees. All values are in 1980 FIM.

**Tables for estimates for different sub-samples.** The following estimates for different groups are based on restricting the sample to the group of interest. Therefore, the estimates can differ from the heterogeneity results in section 6.2, in which all the estimates for different groups are obtained from a single regression in which treatment is interacted with group-indicators.

Table 15: Effects on labor supply at the extensive margin: sample restricted to mothers whose youngest child was aged 0-3 in 1975

	Participation	Wage income	Taxable income
Main estimates	-0.131 (0.081)	-5,696 (3,806.104)	-6,246 (4,221)
Scaled estimates	-0.010 (0.0064)	-447.71 (299.14)	-490.94 (331.73)
Pre-period mean	0.773	19,889	20,188
Percent change	-1.33 %	-2.25 %	-2.43 %
Implied elasticity	-0.112 [-0.248, 0.024]	-0.190 [-0.439, 0.059]	-0.205 [-0.477, 0.067]
<i>Participation tax rate</i>			
Mean $\Delta(1 - PTR)$		7.86 %-points	
Pre-period mean ( $PTR$ )		33.67 %	
Percent change ( $1 - PTR$ )		11.85 %	
Individuals	106,360	106,360	106,249

*Notes:* Significance levels (\*=0.10, \*\*=0.05, \*\*\*=0.01). The table includes estimates based on equation 15 in which the changes in participation-tax-rates follow equations 8, 7 and 9. I scale the main estimate with the mean  $\Delta(1 - PTR)$  in the sample to arrive at the scaled estimate. The mean participation tax rate includes a mean municipality tax rate (15 percent). Implied elasticity =  $\frac{\beta \cdot \Delta(1 - PTR)/Y_{1975}}{\Delta(1 - PTR)/(1 - PTR_{1975})}$ , where  $Y$  is the mean outcome,  $\Delta(1 - PTR)$  is the mean change in  $PTR$ ,  $PTR_{1975}$  is the mean PTR before the reform and  $\beta$  is the coefficient for the tax rate change in equation 15. The standard errors are clustered at the municipality level. The sample restricted to mothers whose youngest child was aged 0-3 in 1975.

Table 16: Effects on labor supply at the extensive margin: sample restricted to mothers whose youngest child was aged 4-6 in 1975

	Participation	Wage income	Taxable income
Main estimates	0.151** (0.074)	11,068*** (3,751.434)	13,313*** (3,756)
Scaled estimates	0.012** (0.0060)	889.01*** (301.32)	1,069.34*** (301.67)
Pre-period mean	0.833	23,941	24,261
Percent change	1.46 %	3.71 %	4.41 %
Implied elasticity	0.120 [0.004, 0.237]	0.307 [0.103, 0.511]	0.364 [0.163, 0.566]
<i>Participation tax rate</i>			
Mean $\Delta(1 - PTR)$	8.03 %-points		
Pre-period mean ( <i>PTR</i> )	33.62 %		
Percent change ( $1 - PTR$ )	12.10 %		
Individuals	73,494	73,494	73,423

*Notes:* Significance levels (\*=0.10, \*\*=0.05, \*\*\*=0.01). The table includes estimates based on equation 15 in which the changes in participation-tax-rates follow equations 8, 7 and 9. I scale the main estimate with the mean  $\Delta(1 - PTR)$  in the sample to arrive at the scaled estimate. The mean participation tax rate includes a mean municipality tax rate (15 percent). Implied elasticity =  $\frac{\beta \cdot \Delta(1 - PTR)/Y_{1975}}{\Delta(1 - PTR)/(1 - PTR_{1975})}$ , where  $Y$  is the mean outcome,  $\Delta(1 - PTR)$  is the mean change in  $PTR$ ,  $PTR_{1975}$  is the mean  $PTR$  before the reform and  $\beta$  is the coefficient for the tax rate change in equation 15. The standard errors are clustered at the municipality level. The sample restricted to mothers whose youngest child was aged 4-6 in 1975.

