

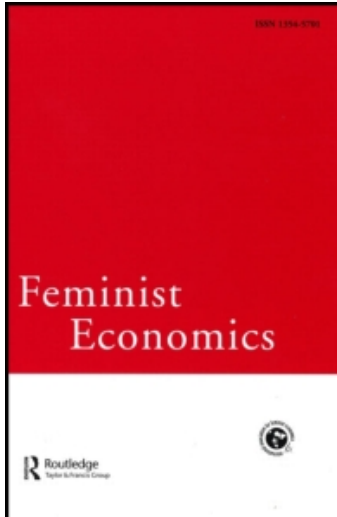
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Cultural Factors in Women's Labor Force Participation in Chile

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CULTURAL FACTORS IN WOMEN'S LABOR FORCE PARTICIPATION IN CHILE

Dante Contreras and Gonzalo Plaza

ABSTRACT

This article analyzes determinants of female participation in the Chilean labor force using classic determinants such as age, education, marital status, and number of children. The results indicate that the greater a woman's education level, the greater her labor participation; that older women participate more, though the rate of growth of this effect is decreasing; and the number of children that a woman has is negatively correlated to her decision to participate in the labor force. The article also examines machismo and other cultural values that influence female labor participation. The evidence suggests that the more the women have internalized machista and conservative cultural values, the less they participate in the labor market. Finally, the article concludes that the existence of these cultural factors as a group more than compensates for the positive effect of human capital variables and is statistically associated with low female labor participation in Chile.

KEYWORDS

Female labor force participation rate, social norms, culture, machismo

JEL Codes: D1, J2, B54

INTRODUCTION

Increasingly over time, feminist perspectives have had a profound impact on many disciplines, including economics. As noted by Lourdes Benería (1995), the economics field has quite often dealt with women-related issues, although not from a feminist perspective. In particular, labor economics has examined the issue of women's participation in the labor force using models that include human capital variables, constraints, and prices to understand women's behavior and choices in labor markets. Thus, mainstream economics has been reluctant to admit the importance of gender and its impact on knowledge-building. Labor economics in Chile has been no exception. Most of the evidence related to women's choices in labor markets is based on mainstream economics models. At the same time, the determinants of these choices have been somewhat disconcerting because they do not take into account cultural variables in Chile. Such

variables may play a significant role toward a broader understanding of gender aspects in Chile in particular and in economics in general.

One important characteristic of the Chilean labor market over the past few years has been the low participation of women in the workforce. Chile's female labor participation rate differs significantly from those of Organisation for Economic Co-operation and Development (OECD) and Asian countries and other nations within Latin America. This relationship is robust considering the different age and educational structures within the population.

For example, available statistics show that the rate of female labor participation in Chile has been consistently lower than rates in OECD nations between 1980 and 2006. According to the OECD, the proportion of women of working age present in the labor force in OECD nations increased from 53 percent in 1980 to 61 percent in 2007. The most recent statistics in Chile show that the country's female participation rate is significantly lower than those of developed nations, standing at 37 percent as compared to averages of 75 percent reported in Sweden, Denmark, Norway, and the United Kingdom (International Labor Organization [ILO] 2007; OECD 2009). A similar pattern emerges when we compare Chile with other Latin American countries. According to the ILO (2007), Chile's female labor participation rate is on average 19 percent lower than that of other countries in the region and is equivalent only to those of Mexico, Nicaragua, and Guatemala.

This is an important topic to consider for at least three reasons. As mentioned, Chile presents lower female participation rates than other Latin American nations; these lower rates persist in spite of Chile's (relatively) high levels of education for women compared with the levels women achieve in other countries in the region. Second, the demographic transition that Chile is experiencing suggests important effects on the economy in the medium term, particularly on the functioning of the labor market. Low projected growth in the population of economically active individuals – less than 1.6 percent over the next ten years and less than 1 percent beginning in 2010 (Centro Latinoamericano y Caribeño de Demografía [CELADE] 2009) – may negatively affect long-term economic growth unless there are increases in labor participation. Female participation makes the labor market more competitive by reducing substantive increases in salary cost structure. Finally, increases in female participation in the lower-income deciles can have a statistically significant impact on poverty indicators (Enrique Ganuza, Ricardo Paes de Barros, Lance Taylor, and Rob Vos 2001; David Bravo and Dante Contreras 2004).

