

# The intra-spousal balance of power w2 Tw3(-r /)-20 TwT/5h[(i)-1.1 20

## Abstract

This paper examines cross-cultural evidence of the intra-spousal balance of power within the family. The traditional, ‘unitary’ model of the family, which assumes that members maximize a single utility function, has increasingly been challenged in recent decades, as a consequence of a questioning of the underlying income-pooling hypothesis, through attempts to assume differential preferences of family members, with the relative power of spouses being of particular significance. These non-unitary models treat family decisions as outcomes of interactions between the spouses. We focus here on collective models, which have been most widely used for that purpose. We show international evidence on the basis of the UN Human Development Index 2018. Data results indicate that, in both developed (very high and top medium HDI) and non-developed (bottom medium and low HDI) cultural areas, non-unitary models, in which intra-spousal bargaining power plays a role, are empirically accepted. The Pareto-optimality hypothesis of collective models has been accepted for most statistical data bases. In developed cultural areas, wives, on average, control between one half and two thirds of household resources, with the highest bargaining power affecting expenditure patterns. As the bargaining power of women grows, allocations to education and school attendance also tend to grow in most countries.

**Keywords:** Cross-Cultural; Intra-marriage; Balance of Power; Non-unitary Models; Pareto-efficiency

This document was mainly written while Jose Alberto Molina was Visiting Professor at the Department of Economics of Boston College (US), to which he would like to express his thanks for the hospitality and facilities provided. This work has been partially supported by the Government of Aragon (Project S32-17R) and FEDER 2014-2020.

## I. INTRODUCTION

A cultural area can be identified as a geographical area with one relatively homogenous human activity, or with individuals sharing common cultural characteristics. The organization of human communities into cultural areas and, consequently, cross-cultural analyses, are common practices throughout the social sciences. Individuals in a cultural area may speak the same language, practice the same religion, share the same customs, live under similar systems of livelihood, and generally have more contact with each other than with those outside their own cultural area.

This paper adopts an economic perspective to analyze cross-cultural evidence of the intra-spousal balance of power. The family unit is, according to the Nobel Laureate economist Gary Becker, the decision-making unit linked through kinship that constitutes society's greatest treasure, in terms of its capacity to generate individual and social welfare. The economic studies of family issues, originally carried out from a descriptive perspective, are





case of the second. A second direction refers to non-cooperative game theory, in which there is no possibility to manage alliances, given the selfish behaviors of individuals, with this theory being specifically applied to the topic of private contributions to public goods





Expenditures on consumer goods in the family depend on the bargaining between spouses with different preferences. In addition to goods with a clear gender characteristic (clothing or leisure), the bulk of family consumption goods take the form of public goods. One such public good is the family's charitable giving. Andreoni, Brown and Rischall (2003) have identified systematic gender differences with respect to charitable giving, with single men and women being significantly different in their propensities to give, in the amount they give, and in the distribution of those gifts. These differences indicate that women tend to give to a greater variety of charitable entities, giving less to each, in contrast to men, who tend to concentrate their giving among fewer charities. Married women especially favor health and education, while husbands are more generous than wives only within the sphere of adult recreation. These authors have shown that when a particular spouse has sole control, the decisions seem to reflect his or her own tastes. But, when decisions are made jointly, husbands seem to be getting more of what they want than do wives. The authors also found that the probability that the wife controls giving decisions decreases when her husband earns more than she does, or is more highly educated than she, with these two measures (income/earnings and education) being generally associated with bargaining power. Although the marital bargain on charity mostly favors men when it comes to total giving, when women do become the deciders, they wield their power to influence the disbursement of the family's charity. Thus, the authors provide direct evidence to support the growing feeling among fundraisers that men and women behave very differently with respect to charitable giving.

Husbands and wives may have different private interests in savings and wealth accumulation that must be resolved through the household decision process. Lundberg and Ward-



wife's long-run relative power over household decisions is positively associated with household net worth. Households in which the husband has substantially more education than his wife appear to have significantly lower net worth.

