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Political Economy of Outsourcing of Domestic Work[1]

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Abstract:

This paper explores how wage inequality and the percentage of low-skill workers in the overall working age population might affect (i) the outsourcing of domestic work, and (ii) educated women's working time. More specifically, it examines if greater wage inequality and the relative scarcity of highly skilled workers in the economy increase the odds that educated women outsource their otherwise unpaid work and their time devoted to paid work. The paper carries out logit and regression analyses of 22 advanced industrial countries using the "Family and Gender Roles III," (International Social Survey Program, module 2002). The results show that: (i) wage inequality increases educated women's odds of working full-time and (ii) the relative abundance of low skill workers (especially when they are foreign) increases the odds of outsourcing of domestic tasks.

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I. Introduction

Domestic service is back again. Once upon a time, a relatively large share of workers used to be engaged in domestic work performed within households, but this kind of work had largely disappeared from many wealthy countries over the course of the twentieth century.[2] Scholars first noticed the reappearance of domestic services in the United States, where "care" and "housework" were increasingly being contracted out to migrant workers (Ehrenreich and Hochschild 2003; Hochschild 2002; Lutz 2002; Salazar Parreñas 2000). Today, we are also observing an expansion of private domestic services sector in European states with different models of capitalism than the liberal model found in the United States (see Estévez-Abe et al. 2001). Interestingly, unlike the United States, where the government intervened very little to promote or regulate employment in domestic service sector, many European governments have intervened by introducing household services cheques, service vouchers or tax subsidies. Austria introduced household services cheques, *Dienstleistungsscheck*, in 2006; Belgium introduced service vouchers, *dienstencheques*, in 2004; Denmark introduced home service scheme, *Hjemmeseriviceordningen*, in 1994, subsequently changed it in 1996, 2000 and 2004; Finland introduced tax allowance for household services in 2004; France introduced service employment cheque, *Chèque Emploi Service*, in 1991, Service employment voucher, *Titre Emploi Service*, in 1993, and the Universal Service Employment Cheque, *Chèque Emploi Service Universel*, in 2006; Sweden introduced tax deductions for domestic service work, *RUT*, in 2007 (information from Eiroline and Eurofound).

[2] In the early twentieth century, relatively large segments of population—both men and women—in European countries engaged in domestic work precisely because there were greater levels of class inequality back then. Middle class families typically employed domestic help. Economic development, however, created new "better paid" jobs in factories and shops for people without much education. Sarti (2006) does not think it was just the economic development. She has a fascinating account of how government policies shaped job opportunities for the lower classes differently in different European countries. Also see Gregson and Lowe (1994) for the analysis of domestic work in Britain.

While the other contributions to this special issue analyze the "politics of domestic services," my paper complements the other papers in a different way. One observation, in particular, motivates this paper: large welfare states with egalitarian wage structures dominate the list of countries that have introduced domestic services and tax subsidies. Why did they need to intervene in the market while "liberal" countries with small welfare states and less egalitarian wage structures found little need to intervene? Nathalie Morel and Karen Shire (in this volume) show how many European governments saw the expansion of domestic services as an instrument to fully activate educated (professional) women's labor. Of course, they both recognize that this is not the only reason why governments promoted the formalization and expansion of domestic services, but they provide evidence for the importance that policy makers attach to the full activation of educated women. Morel explains how this specific policy concern was related to the rise of knowledge economy. Whatever the reason, it is noteworthy that large welfare states with egalitarian economic structures were the ones that had to do extra to activate educated women. This is something that the United States did not have to do. This observation leads me to formulate some hypotheses about the effects of egalitarian and inegalitarian labor markets on educated women's decision to outsource domestic services as well as on their career decisions.

This paper poses the following questions: Do educated women outsource their otherwise unpaid domestic tasks more when they live in inegalitarian labor markets? The idea behind this question is that when labor markets are inegalitarian, educated women would find services provided by low skilled workers relatively cheap. If true, it might explain why European egalitarian countries have had to introduce tax subsidies and service vouchers in order to reduce the cost of outsourcing. A related question is: Do educated women who live in inegalitarian countries develop stronger career commitment and choose to work full-time rather than part-

time? This paper explores these questions empirically. Although this does not discuss "politics," it nonetheless complements the other papers by analyzing whether labor market characteristics affect the odds of outsourcing and the work commitment of educated women.

This paper conducts two sets of analyses using data from International Social Survey Program (ISSP), "Family and Gender Roles III" (2002 module). The first set of analyses examines individual- and national level factors that affect couples' decision to outsource domestic chores or not. The second set of analysis looks at women's work commitment—their working hours and whether they work full-time when they work. The independent variables of interest are in this paper are: wage inequality, the percentage of low skill workers in the working age population, and the percentage of low skill immigrants in the working age population. The aim of the empirical analysis is to capture the effects of wage inequalities in the labor market rather than the effects of tax subsidies or vouchers. For this reason, it is very important that we use the data predating the adoption of large scale tax subsidies and vouchers programs.