Female labor participation in Chile has only been studied from the perspective of human capital theory (for a review of international literature on female labor force participation, see Mark R. Killingsworth and James J. Heckman [1986]). Various authors, including Lucía Pardo (1987); Eugenia

Muchnik, Isabel Vial, Andreas Stüver, and Bettina Harbart (1991); Pablo García (1995); and Rodrigo Caputo (1997) have presented evidence using cross-section Chilean data on variables that might explain female participation in the labor force. The evidence suggests that education, age, number of children, and living in rural areas are important explanatory variables to account for the behavior of women in the labor market. Dante Contreras, Esteban Puentes, and David Bravo (2005) analyze the evolution of female participation in Chile between 1957 and 1997 utilizing information from a pseudo panel. The authors examine dynamic determinants of female participation through an analysis of synthetic cohorts of women between the ages of 16 and 60, breaking down the participation rate by age, year, and cohort. The authors conclude that age has the greatest impact on female participation, presenting a concave pattern with the highest rate of participation at 36 years old. The cohort effect would suggest that women who belong to the younger cohorts exhibit greater participation. The authors also estimate determinants of the participation rate by cohort, finding that female participation in Chile is positively related to education levels and negatively related to the number of children.

The previous models do not explain the relatively small group of Chilean women who decide to participate in the workforce because they fail to consider other variables such as cultural factors, including cultural models of the family and men and women's social roles; masculine and feminine models transmitted by the family of origin; the presence or absence of a working mother; and parents who were critical or uncritical of the gender order.

There is insufficient evidence in previous studies on the link between labor force participation and certain cultural attitudes in Chile and Latin America; there is also a lack of adequate data for examining this hypothesis. The International Social Survey Programme (ISSP) 2002 survey,¹ which measures cultural patterns in the population, covered only three countries in the region – Brazil, Chile, and Mexico. (Please see the Data section for more information on this survey.)

Clara Araújo and Celi Scalón (2005) present a summary of evidence on cultural characteristics in Brazil. The results suggest that the cultural aspects are so deeply entrenched that they are resistant to change. However, their data also indicate that important changes are taking place in family organization and gender relations among members of younger generations, so that there is less machismo – that is, traditional attitudes toward gender roles, with men assuming an authoritarian role in the family – in Brazilian society. An important sector of the population continues to maintain more conservative cultural positions about the societal and familial roles of men and women. In the case of Brazil, the inclusion of race in the analysis makes this type of relationship more complex. The preliminary evidence suggests that changes taking place among the younger generations indicate that cultural values are in

transition, and that they affect decisions such as domestic work and labor market decisions made by both men and women.

There is also international evidence regarding the importance of cultural factors in female labor participation. Heather Antecol (2003) uses transversal data from the 1994 ISSP to analyze determinants of female labor participation rates in countries in Europe, the Middle East, Asia, Oceania, and North America. The study incorporates cultural aspects through a proxy that includes a set of questions regarding men's attitudes toward family and the distribution of roles among the different genders, using these cultural variables to explain participation rates. The author finds that women are more likely to participate in the labor market if their male partners exhibit greater cultural acceptance of such behavior.

In spite of previous findings, the role of cultural factors has received insufficient attention in the literature, in particular in Least Developed Countries (LDCs). This paper contributes to an understanding of the determinants of female labor participation in Chile not only in view of standard factors (age, education, number of children, and marital status) but also through cultural factors. Using a database from the ISSP (2002) carried out by Centro de Estudios Públicos (CEP), we measure cultural variables and present evidence regarding the contribution of these factors to decisions of female labor participation in Chile.

However, it is not easy to establish a causal relationship between cultural factors and female labor participation, as there is a potential bias due to two-way causality. Cultural norms may "cause" women to participate in the labor market. For example, conservative social norms may reduce women's participation. But the opposite – that female labor participation, at any level, can affect cultural norms – is also feasible. This leads us to ask whether the participation of women in the labor market is capable of changing cultural norms. Stephanie Seguino (2007) argues that female employment does influence attitudes, but with a lag.² Thus, there are two opposing views of the direction of causality, each of which deals with a different time frame. Finally, endogeneity is always present to some degree. Thus the real concern is the magnitude of endogeneity rather than its existence. For more details, see Rachel Connelly, Deborah S. DeGraff, Deborah Levison, and Brian P. McColl (2006) on the effects of fertility on women's employment in Brazil; they argue that endogeneity is always present to some degree in economics today. The previous evidence in Chile shows that the younger cohorts of women exhibit both higher education levels and greater participation in the labor market. Therefore, given the slight and slow increase in the female labor participation rate in Chile, we claim that it would take longer for women's participation to change cultural attitudes than for attitudes to influence their participation in labor markets. We hypothesize that, in the short run, cultural attitudes determine female labor force participation. While it may not be possible

to disentangle the direction of causality between cultural attitudes and labor participation and account for endogeneity, the results presented in this paper can be useful for considering the association between these variables or representing a short-term effect.

