Household labor supply: Collective results for certain developed countries

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Abstract

This paper shows some empirical results for the collective labor supply of households in thirteen developed countries (USA, UK, Australia, Canada, Belgium, Netherlands, Germany, France, Spain, Italy, Russia, Japan, and China). I have reviewed a significant number of papers in order to aggregate information for future investigations. Among the conclusions obtained are a gender differential in labor supply when the household includes a child, and a greater level of female household production. This analysis shows that gender differences observed in other literature persist throughout the consulted literature.

Keywords: Household, collective model, gender differences, labor supply, household production, family taxation.

JEL Codes: D10, J22, Y10

1. Introduction

The household is probably the most important economic unit (Becker, 1991; Molina, 2011, 2013, 2014, 2015). Specifically, household labor supply issues are the subject of both academic and economic approachesd (García et al., 1998, 1999, 2001, 2010, 2011; Gimenez et al., 2014, 2016, 2018, 2020). Initially, economists specified unitary models, supposing a common structure of preferences between members of the household. In spite of being an important new step for Microeconomics, unitary models had several flaws: they did not adequately represent the bargaining process, nor the existence of multiple preferences (linked to more than one utility function).

Some years after the first unitary models were proposed, collective models appeared (Chiappori, 1988, 1990, 1992; Donni et al., 20..) that established the importance of different preferences between household members. More than one utility function, along with constraint equations, presented a new challenge, which is resolved through optimization techniques. In collective models, spouses (or other household members) can bargain in order to reach the Pareto-optimal situation.

The paper examines the principal results found in the literature of household labor supply in collective models for developed countries. Practically all the papers showed that unitary models could be statistically rejected, reflecting a multi-individual criterion of the decision-making process in households. Another constant among countries is gender differences, especially in the degree of bargaining power and the extent of labor supply. Our goal is for this paper to act as a consulting document for those who would like to understand the empirical results of collective models in a range of countries.

2. Evidence by country

UK

There is an extensive literature based on household bargaining and its consequences for labor supply in the UK. We can study trends in marriage bargaining and their effects on different variables related to labor supply

Many papers point to significant gender differences in labor supply; for example in total work hours, with this differential being greater than the gap observed in other countries (for example, Denmark), which allows UK women to spend more time in childcare activities than their European counterparts.

Other papers show that female labor supply may depend on the husband's wage, even if he is unemployed, showing the effects of marginal utility in marriage. Furthermore, women's labor supply is more affected than that of men by the spouse's unearned income. For example, if the man has an economic income, the negative effect on the woman's labor supply is greater than if the situation were reversed.

Such gender differences in households are closely related to bargaining power. To explain these differences, the literature points to such factors as a lower education level, the age gap (between spouses), the woman's unearned income, the difference in investments between the spouses, and living in London (which enhances women's bargaining power). In other words, educational, financial, and physical variables can all have effects on the labor supply of women.

In terms of the relationship between the public sector and childcare activity in the UK, it is clear from the literature that child benefits received by the main carer increases her bargaining power.

Even when there exists a significant gap between men and woman in marriage, it is important to acknowledge that the disparities were greater in the past. Women work's situation has improved in recent decades, as has been shown by various authors. This evolution is related to an augmentation of married women's wages, which obviously has had an effect on the bargaining power of women in marriage.

Nevertheless, this augmentation has led to some changes in the mechanism of bargaining in marriage. Some authors point to increases in women's wages causing increases in transaction costs, and giving rise to decisions similar to non-cooperative solutions, which are closely related to increases in women's bargaining power. The majority of consulted papers point to the unitary model being statistically rejected, which implies that decision-making processes are based on bargaining.

Australia

Another Anglo-Saxon country studied in this work is Australia. We find in the consulted papers that the presence of children in the household appears to make women's total hours of work (market and domestic) greater than that of men, which implies fewer hours of leisure for women. This is not to say that Australian women work more market hours than do British women, but that they do have more total work hours, including housework.