Table 17: Effects on labor supply at the extensive margin: sample restricted to mothers whose youngest child was aged 7-12 in 1975

	Participation	Wage income	Taxable income
Main estimates	0.350*** (0.060)	16,771*** (1,463.302)	19,227*** (1,675)
Scaled estimates	0.029*** (0.0049)	1,369.40*** (119.48)	1,569.90*** (136.76)
Pre-period mean	0.872	26,805	27,227
Percent change	3.27 %	5.11 %	5.77 %
Implied elasticity	0.264 [0.175, 0.354]	0.412 [0.342, 0.483]	0.465 [0.386, 0.545]
<i>Participation tax rate</i>			
Mean $\Delta(1 - PTR)$	8.17 %-points		
Pre-period mean ( <i>PTR</i> )	34.08 %		
Percent change ( $1 - PTR$ )	12.39 %		
Individuals	129,091	129,091	128,980

*Notes:* Significance levels (\*=0.10, \*\*=0.05, \*\*\*=0.01). The table includes estimates based on equation 15 in which the changes in participation-tax-rates follow equations 8, 7 and 9. I scale the main estimate with the mean  $\Delta(1 - PTR)$  in the sample to arrive at the scaled estimate. The mean participation tax rate includes a mean municipality tax rate (15 percent). Implied elasticity =  $\frac{\beta \cdot \Delta(1 - PTR)/Y_{1975}}{\Delta(1 - PTR)/(1 - PTR_{1975})}$ , where  $Y$  is the mean outcome,  $\Delta(1 - PTR)$  is the mean change in *PTR*,  $PTR_{1975}$  is the mean *PTR* before the reform and  $\beta$  is the coefficient for the tax rate change in equation 15. The standard errors are clustered at the municipality level. The sample restricted to mothers whose youngest child was aged 4-6 in 1975.

Table 18: Effects on labor supply at the extensive margin: sample restricted to mothers whose youngest child was aged 13-18 in 1975

	Participation	Wage income	Taxable income
Main estimates	0.395*** (0.061)	12,839*** (1,751.639)	15,209*** (2,161)
Scaled estimates	0.032*** (0.0049)	1,040.95*** (142.02)	1,233.15*** (175.21)
Pre-period mean	0.861	27,510	28,166
Percent change	3.72 %	3.78 %	4.38 %
Implied elasticity	0.302 [0.211, 0.393]	0.307 [0.225, 0.390]	0.356 [0.257, 0.455]
<i>Participation tax rate</i>			
Mean $\Delta(1 - PTR)$	8.11 %-points		
Pre-period mean ( $PTR$ )	34.14 %		
Percent change ( $1 - PTR$ )	12.31 %		
Individuals	66,709	66,709	66,647

*Notes:* Significance levels (\*=0.10, \*\*=0.05, \*\*\*=0.01). The table includes estimates based on equation 15 in which the changes in participation-tax-rates follow equations 8, 7 and 9. I scale the main estimate with the mean  $\Delta(1 - PTR)$  in the sample to arrive at the scaled estimate. The mean participation tax rate includes a mean municipality tax rate (15 percent). Implied elasticity =  $\frac{\beta \cdot \Delta(1 - PTR)/Y_{1975}}{\Delta(1 - PTR)/(1 - PTR_{1975})}$ , where  $Y$  is the mean outcome,  $\Delta(1 - PTR)$  is the mean change in  $PTR$ ,  $PTR_{1975}$  is the mean  $PTR$  before the reform and  $\beta$  is the coefficient for the tax rate change in equation 15. The standard errors are clustered at the municipality level. The sample restricted to mothers whose youngest child was aged 13-18 in 1975.

Table 19: Effects on labor supply at the extensive margin: sample restricted to women with no children under 18 living at home

	Participation	Wage income	Taxable income
Main estimates	0.076 (0.072)	1,048 (2,021.122)	1,088 (2,130)
Scaled estimates	0.006 (0.0053)	77.11 (148.73)	80.09 (156.71)
Pre-period mean	0.870	28,851	29,463
Percent change	0.65 %	0.27 %	0.27 %
Implied elasticity	0.059 [-0.050, 0.168]	0.024 [-0.067, 0.116]	0.025 [-0.070, 0.119]
<i>Participation tax rate</i>			
Mean $\Delta(1 - PTR)$		7.36 %-points	
Pre-period mean ( $PTR$ )		33.18 %	
Percent change ( $1 - PTR$ )		11.01 %	
Individuals	78,487	78,487	78,505