The results from our use of the CEP data set confirm previous findings regarding the positive correlation between female labor participation and education. We also observe that participation grows at decreasing rates over the course of an individual's life cycle. The evidence suggests that having children who are not yet of school-going age makes it less likely that a woman will participate in the labor market.

This article provides new evidence that cultural factors influence Chilean women's decisions to participate in the labor market. We have developed two indexes that measure cultural characteristics. The first variable measures the extent to which women in Chile have internalized machista cultural values. The second indicates whether a woman can be described as conservative or moderately conservative.³ The evidence indicates that women who have more traditional attitudes toward gender roles exhibit lower labor participation. The same was found for women who are conservative in their sociocultural opinions. Finally, the study demonstrates that the presence of a partner reduces the probability of participation in the labor market. All in all, the negative association between cultural factors and female participation in the labor markets is greater than the effect related to the accumulation of human capital.

However, the evidence also shows an inverse correlation between female education and machismo (traditional gender attitudes). The more educated the female population, the lower the percentage of women who are classified as possessing traditional gender attitudes. Therefore, public policy that favors higher levels of education in the population will have two effects on women's participation in the labor market. The first is a direct effect, that of greater participation of women in the labor market (since a higher education level increases the cost to the educated woman of not participating in the labor market); the second is an indirect effect that involves the reduction of levels of machismo in society. Therefore, in addition to increasing women's education levels in Chile, there is a need to review the contents of educational programs and ensure that they favor gender equality in order to encourage the second effect.

DATA

This research utilizes the ISSP survey, which was carried out by CEP.⁴ The ISSP is a cross-section survey of individuals over the age of 18 living in urban and rural areas throughout Chile (with the exception of Easter Island). The sample was composed of 1,209 people (556 men and 653 women) who were

surveyed in their homes in 144 municipalities. The database contains information on decisions about female participation in the labor market, income, educational level, number of children, and cultural characteristics. Included below is information regarding machismo and the values declared by women (conservative or liberal).

Appendix Table 1 presents the descriptive statistics. The evidence shows that 52 percent of the women are employed or looking for work.⁵ Respondents had completed an average of ten years of schooling, and their average age was 38. Fifty-four percent stated that they were married, and 65 percent stated that they had a partner (currently living with a partner or married). The women who had children had an average of two.

Is Chile a machista and conservative country?

According to Virginia Guzmán and Amalia Mauro (2004a, 2004b), cultural aspects have an important impact on the labor insertion of Chilean women. Cultural models of the family and men and women's social roles; masculine and feminine models transmitted by the family of origin; the presence or absence of a working mother; and parents who are critical or uncritical of the gender order are among the determinants of female labor participation in Chile.

However, the country's growing economic and social openness has allowed for the circulation of new cultural models of femininity and masculinity. As Guzmán and Mauro state (2004a: 208):

In this context, increasing levels of education, a decrease in the number of children and the weakening of the patriarchal family structure organized around male decisions, allowed more recent generations of women to access new and different labor opportunities that were offered to them as a result of the changes in the productive organization that took place in Chile in the 1990s.

Despite the sociocultural changes in Chile, these authors describe the predominant family structure as authoritarian with a preference for the paternal figure, which confers upon him the power to make decisions and outline possible or prohibited fields in function of prevailing images of gender.

Another determining factor of a woman's participation in the labor market is her partner and their relationship. Guzmán and Mauro (2004b) identify three types of heterosexual couples in Chile. In the first, the woman subordinates her participation and behavior in the labor market to her partner's approval and professional life, and the woman enters and leaves the labor market in accordance with her family's needs. This model is the most common in families from lower socioeconomic sectors and

older generations. In the second type of couple, the woman affirms her right to develop her work autonomously, regardless of how it compares with her partner's professional development. These women see their families as being organized around two professional lives: their own and that of their partner. The third type of couple presents fewer differences in education, age, and social status; here, both partners work to ensure the family's survival.

According to ISSP survey data on Chile, a high percentage of the interviews emphasize the cost of women working outside of the home on family life. In fact, 81 percent of those interviewed said that they agree with the statement, "Taking both the good and the bad together, family life suffers when women work full time." These results suggest that the first type of couple described above is the most common in Chile.

