

Bargaining or efficiency within the household?

The case of Italy

Aina Carmen¹, Fernanda Mazzotta² and Lavinia Parisi³

Preliminary version

Abstract

Two aspects play a role in the household decision-making, the efficiency and the bargaining power argument. The crucial difference between the two approaches is the expected influence of personal and partners' wage. To investigate which of the two models hold, in the Italian context, we estimate an ordered probit model for four aspects of household decision-making. We use It-Silc 2010 as it provides a module on intra-household sharing of resources. Results show that in strategic control decisions, where the power argument should dominate the efficiency approach (such as decisions on durable goods, savings and other important decisions) we find that the spouse with higher wage is the household decision maker. For decision regarding executive management (such as decision on everyday shopping) where the household production approach should dominate the bargaining power argument, the opposite is true.

1. Introduction

The goal of this paper is to investigate the determinants of intra-household decision-making power with respect to several outcomes, namely everyday shopping, purchase of durable goods, savings and taking relevant decisions. Exploring the process through which spouses take a decision is important for better targeting any household policy interventions. In fact, the recent growing interest in understanding the bargaining processes within households is explained by the role that the distribution of power in the couple exerts on key economic outcomes, such as female labour force participation, how resources are distributed within the family, how household decisions are made in a variety of economic and non-economic contexts. Furthermore, a better knowledge of the determinants of power between the partners can provide significant information on gender inequality in household decision-making as well as how it evolves over time. Unfortunately, the empirical evidence on this topic is lacking of well-established results, mainly because the evaluation of the spouse's power within the family is difficult to source because of the lack of detailed and useful data, which are based, once available, on self-reported measures, i.e. who makes decisions. Overall, several empirical studies claim that the power balance in a family relates to the comparative resources like income, education, health conditions, family size and occupational status of spouses. It is also necessary to be aware of the socio-economic environment, since social norms, cultural beliefs, and economic conditions can influence the decision-making power possessed by a spouse, too.

The empirical evidence on this topic mainly attempts to explain the distribution of partners' power using as proxies their relative income, age, education, health, race, religion and further cultural beliefs. A well-documented result is that economic variables, especially measured in terms of

¹Dipartimento Studi per l'Economia e l'Impresa, Università Piemonte Orientale, email: carmen.aina@eco.unipmn.it

²Dipartimento di Scienze Economiche e Statistiche e Celpe, Università degli studi di Salerno, email: mazzotta@unisa.it

³Dipartimento di Scienze Economiche e Statistiche e Celpe, Università degli studi di Salerno, email: laparisi@unisa.it

differences in the level of income and occupational status, are key factors in determining the most powerful partner. Gender differences emerge once the spouse who takes the decision within the family is analysed. In particular, women are generally more risk averse, so once they are the decision making in the household they tend to make less risky investments (see, Sundén and Surette, 1998; Jianakoplos and Barnasek, 1998; Barber and Odean, 2001; Guiso and Jappelli, 2002; Croson and Gneezy, 1998). Other studies underline that for women the degree of power in managing household's decisions is positively correlated with their level of education and their status in the labour market (Luhrmann and Maurer, 2007; Elder and Rudolph, 2003). While Wooley (2003) finds that the spouse with the higher income is the one taking decisions in the household. Additional contributions provide evidence that who controls the income in the family – husband or wife – directly affects decisions and outcomes within the household, for instance in terms of child health and education, and expenditures for different goods and services (see Lundberg et al. 1997; Phipps and Burton, 1998; Duflo, 2003).

In the economic literature, it is crucial, for a better interpretation of the distribution of power in the households, to define the theoretical framework within family decisions are made. Chiefly, two theoretical models can be considered to deepen the household decision-making processes: the unitary and the bargaining models. The former approach underlines on the hypothesis that households behave as a single decision unit with a common utility function and income pooling that somehow maximizes the welfare of its members (Becker, 1991; Dobbelsteen and Kooreman, 1997). This model refers to a household production approach, where both spouses allocate efficiently their time in all the family activities. Basically, it is assumed that partners freely decide how to allocate time to income work activities, to home production activities (i.e. the outcomes selected in our investigation: as everyday shopping, etc.), and to leisure, which are exogenously determined. As a result, optimal decision-making entails that the spouse with the lower opportunity costs – measured in terms of income foregone – should devote more time to family production activities. It is clear that the partner in question is the one who is either not working or with the lower wage. The latter model, instead, assumes that each individual in the family has distinct preferences towards spending available household income, hence the final decision is the product of negotiation amongst partners rather than a choice driven by a single member (Nash, 1950; Rubenstein, 1982). The optimal allocation of time results from the household maximizing its utility subjects to certain time, budget constraints and home production function, weighted by his/her power. Thence, in case of egoistic agents, each spouse will maximize only his or her utility function, yielding a situation where the couple manage separately their resources and consumption. While, in case of cooperative behavior between partners, the spouse with higher wage rate has a greater bargaining power, hence he/she will raise his/her share in household financial management.