The presence of pre-school children also changes the time allocations of parents and their consumption in the household. This could be a consequence of the childcare needs of pre-school children, as well as of financial and time constraints.

How to reduce these costs is studied by Apps and Rees (2010), who argue that a basic family tax system with support for childcare could reduce childcaring costs.

USA

The US is unique in many ways, so we begin by studying women's labor supply. The consulted papers point to an increase of the gender ratio has reduced American women's labor supply in a significant way, while other gender variables have played an important role. For instance, divorce laws favorable to women have reduced women's labor supply and increased the labor supply of men. This has a close relationship with bargaining power. When women are more empowered, their labor supply should increase, but, surprisingly, it seems that empowerment reduces women's labor supply!

There are other variables that could affect the labor supply of both men and women. For example, an inheritance received is found to have a negative effect on both male and female labor supply, similarly to a health shock (being ill for a considerable period) which also reduces labor supply.

Other variables affect both-sex labor supply. Regarding childcare and its effects, some authors have found that the presence of children under age 6 reduces the wife's labor supply and increases that of the husband.

Nevertheless, not all papers find the same or, at least, they qualify these results. In fact, by studying the mother's first birth, certain authors have found that baby boys have no impact on mother work's hours (compared with baby girls) but increase her total work.

The consulted papers find substitution and income effects are equal for both men and women, noting that income increases have no effect on labor supply (a null income effect). In terms of domestic production, the more one spouse earns, the less he/she is involved in domestic production. Also, the wife's share tends to increase with a higher wage of her partner, which illustrates the importance of wages (by direct and cross effects on labor supply).

From the household bargaining perspective, we can see that the unitary model is rejected in the bulk of the consulted papers. Most of the authors point out that collective models fit better then unitary ones. Some studies find that an optimal specialization between spouses exists: the husbands tend to work more hours in market-labor, while the wife spends more time in non-market-labor. Furthermore, it is found that, in most households, the man is the one who establishes dictatorial preferences.

Canada

In most of the consulted works, collective models fit better with the data. This is not seen in some papers on Canada, where the collective model is rejected (in the consulted literature) in the case of young couples when the sample includes households with pre-school children. Nevertheless, the Collective Rational Caring Agents Hypothesis is not rejected, which implies a certain level of collectiveness in the modelling.

Studying wage effects, it is found that an increase in the wage of one spouse of a young couple reduces the cash transference to the partner. This situation could be a generational behavior, because the effect is not observed for older couples, where the effect is just opposite.

Asia (China and Japan)

Our data and papers on Asian countries includes Siow (2008) on Famine in Sichuan, China. The author studies the marriage market in two periods, showing preferences between men and women living in couples, all from a theoretical perspective.

In Japan, it is found that spouses' labor supply attempts to smooth shocks for each other, in order to maintain a life-level income. This is demonstrated by the estimation of a wage-shock effect on labor supply, specifying a collective model with a sharing rule, taking into account non-participation.

Other papers also show that there are inter-city differences in household behavior. Specifically, finding difference between cities in terms of resource allocation in households in Japan.

Mediterranean countries

Mediterranean countries are different from other OECD countries. They have social links between them, which differentiate them from the others. Family and social structure play an important role in the countries of southern Europe, which is reflected in household decisions.

For Spain, the available data tend to a rejection of the unitary model, but also a rejection of the collective model. Nevertheless, the latter is perhaps not a trueejection of collective models, but a more concrete kind of egoistic preferences. This shows the importance of taking into account different kinds of preferences for households.

Italy is a Mediterranean country where we find that female labor participation is positively influenced by age, level of education, and the husband's

occupation. Having children and the lack of help from a relative could discourage women from entering the labor market. Quality of available formal childcare has a positive effect on women`s labor supply.

France

The French literature on household decisions shows that when working time constraints are specified, the preferences of both married and single individuals are similar, which could allow us to examine the utility and labor supply differentials. An increase in the husband's salary improves women's resource allocation, showing cross-effects of wages in French households, but the opposite is not necessarily true: a woman's wages do not have this effect on her spouse's resource allocations.