Men in the ISSP interviews seemed to be able to draw the line between family life and paid work and considered domestic chores and childrearing duties to hinder their ability to work outside the home. They viewed these duties as tasks that should be taken care of by their female partners. As a result, remunerated work was seen as "real" and as male territory, in spite of the growing presence of women in the labor market. Authors of other studies have found that "Some interviewees go to the extreme of stating that the space of circulation of their partners should be limited to the domestic activities, the protected space of the family, even when the woman worked outside the home prior to getting married" (Guzmán and Mauro 2004b). A man's role as provider also defines his position of authority within the family. In this situation, a man generally perceives women's remunerated work to be a threat to the fulfillment of domestic duties, particularly childrearing and childcare (Guzman and Mauro 2004b). The survey used in this study supports this observation. Eighty-three percent of those interviewed agreed with the statement, "It is likely that a preschooler will suffer if his mother works."

Earlier evidence suggests (Guzmán and Mauro 2004a, 2004b) that the length of time Chilean women participate in the labor force has been affected by important social, economic, and cultural changes; these forces have oriented women's and men's behaviors away from traditional practices and have made possible a greater number of individual decisions by women. Their partner's behavior seems to play a key role in women's participation in the labor market.

Given this evidence and the information described in the previous section, we will now examine determinants of female labor participation, placing special emphasis on cultural factors. To this end, we will develop two indexes that measure cultural characteristics. The first measures the extent to which women in Chile have internalized machista cultural values and the second indicates whether a woman can be described as conservative or moderately conservative.

First, we built a dichotomous variable that identifies whether a woman exhibits a tendency to approve or disapprove of machista cultural aspects and behaviors consistent with a machista view. The ISSP survey asked subjects to respond to the following statements: (1) "The man and the woman should both contribute to the family's income"; (2) "The man's job is to earn money, and the woman's job is to take care of the house and the family"; (3) "Men should assume more responsibility for domestic work than they currently do"; and (4) "Men should assume more responsibility for childcare than they currently do." This variable assigns value one when the woman surveyed is at least in disagreement with statements one, three, and four and is at least in agreement with statement two. Otherwise, the variable takes a value of zero (see Appendix Table 2). According to this classification, 44 percent of the women in the sample belonged to a predominantly traditional cultural structure (see Appendix Table 1).⁶

However, according to the ISSP survey, responses to questions about values, marriage, cohabitation, and divorce suggest that Chile is a relatively liberal country. For example, 43 percent of those surveyed do not agree with the statement "People who want to have children should get married," and 62 percent agree with the statement "A single father or mother can raise a child just as successfully as two parents together." Furthermore, 68 percent agree with the statement "It is acceptable for a couple to live together even if they do not intend to get married," and 66 percent agree with the statement "It is a good idea for a couple that plans to get married to live together first." Finally, 76 percent agree with the statement "Divorce is generally the best solution when a couple seems incapable of resolving their marital problems."

We constructed a values index using this data and based on these five statements. The purpose of the index is to summarize the values of women in Chile. The variable takes a value of one when the subject agrees with the first statement and disagrees with the others. The variable is assigned a value of zero in all other cases (see Appendix Table 3). The results show that 62 percent of the sample is moderately conservative (see Appendix Table 1).

Appendix Table 4 summarizes the two cultural indicators that are specific to women. The evidence shows that the older the population, the greater the number of individuals who have internalized machista cultural values. In regard to education, the more educated the female population, the lower the percentage of women who are classified as belonging to a machista environment. Married women tend to belong to more machista environments than single women. Finally, individuals with higher incomes are less machista than those who have lower incomes.

Women's values-based characteristics do not present as clear a pattern of machismo as do the men's responses to the ISSP survey questions. Conservatism increases as women age, and married women show a higher

level of conservatism than their single counterparts. Considering education and income, the evidence shows that women with less education and lower incomes are highly conservative, while women who present medium and higher levels of education and income are less conservative.

METHODOLOGY

In a simple model of labor market participation, an individual looks to maximize her level of well-being subject to a restriction of income and time. It is assumed that well-being depends on consumption of goods and leisure. In order to consume, the individual must sacrifice part of her leisure and generate income. She then confronts a trade-off of working (and resting less) in order to generate income and thus satisfy her needs for consumption. However, this is a decision in which individuals confront a wide array of restrictions, such as nonlabor income, number of children, and social constraints. When a high percentage of a person's income comes from a source other than work, she can dedicate less time to her job and yet consume the same level of goods. All else equal, a woman with two children will have more restrictions on her ability to work than a woman who has only one. The children's ages also affect this decision.⁷

On the other hand, there are at least three reasons why cultural and social aspects affect women's decisions to participate in the labor market (Nancy Fraser 1990; Guzmán and Mauro 2004a). First, certain social and cultural characteristics may define expected female behavior that is more oriented towards affective and traditional gender-related activities, such as child-rearing, caring for the sick and aged, and domestic work. This type of social structure lowers the likelihood of female participation in the labor market.⁸ Second, the more limited presence of women in the labor market can be correlated with "feminized" jobs or positions that have less job security (Richard Anker 1998). Third, a more modern vision of the traditional model establishes that married women work under certain circumstances such as having no children, grown children, or working out of economic need. The latter is particularly common in times of crisis, when men's salaries drop and when men are unemployed (Birgit Pfau-Effinger 1999).