Accordingly, in our empirical exercise we may test for each outcome the prevailing model analyzing the different impact plays by income. In the unitary model, the household decision maker is the spouse with the lower opportunity cost, hence the one with the lowest wage. As a consequence, a negative effect of income on each decision outcome analysed entails that both partners' time inputs into household management result from an efficient distribution of labour within the couple. While, the bargaining framework suggests that the spouse who earns more, namely who has his/her wage positively correlated with the outcome, is the final decision maker. As a result, we may expect that the household production model may hold for routinely, less time-consuming and less important decisions. By contrast, the bargaining argument should be predominant for important and infrequent decisions.

Following the empirical framework described above, we then provide evidence for Italy on the theoretical approach that is more consistent with whom is the final decision maker according to each outcome. Using data drawn from the Italian questionnaire of Statistics on Income and Living Conditions (EU-Silc), we estimate the role of spouse's characteristics in several decisions, ranking according to their different degree of relevance. Results show that in strategic control decisions, where the power argument should dominate the efficiency approach (such as decisions on durable

goods, savings and important decisions) we do find a positive correlation between wages and the degree of power played by the spouse. By contrast, about decision related to executive management (for example decision on everyday shopping), in which the household production approach should dominate, the bargaining power argument, the opposite is true.

The paper is organized as follows. The next section offers a description of the data. Section 3 discusses the empirical strategy. Section 4 provides the corresponding results. Finally, conclusions are reported in section 5.

2. Data and definition of dependent variables

The following empirical investigation focuses on Italy. The Italian questionnaire of Statistics on Income and Living Conditions (EU-Silc) has been adopted. The data are based on a standardized questionnaire filled by individuals and households in several European countries and on several issues. The Italian component (IT-Silc) contains information on demographic characteristics, personal income, housing conditions, employment etc. at household and individual 's level. All private households and all persons aged 16 and over within the household are eligible for answering the questionnaire. In this study we use It-Silc 2010 as it provides a module on the list of target secondary variables relating to intra-household sharing of resources. In fact we use four of the aforementioned variables related to four different aspects of decision making within the family.

We define those variables as follows and we report the questions associated to them: the first concerns *EverydayShopping*, the question is: Thinking of you and your spouse or partner, who is more likely to take decisions on everyday shopping? All expenses on everyday shopping are to be covered, including expenses made by the respondent for himself or herself.

The second variable is named *Durable* as it concerns decision on durable goods, the question associated to it is the following: Thinking of you and your spouse or partner, who is more likely to take decisions on expensive purchases of consumer durables and furniture? Consumer durables include one-off purchases of items such as white goods (fridges, washing-machines), larger pieces of furniture, electrical appliances, etc. according concretely defined as durable goods acquired by households for final consumption (i.e. those that are not used by households as stores of value or by unincorporated enterprises owned by households for purposes of production); they may be used for purposes of consumption repeatedly or continuously over a period of a year or more (source OECD).

The third variable is about *Savings*, couple in fact are asked to answer the following questions: Thinking of you and your spouse or partner, who is more likely to take decisions on the use of savings?

The fourth and the final variable are related to *ImportantDecision*. The question associated to it is the following: Thinking of you and your spouse or partner who is, on the whole, more likely to have the last word when taking important decisions?

The four questions are addressed to the same target population i.e. persons aged 16+ living in a household with at least two members aged 16+ where the person has a partner living in the household. They reflect different aspect of decision making grades from the less important (first variable) to the most important (fourth variable).

Moreover the different questions reflect different types of decision making authority distinguishing according to Vogler and Pahl (1994) between strategic control and executive management.