When we look at non-participation in the job market, we find some differences in the sharing rule of households, which are related to this topic.

Netherlands:

In general, the unitary models are rejected in the consulted literature for households in the Netherlands.

In terms of labor supply, it is found that male labor supply elasticity does not show a high sensitivity to either spouse. In the case of women, estimations show that their elasticities tend to be more stables over time. It appears that cross and direct effects of salary and labor supply in men does not equally affect both husband and wife. Nevertheless, studies find positive effects for married men's labor supply when the wife's wage increases, showing a positive cross-effect of women's salary.

When a man's wage increases, an increase of his working hours is found (higher substitution effect), along with his consumption. This also leads to a decrease in men's work at home and childcare time, which is offset by extra time for the woman.

From the perspective of children, it is found that increasing the mother's salaries (empowering) increases the utility of the children.

Germany

In the consulted literature for German households, the unitary model is rejected, reflecting the importance of considering collective-decision models. One of the consulted works shows a model that considers a tax reform, allowing for the rejection of unitary models

The other consulted paper considers the effects of the French family-splitting mechanism on German families, studying fiscal effects and changes in behaviour. The paper shows that the effects of splitting are null in most cases.

Belgium

One consulted paper for Belgium establishes a model, concretely a collective-discrete model, which takes into account female labor supply and intra-household allocations. It also considers the possibility of non-participation (which implies a possible null-labor supply) and taxes, which allows us to show their effects. What is observed is that there is just one group affected by tax reform; certain married women change their labor supply.

The other paper consulted attempts to explain a collective labor supply in households where there are children, and takes into account childcare expenditures and their later effects on labor supply. The model establishes that parents must decide between leisure, childcare, and working time, with subsequent restrictions and utility functions.

Russia

We have consulted just one paper for Russia, which specifies a model to consider inequality between spouses and marriages. The authors find evidence for both satisfaction and utility.

Another factor in this paper is the difference between the countries shown before and after economies in transition. Russia shows patterns more similar to those of western countries in the past (i.e., a greater gap in decisions between men and women), and the relationship between income and well-being is different in those kinds of economies.

3. Conclusions

After introducing the main results by country, we are now able to draw some general conclusions about collective labor supply. Throughout this paper, we have shown up different results for household behavior models in different countries. Despite this, there are some common factors seen in most of the developed countries.

Specifically, practically all papers show that unitary models could be statistically rejected, reflecting multi-individual criteria of the decision-making process in households. Another constant among countries is gender

differentials, especially in respect of bargaining power and labor supply. Bargaining power has been seen to have certain variables, such as gender ratio, age difference between spouses, non-salary incomes, and education level, all of which can have an empowering effect on women. On the other hand, a lower educational level and lower wages could lead to lower bargaining power for women. As a surprising conclusion, there are some studies showing that an increase in the bargaining power of women does not necessarily imply an increase of their labor supply, but the opposite: if their bargaining power increases, their labor supply is reduced.

Salary is a key variable in order to understand what takes place in the real world. Some consulted studies show that husband's wages have a discouraging effect on wife's labor supply, but her salary does not affect his supply, which is a sign of different behavior within couples.

Childcare activity is another topic studied in many of the consulted papers. As a general rule, the presence of children affects negatively mother's labor supply. This could be related to the relationship between salaries and market price for some activities of household production. If women's salary is lower, microeconomic theory says they are the ones who will stay home for childcare, especially when children are younger.

This could be related to another observed issue; tax increases could affect female labor supply. This could seem to be an effective cut in salary (which could make market work even less attractive)

Nevertheless, some papers show that, in spite of reducing their labor supply, some women increase their total hours of work (by increasing their household work hours), showing a difference with men.