*Notes:* Significance levels (\*=0.10, \*\*=0.05, \*\*\*=0.01). The table includes estimates based on equation 15 in which the changes in participation-tax-rates follow equations 8, 7 and 9. I scale the main estimate with the mean  $\Delta(1 - PTR)$  in the sample to arrive at the scaled estimate. The mean participation tax rate includes a mean municipality tax rate (15 percent). Implied elasticity =  $\frac{\beta \cdot \Delta(1 - PTR)/Y_{1975}}{\Delta(1 - PTR)/(1 - PTR_{1975})}$ , where  $Y$  is the mean outcome,  $\Delta(1 - PTR)$  is the mean change in  $PTR$ ,  $PTR_{1975}$  is the mean PTR before the reform and  $\beta$  is the coefficient for the tax rate change in equation 15. The standard errors are clustered at the municipality level. The sample restricted to women with no children under 18 living at home in 1975.

## A.7 Other

Figure 24: Headlines in Helsingin Sanomat (dates from the top: October 9, 1974 and August 10, 1973.)

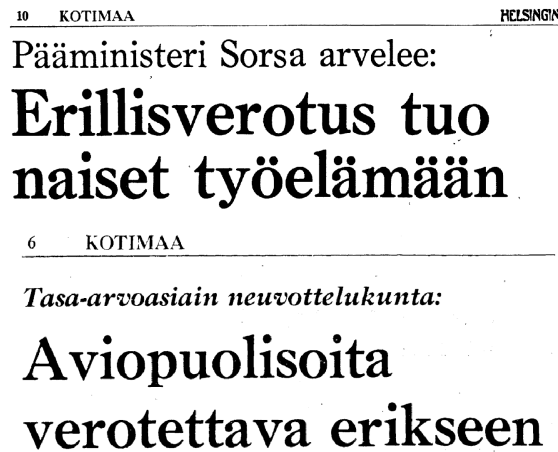
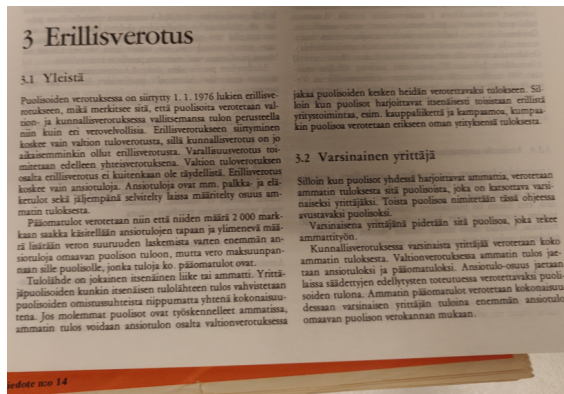


Figure 25: Institutional background: salience of tax incentives and the reform

(a) The tax filing guidelines for 1977 taxation



(b) Suomen Kuvalehti, 4/1968



*Notes:* Under joint taxation, decision making within the household reflected the secondary-primary earner setting. In late 1960s, an article published in Suomen Kuvalehti includes examples for effective tax rates for wives by comparing how the household's total disposable income changes if wife decides to work or stay at home (SK 4/1968), reflecting the view that primary earnings were often seen as given. The critique towards the family tax system revolved around equality between men and women and the perception that the tax system was based on a normative idea that women should not work outside the home.

Figure 26: A survey published in Helsingin Sanomat, 19th January 1975

# HS-Gallup: Kotirouvat töihin jos verotus muuttuu

Kotirouvat ryntäävät joukolla ansiotyöhön, jos hallituksen suunnittelema erilliserotus toteutuu. Tämä selviää Suomen Gallupin tuoreesta mielipidetutkimuksesta. Kotirouvat itsenäiset työhakkuutensa selvemmin kuin muut haastatellut.