II. The Argument and Hypotheses

Scholars have found ample evidence showing that generous policy support for working mothers—i.e. paid maternity leaves and public childcare—strengthens women's labor market attachment (Del Boca 2002; Del Boca and Pasqua 2005; Gornick et al 1997; Gornick, Meyers and Ross 1998; Raum 1998; Gornick and Meyers 2003; Ronsen and Sundstrom 2002; and Stier, Lewin-Epstein, and Braun 2001; van der Lippe and van Dijk 2002, among others). Generous welfare states such as Sweden and Finland display high levels of female labor force participation. However, counter-intuitively, Anglo-American welfare states, which are notorious for their lack of institutional support for working mothers, have also done remarkably well in integrating

women into the labor force. Furthermore, counter-intuitively, a number of scholars have argued that women in generous welfare states or "coordinated market economies" do not do as well as women in "liberal markets" (Estévez-Abe 2005, 2006, Mandal and Semyonov 2005, 2006, and Mandel and Shalev 2009, Mandal 2012). The conjunction of these observations gives rise to a puzzle: Why can women in inegalitarian economies with small welfare states be better integrated into the labor market?

A number of scholars have answered this puzzle differently. Some scholars have argued that, unlike public childcare, generous maternity and childcare leave may have perverse effects for women (Edin and Gustavsson 2008; Estévez-Abe 2005, 2006; Kuhn 1998; Mandel and Semyonov 2005, 2006; Mandel and Shalev 2009; Ondrich, Spiess and Yang 2003; Petit and Hook 2005). Yet in a very different approach, O'Connor, Orloff and Shaver (1999) and Chang (2000) cast a wider net to look beyond childcare and maternity-related policies.[3] Governments intervene to promote gender equality in more ways than one, and Anglo-American countries were indeed pioneers in important areas of equal opportunity in employment laws. However, as legal barriers to women's employment have fallen across developed countries, cross-national differences in formal equality of access appear too small to explain substantial variation in observed employment patterns. Esping-Andersen, in turn, suggests that market-based provision of childcare services promotes female labor force participation producing effects similar to public provision of childcare services (1999).[4] Philip Cohen's work also makes the same point on the basis of a study of the US (Cohen 1998).

While Esping-Andersen focuses on *defamilization* of childcare, childcare is not the only unpaid work that women perform at home (for the concept of *defamilialization*, see Ruth Lister

[3] Chang 2000 also notes some parallels, rather than a direct conflict, between class and sex segregation regimes.

1997). Women do more cooking and cleaning in addition to caring when compared to men. This so-called home production includes a much broader array of tasks than childcare. Given the fact that married men do much less at home, whether women have options to outsource their otherwise unpaid domestic tasks is critical in determining women's availability for paid work. So what determines women's ability to outsource and allocate more hours to paid work? To answer this question, we need to go beyond welfare states and pay attention to labor market characteristics—such as the degree of wage inequality and the skill composition of the workforce—to understand women's employment patterns in advanced industrial countries.

I consider wage inequality to be a crucial factor in understanding the labor market context in which different types of women make economic decisions. Wage inequality is important in two ways. First, it affects the opportunity cost of educated women to stay home. When the wage inequality is greater, an educated woman who can make good earnings from paid work would find an additional hour of her time spent in unpaid work as a more "expensive" opportunity cost. Second, wage inequality affects the relative price of low skill jobs. Greater wage inequality means that low skill services become relatively cheaper for high skill female workers. Hence all other things being equal, we can expect educated women in more unequal countries to outsource more and devote more hours to paid work.

There are two possible problems in using wage inequality to measure affordability of outsourcing of domestic services: (i) the presence of an informal market of domestic services; and (ii) the presence of service vouchers in Belgium and France. Unlike many other jobs, work performed in a private home is much less visible to the authorities. This kind of work is often not formalized by an employment contract; nor is the payment/work income always recorded. When the earnings by domestic service workers do not get recorded in the national data or social

[4] See also Morgan 2005 for a related argument.

security data, the official income statistics will be biased. Although this paper draws on a wave of ISSP preceding the introduction of service vouchers and tax subsidies in most countries, Belgium and France had already introduced some vouchers. Vouchers reduce the actual price of domestic services, and thus weaken the statistical effect of nominal wage inequality on outsourcing. For this reason, in the empirical analysis, in addition to wage inequality, I also use two other proxies for the affordability of domestic services: (i) the percentage of low skill workers in the working age population; and (ii) the percentage of low skill immigrants in the working age population. All three variables—wage inequality and the two variables that measure skill compositions—are all proxy measures of affordability of domestic services for educated women.