The individual level is vital for this question as it asks for a subjective perception of decision-making in the household. For this reason we look at personal level answer even do there is inconsistency in the responses. There is inconsistency when husbands and wives provide different answers to the same question, if for example both persons in the household answer that they are more likely to take decisions on a specific subject.

Finally, the codes of the four variable are defined as follows, 1 More me, 2 Balanced, 3 More my partner.

The variable 2 and 3 have additional values in the responses, first there is an addition code defined as the decision has never arisen, and for the variable 3 an addition one defined as we do not have common savings. However those values are filled by a relative small number of people, less than 1% that's why we include them in the missing category.

2.1 Descriptive statistics

Tables 1 to 4 report descriptive statistics of the four dependent variables. They report both the answers of husbands and wives for each question. Individual can answer to each question in three different ways: I decide, we both decide, my partner decides. We cross the answer of husbands and wives and in each table the rows report the number of husbands answering on the specific item, while the columns report the corresponding figure for wives.

Table 1 shows that roughly, the 88% of the cases⁴ agree on which who decide on daily shopping, and more than half of respondents report to take decision on every day shopping jointly (55% wife and 56% husband). Everyday shopping can be seen as a decision on time-consuming and routine-like decisions where the efficiency argument is probably more persuasive and the household production approach may hold (Dobbelsten and Kooreman 1997). The role of the women in this context is well established, in fact 36% of husbands report that their wives completely decide about every day shopping while only the 9% of wives state that their husbands decide about it.

Partners sometimes disagree, in fact we do find discrepancy in the answers, i.e. wife and husband do not answer in the same way to the question. The highest percentage of different answer correspond to the figure "both": when the husband thinks that they both decide, 70 (over 7094) wives answers that the husbands decide and 324 (over 7094) thinks that the wife decides, on the contrary when the wives thinks that they both decide 106 (over 7094) husbands answer that he decides and 214 (over 7094) thinks that wives decide. There are several explanation for the discrepancies in the answer provided and the most convincing one, in our opinion, is that respondents are not aware of their authority within the family. Of course it could be also that men and women perceive the world differently and/or they do not want to admit any authority of their partners.

Overall, 50% of the family decide together on the everyday shopping, 37% of the family only the wives decide and for 14,2% of couple, husband and wife disagree. The percentage of husbands and wives answering that they are the only responsible for the everyday shopping is higher than the percentage indicates from their partner, for instance 37% of wives thinks that they decide on this item while 36% of husbands answer that their wives decide on this item (the corresponding figure is 8% and 7.6% for husbands).

Table 1 EverydayShopping (number of observations)

Wife's answer →	Husband	Both	Wife	Total
Husband's answer ↓				

⁴This comes from the sum of the diagonal divided by the total number of individual: $(425+3586+2266)/7094$

Husband	425	106	55	586
Both	70	3,586	324	3,980
Wife	48	214	2,266	2,528
Total	543	3,906	2,645	7,094

The question is: Thinking of you and your spouse or partner, who is more likely to take decisions on everyday shopping?

With regards to decision on item regarding strategic control, i.e. important and infrequent decision (Vogler and Pahl 1994) such as purchasing durable goods as well as decision on savings we notice that the common practice is to decide altogether. 80% of the couple decide together with regards to durable goods and savings (see Table 2 and 3). In contrast with executive management, in such items where the power aspect may dominate the efficiency argument the wives can decide on their own only for 6%. Another important different with Table 1 regards the discrepancy in the answers. The wives underestimate their power within the family as only 6% of them think they can decide on durable goods, while 7% of husbands answer that they are their wives to decide (the corresponding figure for savings are 5% and 6%.)

Table 2 Durable (number of observations)

Wife's answer	→	Husband	Both	Wife	Total
Husband's answer					
↓					
Husband		582	125	14	721
Both		117	5,518	82	5,717
Wife		19	125	353	497
Total		718	5,768	449	6,935

Thinking of you and your spouse or partner, who is more likely to take decisions on expensive purchases of consumer durables and furniture?

Table 3 Saving (number of observations)

Wife's answer	→	Husband	Both	Wife	Total
Husband's answer					
↓					
Husband		426	101	10	537
Both		152	5,125	87	5,364
Wife		25	111	226	362
Total		603	5,337	323	6,263

Thinking of you and your spouse or partner, who is more likely to take decisions on the use of savings?