There is limited research on how intra-family financial decisions are made, with prior studies suggesting that women invest their asset portfolios more conservatively than do men, and that it is not gender alone that drives the investment decisions of men and women, but rather a combination of gender and marital status. Yilmazer and Lich (2015)

one third of their total expenditures through shared and joint consumption of goods, that wives on average control between one half and two thirds of household resources, and that singles need to spend between one half to three quarters as much as couples to attain the same standard of living for themselves as for the members of a two person household.

## **Australia**

Australia is similar in many ways to the US and Canada, although it is unique in occupying an entire continent, with its own aboriginal population. British settlers established the first colony in 1788, and even today the interior of Australia is sparsely populated. The South and East coasts boast large cities, with these areas having a prosperous way of life.

The notion that female income-share has significant effects on family expenditure is nothing new in both developed and non-developed countries. Maitra and Ray (2005) provide evidence from Australia of the effect of spousal power on family expenditure patterns, exploiting a useful feature of the collective model



a day to achieve the same utility level as when living in a couple. The welfare derived from individual time use activities tends to be increased by living as a couple, on average. The authors also demonstrate that welfare interactions in time use are at a high level, even when considering pure leisure. A single woman (man) requires 55% (52%) of the couple's time-resources to attain well-being levels similar to those of the couple. Individuals can benefit unequally from economies of scale, such that living in a couple allows time to be saved. A female (male), on average, gains 22 (20) minutes per day of housework and 72 (60) minutes of leisure to attain the same level of well-being, with these savings depending on the characteristics of the couple.

As indicated earlier, a growing literature in economics shows that family financial investments are significantly affected by how decision-making power is allocated between men and women. De Palma, Picard and Zieglmeyer (2011) report German results on individual and couple choices, in an experiment involving risk. Individuals and couples make binary choices between a lottery and a sure payoff. In the first part of the experiment, spouses are separated and choose independently. Individual choices express individual risk preferences. In the second part of the experiment, male spouses rejoin their partner, and they then make joint choices. In most cases, the woman implemented the couple choices, which express collective risk preferences. The authors investigate the evolution of the balance of power within the family via the individual risk aversions estimated from choices made in the first part of the experiment, to explain the couple's risk aversions estimated from choices made in the second part. The man is initially more successful than the woman in influencing couple choices, but that woman progressively gains power over the course of the decision-making

the man or the woman is particularly powerful in specific decisions and, additionally, it suggests that actual decision processes within the family are adaptive and depend on the context.

## **East-Asia**

While culturally different from the West, East-Asia is far from homogeneous; different groups in East-Asia speak different languages, use different systems of writing, and share distinctive religious beliefs (Confucianism, Taoism, Buddhism, Islam,...). Since opening their economies to foreign investments, this area has undergone an economic revolution, placing the region among the world's fastest-growing economies.

Prior empirical evidence using cross-sectional data has suggested that the balance of power is stable over time. Lee (2007) uses longitudinal data on assignable private consumption in South Korea, to examine the marital balance of power between spouses in a dynamic collective model. The unique data allows the author to account for unobserved heterogeneity at the family level, and time-constant unobserved bargaining power. A comprehensive framework of marriage and intra-family resource allocation suggests that the balance of power is chosen by spousal matching and that it should be robust over time, as long as the marriage is sustained. The income-pooling hypothesis is strongly rejected in the Ordinary Least Squares (OLS) regressions. However, it is not rejected after accounting for unobserved bargaining power. This suggests that relative earning capacities may be a good proxy for the long-term economic development and cultural change balance of power, to an extent that cross-sectional variations in relative earnings across families reflect the pattern of endogenous spousal matching. However, temporal changes in relative earning capacities within a marriage do not appear to induce any significant resource transfer between spouses. This finding indicates that

commitment plays a significant role in the dynamics of marital relationships, and allows in particular a significant degree of mutual insurance within the family. It also suggests that, at least in the case of South Korea, as individuals sort themselves into marriages, the balance of power is largely shaped at that moment, and continues to affect intra-family allocations in the long run.