According to standard theory, women decide to participate in the labor market after comparing the reservation wage (shadow price) with the market wage. If we control for variables such as number of children, age, cultural aspects, and values, we can approximate the reservation wage (W_r). Also, variables associated with age and human capital are proxies of the market salary (W_m). A woman will participate in the labor market if: $W_m \geq W_r$.

This study examines the determinants of female participation through the following model. The dependent variable (Y_i) is dichotomous and assigns the value one if a woman is employed or

seeking employment and zero if that is not the case. The econometric specification corresponds to:

$$Y_i = \alpha + \beta A + \chi B + \mu_i \quad (1)$$

where A is a matrix that represents standard variables,⁹ such as education, age, age squared, number of children, presence of a partner, and regional dummies.¹⁰ B is a matrix that represents cultural and values-related variables. Finally, μ_i is the error term.

The inclusion of cultural variables in the model of women's participation in the labor market is relevant given that we expect cultural characteristics to have a statistically significant impact on women's behavior.

A discussion on causality

The econometric specification in Equation (1) may suffer from endogeneity. Women's cultural attitudes may be determined by incorporation (or nonincorporation) into the labor market. In other words, do cultural attitudes cause female labor force participation, or vice versa? The above situation suggests that there is a two-way causality, though the time frames may differ for those effects. Stephanie Seguino (2007), using World Bank data covering eighty independent countries and Puerto Rico, argues that women's increased economic activity is likely to exert a positive effect on gender equality and should produce changes in gender norms and stereotypes but with a lag. The lag is due to the fact that norms and stereotypes are slow-changing variables, which suggests that women's economic activity and macroeconomic variables will also operate with a lag. Thus, we may argue that cultural norms "cause" female participation in the short run and that female participation can influence social gender attitudes over time.¹¹

By comparing different regions in world (South Asia, Southeast Asia, Latin America and the Caribbean, Sub-Saharan Africa, and the Middle East and North Africa), Johannes Jütting and Christian Morrisson (2005) suggest that changes in social institutions that embody and perpetuate social definitions of female subservience will influence women's access to income-generating opportunities such as employment. Institutional setting, social institutions and cultural practices (laws, norms, tradition, and codes of conduct) can hinder women's access to resources (land, credit, and capital) and limit the building of human and social capital. These authors find evidence that education and growth have little effect on women's employment and that social institutions are a major determinant of female employment. However, the issue of causality is also present in their policy brief, in which they discuss whether institutions cause female employment or vice versa, although they do not reach a conclusion.

As previously mentioned, in their recent article on the effects of fertility on women's employment in Brazil, Connelly et al. (2006) argue that endogeneity is always present to some degree in economics today. Therefore, they suggest that researchers should focus less on whether endogeneity exists, and more on its magnitude and expected effect on other explanatory variables. One problem is the coefficient's bias, related to the variable of the interest; another is the effect of including a potentially endogenous variable on other coefficients in the model.¹² Connelly et al. (2006) tackle the endogeneity of the theoretical joint decision between fertility and labor market participation using multiple econometric techniques that are not available to the average researcher.¹³ The authors conclude that traditional methods such as ordinary least squares represent a good approach to other methods that correct for potential exogeneity. The result depends on the degree of endogeneity of the variable of interest. They therefore recommend not dismissing estimates based on cross-section data.

As discussed above, the analysis presented in our paper is based on data from a single year. As such, there is no way to properly deal with endogeneity without instruments for cultural attitudes. For these reasons, we are not making claims regarding the direction of causality. However, based on previous evidence, we argue that it would take longer for labor force participation to change cultural attitudes than for attitudes to influence labor force participation. Therefore, in the short run, cultural attitudes at least partially determine labor force participation.¹⁴ The results may also be interpreted as suggesting correlations between female labor participation and cultural factors.