This paper examines the following hypotheses:

H 1a: People are more likely to outsource their unpaid domestic tasks in countries with greater levels of wage inequality.

H 1b: People are more likely to outsource their unpaid domestic tasks in countries with greater percentages of low skill workers in the working age population.

H 1c: People are more likely to outsource their unpaid domestic tasks in countries with greater percentages of low skill immigrants in the working age population.

H 2a: Educated women in countries with greater wage inequality are more likely to work longer hours (and full time).

H 2b: Educated women in countries with greater percentages of low skill workers in the working age population are more likely to work longer hours (and full time).

H 2c: Educated women in countries with greater percentages of low skill immigrants in the working age population are more likely to work longer hours (and full time).

To reiterate, the causal mechanism that I am interested in is women's ability to free up their time from unpaid domestic chores. Given men's hesitancy to share domestic responsibilities equally with women—even when their wives or partners also work outside the home—makes outsourcing of domestic services a crucial option if women are to pursue paid work. In other words, based on existing findings, I assume that men do not face a trade-off between paid and unpaid work like women do. For this reason, I do not expect male time allocation to be affected by wage inequality, the percentage of low skill workers, or the percentage of low skill immigrants in the working age population. This paper differs from these existing studies in exploring the effects of wage inequality and different measures of national skill composition on the odds of outsourcing and women's work commitment.

The causal mechanism proposed here is compatible with the arguments and evidence provided by some existing studies. Freeman and Schettkat (2005), for instance, demonstrate that the marketization of household production explains the gap in working time between Europe and the US. They argue that when there are market alternatives to housework, educated women work more. They refer to "a bi-directional link between female wages and housework" (Freeman and Schettkat 2005:37). Similarly, Mazzolari (2007) investigates what she calls a "consumption spillover effect." Using the US census data, she shows that high skill workers outsource their housework to low skill workers—the more they earn, the more they outsource. In a similar vein, Italian and Spanish scholars have found links between the presence of

immigrants and the domestic women's labor supply (Barone and Mocetti 2010; Farré, González and Ortega 2009).

A great number of scholars have studied the effects of national institutions such as social policies, taxation, labor market regulation, unions and wage inequality on working hours (Alesina et al 2005; Bell and Freeman 2001; Blöndal and Scarpetta 1998; Bowles and Park 2005; Daveri and Tabellini 2000; Davis and Henrekson 2004; Faggio and Nickell 2007 among others). The consensus is that working hours tend to be longer in countries with greater wage dispersion, although scholars disagree over the precise mechanism that causally links these two phenomena. Alesina et al. (2005) find that generous welfare states and high taxes—both of them supported by strong unions—are the culprits behind the laziness of Europeans as opposed to the hard working Americans. Scholars such as David and Henreson (2004) also share the same view that taxes reduce work incentives. Yet still others contend that the causal effects of taxes are not as clear as these scholars assert (Faggio and Nickell 2007). For instance, Scandinavian countries, where taxes are high and welfare states are very generous, are also known for their commitment to high activation rates. They not only offer mother-friendly policies to encourage women to work, but they also encourage older workers to remain active (Ebbinghaus 2007). These policy commitments increase hours worked per adult in Scandinavian countries. In fact, when we compare average number of hours worked, Sweden and the United States are not very different (Faggio and Nickell 2007). In other words, there is a lot of noise in terms of the effects of taxation unless we control for other policy interventions designed precisely to off-set negative work incentives produced by taxes.

Many of the studies cited above either ignore gender differences or merely include a female dummy in the analysis. This is because they are more concerned with how taxes and

social security contributions generally—regardless of sex—impact the take-home pay for any additional hour worked; and with how generous welfare benefits and high taxes increase reservation wages. In contrast, this paper is specifically concerned with the gender-specific effects of wage inequality and national skill compositions. Obviously, as the literature suggests, affordability of outsourcing is not the only national-level factor that affects women's working hours. This paper therefore includes a number of controls to take into consideration cross-national differences in taxation and welfare states. When it comes to married women's labor market decisions, in addition to working hours, there is a separate decision whether to work or not. I consider the decision to work or not, and the decision over working hours to be two separate decisions. For instance, there is a consensus view that the service sector demands more female labor, and hence a larger service sector correlates with greater levels of female labor force participation (OECD 1994, Charles and Grusky 2005). In order to simplify the analysis, this paper only takes up the decision for those educated women who are active in the labor force whether to work part-time or full-time. In other words, this paper thus does not examine educated women's decision to work or not.

