# Latin American Urban Trends in Female Contribution to Household Income during the Late Twentieth Century

First Choice: Gender and Labor Force
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Abstract

Many researchers have shown that the widespread structural reforms to the Latin American economies in the 1990s resulted in a deterioration of Latin American labor markets in terms of social security coverage and job instability. The resulting increase in informal labor arrangements occurs at a time when female labor force participation is increasing among married or cohabiting women. Our aim is to examine changes in the contribution of married or cohabiting females to household budgets and how it is influenced by education, the occupational status of her spouse, the number and age of her children. We use cross sectional micro data from comparable surveys in seven of Latin America's largest cities to explore trends from 1990 to 2000 in female labor force participation. These cities contrast in both their historical and contemporary patterns of family size and fertility, female labor force participation, labor market informalization and women's education, enabling us to introduce these historical and structural factors into our analysis. Our results suggest that Latin American women participating in the labor force are consolidating their roles as income providers even in household arrangements in which their caregivers' role, as mothers of young children, have traditionally produced an opposite trend. The differences between cities in the nature and determinants of participation are less at the end of the decade than at the beginning.

***Problem Description & Theoretical focus***

A consensus in the rise of female labor force participation has been made in the Latin American case. Many researchers argue that married or cohabiting women's labor is primary due to the resistance to income deterioration during economic downturns and to the necessity to counterbalance job instability. Empirical evidence has been gathered for Mexico, Brazil and Argentina. In Mexico City, Parrado (2001), Garcia & Olivera (1994), Gonzalez de la Rocha (1994) and Cortes (1992) have pointed out that during the late 1980's and the beginning of the 1990's women labor force participation slowed down the deterioration in household income. In Sao Paulo, Humphrey (1996) has shown that during 1979 – 1987, the increase of unprotected workers accelerated the rate of entry of women especially in poor households. Recently in Buenos Aires, Cerrutti (2000) demonstrated that the sharp growth in the number of women looking for work in a context of economic reform and structural transformations was less associated with modernization processes and increasing labor opportunities for women than with decreasing job opportunities and deteriorating labor conditions. In all these studies, the 'added-worker' effect hypothesis, which predicts that during economic downturns other household members will enter the labor force to maintain family income, has been generally accepted.

Although this trend is evidenced in all the mentioned cities, we argue that the effects of these processes, generated by the application of structural reforms and which set the scenario to an increase in female labor force participation, are unequally distributed between and within cities. At the beginning of the nineties, Psacharopoulos & Tzannatos (1993), using historical census data and latest household surveys, found out that despite increasing female labor force participation, marriage and fertility still exercise a large negative effect on women's labor supply. They demonstrated that marriage reduced by a half the probability of women working and that each child inhibited it by 3 to 5%. However, they did not untangle this gross trend. In Sao Paulo, Humphrey (1996) also observed that even in recession periods higher status women's participation rates might remain stable. Consequently, the chances of women's labor and income contribution to the household tend to vary by household composition and stratification.

In the Latin American case, modernization factors that might lead to higher female labor force participation are mediated by the radical impact and the speed of the application of structural reforms during the nineties. Nonetheless, modernization factors are present, such as the higher educational levels of women and role expectations of women going beyond their traditional caregivers' role. Fertility decline has been fostered since the 1970's in Latin America as a result of modernization trends (Potter 2002; Bongaarts & Watkins 1996). United Nations estimates that for 1990-1995, fertility rates were 2.8, 2.5, 2.6, 2.5, 3.1 and 3.7 children per woman in Argentina, Uruguay, Brazil, Chile, Mexico and Peru respectively. For 2000-2005, Argentina, Chile, Uruguay and Brazil represent the lowest fertility rates in the region with 2.4, 2.4, 2.3 and 2.2 children per woman respectively. Mexico has also experienced a sharp decline in fertility rates from 3.1 to 2.5 children per woman; while Peruvian fertility has declined from 3.7 to 2.9 children per woman. Second, recent findings in Mexico suggest that there is a reduction in sex differences in age at marriage as women expand their education and labor force participation (Parrado, 2001). This trend might represent a tendency to more homogeneous matches in marriage that might enhance women's labor participation, according to hypotheses tested in the developed world (Oppenheimer, 1994; Smits et al. 1996), but not applied to the developing world. Hence, in Latin America, household composition is being transformed in such a way that women's income contribution is more likely and necessary.