RESULTS

Appendix Table 5 presents the results. The dependent variable assigns the value one if a woman participates in the labor market and zero if she does not. The estimate model is a probit, and the results present variations in the probability of participating given changes in the explanatory variables. In order to test our hypothesis, we depart from a standard specification with a limited number of variables and then we add the cultural variables. This strategy allows us to identify the stability in the estimated models and parameters.

The first column presents estimated parameters for a standard model of human capital and participation. The evidence suggests that education is positively correlated with the decision to participate. That is, the greater the human capital, the greater the probability that women will participate in the labor market. There is also a positive relationship with decreasing rates between age and participation. This life-cycle behavior indicates that women exhibit greater rates of participation between the ages of 24 and 28

and between the ages of 39 and 43. Young women and older women show lower participation rates. Finally, the presence of children under the age of 4 in the home reduces the probability of female participation in the labor market.¹⁵ This inverse correlation can be explained by both a lack of access to childcare centers and preferences associated with childrearing.

On the other hand, the dummy variable of whether a woman lives with a partner (married or not) shows that women who have live-in partners show a lower probability of participating in the labor force. The parameter is robust through various specifications. This result suggests that Chilean women tend to be secondary workers and that their decision to participate largely depends on the presence of a partner.¹⁶

The main effects of the association between cultural factors and female labor participation are summarized below. The results that are presented in the third column of Appendix Table 5 indicate that after controlling for human capital and other sociodemographic characteristics, women involved in a machista cultural context show a negative and important effect on the decision to participate in the labor market (13 percentage points).¹⁷ In fact, the more she has internalized machista cultural values, the less likely she is to join the labor market. This result is stable in different specifications, and its magnitude is comparable to the positive effects of human capital. In other words, a woman with high levels of education and experience may find her labor participation, and therefore the use of her human capital, limited by social restrictions that do not approve of women's activities or limit these to more domestic tasks.

The fourth column of Appendix Table 5 suggests that women who demonstrate conservative positions on values and social norms exhibit a lower probability of participating in the market. Women with high levels of education may decide not to participate based on cultural reasons associated with their conservative views of society. In the following specification (column 5), we added the variables related to the two cultural indicators associated with a woman's perception of machista cultural context and conservativeness. The results are stable in regard to the previous estimates. While parameters associated with human capital maintain sign and magnitude, those associated with cultural variables continue to be negative and statistically significant. In the next model (column 6), we add the presence of a live-in male partner and dummies at the regional level. The results are stable to this new specification. Women who live with a partner in machista contexts, or who demonstrate conservative positions, have a lower probability of participation in the labor market.

CONCLUSIONS

This article contributes evidence toward the correlation between cultural variables and female participation in the Chilean labor market.

The evidence presented in this article corroborates results from earlier papers regarding the standard variables that are used to explain female labor participation in Chile. That is, we find that greater levels of education increase the probability of women participating in the labor force. We also observe a statistically significant relationship between age and participation. The results indicate a concave pattern, in that older women participate more but with decreasing rates. The presence of children who are not yet of school-going age has a negative impact on the probability of participation in the labor market. Finally, the fact that a woman has a partner (that is, she is married or living with someone) significantly reduces participation.

This article utilizes two indicators of cultural variables that are constructed on the basis of the ISSP survey applied in Chile in 2002. The first variable identifies whether or not a woman has internalized machista cultural values. The second classifies women according to a value index that identifies conservative attitudes.

By incorporating these variables, which are traditionally omitted in research on this area, we discover a negative and statistically significant association between cultural factors and the process by which women make decisions regarding their participation in the labor market. If a woman belongs to a machista and/or conservative cultural context, she has a lower probability of participating. Previous evidence suggests that cultural factors can cause decisions regarding participation in the labor market, or that female participation can cause or modify cultural factors. The database we utilized does not allow us to separate the two effects. As a result, the negative association that is found in this paper should be carefully examined because it has two possible explanations: (1) there is a negative correlation between cultural values upholding traditional gender roles and a woman's decision to participate in the labor market; and (2) based on previous evidence, cultural factors influence the decision to participate in the short term. Based on this interpretation, the results can be understood as a short-term causal effect.

This evidence emphasizes the potential role of new educational policies and childcare as public policy instruments that can contribute to greater female labor participation in Chile. In fact, more educated women demonstrate a higher tendency to participate in the labor market, as well as expressing cultural attitudes that are more inclined toward the labor market. There is a need to review educational programs in order to ensure that they contribute to the development of a society that is more egalitarian and less machista. In other words, education potentially plays a dual role. First, as educational attainment of women increases, social norms are more prone to become open to female participation in the labor market. Second, it is also important to modify syllabuses so that they promote unbiased gender attitudes from an early age. Thus, education can play an important

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role in reducing male chauvinistic attitudes – such as men’s expectation that women should be confined to domestic chores – that restrain the participation of women in the labor market. Finally, greater access to childcare would have positive effects on women’s participation in the labor market.