III. Multi-Country Comparisons: Methodology, Data and Measurements

This paper carries out two sets of two-level analyses to examine whether wage inequality and the relative size of low skill working age population affects the probability that women will outsource otherwise unpaid domestic chores, and their hours of work, if they have chosen to work. There are thus two dependent variables of interest: (i) whether women outsource house cleaning or; and (ii) when women work outside their home, how many hours they work. Data for this and the other individual-level variables comes from the International Social Survey

Program (ISSP) 2002 module entitled "Family and Gender Roles III." At the moment, this wave remains the most recent wave that enables us to explore women's working time and outsourcing cross-nationally. Although the new wave is soon to be published, the ISSP 2002 module is the last wave where the majority of countries covered were yet to introduce vouchers and tax subsidies for outsourcing of domestic services. As such, this may be the last wave of data we can use to explore the effects of overall tax rates, social policy, wage inequality and skill compositions without the off-setting effects of government subsidies for outsourcing.

As for the dependent variables, I use three dummy variables and one continuous variable. I use two outsourcing variables—both constructed as dummy variables. The ISSP includes a question on who does the cleaning (variable 34) and laundry (variable 36). When the respondent answers that it is done by a third person other than the self or the spouse, it gets recorded as outsourcing (1). All other answers are recorded as the absence of outsourcing (0). Note that this question has been constructed as one of the questions that explore the nature of the gendered division of labor within the family. Due to the way in which we have constructed the variable for outsourcing, the analysis of outsourcing is restricted to the sample of married and cohabiting men and women. I have also conducted a separate analysis (not shown in this paper) to make sure that "a third person" was not someone living at home by controlling for the number of family members older than 15 years of age aside from the respondent and the spouse/partner. The other two dependent variables concern women's attachment to work: one is a dummy variable that captures whether a woman works full time or not. The other variable is actual working hours.

As stated in the previous section, this paper focuses on the effects of two national-level variables: (i) wage inequality, and (ii) the ratio of low skill workers. I use the following

measures of wage inequality: the ratio of wages at the fifth decile to wages at the bottom decile (i.e. the D5/D1 ratio); and the ratio of wages at the top and the bottom deciles (i.e. the D9/D1 ratio), as reported in online OECD Statistics earnings database. I also use these ratios for the whole population, only for males and females. I chose 2000 as the reference point. When the data were missing for 2000, the closest year prior to 2000 has been chosen. As measures of national skill composition, I use two ratios. One is the ratio of low skill people who are older than 15 years of age in the total population of people older than 15 years of age, and the other one is the ratio of low skill immigrants in the total working age population (similarly operationalized). "Low skill" is defined as not having any education beyond junior high school, and includes people whose educational level has been completed at ISCED 0, 1 or 2. The data come from the online OECD Statistics education and labor force databases (years closest to 2000 have been chosen). For Germany, I have used the census data for 2000.

This analysis also use various control variables both at the national and individual levels. In examining the affordability of outsourcing on women's working hours, we must control for public policies that favor women's employment as well as the impact of tax policy. As mentioned already, tax policy and women-friendly social policies are important policies that especially affect married women's decision for working hours. To control for the effects of tax penalty on women's employment, I use two kinds of "average tax wedge" calculated OECD: (i) the average tax wedge for families with two children whereby the first earner makes 100% of average earnings and the second earlier makes 67% of average earnings ("dual earner tax" variable) and (ii) the average tax wedge for singles makes 167% of average earnings ("single tax" variables). The greater the tax wedges, the actual monetary gain of any additional hour of work will be lower. The "dual earner tax" variable is likely to affect married women rather than

men more negatively, while the "single earner tax" variable should affect married men more negatively.

To control for family friendly policy, I look at the generosity of policy support for childcare, the generosity of paid maternity and childcare leaves, and the public sector size. The greater the policy support for childcare, we expect educated mothers to find it easier to work full time. Similarly, generous paid maternity and childcare leaves should strengthen educated women's work commitment thereby leading to higher incidence of full-time work among educated women. However, some studies suggest that generous paid maternity and childcare leaves might lead to the persistence of gendered division of labor (Edin and Gustavsson 2008; Estévez-Abe 2005, 2006; Kuhn 1998; Mandel and Semyonov 2005, 2006; Mandel and Shalev 2009; Ondrich, Spiess and Yang 2003; Petit and Hook 2005). Therefore, it is possible that generous maternity and childcare leaves may not have as positive effects on women's full-time employment as generous public childcare provision might. The generosity of public support for childcare is measured as the ratio of governmental spending for benefits in kind for day care and home services under the category of family assistance in OECD social spending statistics over GDP also downloaded from OECD online database. Base year is 2000 for all countries. As for the generosity of maternity and childcare leaves, I have used the number of fully paid weeks of maternity leaves calculated by The Clearinghouse on International Developments on Child, Youth and Family Policies at Columbia University (Table 1.11: Maternity and Parental Leaves 1999-2002, available on http://www.childpolicyintl.org/). Lastly, it is said that public sector often offers better working conditions for women. This might mean that public sector jobs provide well-paid secure jobs with shorter working hours. Therefore, I also include public sector size as one of the control variables for the analysis of working hours and full-time work.

