

Bridging gender gaps?

**The rise and deceleration of female labor
force participation in Latin America**

**Leonardo Gasparini
& Mariana Marchionni**
EDITORS

C|E|D|L|A|S

Center for Distributive, Labor and Social Studies
Facultad de Ciencias Económicas | Universidad Nacional de La Plata

One of the most salient socioeconomic changes over the last half-century has been the strong rise in female labor force participation across the world. Latin America has not been an exception. However, since the early 2000s, there are signs of a widespread and significant deceleration in women's entry into labor markets in Latin America. The slowed increase of women in the workforce has delayed the closing of the gender gap in labor participation, and may also compromise poverty reduction targets.

This book, written at CEDLAS-Universidad Nacional de La Plata, documents the recent deceleration of female labor participation in Latin America, explores its causes, evaluates its implications, and discusses the limitations and challenges facing public policies that aim to empower women and foster gender equality.

CEDLAS

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List of acronyms

ALMP	Active labor market policy
CCT	Conditional cash transfer
CEDLAS	Centro de Estudios Distributivos, Laborales y Sociales - Universidad Nacional de La Plata, Argentina
CIEDUR	Centro Interdisciplinario de Estudios sobre el Desarrollo, Uruguay
ECLAC	Economic Commission for Latin America and the Caribbean
GDP	Gross domestic product
IDRC	International Development Research Centre
ILO	International Labor Organization
LABLAC	Labor Database for Latin America and the Caribbean (CEDLAS and the World Bank)
LFP	Labor force participation
MDG	Millennium Development Goals
OECD	Organisation for Economic Co-operation and Development
PPP	Purchasing power parity
SEDLAC	Socio-Economic Database for Latin America and the Caribbean (CEDLAS and the World Bank)
TFR	Total fertility rate
WDI	World Development Indicators

“Among the many useful indicators of women’s economic status, including women’s educational attainment, health, role in politics and legal rights, labor force participation is arguably the most fundamental to the evolution of gender roles.”
Olivetti, 2013

“Of the many advances in society and the economy in the last century, the converging roles of men and women are among the grandest.”
Goldin, 2014

Chapter 1

Overview

Leonardo Gasparini and
Mariana Marchionni

1. Introduction

In the 1960s two out of ten adult women in Brazil were in the labor force, either employed or actively seeking for a job; half a century later this figure has changed dramatically, climbing to seven out of ten. This pattern has been typical of all Latin American countries, although with different intensities. Compared to the situation some decades ago, women in the region now allocate a larger share of their time to market activities rather than working at home. The gap with men in labor market participation remains far from being closed, and it is still larger than in several regions of the world, but its width has been substantially reduced.

Arguably, the strong increase in female labor force participation (LFP) is among the most salient socioeconomic changes in Latin America in the last half-century. This fact not only implies a profound transformation in the daily life of millions of Latin American women and families, but also has substantial economy-wide labor and social consequences. Poverty, inequality, unemployment and education –just to mention a few social issues– are all affected by a more intense entry of women into the workforce.

Although remarkable, the long-run pattern of female gains has been insufficient to close the gap with males in most labor variables, such as wages, employment and labor force participation. Gender equality in the labor market remains a difficult challenge in the region. While gender gaps in education attainment have been substantially reduced or even eliminated, the region stills performs poorly in guaranteeing equality in the economic and labor dimensions. For instance, while Latin America ranks among the regions with relatively small gender gaps

based on the Global Index of the World Economic Forum,¹ the performance becomes more mediocre in the Economic Participation and Opportunity Sub index, which captures the gender gap in labor force participation rates, earned incomes, and employment in top positions.

This book highlights a change in the trend of female labor force participation that makes the situation potentially more worrisome: after around half a century of sustained growth, there are signs of a widespread and significant deceleration in the entry of women into the Latin American labor markets. That deceleration seems to have been taking place since the early/mid-2000s, and it applies to all groups of women, but particularly to those married², and in more vulnerable households. The slower entry of women into the workforce has delayed the closing of the gender gap in labor participation, and makes improbable the fulfillment of the gender-equity Millennium Development Goals (MDGs) related to female employment. Although this book provides a general view of the issue of female LFP, the recent deceleration is highlighted in several of its chapters.