Finally Table 4 shows the distribution of answers for the Important Decision, in other words who take the final decision on important items. This distribution is more similar to the Table related to the everyday shopping questions except for the role of the wives. In fact, husbands prefer to have the last word on important decision and the number of husbands is higher than the other aforementioned variables both when wives and husbands agree (757 individual) and also when husband answer on their own (988).

Table 4 Important Decision (number of observations)

Wife's answer →	Husband	Both	Wife	Total
Husband's answer ↓				
Husband	757	178	53	988
Both	117	5,105	147	5,369
Wife	41	149	547	737
Total	915	5,432	747	7,094

Thinking of you and your spouse or partner who is, on the whole, more likely to have the last word when taking important decisions?

3. Method

As we have already described two aspects play a role in the household decision making (see Dobbelsten and Kooreman, 1997) and the crucial difference between the two approaches is the expected influence of partners' wage. To investigate which of the two model hold, in the Italian context, we estimate an ordered probit model for each of the four aspect of household decision making. We use observations for both partner and we do not exclude observations for which both partner have not chosen the same answer categories, this is because we are interested in the perception of power in the decision making more than the effective one.

The most important variable to check whether the prediction of the models hold, is the potential wage rate of the partners.

We believe that potential wage is most important in explaining the two approaches than actual wage. This is because the actual wage can be determined both from a personal decision on whether accepting or not a job along with the degree of difficulties in labour market to find a job. Moreover it can be determined by partner wage. When we do find an earned income within a survey, it means that a woman is working outside home and this may provide bargaining power in another form: woman who works outside of their home may learn social and other skills needed to navigate the work environment and this may translate back into increased bargaining power within the home.(Doss, 2011). To disentangle the effect of potential wage on decision making we can use three approaches: first we include in the estimation the education of both partners as a proxy of potential wage plus a dummy indicating whether the wage of the partner is higher than the one of the respondent. Second we use the predicted wages, estimated by a wage equation for individual in our sample that do have wages.

4. Estimates

All the variables have three values going from 1 (the respondent answer that he\she decides) to 3 (the respondent answer that the partner decides) so the higher the code the more likely is the partner (either husband in the wives estimates or wives in the husbands estimates) to decide. Thus, a negative coefficient on a particular regressor means that the higher the covariate the less likely is the partner to decide.

Tables 5 and 6 report estimates for all couple including who do not answer the same way to the questions, this is because we are mainly interested in the perception everyone has of his own power within the family. We present three different specifications, first the wage is proxied with the level of education of both partners, second we include also a dummy on whether the partner wage is higher than respondent wage, finally we use the potential wage. The potential wage is predicted for all individual in the sample according to the estimation of a wage equation. The wage equation is calculated on those individuals who report a positive wage separate for men and women, regressors in the wage equation are age and education.

Table 5 reports estimate for wives, the higher the dependent variable the more likely is the husband to take care of that item, for instance it seems that older wives have more power than younger one as the higher the age of the wives the less likely is the husband to decide, in particular there is an inverted U-shape with age with its maximum at 60 years of age. Up to 60 years old, the higher the age the less likely is the husband to decide according to his wife, after 60 years old this relationship is at the opposite. The maximum age is 80 years old only for the Important Decision question.

Table 6 reports estimates for husbands and we do not find any differences between table 5 and 6. Moreover also the maximum age seems to converge at 60 years old.

Looking at the variable of interests the predictions of the models hold in decisions where the power argument dominates the efficiency approach (strategic control decision, such as durable, saving and Important Decision) we do find the higher the wives education and the lower the husband education the less likely is the husband to decide, this is also true when we include a dummy for whether the partner has higher education than the respondent. In fact, this variable confirms that for decision regarding important and infrequent items if the husband has higher income than wife he is more likely to decide. For decision regarding executive management such as decision on everyday shopping the opposite is true. When we include potential wage, we do not find the differences between strategic control and executive management decisions, in fact the lower the wage of the respondent the higher the probability that his partner decide regardless which the decision is. This is particularly true for decision on durable goods and important decision for wives and for durable goods and savings for husbands, this seems to indicate that the efficiency argument holds.

Looking at differences between husbands and wives, estimates show that husbands leave their wives decide when they have high level of education in decision on durable goods and in important decision, wives on the other side, think that education is important in decision on savings and this is confirmed from both estimates on all the sample and also on the restricted sample in table 7.