Given that childbirth is an important event for many couples, it is important to analyze how the couple manages the new expenses from childbirth, and how both spouses reduce, or not, their own expenditures. Fujii and Ishikawa (2013) investigate the impact of a new child on intra-household allocation for married Japanese couples, estimating a collective model of the household (only) on a subject. (8 esn4a1 6rof)o0 (ve)-1 50.00 EMC w(r)-e -



Importantly, the authors also find that the relative strength of the family network of household members shapes household choices, supporting the view that several factors, including the importance of social networks, may affect the intra-family balance of power. Last but by no means least, the presence of two ‘distribution factors’ (variables that affect expenditure shares while not affecting preferences or budget constraints) allows to directly test the efficiency hypothesis of the collective model, which predicts that the two distribution factors should affect expenditure shares in a proportional fashion (Browning, Bourguignon and Chiappori 2009). These authors test the hypothesis using a simultaneous system of demand equations, the Quadratic Almost Ideal Demand System, for food components, and find that this efficiency hypothesis underlying the collective framework is not rejected.

In the same context of political regulations, Chile has changed the law that increased child support rights for children of non-married couples, and Martínez (2013) has taken advantage of this change as a source of exogenous variations in bargaining power within cohabitant families to estimate a non-unitary bargaining model using a panel of cross-sectional data. The author finds a decrease of 1.8 percentage points in fathers’ employment, as well as a decrease in their hours worked. Results reject the unitary family model because changes in bargaining power imply changes in family outcomes. These results highlight the importance of considering dynamic family interactions when analyzing the impact of public policies. Even though the legal change should not have had any impact on the income of most cohabiting and married families in the period analyzed, and did not establish a subsidy, family incentives and outcomes changed.

The increase in school attendance of children between 14 and 15 years, after the introduction of the Chilean law, can be interpreted as a movement toward the preferences



of women in cohabiting relationships, once their bargaining power increased. The 1999

related to the labor supply of female workers in Mexico, while in Colombia the presence of other household members over age 18 is positively related to the female labor supply.

## **South Africa**

Another strong rejection of the unitary model is provided by Duflo (2003), who analyzes a reform of the South African social pension program for elderly that extended the benefits to a large, previously not covered black population. Due to eligibility criteria, the coverage is not universal; in some households, only one of the grandparents receives the benefit. Duflo uses a difference in difference approach based on the demographics of the siblings to control for selection in eligibility. She shows that the recipient's gender - a typical distribution factor - is of considerable importance for the impact of the transfers on children's health: a payment to the grandfather has no significant effect, whereas the same amount paid to the grandmother results in a huge improvement in the health status of girls in the family.

## **Indonesia**

Southeast Asia has been strongly influenced by the large influx of peoples from China and India, as well as the Middle East and remnants from the European Colonial powers. The islands of Southeast Asia export important spices - pepper, cinnamon, nutmeg, and so on - used in cooking all over the world. In earlier times, these spices were highly prized in Europe and the Middle East, as they provided a means of preserving food that was more flavorful than salt alone. Although much of the region continues to follow



### **III. THE INTRA-FAMILY BALANCE OF POWER: CROSS-CULTURAL EVIDENCE IN NON-DEVELOPED AREAS**

The analysis of the intra-family balance of power is particularly important in developing regions, given the underlying cultural norms that persist today. We have identified two cultural non-developed areas that exhibit a bottom-medium or low HDI, (South-Asia and Sub-Saharan Africa) where relevant economic analyses of spouses' power have been developed from a non-unitary perspective.

#### **South-Asia**

The Himalayas have allowed populations on each side of the mountains to develop their own distinct languages, customs, and cultures. In ancient times, invaders introduced the Hindu religion and caste system. In the 18<sup>th</sup> century, much of India fell under British rule. When India became independent, in 1947, it was partitioned into Hindu India and Moslem Pakistan, and then the former East Pakistan became Bangladesh. The majority of the populations speak English, as well as Hindi and other local languages.