The contributions of this book

This book contributes to the understanding of female labor force participation in Latin America by documenting the changes that took place over the last two decades, exploring their determinants, analyzing the consequences on labor and social outcomes, and discussing the public policy implications. Ultimately, the book is aimed at contributing to the debate on public policies on employment in Latin America, from a gender perspective. A better understanding of the patterns, determinants and implications of female labor force participation is essential for a richer and more informed policy debate on gender, labor and poverty issues.

We believe the book makes six broad contributions to the rich literature that documents and analyzes labor participation in Latin America with a gender perspective.³ First, it provides careful evidence on female labor force participation based on microdata from a large set of national household surveys, which were

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- 1 Introduced by the World Economic Forum in 2006, the Global Gender Gap Index measures gaps in gender equality based on a set of outcome variables for four categories or subindexes – health and survival, educational attainment, economic participation and opportunity, and political empowerment (World Economic Forum, 2014).
 - 2 Throughout the book we do not make distinctions between women formally married and women cohabiting with a partner (consensual unions); for simplicity we include both under the group of *married*.
 - 3 See Amador *et al.* (2013); Chioda (2011); Elías and Ñopo (2010); Piras (2004); and World Bank (2012 a, b), among others.

previously standardized to increase the comparability of the results across countries. This database, which includes information on all Latin American countries over the period 1992-2012, allows an assessment of female LFP in Latin America with a wider coverage, higher frequency and greater detail than those of previous studies.⁴

Second, the study unveils a potentially interesting fact, which to our knowledge has not been highlighted yet: after several decades of steep and uninterrupted increase, the pace of growth in female labor force participation substantially slowed down in the 2000s. We believe this changing scenario should be of public concern, and in particular it should be placed high in the research agenda, arguably above the traditional inquiry on the causes of the long-run increase in female LFP.

Third, this study provides a detailed characterization of the pattern of change in female LFP, concluding that the recent deceleration was particularly intense among more vulnerable groups. This unbalanced change has some relevant implications. In contrast to what happened in previous decades, inequality among groups of women is growing in some countries, nourishing the possibility of a dual scenario in which labor participation of skilled richer women living in large cities converges to the levels of developed economies, while labor supply of women in more vulnerable groups reaches a plateau at substantially lower levels. In addition, the stronger deceleration in female LFP in disadvantaged groups substantially debilitates the poverty-reducing effect that characterized the growth in female labor supply in previous decades, and may turn the effect on the income distribution inequality-increasing.

Fourth, this study inquires into various alternative hypotheses on the contrast between the rapid growth in female labor force participation in the 1990s and the deceleration in the 2000s. Identifying causal relationships for complex socioeconomic variables in a large geographic region is extremely hard: the evidence shown in this book is never conclusive, and admits alternative explanations. Our preferred interpretation of the existing body of evidence is that the fast economic growth experienced by the region in the 2000s was an important (although certainly not the only one) determinant of the deceleration in female LFP. Lower unemployment and higher earnings of other income earners at the household (mostly male partners), plus increased social assistance, may have reduced the urgency of vulnerable women to take low quality jobs. Under this interpretation the deceleration in female LFP may not necessarily be seen as

4 The dataset includes demographic, socioeconomic and labor information on more than 20 million people in Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Mexico, Panama, Paraguay, Peru, Uruguay and Venezuela.

a setback, but rather as the natural adjustment at the family level to an improved economic situation with some positive implications, such as perspectives of better job matching, and more time for mothers for better childcare. However, on the other hand, the deceleration may help to reinforce the traditional gender roles within the household under which men go to work and women stay at home. If the deceleration becomes a plateau, as it has recently been the case in some Latin American countries, it could have long-run negative repercussions on female empowerment and gender equality.

Fifth, this book discusses the effect of the deceleration in female LFP on various socioeconomic outcomes. In particular, it quantifies the impact of the changes in female labor supply and other related phenomena, such as the reduction in fertility levels, on the income distribution. We conclude that the perspectives for the reduction of poverty and inequality in Latin America are less encouraging if the scenario of low growth in female LFP persists.

Finally, this study contributes with discussions and evidence on various policy instruments that could foster women employment. In particular, we survey a wide range of policies currently in effect in Latin America and some strategies applied in other regions. We derive some general policy lessons from the existing body of evidence, which is still fragmentary and incomplete.