Furthermore, the equalizing and positive effect on poverty reduction of women's income contribution in the household which applies in the developed world, needs to tested in the context of the developing world. In the developed world, it has been documented that women's labor income tends to reduce total income inequality (Del Boca & Pasqua 2003; Cancian & Reed 1998). In the developing world, it also has a positive effect in the reduction of poverty levels (Stier & Lewin 2002). As inequality has increased, it is an open question whether women's labor market contribution increases or decreases inequality because of the sharply differing job opportunities available to less educated as compared to more highly educated women.

***Data and Research Methods***

We analyze female contribution to household income in seven of the largest cities in Latin America namely Buenos Aires, Rio de Janeiro, Sao Paulo, Santiago, Mexico City, Lima and Montevideo. The analysis uses comparable data from either the household survey or the employment survey in three periods of time: 1992, 1998 and 2000. The surveys are the Encuesta Permanente de Hogares (EPH) in Argentina, the Pesquisa nacional por amostra de domicílios (PNAD) in Brazil, the Encuesta de Caracterizacion Socioeconomica Nacional (CASEN) in Chile, the Encuesta Nacional de Empleo Urbano (ENEU) in Mexico, the Encuesta Nacional de Hogares sobre Medición de Niveles de Vida (ENNIV) in Peru, and the Encuesta Continua de Hogares (ECH) in Uruguay.

Using a pooled database containing aggregated household data for each of the cities in each period of time, we run a logistic model in order to explain the odds that female contribution to the household income is positive. The main goal of this exercise is to capture both general trends and the main differences across cities and/or and periods of time in the effect of the main explanatory factors on the dependent variable. Next, we select those households where the spouse has a positive contribution to the household income and run a linear regression explaining the share of household income that is contributed by the spouse. Thus, we select only nuclear or extended households with male head of the household where the spouse is present. We do not incorporate single person households or "single parent" type of households.

TABLE 1: LOGISTIC REGRESSION

| | B | S.E. | | Exp(B) |
|---|---|---|---|---|
| Spouse Age | -.028 | .001 | *** | .972 |
| Spouse years of education | .084 | .003 | *** | 1.087 |
| Dummy Young child present | -.623 | .138 | *** | .536 |
| Number of children | -.057 | .010 | *** | .945 |
| Household Income (In US$ of 2000) | .000 | .000 | *** | 1.000 |
| Dummy: Head of Household is Informal | .240 | .090 | *** | 1.271 |
| Dummy: Year 2000 | .726 | .113 | *** | 2.067 |
| Dummy: Year 1998 | .583 | .116 | *** | 1.792 |
| Dummy: City of Santiago | .774 | .101 | *** | 2.168 |
| Dummy: City of Santiago * Dummy Young child present | -.259 | .134 | * | .772 |
| Dummy: Year 2000 * Dummy Young child present | .262 | .062 | *** | 1.299 |
| Dummy: Year 1998 * Dummy Young child present | .280 | .073 | *** | 1.323 |
| Dummy: City of Santiago * Dummy Head of Household is Informal | -.187 | .094 | *** | .829 |
| Constant | -1.134 | .114 | ** | .322 |

Dependent Variable is the log of the odds of spouse contribution to household income is positive. *** p-val <0.001 ** p-val <0.05 * p-val <0.1