Suomen Gallup Oy haastatteli 15. lokakuuta ja 20. joulukuuta välisenä aikana 1 020 sanestysikäistä suomalaista Tiedustelun nimisellä tutkimuksella. "Jos Teille tällä hetkellä tarjottaisiin mahdollisuutta veronalaisen lisä- tai yhtiön avulla pörssiin ansaitsemiseen, hyväksyisittekö "arjouksen"?" Vastaajilla näytti olleen selvää mieltä, mitä he tekisivät, sillä vain 6 prosenttia ei osannut mainita kantaansa 60 prosenttia ilmoitti varman mielipiteensä.

Yli puolet vastaajista oli sitä mieltä, että he eivät hyväksyisi lisätyötä. Eri vuoeryhmien välillä ei näytä olevan tassa paljoakaan mielipide-eroja. Nuorten joukossa lisätyöstä kieltäytyminen on harvinaisempaa kuin keski-ikäisissä ryhmissä.

Myöskään eri tuloryhmien välillä ei erot ole suuret. Yli 24 000 markan vuosituloohjauksessa oli kuitenkin muita haluttomampia lisätyöhön.

## Kieltäytymissyyn: Terveys, verot

Niitä, jotka "luultavasti" tai "varmasti" eivät hyväksyisi työtarjousta, tiedusteltiin syitä tarjouksen hylkäämiseen ("Mikä on pääasiallinen syy siihen, että ette halua tehdä lisä- tai yhtiötä?"). Vastaajille ei annettu valmiita vastausvaihtoehtoja.

Terveystilastaan luttuvat syyt mainittiin useimmin perusteluna lisätyöstä kieltäytymiselle. Toiseksi useimmiten perusteluna olivat verotukseen liittyvät syyt sekä koulunneki useimmiten työn luonteeseen liittyvät seikat.

Maanvillijöiden keskuudessa tärkeimmät lisätyöstä kieltäytymisen perusteet ovat terveys ja työn uominen. Verotus on vain 5 prosentilla viilehjousta kieltäytymissyynä.

Myös ammattitaitoon työvastetta kieltäytyä lisätyöstä useimmiten kiellytyä työstä seuraava syy on verotus.

Ammattitaitoon työvastetta kieltäytyä lisätyöstä lähinnä verotuksen vuoksi, terveys on toinen syy ja työn luonne kolmanneksi yleisin syy.

Toimihenkilöiden ja johtavassa asemassa olevien mielestä yleisin syy on lisätyön verotus. Terveystilasta ja työkykyisen työn vaatimista ovat toimihenkilöillä suurin painon yhä yleensä perusteluna, johtavassa asemassa olevilla ei terveydentilaan liittyviä perusteluita esiintynyt kovinkaan usein. Sen sijaan verotus on heidän keskuudessaan tärkeä perustelu, samoin työkykyisen työn vaatimista ja vapaa-ajan vähenemisen.

Verotus tulee lisätyön hyönteisparasteeksi, mitä korkeampi luokkin mennään. Alle 16 000 markkaa vuodessa ansaitsevat 7 pros. torjuu lisätyön lähinnä verotuksesta, heistä 30 pros. kieltäytyy lisätyöstä terveyssyistä.

Yli 24 000 mk/v ansaitsevista neljännes on sitä mieltä, että lähinnä verotus on syy lisätyöstä kieltäytymiseen.

Autotuskeskuksissa olevat torjuvat lisätyön yleisemmin verotuksen vuoksi kuin maaseudulla asuvat, joilla terveys on yleensä kieltäytymissyynä.

Vastajien ika on selvässä yhteydessä lisätyöstä kieltäytymisen perusteluihin. Yli 50-vuotiaat vetoavat terveyteensä, alle 50-vuotiaat verotukseen.

Verotukseen liittyvät syyt ovat tavallimpia Etelä-Suomessa, kun taas Pohjois-Suomessa lisätyöhakuttomuutta huonompi terveys.

Kotirouvista 28 prosenttia hylkää työtarjouksen perheasylla.

Niitä vastaajista, jotka tällä hetkellä eivät ole töissä, samoi 38 prosenttia hylkäävansa tarjouksen terveydeläistä syistä, 5 prosenttia heistä arvioi pääasialliseksi perustelun verotuksen. Kokopäivätyössä olevien keskuudessa verotus on yleisin peruste (24 %) lisätyöstä kieltäytymiseen.