Certainly, as a piece written by economists specialized in empirical quantitative evidence, the book has some limitations. For instance, there are few references to the historical context, to the sociological literature, to qualitative results, and to case studies. Some of these dimensions are tackled in the research program to which this book belongs,⁵ but are mostly ignored in our study, partly as a necessary strategy to go deeper into some issues and delve into certain types of analysis. This book should then be viewed as a contribution from the empirical economics to the knowledge and debate of a very complex socio-economic issue –female labor force participation in Latin America– to which many other areas should contribute.

This overview

This initial chapter serves as an introduction and overview of the book. Since the chapters are written by different authors, it also helps to provide a more unified view of the results and arguments. In this overview we summarize the main results of the book and discuss the main policy implications.

5 “Enhancing women labor market participation and economic empowerment through better policies in Latin America”; CEDLAS, CIEDUR and IDRC.

The rest of this overview is organized as follows. In the next section we clarify some basic issues regarding the measurement of labor force participation and employment in Latin America. In section 3 we summarize the main results regarding the patterns of change in female LFP, including inquiries into its determinants, while section 4 reviews the main policy implications, and summarizes the debate on policy instruments regarding female employment and empowerment. We close the overview in section 5 with a brief presentation of the chapters of the book.

As usual, there are many ways to read a book. For the non-technical time-constrained reader this overview may be enough: all the main results and policy implications are summarized in this chapter. Naturally, a summary ignores many issues and over-simplifies others. Reading the whole book is the only way to go deeper into the results and arguments sketched in this overview. Moreover, we believe that one of the main contributions of the book is the large amount of empirical evidence derived from our own database of national household surveys. In this initial chapter we just mention a few illustrative statistics from a much larger body of evidence.

2. The measurement of labor force participation

In this section we discuss issues regarding the measurement of labor force participation and employment in Latin America. We start by revising some definitions and then give details on the data sources used in the study.

Definitions

Although the concepts of being in the labor force and being employed are in principle simple to grasp, the precise definitions imply significant conceptual challenges and are often empirically hard to implement without ambiguities. A person is employed if she is regularly engaged in an economic activity. The idea is simple, but raises some issues difficult to solve: what is an “economic activity”?, what implies to be “regularly” engaged? The International Labour Organization (ILO) takes a particular definition: the employed are “those persons who during a specified brief period such as one week or one day, (a) performed some work for wage or salary in cash or in kind, (b) had a formal attachment to their job but were temporarily not at work during the reference period, (c) performed some work for profit or family gain in cash or in kind, or (d) were with an enterprise such as a business, farm or service but who were temporarily not at work during the reference period for any specific reason”.

The national statistical offices of Latin America follow these general recommendations and measure employment using the ILO guidance. However, even when a similar general definition is applied, various specific methodological issues are still decided by the national statistical offices, a fact that generates substantial differences in the measurement of labor variables across countries. Moreover, insofar the sources of information are not identical across countries, the empirical implementation of the concept of employment becomes heterogeneous. For instance, a more detailed questionnaire in the national survey or census of a given country allows more precise (and hence different) measures than in other countries with shorter questionnaires. Unfortunately, employment is measured with considerable heterogeneity across the economies of Latin America.

The practical definition of employment raises some relevant conceptual debates. We briefly discuss two of the most important ones. First, under the usual definition a person who works one hour in a week is classified as “employed”, although her attachment to the labor market is very loose. Second, some activities, such as housework and children rearing, are not counted as employment when they are not performed for wage or salary, as is the typical situation for housewives. Of course, this is a controversial issue that is particularly relevant for studying female employment. In this book we follow the usual practice of including only the *market* activities as employment, although we believe that there are areas in which a wider, more comprehensive definition of employment should be applied (*e.g.* social protection and labor benefits).

This discussion highlights another way of contemplate the issue of female labor force participation: as a decision (usually taken under various constraints) between market and non-market activities. Through this lens an increasing pattern in female labor force participation is not necessarily a phenomenon of more women deciding to work, but one of more women deciding to get a job in the market, instead of working at home.

Besides these conceptual matters, in some cases the absence of a clear distinction between market production and work for the family blurs the measurement of labor force participation. That situation is more likely for women, in particular in early phases of economic development, or in certain areas (*e.g.* rural areas).