Country	Paper	Authors	Surveys	Main Results
U.K. (& Denmark)	*Household labor supply in Britain and Denmark: some interpretations using a model of Pareto Optimal behavior* Applied Economics, 2001.	Tim Barmby & Nina Smith	– Danish Longitudinal Sample (Den.) – FES (U.K.)	Stronger positive effect in U.K. on female valuation of her own nonmarket time than Danish's ones. That makes differences at childcare availability Greater hour gap at work time by gender in U.K.
U.K.	*Collective Labour Supply: Heterogeneity and Non-Participation.* The Review of Economic Studies, 2007.	Richar Blundell, Pierre-André Chiappori, Thierry Magnac and Costas Meghir.	– U.K. Family Expenditure Survey (FES)	The female labour supply depends on male wage, even if her husband is not working at the moment. (Estimate not precise) Collective model not rejected.
U.K.	The working families' tax credit and some European tax reforms in a collective setting Economic Household, 2006	Michal Myck, Olivier Bargain, Mieiam Beblo, Denis Beninger, Richard Blundell, Raquel Carrasco María-Concetta Chiuri, François Laisney, Valérie Lechene, Ernesto Longobardi, Nicolas Moreau, Javier Ruiz-Castillo, Frederic Vermeulen	– Family Resources Survey (FRS) 1998-1999	Difference in age (man-woman), man's 2 levels higher education, having a 0-4 years age child, higher woman's unearned income, difference in investment or savings (man-woman) and Living in London have negative effects on man's bargaining power. Man's education 1 and 2 levels lower, relative earning potential (by tax and benefits), youngest child between 5 and 10 years and difference in wages (man-woman) have a positive effect on man's bargaining power. Man's bargaining power (calibrated and estimated) is greater than 0.5 If benefits are paid to the main childcarer, man's bargaining power is lower than the case where benefits are paid to the main earner.
U.K.	*Household labour supply and the marriage market in the U.K. 1991-2008*	Marion Goussé. Nicolas Jacquemet, Jean-Marc Robin	– Britush Household Panel	Differences in working time due to gender, educational and marriage factors.

	Labour Economics, 2017.		Survey (1991-2008)	Highest increase of married women's wage in the period. Gender gap in salaries.
U.K.	*The impact of targeting policy on spouses' demand for public goods, labor supplies and sharing rule.* Empirical Economics, 2017	Panayiota Lyssiotou	– U.K. child benefits. – U.K. FES	The collective model with separable preferences over labor and supplies and public goods hypothesis is not rejected. If wife receives child benefits or investment's income, her bargaining power changes. Wife's hours of market work respond more negatively to changes in the household's residual unearned income than husband's ones. The higher salary, the more labour supplies rise, but less in women's case.
U.K.	*Bargaining versus non-cooperation; transaction costs within marriage* Applied Economic Letters; 2001	Jonathan S. Seaton	– U.K. FES 1984	Shows the possibility of isolating inconsistency at the same time of measuring transaction costs in marriage. The rise in female wages could have made transaction costs increase, making decisions more similar to non-cooperative solutions.
Australia	*Family labor supply, taxation and saving in an imperfect capital market* Economic Household, 2010	Patricia Apps, Ray Rees	– Australian Time Use Survey. (TUS) – Australian Household Expenditure Survey (HES)	When children live at home, total hours of market and domestic labor of women are twice those of men. Effects on leisure hours are coherent with that. Pre-school children changes strongly saving, time allocation and consumption Assumption of perfect capital markets is untenable. A family-based tax system with support to children could help overcome problems caused by imperfect capital markets, reducing childcaring costs.