I also use a number of individual-level controls that are available in ISSP. The analysis of working hours includes the following variables: respondents' marital status, age and number of children, respondents and educational level. In addition to these variables, the analysis of outsourcing, which is conducted on a sub-sample of married and co-habiting couples, also includes: spouse's educational level, respondents' working hours and spouses' working hours. Marital status is a bivariate category where women (men) who are married or living as married are coded as (1). Age is measured in years. I expect people to be less likely to work as they grow older. In order to capture this, I also use an age squared as a variable. I include two variables to measure the number of children under six, and the number of children over six living with the respondent. I expect women with children to be less likely to work longer hours and more likely to outsource—an effect that should be especially acute for mothers with young children at home. I also expect university education to lead to longer hours of work and greater odds of outsourcing.

The analysis of outsourcing and that of full-time work are logit analyses using STATA's svy command. It examines the impact of labor market characteristics—wage inequality and skill composition of the population—on the odds of outsourcing controlling for individual-level (the respondent's education, age and working hours) and household characteristics (the preference of children, spouse' education and working hours). The outsourcing analysis does not include any policy variables as I consider public childcare and paid maternity and childcare leaves to be relevant to understanding women's labor market attachment but not to the likelihood of outsourcing house cleaning. The analysis of working hours, in contrast, is an ordinary regression analysis using STATA svy command. The analyses for working hours and full-time work

include national level variables that control for the effects of public policy support for working mothers.

Because I think that the causal mechanism identified in this paper is most pertinent to educated women, I ran the models on separate sub-samples of married and cohabiting respondents: women only; men only; educated women only; and educated men only. Educational categories in the ISSP survey range from no formal education (0) to university degree completed (5). I include those who have some college education but no university degree (4), and those who have completed a university degree (5) as our sample of educated respondents.

Although the dataset includes 33 countries, we have not been able to include all of them in our study.[5] This is because some countries and regions did not ask questions that were pertinent in this study. The actual number of countries included in the analyses is much smaller. These countries included in the analyses of working hours and full-time work are: Australia, Austria, Belgium, Chile, the Czech Republic, Denmark, Finland, France, West Germany, East Germany, Hungary, Israel, Japan, Northern Ireland, Norway, the Netherlands, Poland, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States. Fewer countries are included in the outsourcing analysis because only a subset of country surveys includes the variables needed for the analysis. The countries are: Austria, Belgium, Chile, Czech Republic, Denmark, Finland, West Germany, East Germany, Hungary, Israel, Japan, Norway, the Netherlands, Poland, Portugal, Sweden, Switzerland, the United Kingdom, and the United States.

IV. Wage Inequality, Relative Abundance of Low Skill Workers and Women's Paid Work and Outsourcing

[5] To be more precise, the dataset includes 35 "countries and regions." Germany is split into two units, West and East, and Northern Ireland is treated as a separate unit from the United Kingdom.

Let me first contrast the results of outsourcing—house cleaning and laundry. House cleaning is the more traditional type of outsourcing, whereby someone has to come into the house to do the cleaning. In contrast, laundry could be done by someone in the house or by dry cleaners. Dry cleaners too might vary from a small shop run by a family, who themselves do the washing or, to a large chain of drycleaners where all laundry is taken to a more mechanized facility. The causal mechanism put forth in this paper—i.e. service becomes affordable when the labor of unskilled workers is cheap relatively to the labor of the educated workers—would not be relevant if the domestic choirs are outsourced to a more mechanized industry. For instance, contrast cheap take-out meals form Chinese or Mexican restaurants where immigrants work cheaply with factory-made frozen dinners from big national supermarket chains. When the outsourcing industry is less labor-intensive, the kind of labor market characteristics this paper talks about will be less relevant. Indeed, the findings support such an interpretation.

Table 1 shows the result of the logit analysis on outsourcing of house cleaning among cohabiting and married couples/households. Model I, II and III run the models on the sub-sample of female respondents, and Model IV, V and VI run the same models on male respondents. (Note that female and male respondents are not from the same households.) Table 1 demonstrates the effects of individual level characteristics as well as national labor market characteristics. Model I and IV look at the effects of wage inequality and the percentage of low skill immigrants in the population. Model II and V look at the effects of wage inequality and the percentage of all low skill people in the population regardless of their origin. Model III and VI, in turn, compare the effects of the percentages of low skill immigrants and all low skill people concurrently.