The definition of being *in the labor force* introduces more complications. Typically, a person is in the labor force if she is either employed or actively seeking a job. We have already discussed some issues regarding the definition of *employed*. The concept of being “actively seeking a job” is also full of ambiguities, and it is difficult to capture in a typical household survey or census, as it requires a detailed inquiry into all the activities that a person carried out with the aim of finding a job.

The heterogeneity across countries in measuring employment is magnified when measuring labor force participation. Being aware of these comparability problems does not mean dismissing the use of data altogether. With all their limitations surveys and censuses still provide valuable information, being the best available sources to generate useful statistics on labor and socio-economic variables.

Labor force participation and employment are closely related, in particular when unemployment rates do not change much. Given this close association, the analysis of the determinants, consequences and policy implications of both phenomena becomes similar. In this book we focus on female LFP but most of the results and discussions apply equally well to female employment.

Data sources

There are two main types of data sources that are useful to study labor force participation: household surveys and censuses. Relying on household survey data has two main drawbacks. The first one is the typical statistical limitation of working with samples instead of with the whole population, while the second one is the scarcity of national surveys in decades before the 1990s. Mainly due to these reasons, part of the literature has used censuses as the main source of data to study long-run trends in labor force participation in Latin America (*e.g.* Chioda, 2011).

Despite these arguments, in our case four reasons tip the scales towards the use of household survey data: (i) our focus is on the developments of the labor markets over the last two decades, when the system of national household surveys was already fully developed in most Latin American countries; (ii) we are interested in studying the interactions between labor force participation and other variables that are reported in household surveys, but typically not in censuses, such as income or earnings; (iii) labor force participation is better measured in surveys that are designed to capture labor market variables, rather than in censuses that typically include a smaller set of questions;⁶ and (iv) survey data allows a closer monitoring of the developments in the labor market, as information is collected on a yearly basis and not every ten years as in censuses.

Most statistics in this book are obtained by processing microdata from household surveys, which are part of the Socioeconomic Database for Latin America and

6 For instance, in the ILO labor database “a strict preference was given to labour force survey-based data, with population census-derived estimates only included for countries in which no labour force survey-based participation data exist.” (ILO, 2011).

the Caribbean (SEDLAC), a project jointly developed by CEDLAS at the Universidad Nacional de La Plata and the World Bank's LAC poverty group (LCSPP). SEDLAC contains information on more than 300 household surveys in all Latin American countries. Table 1.1 lists the surveys used in this book for the 18 Latin American countries. When analyzing trends over the last two decades we exclude Colombia, Dominican Republic and Guatemala since they have a consistent and comparable body of national household surveys only for the 2000s.⁷ Most household surveys included in the sample are nationally representative; the exceptions are Uruguay before 2006 and Argentina, where surveys cover only urban population which nonetheless represents more than 85% of the total population of those countries.

Household surveys are not uniform across Latin American countries and in several cases not even within a country over time. The issue of comparability is of a great concern. Owing to that situation, we have made all possible efforts to make statistics comparable across countries and over time by using similar definitions of variables in each country/year, and by applying consistent methods of processing the data (see SEDLAC (2014) for details on the harmonization process).

Averages across Latin America

Although patterns and trends in labor force participation are not homogeneous across nations, and delving into the country experiences often unveils some interesting stories, in most of the book we present average statistics for Latin America, as a way to summarize an enormous bulk of information. Computing averages is straightforward; however some methodological details should be clarified. First, we present *unweighted* averages across countries, a practice that is consistent with the typical cross-country approach in the economics literature. Weighting by population would imply an assessment of a given phenomenon strongly affected by highly-populated countries, such as Brazil and Mexico, and almost ignoring the situation in other less-populated nations. Second, reporting averages for each year requires having a balanced panel; that is, information on a given variable for the same sample of countries every year. Since several countries in the region do not have national household surveys each year, we constructed a balanced panel filling the gaps where surveys were missing by interpolating information from adjacent surveys.

⁷ Cuba is not included since microdata from national household surveys are not publicly available.