4.1. Robustness checks

In this part of the paper we use observations for which partners have chosen the same answer categories. We also define the categories to ease interpretation in the bargaining framework: the power of wives increases with higher answer codes, that is take value 1 if husband takes the decision, 2 if both take the decision and 3 if wife decides.

Table 5: Order Probit: wives

	EverydayShop				Durable		Savings			ImportDecision		
Age	-0.0701***	-0.0715***	-0.0638***	-0.0610***	-0.0583***	-0.0463***	-0.0356**	-0.0335**	-0.0314*	-0.0330**	-0.0309**	-0.0195
Age squared	0.0006***	0.0006***	0.0005***	0.0005***	0.0005***	0.0004**	0.0003*	0.0003*	0.0003	0.0002*	0.0002	0.0001
Partner Age	0.0397***	0.0409***	0.0401***	0.0591***	0.0564***	0.0483***	0.0446**	0.0428**	0.0242	0.0356**	0.0336**	0.0318**
Partner Age squared	-0.0003**	-0.0003**	-0.0003**	-0.0005***	-0.0005***	-0.0004***	-0.0004**	-0.0003**	-0.0002	-0.0002*	-0.0002	-0.0002
Tertiary education	-0.0238	-0.0461		-0.1894***	-0.1333**		-0.0271	0.0115		-0.1785***	-0.1419**	
Upper secondary ed	-0.0940***	-0.1036***		-0.0695*	-0.0466		-0.0625	-0.0444		-0.1154***	-0.0994***	
Partner Tertiary ed.	-0.0258	-0.0147		0.1558**	0.1282*		0.2559***	0.2353***		0.0741	0.0556	
Partner Secondary ed.	0.0357	0.0385		0.0749*	0.0682*		0.1066**	0.1005**		0.0638*	0.0589*	
Number of components < 15	-0.0326	-0.0296	-0.0331	0.0062	-0.0016	0.0058	0.0378	0.0320	0.0366	-0.0024	-0.0074	-0.0034
Partner high income		-0.0930**			0.2452***			0.1677***			0.1546***	
Potential wage			-0.0068			-0.0142***			-0.0047			-0.0157***
Partner potential wage			0.0001			0.0087**			0.0157***			0.0053
Cut 1	-1.0025***	-1.0855***	-0.9417***	-1.6389***	-1.4370***	-1.6660***	-1.2354***	-1.0920***	-1.4718***	-1.1535***	-1.0217***	-1.0930***
Cut 2	0.7626***	0.6805***	0.8223***	1.1504***	1.3629***	1.1203***	1.6937***	1.8421***	1.4566***	1.2362***	1.3716***	1.2919***
Number observations	7094	7094		6969	6969		6411	6411		7094	7094	

Table 6: Order Probit: husbands

	EverydayShop			Durable			Savings			ImportDecision		
Age	-0.0436***	-0.0445***	-0.0412***	-0.0506***	-0.0486***	-0.0418**	-0.0624***	-0.0598***	-0.0415**	-0.0235	-0.0218	-0.0220
Age squared	0.0003***	0.0003***	0.0003**	0.0004***	0.0004***	0.0004**	0.0005***	0.0005***	0.0003*	0.0002	0.0002	0.0002
Partner Age	0.0696***	0.0705***	0.0621***	0.0466***	0.0445***	0.0331**	0.0625***	0.0596***	0.0625***	0.0295**	0.0278*	0.0168
Partner Age squared	-0.0006***	-0.0006***	-0.0005***	-0.0004**	-0.0003**	-0.0002	-0.0005***	-0.0005***	-0.0005***	-0.0002*	-0.0002*	-0.0001
Tertiary education	-0.0388	-0.0462		-0.1465**	-0.1264*		-0.2441***	-0.2191***		-0.0613	-0.0460	
Upper secondary ed	-0.0322	-0.0341		-0.0854**	-0.0806**		-0.1713***	-0.1648***		-0.0629*	-0.0589*	
Partner Tertiary ed	0.0581	0.0728		0.1790***	0.1383**		-0.0408	-0.0890		0.1847***	0.1542**	
Partner Secondary ed.	0.0895***	0.0960***		0.0876**	0.0706*		0.0798*	0.0579		0.1148***	0.1016***	
Number of components < 15	0.0356*	0.0338*	0.0380*	-0.0370	-0.0317	-0.0345	-0.0496*	-0.0440*	-0.0480*	-0.0288	-0.0250	-0.0271
Partner high income		-0.0612			0.1697***			0.2025***			0.1263***	
Potential wage			-0.0029			-0.0089**			-0.0164***			-0.0043
Partner potential wage			0.0080*			0.0140***			0.0010			0.0154***
Cut 1	-0.7887***	-0.7961***	-0.8348***	-1.3147***	-1.2913***	-1.3140***	-1.5840***	-1.5663***	-1.2847***	-0.9281***	-0.9102***	-1.0118***
Cut 2	0.9762***	0.9692***	0.9314***	1.4213***	1.4497***	1.4170***	1.3559***	1.3810***	1.6455***	1.4210***	1.4412***	1.3357***
Number observations	7094	7094		6957	6957		6394	6394		7094	7094	