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NOTES

¹ ISSP is a continuing, annual program of cross-national collaboration. It brings together pre-existing social science projects and coordinates research goals, thereby adding a cross-national perspective to the individual, national studies. ISSP evolved from a bilateral collaboration between the Allgemeinen Bevölkerungsumfragen der Sozialwissenschaften (ALLBUS) of the Zentrum für Umfragen, Methoden, und Analysen (ZUMA) in Mannheim, Germany, and the General Social Survey (GSS) of the National Opinion Research Center (NORC), University of Chicago. Both the ALLBUS and the GSS are replicating, time-series studies. Since 1984, ISSP has grown to include 43 nations around the world, including both developed and developing countries.

² For more details, see section on causality and Bina Agarwal 1997.

³ See section, “Is Chile a machista and conservative country?”

- ⁴ The ISSP was carried out in Chile by the Centro de Estudios Públicos (*Mujer, Trabajo, Familia y Valores* 2002). The sampling method was randomized and probabilistic in each of the three stages (block-home-interviewee). The response level was 86 percent. Precision was estimated at approximately 3 percent, considering maximum variance and 95 percent confidence level.
- ⁵ This result is higher than the national average for female labor participation (47 percent according to the 2002 Census in Chile). However, it is important to recognize that the rate is calculated with different samples. The database utilized for this paper covers 144 municipalities spread throughout Chile. Also, the women surveyed here exhibited higher levels of education and were older. However, similar results were obtained utilizing a model that does not include cultural factors, which are mainly based on human capital.
- ⁶ A series of estimates was also conducted utilizing each of the answers and combinations of answers as explanatory variables. The main result – that is, the importance of cultural factors in women’s labor force participation – remains unchanged.
- ⁷ For a theoretical discussion, see Mark R. Killingsworth (1983); Killingsworth and Heckman (1986).
- ⁸ The normative-domestic-patriarchal power is only one of the elements that reinforce the subordination of women in the domestic sphere. In classical capitalistic societies that are dominated by men, the worker’s role is masculine. The masculine identity of those societies is closely linked to the role of the breadwinner. See Fraser (1990).
- ⁹ The income data is not available in a continuous manner. It is only possible to obtain them through income categories. As a result, we estimated the nonlabor income variable using a dummy variable that takes value one for a person whose individual income represents a small percentage of the total household income and zero if this is not the case (when the person has a high nonlabor income). In theoretical terms, this variable would have a negative effect on the decision to participate in the labor market. However, the effect was not statistically significant here due to data limitations.
- ¹⁰ Given that women’s labor force participation varies with the level of economic activity, with women withdrawing from the labor force when jobs are tight and reentering when jobs are more plentiful, regional dummies are included to control for regional unemployment rates.
- ¹¹ This effect may be particularly important for least developed countries. According to the World Bank (2001), women in low-income, gender-stratified societies are at the back of the queue for economic resources. With higher per-capita incomes, proportionally more resources reach the back of the line and lead to changed perceptions about gender roles. This view suggests that growth alone can improve gender equity.
- ¹² Excluding variables in order to avoid endogeneity also may be problematic. Janet S. Netz and Jon D. Haveman (1999) indicate that omitted variables bias due to excluding family composition variables in labor supply models for the USA can be substantial.
- ¹³ These techniques include (1) assuming exogeneity; (2) using a standard instrumental variables approach; (3) using a standard instrumental variables approach that also incorporates municipality data; (4) using an instrumental variables approach that exploits the birth of twins as the exogenous instrument for fertility; and (5) using a semi-parametric approach that relies on the inherent nonlinearity of the decision variables.
- ¹⁴ Having panel data would allow for the use of lagging variables as instruments.
- ¹⁵ These results are consistent with earlier evidence in Chile (see Contreras, Puentes, and Bravo [2005]).

- ¹⁶ Variants of the questions that measure perceptions of the machista environment and level of conservativeness were used. The results are stable for different definitions of cultural variables.
- ¹⁷ Results are calculated from individual survey responses on attitudes and values.