Sample

Most of the analysis on labor supply is restricted in this study to people aged 25 to 54 years old.⁸ Labor market decisions for the youth are usually more volatile, and driven by some factors whose relevance is weaker in the rest of the active life, such as education enrollment. We prefer to isolate our analysis from factors that are more related to the issue of youth employment than to gender employment. Also, we limit our analysis to individuals younger than 55, since employment in older people has other determinants and dynamics (*e.g.* the relevance of a pension system).⁹

Period under analysis

Most of our analysis is focused on the period 1992-2012. The choice is driven by data availability: data before the early 1990s is scattered and in some countries surveys covered only urban areas; on the other hand, at the time of writing this book only a few countries had released microdata for their 2013 or 2014 surveys. In addition, the chosen period is convenient, since it is naturally divided into two decades: 1992-2002 and 2002-2012. Certainly, the division is arbitrary but captures changes in some fundamental socioeconomic variables: in the early 2000s most Latin American economies entered a phase of strong economic growth with falling poverty and inequality, while their governments intensified their social and labor policies. Moreover, female labor force participation in Latin America seems to have decelerated since around 2002. For simplicity, throughout the book we label the period 1992-2002 as “the 1990s” and the period 2002-2012 as “the 2000s”.

3. The results

In this section we review the main results of the chapters, deferring for the next section the discussion of the policy implications.

The scenario

Changes in female labor supply have taken place in a socioeconomic scenario affected by significant transformations. Throughout the book we highlight

8 The international literature also often chooses this age bracket (*e.g.* Blau and Kahn, 2013).

9 See Chapter 3 for arguments and evidence to justify the threshold at 55 years old.

four main areas with strong interactions with female labor force participation: education, demography, economic growth, and policies. Changes in these areas have affected the pace of the entry of women into the labor market, and in some cases they have also been affected by that entry in a multi-directional causal process.

Education affects wages and positions to which women can aspire, the attitudes of women towards work, career, and family, and social norms that shape the roles of women inside and outside the household. In Latin America, female educational attainment has increased over the years, along with the improvement of other development indicators. Twenty years ago, a typical Latin American woman would have left school right after completing primary education, while today the same woman would continue attending halfway secondary school. This increase in years of schooling is significant in terms of skills and knowledge and therefore on job prospects. Even though men's educational attainment has also improved in Latin America, progress has been faster for women, so that the gap that initially favored males has been closing over the years, and even reversed recently. Increasing schooling not only raises the prospect of employment for students in the future, but also eases the participation of their parents, mainly mothers, in the labor market. In particular, availability of educational facilities for young children promotes labor participation of mothers, beyond the benefits of early education on cognitive development and future educational attainment. Latin America has experienced advances in this area: preschool attendance rose from 33% to 53% over the last two decades.

The drop in fertility is a relevant factor in the explanation of the increase in female labor force participation during the twentieth century. The strong negative correlation between fertility rates and female participation in the labor market is a stylized fact in the world, and Latin America is no exception. Fertility rates began its downward trend only in the mid-1960s, reaching an average of 2.5 children per woman in 2005-2010. This significant reduction implies a clear convergence towards the levels of the most advanced regions of the world. The dramatic decline in fertility occurred without significant changes in the timing or prevalence of marriages, either formal or consensual. The percentage of married women has remained high over the years despite a slight decreasing trend, while the age at first marriage and first birth continues to be relatively low compared to developed regions. Instead, there have been profound transformations in family arrangements and household structure. In particular, female headship has risen markedly in the region, despite the slowdown in the share of females' earnings in total household incomes. The growth in female headship, which goes beyond the increase in the prevalence of single-parent households, reflects a slow process of empowerment of women within households.

The region has experienced substantial economic transformations with potential implications on female LFP. After a decade of stagnation, economic growth resumed in the 1990s, although in a context of still high volatility and structural reforms that kept unemployment high in several economies. Various disequilibria and international shocks combined to generate a wave of rather short but deep macroeconomic crises that hit the region at the turn of the century. Since the early 2000s Latin America experienced a “golden decade” in terms of economic growth.¹⁰ A large increase in the terms of trade, a more favorable international scenario regarding financial conditions and direct foreign investments, and more prudent macroeconomic policies were key to sustain high growth rates during several years. An improved economic situation may affect female labor participation through various channels. Two of the most important have opposite signs: on the one hand, an increase in the spouse’s income alleviates the pressure on women to look for a job (conditional on traditional gender roles), while on the other hand the better economic perspectives may encourage women to enter a more attractive labor market.