Australia	*Testing neoclassical and non-neoclassical models of household labour supply* Applied Economics, 2006	*Akira Kawaguchi*	–	Neoclassical, Wife Secondary Earner are not supported under normal conditions. Intra-Household Trade model satisfies symmetry condition, neither satisfies negative-definiteness condition for the demand for non-market time.
U.S.A.	*Marriage Market, Divorce Legislation and Household Labor Supply* Journal of Political Economy, 2002	Pierre-André Chiappori, Bernand Fortin, Guy Lacroix.	– University of Michigan Panel Study of Income Dynamics, (PSID), 1988 (interview 1989)	An increase of the gender ratio reduces women's labor supply in a strong way. Unitary model and "separated spheres" models are not compatible with results. Significative effects of divorce laws with different sign for men and women. Divorce laws favorable to women seem to reduce women labor supply, as they make husband labor supply to increase. Different effects for single individuals Women seem to act in a more altruistic manner than their husbands. Distribution factors have an important effect on household decisions. Importance of the state of the marriage.
U.S.A.	*The Collective Marriage Matching Model: Identification, Estimation and Testing* Advanced Econometrics, 2008	Eugene Choo, Shannon Seitz, Aloysius Siow	– US Census Data 2000	It includes both possibilities: single people or married ones. Into married people, it distinguish between specialized nor non-specialized couples. In general, the estimates of the collective model are more robust in the collective model.
U.S.A.	*Commitment in the household: Evidence from the effect of inheritances on the labor supply of older married couples.* Labour Economics, 2016	David M.Blau, Ryan M. Goodstein	– Health and Retirement Study (HRS)	Receiving an inheritance affects negatively both women and men labor supplies, being very similar to a health's shock. The hypothesis of a efficient contract by bargaining household due to a commitment prior to an inheritance is rejected in elder couples.

| U.S.A | *Collective decisions, household production and labor force participation* Journal of Applied Econometrics, 2018 | Olivier Donni, Eleonora Matteazzi | – PSID, 2009 | They specify a model with labor market no-participation and domestic production, relaxing the assumption of perfect substitutability between domestic and market goods. If individual's wage is lower than household production's marginal productivity, the model considers this individual as a non-participating in labor market. Income effect is equal to substitution effect in labor supply in both genders (an income increase does not affect labor supply). An increase in the share of net total expenditure is negatively large in women than in men. An additional child under 6 years old reduces wife's labor supply and increases husbands's labor supply. Wages matter for the domestic production division. The more wage a partner earns, the less he/she is involved in domestic production. They find the wife's share tends to increase with a higher wage of her partner. Gender-ratio is positively related to women's share. |
| U.S.A. | *The Division of Labor by New Parents. Does Child Gender Matter?* IZA Discussion Paper Nº 1787, 2005 | Shelly Lundberg | – National Longitudinal Survey of Youth (NLSY), 1979 | She studies the specialization in couples depending on some variables, as the child's gender, wages, child services…) She specifies a two-periods model, which attends to earning opportunities in the future. By studying the mother's first birth (son or daughter, she finds baby boys have no impact on mother work's hours (compared with baby girls) but increase work hours for father, more than 60 hours more than baby girls fathers. That changes in educational levels are considered: if the first birth is a baby boy, more |

				educated women tend to work more hours than less educated ones. That means sons increase specialization among less educated couples and reduce it among the more educated. She finds strong correlations between pre-birth wages and hours of work.
U.S.A.	*Labor Supply, Wealth Dynamics and Marriage Decisions* 2014 Meeting Papers 210, Society for Economic Dynamics	Maurizio Mazzoco, Claudia Ruiz, Shintaro Yamaguchi.	− PSID 1968-1996	The model is cooperative (between spouses), which explains the optimality of spouses' specialization: the husband works more hours outside and wife does more at home. The model tries to explain the evolution of female labor supply, but it fails in predicting the decline of the female labor supply in the two years previous to marriage.
U.S.A.	*Kinky choices, dictators and split might: a non-cooperative model for household consumption and labor supply* IZA Journal of Labor Economics, 2014	Jan Boone, Karen van der Wiel, Arthur van Soest, Frederic Vermeulen	− Consumer Expenditure Survey (CEX)	The paper shows the difference between preferences of husband and wife. It uses a non-cooperative model, based on Nash approach. The data shows the father values less than his wife the child's expenditures. The husband controls 54% of household, and the wife 45%. The way of measuring this is the proximity between public goods consumption and a spousal preference. It is observed that, the more children are in a household, the less the wife works. Standard unitary model is rejected in favor of a collective, non-cooperation model.
China	*How does the marriage market clear? An empirical framework.* The Canadian Journal of Economics	Aloysius Siow	− Famine in Sichuan Data	The paper is focused on marriage market, trying to explain the demand and supply of different of men and women, and also the maximization of household utility in a collective specification. It also explains the