[Table 1 around here]

At the individual level, not surprisingly, respondents who are better educated are more likely to outsource. This suggests that their greater economic resources enable them to outsource. Spouse education also has a positive and significant effect on the odds of outsourcing cleaning. Clearly, economic resources matter. However, there is also an interesting gender difference. Women's high education seems to matter slightly more than men's high education when it comes to outsourcing. The effect of respondents' high education on the odds of outsourcing is greater among female respondents than among males. Similarly, as if it were a mirror image, the effects of the spousal education are much stronger for male respondents than for female respondents. Working hours of respondents and spouses both have positive effects on the odds of outsourcing.

At the national level, measures of labor market inequalities captured as the relative abundance have positive and significant effect on outsourcing of cleaning. As noted earlier in the paper, skill-based measures of labor market inequalities seem to capture the affordability of cleaning services than wage inequality for two reasons. One, outsourcing activities that take place at an individual household such as cleaning probably have higher incidence of informal arrangement, whereby the wages are not recorded in the national statistics. Two, two countries in the sample—France and Belgium (in a more limited scale) —already had implemented service vouchers, hence the nominal wage inequality variable underestimates the "real" affordability of domestic services in these countries.

[Table 2 around here]

Interestingly, the results on the outsourcing of laundry (Table 2) are different from those for house cleaning. Labor market inequalities such as wage inequality and the percentage of low skill workers are both positive and significant but in some models and not in all. This might result from the fact that the nature of the services is different—laundry services do not

necessarily have to take place at home, and it may be more technology-intensive than cleaning. The models are exactly the same as in Table 1—just with a different dependent variable (the odds of outsourcing laundry). In Model I (for female respondents), only the respondents' work hours was positive and significant. No variable is significant in Model II. In Model III, and the presence of young children, respondents' work hours and the percentage of low skill workers including the native-born are positive and significant in Model III. The models run for male respondents also show different results. In all of the three models, the presence of young children had a negative and significant effect on the odds of outsourcing laundry. Unlike in the models for females, wage inequality has a positive and significant effect. The percentage of low skill workers in general also is positive and significant in Model VI but not in Model V.

[Table 3 around here]

Table 3 looks at how individual and labor market characteristics might affect men and women's decision to work full-time (the analysis is restricted to the sample of men and women who are already working). The results for full-time work and working hours look different from those for outsourcing. Here, wage inequality is significant but not the two skill composition variables. The results are also different for men and women. Given the persistence of the gendered division of labor, it is not surprising to see that many of the individual level characteristics have the opposite effects for men and women. Marriage and children reduce the odds of women working full-time, while they do not have the same effects or have the opposite effects. Unlike in the outsourcing analysis, wage inequality comes out positive and significant a factor in pushing women into full-time work even controlling for tax rates. The most significant point is that the relative abundance of low skill workers, which had a positive and significant effect on the odds of outsourcing of cleaning, has no effect on women's decision to work full

time. Interestingly, wage inequality has no effect on the odds of men working full time. While all men who work tend to work full time, in the gendered context, women have to weigh the pros and cons of spending more time in paid work relative to their unpaid work. Wage inequality thus maybe affecting their calculation of opportunity cost of staying at home.

Work-family reconciliation policies also have positive effects on women's odds of having full-time work. The effects are seen for cohabiting and married women in particular. For reasons that are hard to understand, generosity of maternity leaves has a small but positive effect on men's decision to work full time, while the generosity of public childcare has a negative and significant effect. These results suggest some underlying causal variables that are not captured in the models. Therefore, the results in Table 3 should not be interpreted as conclusive. The tax variables were not significant in any of the models.

Although the results are not shown, I have also conducted an analysis of working hours that also includes public sector size as another national level variable. Just as the analysis on full time work, marriage and children reduce women's working hours in paid work. Here too, wage inequality has a greater positive and significant effect on women's working hours than men.

VI. Conclusions

The analysis of outsourcing suggests that labor market inequalities appear to affect the odds of outsourcing. Taking into consideration different proxies for the affordability of outsourcing, it seems clear that measures of skill composition had more reliably significant results than did wage inequality. The high incidence of informal work must explain part of this. High incidence of informal work at the low end of the labor market would imply the wage inequality data on the basis of reported earnings will underestimate the degree of wage inequality,

because it fails to include the earnings at the low end of the labor market. In this case, the percentage of low skill workers might work better than wage inequality in capturing the potential wage gap. Although, it is also possible that the few countries in the sample that have voucher systems might have offset the effect of wage inequality. Further investigation is required in this regard.