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APPENDIX

Appendix Table 1 Descriptive statistics^a

<i>Variables</i>	<i>Mean</i>	<i>Standard Dev.</i>
<i>Dependent variable</i>		
Female labor participation rate	0.52	0.5
<i>Human capital</i>		
Education	10.2	4.1
Age	38.3	11.9
<i>Marital status</i>		
Married = 1 ^b	0.54	0.5
Partner ^c = 1	0.65	0.47
<i>Minors/children</i>		
Children under the age of 4	0.4	0.69
Number of children	2	1.55
<i>Cultural</i>		
Female perception of machista cultural context (FPMCC) ^d = 1	0.44	0.5
Female values index (conservative) ⁴ = 1	0.62	0.48

^aThe sample is composed of 526 observations.

^bThis dummy has a value of one when a woman states that she is married and a value of zero otherwise.

^cThis dummy has a value of one if a woman is currently married or living with her partner.

^dSee Tables 2 and 3.

Source: Author's calculations based on ISSP (2002).

Appendix Table 2 Female Perception of Machista Cultural Context (FPMCC) Index

<i>Statement</i>	<i>Agree/moderately agree</i>	<i>Disagree/moderately disagree</i>
Both the man and the woman should contribute to the family's income.		X
The man's job is to earn money and the woman's job is to take care of the home and the family.	X	
Men should take on more responsibility in domestic work than they currently do.		X
Men should take on more responsibility for childcare than they currently do.		X

Note: FPMCC has a value of one if the individual marks all of the boxes marked X and a value of zero otherwise.

Source: Author's calculations based on ISSP (2002).

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Appendix Table 3 Female values index (conservative woman)

<i>Statement</i>	<i>Agree/moderately agree</i>	<i>Disagree/moderately disagree</i>
People who want to have children should get married.	X	
A single father or mother can raise a child just as successfully as two parents together.		X
It is acceptable for a couple to live together even if they have no intention of getting married.		X
It is a good idea for couples who plan to get married to live together first.		X
Divorce is generally the best solution when a couple seems to be unable to resolve their marital problems.		X

Note. The female values index (conservative) has a value of one if the individual marks all of the boxes marked with an X and a value of zero otherwise.

Source. Author's calculations based on the ISSP (2002).

Appendix Table 4 Women and cultural factors: FPMCC and female values index

<i>Variable</i>	<i>FPMCCM (%)</i>	<i>Conservative (%)</i>
<i>Age</i>		
18–24	27	49
25–40	44	62
41–60	51	67
<i>Education</i>		
0–8	67	70
9–12	35	55
13–17	25	60
18–more	17	61
<i>Marital status</i>		
Married	49	69
Not married	39	54
Partner	50	65
No partner	34	57
<i>Individual income^a</i>		
0–35,000	53	64
35,001–100,000	48	61
100,001–358,000	38	61
≥358,001	30	65

^aIndividual monthly income in Chilean Pesos. Exchange rate: \$540 Pesos per 1 USD.

Source. Author's calculations based on ISSP (2002).

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Appendix Table 5 Estimate of female participation in the labor market (changes in probability)

	1	2	3	4	5	6
Years of schooling	0.031*** [0.006]	0.029*** [0.006]	0.024*** [0.006]	0.027*** [0.006]	0.025*** [0.006]	0.022*** [0.007]
Age	0.055*** [0.013]	0.075*** [0.014]	0.077*** [0.014]	0.076*** [0.014]	0.076*** [0.013]	0.079*** [0.015]
Age squared	-0.001*** [0.000]	-0.001*** [0.000]	-0.001*** [0.000]	-0.001*** [0.000]	-0.001*** [0.000]	-0.001*** [0.000]
Children under age 4	-0.058+ [0.034]	-0.05 [0.033]	-0.057+ [0.033]	-0.054 [0.034]	-0.068** [0.034]	-0.076** [0.034]
Has a partner = 1		-0.236*** [0.049]	-0.229*** [0.050]	-0.23*** [0.050]		-0.227*** [0.051]
Female perception of machista cultural context = 1			-0.127***		-0.124**	
Female values (conservative) = 1			[0.048]	-0.114**	[0.048]	[0.051]
Regional dummies	No	No	No	No	No	[0.050]
Observations	526	526	526	526	526	526

Notes: Robust standard errors in brackets; * statistically significant at 10 percent; ** statistically significant at 5 percent; *** statistically significant at 1 percent. Variables are defined as follows:

Labor participation: This is a dummy that has a value of one when a woman participates in the labor market and a value of zero otherwise; Education: Completed years of schooling; Age: Between 18 and 60; Children under the age of 4: Number of preschool children living in the home; Having a partner: This is a dummy that has a value of one if the person states that he or she has a partner (married or living together) and a value of zero otherwise; For more details, see Table 1. Source: Author's calculations based on ISSP (2002).