Table 7: Order Probit: husbands (restricted sample to couple who answer accordingly)

	EverydayShop			Durable			Savings			ImportDecision		
Age	-0.0411***	-0.0427***	-0.0390**	-0.0529***	-0.0506***	-0.0425**	-0.0835***	-0.0818***	-0.0546**	-0.0344**	-0.0326*	-0.0318*
Age squared	0.0003**	0.0003**	0.0003*	0.0004***	0.0004***	0.0004**	0.0007***	0.0007***	0.0004**	0.0002	0.0002	0.0002
Partner Age	0.0679***	0.0696***	0.0624***	0.0527***	0.0501***	0.0358**	0.0730***	0.0709***	0.0664***	0.0393**	0.0374**	0.0260
Partner Age squared	-0.0006***	-0.0006***	-0.0005***	-0.0004***	-0.0004**	-0.0003	-0.0006***	-0.0006***	-0.0006***	-0.0003**	-0.0003*	-0.0002
Tertiary education	-0.0055	-0.0187		-0.1399*	-0.1177		-0.3272***	-0.3078***		-0.0573	-0.0428	
Upper secondary ed	-0.0593*	-0.0625*		-0.0933**	-0.0875**		-0.1757***	-0.1707***		-0.0805**	-0.0767**	
Partner Tertiary ed.	0.0234	0.0494		0.2239***	0.1753**		0.0234	-0.0157		0.1917***	0.1625**	
Partner Secondary ed.	0.0997***	0.1108***		0.0854*	0.0651		0.0933*	0.0743		0.1182***	0.1055***	
Number of components < 15	0.0296	0.0262	0.0314	-0.0328	-0.0271	-0.0326	-0.0602**	-0.0549*	-0.0592**	-0.0158	-0.0119	-0.0145
Partner high income		-0.1060**			0.2088***			0.1708***			0.1208***	
Potential wage			-0.0023			-0.0084**			-0.0211***			-0.0047
Partner potential wage			0.0063			0.0164***			0.0059			0.0159***
Cut 1	-0.9207***	-0.9350***	-0.9420***	-1.2783***	-1.2587***	-1.2633***	-2.0038***	-1.9942***	-1.6662***	-1.0984***	-1.0838***	-1.1640***
Cut 2	0.9394***	0.9263***	0.9187***	1.6880***	1.7157***	1.7005***	1.2361***	1.2512***	1.5681***	1.4641***	1.4809***	1.3941***
Number observations	6277			6453			5777			6409		

5. Conclusion

This paper aimed to investigate the determinants of intra-household decision-making power with respect to several outcomes, namely everyday shopping, purchase of durable goods, savings and taking relevant decisions. In particular our goal was to test two potential models: the first is related to a household production (efficiency) approach, where both spouses allocate efficiently their time in all the family activities. The optimal allocation of time results from the household maximizing its utility subject to certain time and budget constraints and the home production function.

Alternatively, in the second model, financial management is a reflection of bargaining power. Thus in this framework both partners have diverse utility functions, so their preferences may differ.

What emerges is that the household production model shows a negative correlation between a partner's wage rate and his participation in financial management while the second model predicts a positive correlation between a partner's wage rate and decision making.

Using data drawn from the It-Silc, we estimated the role of spouse's characteristics in several decisions, ranking according to their different degree of relevance. Results show that in strategic control decisions, where the power argument should dominate the efficiency approach (such as decisions on durable goods, savings and important decisions) we do find a positive correlation between wages and the degree of powerful played by the spouse. By contrast, with regards to decision related to executive management (for example decision on everyday shopping), in which the household production approach should dominate, the bargaining power argument, the opposite is true.

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