The observed effect of the percentage of low skill immigration on outsourcing of cleaning observed in this paper corroborates the findings of Anderson (2001) and Lutz (2002), who focus on the global market of domestic service work. However, this paper has found an intriguing difference in the results for house cleaning and laundry. This finding suggests that when there is a technological advancement, some unpaid domestic chores can be outsourced in a less labor-intensive way. When this happens the link between the abundance of low skill workers and the odds of outsourcing becomes weaker. Furthermore, while the results from the analysis of outsourcing of house cleaning suggest that people who work longer hours are more likely to outsource, the same was not true for laundry. The result suggests that more studies are needed that compare different causal processes involved in different types of outsourcing.

If the relative abundance of low skill workers helps educated women outsource more of the unpaid domestic chores of the family, we might expect people living in countries with the relative abundance of low skill workers to devote more time to paid work. However, the findings refute this expectation. The only variable that has a consistently positive and significant impact on working time is wage inequality. A possible interpretation is that wage inequality actually lies at the core of outsourcing, but is not properly captured in the analysis of outsourcing due to informal work. It is important to note that this paper has only examined two types of outsourcing. It has not looked at a whole range of other outsourcing activities such as eating out

or buying precooked meals. All these market options are likely to appear relatively cheaper to educated people with higher than average earnings. The result of the full-time analysis is in accordance with the existing literature in economics. This paper breaks new ground, however, in showing that the effect of wage inequality was only present in explaining women's full time work but not men's. The results also suggests that although scholars such as Francine Blau and Lawrence Kahn have focused on the negative effects of overall wage inequality on women, wage inequality might also have a positive effect on highly educated women. (Blau and Kahn 1992, Blau 1996a, 1996b). In this sense, this paper also speaks to the recent debate on different effects of institutions on different classes of women (Korpi et al. 2013; McCall 2001; Shalev 2000).

This paper brings a new way of thinking about domestic service vouchers and tax subsidies. The fact that the percentage of low skill workers affects the likelihood of home-based outsourcing such as cleaning suggests that policies such as vouchers might be useful in formalizing this sector of the economy. If the policy aim is to incorporate highly educated women into the workforce as full-time workers, wage inequality appears to matter more than merely the relative abundance of unskilled workers. This interpretation is consistent with the fact that egalitarian Nordic countries and Germany have been more eager to introduce tax subsidies and to create low wage work. Tax subsidies for outsourcing are obviously more useful for professional women who can pay for the services in cash upfront (and claim tax credits later). When they are very generous, it might change the educated women's calculations about their opportunity costs. Similarly, the German style creation of a low-wage sector that occurred after the Hartz Reforms might be a way to increase wage inequality, which, in turn, might affect educated women's decision to work longer hours.

Although the topic of outsourcing and its relationship to the work patterns of educated women requires further research, this paper has provided a direction of research that focuses on the characteristics of labor markets.

Table 1: Effect of Labor Market Characteristics on Outsourcing (House Cleaning)

	Model I Female	Model II Female	Model III Female	Model IV Male	Model V Male	Model VI Male
Individual Level						
Age	0.05***	0.05***	0.05***	0.05***	0.05***	0.05***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)
Education	0.36***	0.37***	0.36***	0.26***	0.29***	0.21**
	(0.08)	(0.08)	(0.07)	(0.08)	(0.08)	(0.09)
Spouse Education	0.10*	0.14**	0.15**	0.18**	0.17**	0.24***
	(0.05)	(0.05)	(0.05)	(0.08)	(0.08)	(0.08)
Children under 6	0.35**	0.33*	0.22	0.42***	0.40***	0.45***
	(0.16)	(0.16)	(0.13)	(0.11)	(0.11)	(0.09)
Children over 6	0.22**	0.20*	0.18**	0.13	0.12	0.16**
	(0.09)	(0.1)	(0.08)	(0.11)	(0.11)	(0.07)
Working Hours	0.01***	0.01**	0.01***	0.01***	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Spouse Working Hours	0.01*	0.01*	0.01**	0.02***	0.02***	0.02**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
Country-Level						
D9/D1 Inequality	0.19	0.001		0.12	0.01	
	(0.19)	(0.14)		(0.15)	(0.19)	
% Low Skill Immigrants	14.12***		11.95***	15.52***		9.95
	(3.07)		(3.62)	(4.45)		(5.74)
% Low Skill Population		2.97***	3.00***		2.21***	2.78***
		(0.77)	(0.50)		(0.75)	(0.71)
Constant	-8.82***	-8.8***	-9.22***	-9.46***	-9.02***	-9.66***
	(0.79)	(0.52)	(0.62)	(0.66)	(0.55)	(0.70)
Observations	6,145	6,145	6,495	5,359	5,359	5,630
No. of countries	18	18	19	18	18	19