## Erillisverotus ja kotirouvat

Haastatelluista kysyttiin myös yhteiserotuksen vaikutusta työhakukkuuteen.

"Hallitus on valmistellut suunnitelman kansallisten verotuksen uudistamiseksi. Tähän uudistukseen sisältyy mm ehdotus avio- puolisoiden yhteiserotuksesta luopumiseen ja siirtyminen puoliso- den erillisverotukseen. Mitä arvellette lisäko tuma uudistus kotirouvien halukkuutta siirtää ansiotyöhön kodin ulkopuolelle?"

Vastauksista käy ilmi varsin selvästi, että yhteiserotuksella usko-

taan olevan merkitystä siirtymiseen kotirouvien halua siirtää ansiotyöhön.

Käviksi vastaajaryhmat ovat suhteellisen yksimielisiä siitä, että yhteiserotuksesta luopuminen lisää jos yhteiserotuksesta luovutaan

### JOS TEILLE TÄLLÄ HETKELLÄ TARJOTTAISIN LISÄTYÖTÄ, HYVÄKYSISITTEKÖ TARJOUKSEN?

	Yhteensä	Maanvillijat	Ammattitaidottomat	Ammattitaitoiset	Toimihenkilöt	Johtava asema	Alle 16 000 mk	16 001—24 000 mk	Yli 24 000 mk
	%	%	%	%	%	%	%	%	%
Varmasti hyväksyisi	20	24	20	20	17	20	19	19	19
Luultavasti hyväksyisi	18	14	19	19	20	16	17	24	17
Luultavasti ei hyväksyisi	16	13	12	20	15	22	15	18	17
Varmasti ei hyväksyisi	40	42	43	39	44	39	41	37	45
Ei osaa sanoa	6	7	6	2	4	3	8	2	2

### LISÄTYÖTÄ KIELTÄYTYMISEN PERUSTELUT

	Yhteensä	Maanvillijat	Ammattitaidottomat	Ammattitaitoiset	Toimihenkilöt	Johtava asema	Alle 16 000 mk	16 001—24 000 mk	Yli 24 000 mk
	%	%	%	%	%	%	%	%	%
Terveystien liittyvät syyt	17	26	29	12	14	6	30	14	6
Perheasyt	5	2	2	7	7	5	3	4	7
Verotus	15	5	12	20	18	23	7	14	25
Vapaa-ajan väheneminen	5	—	2	8	4	12	1	7	8
Nykyinen työ vie kaiken ajan	12	17	7	10	12	15	10	14	14
Eläkkeen pieneminen	1	3	2	1	2	1	1	2	2
Opiskelu	0	2	—	1	1	1	3	1	—
Muut syyt	1	1	—	1	1	—	1	0	1
Hyväksyisi lisätyön tai ei osaa sanoa	44	45	41	41	41	39	44	45	38

### LISAAKO SUUNNITELTU ERILLISVEROTUKSEEN SIIRTYMINEN KOTIROUVIEN HALUKKUUTTA SIIRTÄÄ ANSIOTYÖHÖN KODIN ULKOPOIKELLE?

	Yhteensä	Maanvillijat	Ammattitaidottomat	Ammattitaitoiset	Toimihenkilöt	Johtava asema	Alle 16 000 mk	16 001—24 000 mk	Yli 24 000 mk
	%	%	%	%	%	%	%	%	%
Lisää	45	42	44	47	48	39	42	48	47
Usempien halukkuutta joidenkin halukkuutta harvojen halukkuutta ei lisää halukkuutta ei osaa sanoa	31	29	30	30	33	39	26	31	36
	7	8	6	7	7	5	8	8	6
	7	8	7	7	5	12	8	6	7
	10	13	13	9	7	5	16	7	4

aan olevan merkitystä siirtymiseen kotirouvien halua siirtää ansiotyöhön.

Käviksi vastaajaryhmat ovat suhteellisen yksimielisiä siitä, että yhteiserotuksesta luopuminen lisää jos yhteiserotuksesta luovutaan