TABLE 2: LINEAR REGRESSION

| | Unstandardized Coefficients | | Standardized Coefficients | t | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 11.551 | .605 | | 19.088 | *** |
| Dummy: Year 2000 | .725 | .196 | .018 | 3.695 | *** |
| Dummy: Year 1998 | .372 | .224 | .008 | 1.665 | * |
| Dummy: City of Santiago | -.134 | .349 | -.002 | -.384 | |
| Spouse Age | -.108 | .008 | -.072 | -13.086 | *** |
| Spouse years of education | .362 | .031 | .074 | 11.872 | *** |
| Dummy: Spouse is Formal | 31.029 | .222 | .608 | 139.701 | *** |
| Number of children | -.429 | .067 | -.027 | -6.397 | *** |
| Dummy Young child present | -3.268 | .224 | -.072 | -14.559 | *** |
| Dummy: extended family | -1.725 | .206 | -.038 | -8.371 | *** |
| Head of Household's Income (In US$ of 2000) | -.001 | .000 | -.069 | -14.774 | *** |
| Dummy: Head of Household is Formal | -.917 | .279 | -.022 | -3.291 | *** |
| Dummy: Head of Household is from dominant class | -.852 | .378 | -.011 | -2.256 | ** |
| Head of Household's years of education | -.104 | .029 | -.022 | -3.583 | *** |

Dependent Variable is the share of household income that corresponds to the spouse contribution to it.
*** p-val <0.001 ** p-val <0.05 * p-val <0.1
Adjusted R2 = 0.409

### *Initial Results*

The logistic regression comparing Santiago and Mexico City demonstrate that there are similar patterns as well as systematic differences between these cities in the odds of female labor force participation. The odds of female participation increase sharply between 1992 and 1998 while tending to increase to a less degree by the end of the decade (1998-2000) in both cities. Generally, we find that the odds of female participation increase much more in the city, Mexico City, where job instability and lack of social security have sharply increased among the labor force. However, a married woman without children under the age of five in Santiago shows a somewhat higher probability of labor force participation than in Mexico City throughout the entire decade.

In relation to the household income contribution, after controlling for individual characteristics of women, the head of the household and the household status itself, we find that the share of the household income that is contributed by the spouse is on average 0.75 points higher in 2000 than in 1992 and 0.4 points higher than in 1998. The logistic regression model shows that the odds of female contribution to the household income are more pronounced among women with children under the age of 5 as a general trend. More interestingly, in the latest period the difference of probability of contribution to the household income between women with and without children

under the age of 5 tends to converge. As a general trend, each child diminishes the odds of female labor participation by 3.4%. However, while in 1992 having a child under 5 reduced the odds by 60%, in 1998 it only reduced it by 20%.

The linear regression model also demonstrates that for a woman whose husband (or head of household) lacks social security –i.e. has an informal job- there is an estimated one point percent increase in her contribution to the household income. Nonetheless, in cities like Santiago the effect of informality of the head of the household reverses. Likewise, in households where the head belongs to the dominant class spouses tend to contribute on average one point percent less to the household income than in the rest of the households. In a recent study of Santiago city using CASEN survey, Wormald & Sabatini (2004) sustained that in 1990 the labor participation rate of poorer women (first quintile) was 17.9%, the rate increased until 46.4% for richer women (fifth quintile). Furthermore, in 2000, the former only increased at 25.2% while the latter have increased at 52.5%. This result suggests an interesting effect on income inequality. Higher status women may contribute less to household income, but since what they are contributing is substantially more than lower status women, their contribution may increase not decrease overall income inequality. Also, we find that although the effect of informality among head of households on their spouses' contribution to the household income varies across cities, it remains constant throughout the decade. In fact, insofar as the interactions between informality with the dummies for each of the years are not statistically different from zero, we can argue that households are experiencing the lack of social security in a similar way. In other words, female contribution to the household income is increasing because households are becoming more sensitive to informality in addition to job instability. And this implies that women in Latin America are becoming more exposed to the necessity to maintain household income, inhibiting downward mobility trends, and at the same time challenging their traditional role as caregivers in the household.