				difference in cohorts born in the famine of Sichuan. It shows a life cycle model which tries to explain the marriage market in just two periods.
Italy	*Quality Of Demand of Child Care and Female Labour Supply in Italy.* Labour Economics, 2000	Maria Concetta Chiuri	– Bank of Italy Survey of Household Income and Wealth (SHIW) 1993	Female participation is influenced by her age and education and by the husband's occupation (white collar worker) in a positive way. Having children and the lack of relative's help discourages mother's labor supply. Rationing in local services of childcare affects the demand of the household of childcare. Quality of formal childcare has a positive effect on women's labor supply.
France	*Collective female labour supply: Theory and application* The Economics Journal, 2007	Olivier Donni	– Budget des Families (INSEE), 1984-1985	If working time constraints are taken into account, the preferences of married and single women are similar.
France	*Estimation of Collective Model of Labor Supply with Female Nonparticiparion* Economic Journal	Jean-Michel Hourriez	– European Community Household Pannel. 1994-2001	Men who work more hours tend to live with women who do the same. Increase in men's wage improves women's allocation. The opposite is not always true. Differences in sharing rule in case of non-participation Women scarcity increases their labor supply.
Canada	*A test of the unitary and collective models of household labour supply* The Economic Journal, 1997.	Bernard Fortin, Guy Lacroix	– Canadian Census of Population and Housing. 1986	Collective model is rejected in case of young couples when the sample includes the pre-school children Collective Rational Caring Agents Hypothesis is not rejected. An increase wage's member of a young couple reduces his/her transference to his/her partner. In case of elder couples, the effect is opposite.
Canada	*Sharing within Families: Implications for the*	Shelley A. Phipps and Peter S. Burton	– Statistics Canada Family	If most part of household consumption is in public goods, distribution problems are minor.

	Measurement of Poverty among Individuals in Canada The Canadian Journal of Economics, 1995		Expenditure Surveys.	
Netherlands	*An empirical model of collective household labor supply with non-participation* The Economic Journal, 2009	Hans G. Bloemen	– The – Dutch Socio-Economic Panel 1990-2001	Positive effects in married men labor supply when spouse's wage increases. Non-linear effects of wages in men and not in women. Male labor supply's elasticity do not show a high sensitiveness to either of spouses. Women's elasticities are much more stable among estimations, being more sensitive than men's. The husband's share decreases when his wife's increases. Non-labor income effects depend on marital status. In married couples, those incomes are assigned to man, while in non-married couples that income is split.
Netherlands	*Married with children: A Collective Labor Supply Model with Detailed Time Use and Intrahousehold Expenditure Information* American Economic Review, 2012.	Laurens Chechye, Bram de Rock, Frederic Vermeulen	– Longitudinal Internet Studies for the Social Sciences	Leisure is a luxury good. Rejection of unitary model. A wage increase increases men's working time, consumption of both spouses (less for his wife). It also decreases work in the home and childcare time, which is offset by the woman. Non-linear effects on leisure of woman when her own salary increases. By increasing mother's salaries, utility of children could be greater.
Netherlands	*And the winner is… An empirical evaluation of unitary and collective labour supply models.* Empirical Economics, 2005	Frederic Vermeulen	– DNB Houhsehold Syrvey	This model pretends to model household labor supply in a individual and collective (bargaining) approaches. Unitary model cannot be rejected for single individuals, but it is possible to reject for a