We first consider some evidence for the case of Asia. Koolwal and Ray (2002), using data from Nepal, estimate a collective framework and find that the woman's share of family earnings derived from paid employment, excluding the unearned income, understates her true power in influencing family outcomes. Other interesting results indicate that rural women enjoy greater power within the family than their urban counterparts, and that education plays an effective role in enhancing the power of women inside the family. These estimates of the female power equation provide considerable support for the hypothesis that welfare weights should be estimated simultaneously with household outcomes. The statistical significance of the impact of female power on an

item's budget share provides a convenient test of the income-pooling hypothesis underlying the unitary model. The results provide little evidence in support of income pooling, especially for items that have the characteristics of a private good, in being primarily consumed by particular family members (e.g. tobacco and alcohol are consumed, almost exclusively, by the adult male). Note, however, that limited support for income pooling does exist for items that are collectively consumed within the family (e.g. flour and rice, eggs and milk, and meat are jointly consumed within the household). The results reveal certain non-monotonic relationships between female power and budget share that vary a good deal from item to item.

A related investigation by Rossella Calvi (2019) documents the well-known 'minsumng women dcR(ns)-1 (ump-1 (i)-2 (ps)-1 ( be))1 (o)2 (m--2 (i)165 T335 Tj 0.335 0g1p



poor families in terms of how resource inflows interact with each other, and how they affect family expenditure patterns.

The most important results of this paper include the following. First, each income stream is distinguished by the gender of the income recipient, in line with the spirit of non-unitary family models that has characterized much of the recent literature on family behavior. Second, the authors distinguish between the different sources of non-labor income, namely, unearned income and private remittances that have been lumped together in previous studies. Moreover, they recognize the joint endogeneity of such resource inflows in the tests of income pooling. Third, following from the two issues raised above, the authors test the hypothesis of income pooling, not only between men and women, as several studies have recently done, but also, pooling of the two components of non-labor earnings, mentioned above, separately for men and for women.

Does the power of an individual making family decisions have an impact on that family's expenditure pattern? To answer this question, Lancaster, Maitra and Ray (2006) use the collective approach to examine whether relative spousal power, measured by her/his income share, has an effect on family patterns. The authors propose and estimate, for the case of India, a framework of this type. Empirical results using family-level unit record data-sets provide considerable support for the idea that the welfare weights, i.e. the bargaining power, are significantly affected by changes in the family's socio-economic status.

Consistent with recent empirical evidence, the study rejects an important implication of the unitary household model, namely that the identity of the income recipient is irrelevant in the determination of the family's expenditure outcomes. Also, the study finds that such rejections are either marginal or do not occur for some of the

smaller items of expenditure, especially those, such as Alcohol and Tobacco, that are privately consumed (typically by adult males) within the household. However, results generally point to more complex relationships between the family's expenditure outcome and the intra-household balance of power than is commonly appreciated in the literature.

Rc wl.1.5 (mc -0.002652.3 01-1 (nd ))Tnc)-1 (e)4 (ngu(e)4 (g p)5 a)TJ nu(d)3 (e)-1 ( 1 ( ou]TJ 14.22



In particular, standard poverty indices, which implicitly assume a fair allocation of resources within the household, seriously understate the incidence of child poverty.



- Regarding the (few) violations of efficiency, not much is known on the ultimate cause of observed inefficiencies. A natural but somewhat ad-hoc justification could invoke social norms. Alternatively, inefficiencies may stem from informational problems (asymmetric information, imperfect monitoring, ...) within the household; yet another cause could be limitations to the spouses' ability to commit on future behavior. Clearly, more work is needed on this important issue.<sup>2</sup>
- Within the efficiency paradigm, the collective model allows to structurally analyze issues such as household formation and dissolution or the impact of policies 'targeting' specific household members (e.g., women or children), that the standard, 'unitary' approach was essentially disregarding. Of particular importance is the notion of *intra-household inequality*. The traditional analysis, based on equivalence scales, was essentially assuming an equal (or 'fair')

transfers ultimately benefits daughters in South Africa (Duflo 2003); in Ethiopia, however, mothers with more assets invest preferentially in sons, while in Bangladesh, fathers' and mothers' assets do not have differential effects on daughters relative to sons (Quisumbing. and Maluccio 2003).