***Expected Findings***

We seek to incorporate five additional cities -Lima, Sao Paulo, Rio de Janeiro, Montevideo and Buenos Aires- into the analysis. We expect to find an increasing female labor force participation and income contribution in all these cities, since they are also facing the same structural reforms that lead to the instability of labor markets. However, we predict that in cities where informality is higher, such in the case of Lima, the pattern for female contribution will be close to that observed in Mexico. Therefore, the changes will be more concentrated in married/cohabiting women with children rather than married/cohabiting women without children and among women in the lower classes. In contrast, cities with a traditionally stronger industrialized economic sector and higher levels of women's education such as Montevideo and Buenos Aires might show a slightly different impact among classes and household arrangements. In these cities, the increasing female labor participation may well be more represented among middle class women without small children. Sao Paulo and Rio de Janeiro are expected to be somewhere in between.

***References***


Bjorklund, A. 1992. Rising female labor-force participation and the distribution of family income-The Swedish experience. *Acta Sociologica*. 35 (4): pp.299-309.

Bongaarts, John; Watkins, Susan C. 1996. Social interactions and contemporary fertility transitions. *Population and Development Review*. 22 ( 4): Dec. pp. 639-82

Cancian, M. & D. Reed. 1999. The impact of wive's earnings on income inequality: issues and estimates. *Demography*. 36 (2): pp.173-184.

----1998. Assessing the effects of wives' earnings on family income inquality. *Review of economics and statistics*. 80 (1): pp. 73-79.

Cerrutti, M. 2000. Economic reform, structural adjustment and female labor force participation in Buenos Aires, Argentina. *World Development*. 28 (5): pp. 879-891.

Debarros, R.P & Demendonca R.S.P. 1992. Research note on family and income-distribution-the equalizing impact of married womens earnings in Metropolitan Brazil. *Sociological Inquiry*. 62(2): pp. 208-219.

Del Boca, D & Pasqua, S. 2003. Employment patterns of husbands and wives and family income distribution in Italy (1977-1998). *Review of income and wealth*. 2:221-245.

Garcia B. & Oliveira de O. 1994. Trabajo femenino y vida familiar en Mexico. El Colegio de Mexico City.

Gonzalez de la Rocha, M. 1994. The resources of poverty. Women and survival in a Mexican city. Oxford: Blackwell.

Humphrey, J. 1996. Responses to recession and restructuring employment trends in the Sao Paulo Metropolitan Region, 1979-1987. *Journal of Development*. 33 (1): 40-62.

Oppemheimer, VK. 1994. Women's rising employment and the future of the family in industrial societies. *Population and Development*. 20 (2): 293-342.

Parrado, EA & RM. Zenteno. 2002. Gender differences in union formation in Mexico: Evidence from marital research models. *Journal of Marriage and The Family*. 64 (3): pp.756-773.

---- 2001. Economic restructuring, financial crises, and women's work in Mexico. *Social Problems*. 48 (4): pp.456-477.

Portes, A & K. Hoffman. 2003. Latin American Class structures: their composition and change during the Neoliberal Era. *Latin American Research Review*. 38 (1):41-82.

Potter, J;Carl P. Schmertmann& S.M. Cavenaghi. 2002. "Fertility and Development in Brazil." *Demography* 39(4): 739-762.

Psacharopoulos, G & Z Tzannatos.1993. Economic and demographic effects on working women in Latin America. *Journal of Population Economics*. 6 (4): pp.293-315.

Smits, J; Ultee,W & J. Lammers. 1996. Effects of occupational status differences between spouses on the wife's labor force participation and occupational achievement: findings from 12 European - countries. *Journal of Marriage and the Family*. 58 (1): pp. 101-115.

Stier, H & AC. Lewin, AC. 2002. Does women's employment reduce poverty? Evidence from Israel. *Work employment and society*. 16 (2): pp. 211-230.