The Latin American economies not only grew in size, but their structures experienced transformations. While the share of employment in primary activities and the manufacturing industry continued a decreasing path initiated decades before, some sectors gained participation. Interestingly, sectors that expanded during the 2000s were not necessarily those with higher than average women-to-men ratio (e.g. construction, utilities and transportation). Instead, there is evidence suggesting changes in the structure of employment within sectors toward tasks with a higher women participation. This unbalanced growth across tasks may have consequences in terms of female labor force participation and ultimately employment.

Changes in the policy environment are also crucial to understand patterns in female LFP. In particular, in the last decades Latin American countries have substantially expanded their social security systems, mainly through the extension of conditional cash transfer programs (CCTs) and non-contributory pensions. CCTs have had an undeniable positive social impact in terms of poverty and inequality reduction, and human capital accumulation, and hence are genuinely seen as a major improvement in social policy in the region. However, these programs could affect female LFP through various channels; in particular the fact that in most cases mothers receive the transfer and are responsible for the compliance of the conditionalities may reinforce traditional gender roles within the household, implying a disincentive for participation in the labor market.

10 See Fields *et al.* (2015) for evidence on growth in Latin America over the last decades.

In addition to cash transfers, several initiatives were introduced to protect and foster female employment in the region. These initiatives include policies geared to freeing up women's time, supporting the participation and productivity in the workplace through active labor market policies and labor regulations, and eliminating institutional biases against women economic participation and entitlements. These policies have been useful to foster women employment, although in many cases the impact has been limited, partly because the high informality levels that are prevalent in the Latin American economies.

The evidence on female labor force participation

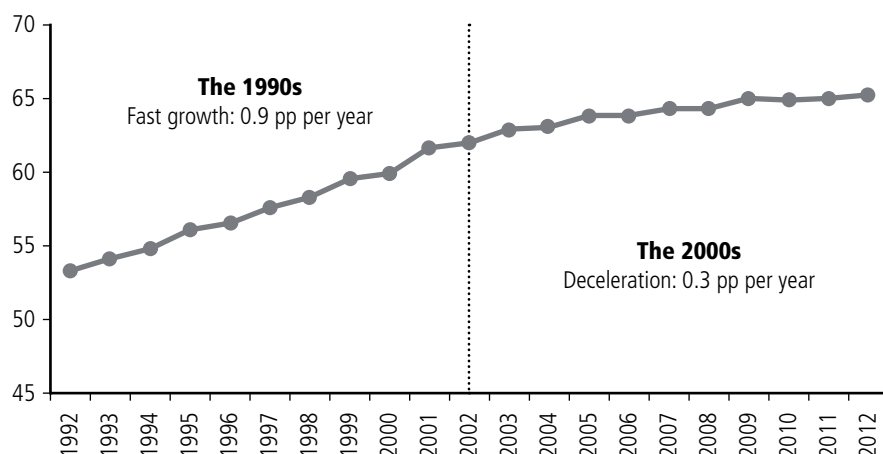
Based on a large database of harmonized variables drawn from Latin American national household surveys (SEDLAC), in this book we document the trends of female labor force participation in the region over the last two decades (1992-2012). Some interesting patterns emerge from the inspection of the empirical evidence.

The long process of increasing female labor force participation initiated in the last century has continued up to the present, contributing to a sizeable reduction of the gap between men and women. While male LFP stayed roughly unchanged around 95%, the rate for prime-age females climbed from 53% in 1992 to 65% two decades later. The female-male gap is far from being closed and it is still larger than in several regions of the world, including some developing ones, but its width has shrunk dramatically. The long-run increase in labor force participation has been strong for all groups of adult women.

This book highlights, however, a fact that has so far been overlooked: there are clear signs of a deceleration in the process of increasing female labor force participation since the early 2000s (Figure 1.1). While the female LFP rose at a rate of 0.9 percentage points per year between 1992 and 2002, that rate went down to 0.3 percentage points in the following decade. The contrast between a strong increase in female labor market participation during the 1990s and a substantial deceleration in the 2000s has been typical of most countries in the region, although not generalized to all economies. The set of countries in which there is evidence of a leveling off in female LFP includes Argentina, Bolivia, Brazil, Chile, Costa Rica, Ecuador, Mexico, Panama, Paraguay and Venezuela.