				sample of couples. The collective model in the same sample also cannot be rejected. The author establishes some restrictions as the other bibliography (
Russia	*Welfare Sharing Within Households: Identification from Subjective Well-being Data and the Collective Model of Labor Supply* Journal of Family and Economic Issues	Natalia Radchenko	– Russian Longitudinal Monitoring Survey	The model focuses on intrahousehold inequality, considering sharing rules. They found evidence linking satisfaction with the utility function. The paper shows that relationship between income and well-being in transition economies differs from the western ones. They found empirical evidence that relative bargaining power of each spouse depends on the labor income, demographic characteristics and household data. The data shows lower-income households have more equal sharing. Wife's wage benefits both spouses, but husband's wage empowers the husband. A difference with bibliography is preschoolers seem to impact negatively in the difference between the budgets of spouses.
Germany	*Welfare Analysis of a Tax Reform for Germany: A Comparison of the Unitary and Collective Models of Household Labour Supply.* Journal of Population Economics, 2007.	Denis Beninger, François Laisney and Miriam Beblo	– GSOEP 1998	The model considers a tax reform, showing the difference between the specification of a unitary model and a collective one. The unitary model reflects a low percentage of the real facts, showing the importance of taking into account the collective structure of the households.
Germany	*Family Tax Splitting: A Microsimulation of its Potential Labour Supply and*	Denis Beninger, François Laisney and Miriam Beblo	– GSOEP 1998	The paper supposes the effect of the French family splitting mechanism in German families.

				The effects of the splitting is null in most cases, and has positive effects only in wealthy families.
	Intra-Household Welfare Effects in Germany, Centre for European Economic Research, 2003			The effects of the splitting is null in most cases, and has positive effects only in wealthy families. If we consider family splitting, we can see the positive effects just in higher income families, especially in wives. The results are studied by describing the German situation.
Belgium	*A collective model for female labour supply with non-participation and taxation* Journal of Population Economics, 2006.	Frederic Vermeulen	– Socio-Economic Panel of the Center for Social Policy.	The model specified is a collective discrete-choice model for female labour supply, which takes into account intra-household allocation. It also considers the possibility of no participation and taxes. A very small group of married women change their labor supply after the tax reform in 2001.
Belgium	*Collective Labor Supply and Child Care Expenditures: Theory and Application* Journal of Labor Research, 2012.	Chris Van Klaveren, Joris Ghysels	– Flemish Families and Care Survey 2004-2005	This paper focuses on collective labor supply in household with children, and the childcare expenditures and their effects on labor supply. It considers parents have leisure, childcare and worktime.
Japan	*Wage shocks, household labor supply and income instability* Journal of Population Economics, 2014	Sisi Zhang	– Survey of Income and Program Participation, 2004	The paper focuses on therelationship between labor supply of a spouse with a shock to the wage of the other. It tries to study if spouses's labor supply tries to smooth the other's wage shocks. The model of reference is a collective model, sharing-rule type, where shocks (permanent or transitory) are considered. It also considers labor market non-participation. Evidence shows that wife's labor supply smooths a shock in husband's wage.

Japan	*Intra-household interaction in a nuclear family: A utlity-maximizing approach.* Transportation Research, 2009	Hironoru Kato, Manabu Matsumoto.	– Toyama and Tokyo Data	The paper tries to explain the household joint resource allocation, comparing the intrahousehold interactions between different cities, revealing differences and similitudes between them. Childcare activities are also taken into account.
Spain	*Estimation and testing of household labour supply models: evidence from Spain.* CEMFI Investigaciones económicas, 2009	Laura Crespo	– ECHP 1994-1999	The unitary model is rejected with the data and specification. The collective model is rejected, but this is more likely to reject egoistic preferences. What this shows is that a unitary model cannot explain the real facts, and the non-unitary model must take into account the non-egoistic preferences. The author concludes that, in the sample, the non-distribution factors hypothesis can be rejected

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