- Similarly, the determinants of the spouses' respective bargaining powers strongly depend on the cultural and socio-economic context. In Western economies, human capital, wealth and incomes, as well as global factors such as sex ratios or laws governing divorce and separation, have been empirically linked to individual decision power. In developing countries, relevant factors also include, at least in some contexts, religion, ethnicity, cast, family background and many other determinants. In fact, the same general mechanism – individual bargaining powers playing a crucial role in determining household behavior – operates in very specific ways depending on the cultural context.
- Yet in basically all situations, age and especially education appear to play an important role. In particular, fair allocation is more likely to occur in a family where education and human capital is spread evenly between the spouses.

On this last point, recent evolutions provide strong motives for optimism. In basically all developed economies, and actually in an increasing number of developing ones, women are now more educated than men. We confidently predict that this evolution will deeply affect, for the better, economic and social welfare.

## REFERENCES

- Andreoni J., Brown, E., and Rischall, I. (2003). Charitable giving by married couples. Who decides and why does it matter? *Journal of Human Resources* 38: 111-133.
- Attanasio, O., and Lechene, V. (2002). Tests of income pooling in household decisions. *Review of Economic Dynamics* 5: 720-748.
- Basu, K. (2006). Gender and say: a model of household behaviour with endogenously determined balance of power. *Economic Journal* 116(511): 558-580.
- Basu, K. and Ray, R. (2002). The collective model of the household and an unexpected implication for child labor. Policy Research Working Paper 2813. The World Bank.
- Becker, G.S. (1981). *A Treatise on the Family*, Enl. Edition. Cambridge: Cambridge University Press.
- Bergstrom, Theodore C., .A Fresh Look at the Rotten Kid Theorem and Other Household Mysteries., *Journal of Political Economy*, 97 (1989), 1138-1159.
- Bergstrom, T. (1997). A survey of theories of the family. In M.R. Rosenzweig and O. Stark (eds), *Handbook of Population and Family Economics*. Amsterdam, North-Holland.
- Blumberg, R. and Coleman, M. (1989). A theoretical look at the gender balance of power in the American couple. *Journal of Family Issues* 10: 225-250.

- Brown, C., R. Calvi and J. Penglase (2019), 'Sharing the Pie: Undernutrition, Intra-Household Allocation, and Poverty, SSRN, <https://ssrn.com/abstract=3199129>
- Browning, M., and Chiappori, P.A. (1998). Efficient intra-household allocations: a general characterization and empirical tests. *Econometrica* 66: 1241-1278.
- Browning, M., Chiappori, P.A., and Lewbel, A. (2013). Estimating consumption economies of scale, adult equivalence scales, and household bargaining power. *The Review of Economic Studies* 80: 1267-1303.
- Browning, M., P.A. Chiappori and Y. Weiss (2014), *Economics of the Family*, Cambridge University Press, Cambridge.
- Calvi, R. (2019), 'Why Are Older Women Missing in India? The Age Profile of Bargaining Power and Poverty', *Journal of Political Economy*, forthcoming.
- Campaña, J.C., Giménez-Nadal, J.I. and Molina, J.A. (2018). Efficient labor supply for Latin families: is the intra-household bargaining power relevant? IZA DP N° 11695.
- Chiappori, P.A. (1988). Rational household labor supply. *Econometrica* 56: 63-89.
- Chiappori, P.A. (1992). Collective labour supply and welfare. *Journal of Political Economy* 100: 437-467.
- Chiappori, P.A., and M. Mazzocco, "Static and Intertemporal Household Decisions" (with M. Mazzocco), *Journal of Economic Literature*, 2017, 55(3), 1–61

Coupric, H., and Ferrant, G. (2015). Welfare comparisons, economies of scales and equivalence scale in time use. *Annales d'Économie et de Statistique* 117-118: 185-210.

Desai, S. and Jain, D. (1994). Maternal employment and family dynamics: The social context of women's work in rural South India. *Population and Development Review* 20: 115-

Hoddinott, J. and Haddad, L. (1995). Does female income share influence household expenditures? Evidence from Côte d'Ivoire. *Oxford Bulletin of Economics and Statistics* 57: 77-96.