Standard errors in parentheses. *** significant at the 0.01 level, ** significant at the 0.05 level, * significant at the 0.10 level

Table 2: Effect of Labor Market Characteristics on Outsourcing (Laundry)

	Model I Female	Model II Female	Model III Female	Model IV Male	Model V Male	Model VI Male
Individual Level						
Age	0.04*	0.04*	0.05*	-0.01	0-.01	-0.01
	(-0.02)	(-0.02)	(0.02)	(-0.01)	(-0.01)	(-0.01)
Education	0.06	0.06	0.07	0.09	0.11	0.08
	(-0.15)	(-0.16)	(-0.13)	(-0.11)	(-0.11)	(-0.08)
Spouse Education	0.07	0.08	0.17	-0.17	-0.16	-0.00
	(-0.13)	(-0.12)	(-0.12)	(-0.11)	(-0.12)	(-0.14)
Children under 6	0.35	0.34	0.55***	-0.46*	-0.49*	-0.38**
	(0.41)	(-0.43)	(-0.16)	(-0.23)	(-0.23)	(-0.15)
Children over 6	0.13	0.13	0.22	-0.03	-0.04	-0.01
	(-0.24)	(-0.25)	(-0.13)	(-0.11)	(-0.12)	(-0.08)
Working Hours	0.01*	0.01	0.01*	0.00	0.00	0.00
	(-0.01)	(-0.01)	(-0.01)	(-0.01)	(-0.01)	(-0.01)
Spouse Working Hours	0.01	0.01	0.01***	0.01	0.01	0.00
	(-0.01)	(0.00)	(0.00)	(-0.01)	(-0.01)	(-0.01)
Country-Level						
D9/D1 Inequality	0.37	0.3		0.49**	0.37**	
	(-0.25)	(-0.2)		(-0.18)	(-0.14)	
% Low Skill Immigrants	3.08.		-1.68	9.43		9.95
	(-13.25)		(-11.95)	(-8.72)		(5.74)
% Low Skill Population		0.88	3.02*		1.56	3.93***
		(-1.33)	(-1.49)		(-1.18)	(-1.11)
Constant	-8.41***	-8.43***	-9.37***	-5.81***	-5.46***	-5.38***
	(-1.2)	(-1.2)	(-1.38)	(-1.34)	(-1.19)	(-1.06)
Observations	6,149	6,149	6,498	5,378	5,378	5,378
No. of countries	18	18	19	18	18	19

Standard errors in parentheses. *** significant at the 0.01 level, ** significant at the 0.05 level, * significant at the 0.10 level

Table 3: Effect of Labor Market Characteristics on Educated Women's Full-Time Work

	Model I Educated Women	Model II Educated women in cohabiting couples	Model III Educated Men	Model IV Educated men in cohabiting couples
	Coefficient (std. error)	Coefficient (std. error)	Coefficient (std. error)	Coefficient (std. error)
Individual Level Variables				
Married	-0.39**	-0.17	0.19	0.39**
	(0.17)	(0.16)	(0.15)	(0.16)
Kids under 6	-0.50***	-0.59***	0.13	0.01
	(0.10)	(0.12)	(0.17)	(0.16)
Kids over 6	-0.34***	-0.37***	0.01	0.08
	(0.08)	(0.8)	(1.01)	(0.12)
Age	0.44***	0.36***	0.49***	0.45***
	(0.04)	(0.05)	(0.04)	(0.05)
Age2	-0.01***	-0.01***	-0.01***	-0.01***
	(0.00)	(0.00)	(0.00)	(0.00)
Country-level Variables				
Inequality	0.21*	0.31**	-0.01	6.57
	(0.11)	(0.12)	(4.93)	(4.34)
Generosity Maternity/Child Care Leaves	0.01	0.02**	0.02*	0.04**
	(0.01)	(0.01)	(0.01)	(0.01)
Public Childcare	0.30	0.60**	-0.17	-0.44**
	(0.22)	(0.04)	(0.19)	(0.19)
Tax burden (for singles and for dual earner-families accordingly)	0.02	0.66	-0.01	0.62
	(0.12)	(0.57)	(0.01)	(0.61)
Constant	-9.43***	-8.32***	-8.54***	-8.62***
	(1.17)	(1.66)	(.93)	(1.68)
N(total)	4409	2919	3611	2575
N(countries)	20	20	20	20

*** significant at the 0.01 level, ** significant at the 0.05 level, * significant at the 0.10 level

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