Kanbur, R. and Haddad, L. (1994). Are better off households more unequal or less



Lundberg, S., Pollak, R.A., and Wales, T.J. (1997). Do husbands and wives pool their resources? Evidence from the United Kingdom child benefit. *Journal of Human Resources* 32: 463-480.

Lundberg, S., and Ward-Batts, J. (2004). Saving for retirement: Household bargaining and household net worth. Claremont McKenna College Robert Day School of Economics and Finance Research Paper No. 2004-03.

Maitra, P. and Ray, R. (2002). Household resources, expenditure patterns and resource pooling: evidence from South Africa. Mimeo. University of Tasmania.

Maitra P., and Ray, R. (2003). The effect of transfers on household expenditure patterns and poverty in South Africa. *Journal of Development Economics* 71(1): 23-49.

- an ( 1 - 3 ) f (M) 17 (i) - 3 (vi) s 9 4 ( B ) p. 21 (op) nr) 11 (6) 8 - n ( 27 ) 89 gt 8 (e) 8 4 5 2 3 . 3 ū d . (on) 3) us (e) 2 ne ( E ) 6 (vi) 12 - (u) d - )

- de Palma, A., Picard, N., and Zieglmeyer, A. (2011). Individual and couple decision behavior under risk: evidence on the dynamics of power balance. *Theory and Decision* 70: 45-64.
- Phipps, S.A., and Burton, P. (1998). What's mine is yours? The influence of male and female incomes on patterns of household expenditure. *Economica* 65: 599-613.
- Pollak, R.A. (1994). For better or worse: The roles of power in models of distribution within marriage. *American Economic Review: papers and Proceedings* 84(2): 148-152.
- Porter, M. (2017). Spousal bargaining over care for elderly parents in China: Imbalances in sex ratios influence the allocation of support. *The Journal of Development studies*, 53(4), 514-529.
- Quisumbing, A.R., and Maluccio, J.A. (2003). Resources at marriage and intrahousehold

Sen, A. (1990): "More Than 100 Million Women Are Missing," *New York Review of Books*, pp. 61–66.

**Table 1. Chronological evidence on the intra-marriage balance of power**

<b>Year</b>	<b>Authors</b>	<b>Country</b>	<b>Data</b>	<b>Keywords</b>
<b>2002</b>	Basu and Ray	Nepal	NLSS/1995	Balance of Power Child Labor Woman's Power
<b>2002</b>	Rubalcava, Teruel and Thomas	Mexico	PROGRESA	Woman's Power Consumption Time Welfare
<b>2002</b>	Thomas, Contreras and Frankenberg	Indonesia	IFLS/1993-97	Relative Power Intra-Family Child Health
<b>2003</b>	Andreoni, Brown and Rischall	US	Gallup Organization/ 1992-94	Charitable Giving Bargaining Relative Power
<b>2003</b>	Duflo	South Africa	SALDRU/ 1993	Public Transfers Programs Spousal Recipient
<b>2003</b>	Maitra and Ray	Australia	AHES/1998-99	Spousal Power Expenditure Intra-Family

<b>2013</b>	Fujii and Ishikawa	Japan	JPSC/ 1994-2002	Childbirth Intra-household Expenditure Share
<b>2013</b>	Martínez	Chile	CASEN/1990- 92-94-96-2000	Intra-family Bargaining Power
<b>2015</b>	Coupric and Ferrant	UK	UKTUS/2000	Welfare Time Use Bargaining Power
<b>2015</b>	Yilmazer and Lich	US	HRS/1992-2006	Portfolio Choice Risky Assets Bargaining Power
<b>2017</b>	Porter	China	CLHLS/ 1998-2009	Spousal Bargaining Care Elderly Parents
<b>2018</b>	Campaña, Giménez-Nadal and Molina	Mexico Colombia	Time Use Surveys: Mexico (2009) Colombia(2012)	Efficiency Labor Supply Time Use Bargaining Power

---