The deceleration has taken place in all groups, but it is particularly noticeable among the most vulnerable women; *i.e.* those with low education, living in rural areas, with children and married to low-earnings spouses (Figure 1.2). For instance, while in the 1990s the LFP increased 0.8 points a year for women with low education (without a high school degree) and 0.24 points for those

**Figure 1.1: Female labor force participation
Latin America, 1992-2012**



Source: own calculations based on microdata from national household surveys.

Note: women aged 25-54. Unweighted means for Latin American countries.

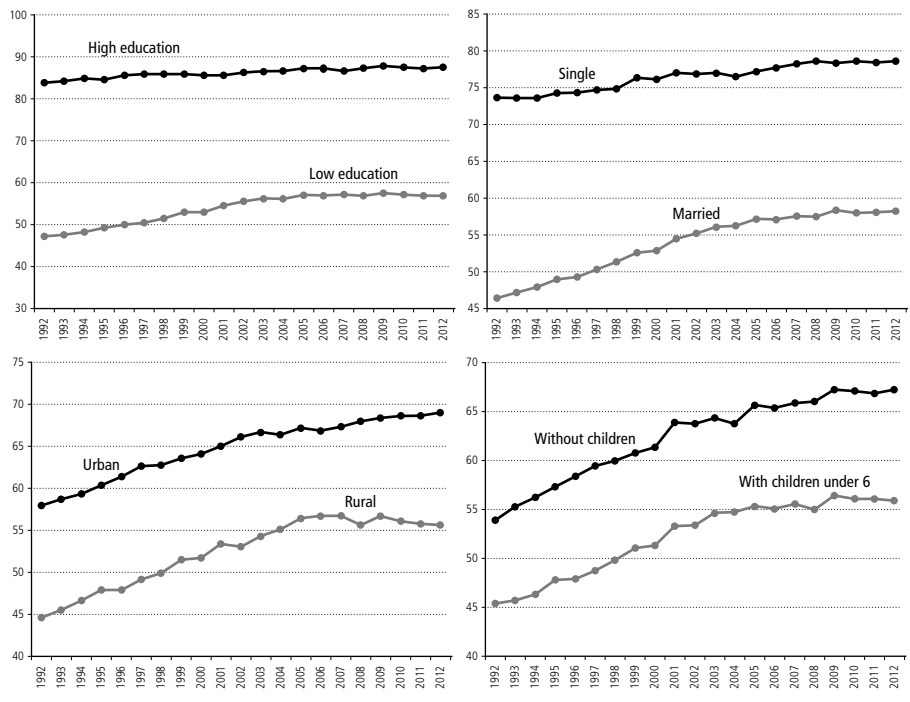
pp=percentage points.

with tertiary education, in the 2000s the rates were 0.17 and 0.13 points a year, respectively. In contrast to previous decades, the gap in LFP between non-poor and poor women is growing in some countries, and ceasing to shrink in others. The slower entry of vulnerable women into the labor markets calls for a serious discussion about its determinants and policy implications.

Changes in hours of work for female workers were not large, not very different between decades, and not significantly different from those of males. Similarly, changes in unemployment seem to have been smaller and with no significant gender differences. These patterns reinforce the claim that the dynamics of labor force participation are among the most noticeable labor phenomena with a clear gender dimension over the last decades.

Interestingly, while the entry of women into the labor market in the 2000s was less intense than in the previous decade, it took place in better job positions. The share of women in full-time, salaried, formal jobs with social insurance significantly increased in the 2000s, a decade characterized by stronger labor markets and economic growth. Instead, the structure of employment across economic sectors seems to have moved slowly.

**Figure 1.2: Female labor force participation by group
Latin America, 1992-2012**



Source: own calculations based on microdata from national household surveys.

Note: women aged 25-54. Unweighted means for Latin American countries. Education: low=less than secondary complete, high=tertiary complete. Married: includes formal and consensual unions.

The determinants

Disentangling all the factors that may account for the observed pattern in women labor supply is not an easy task, since several potential driving factors were simultaneously at play in the period under study. Endogeneity issues and lack of data are among the serious obstacles for the empirical identification of the causal links between female participation and its covariates.

Since a comprehensive general equilibrium assessment of all the driving factors is not feasible, in this book we take a more modest approach: we deploy several empirical strategies aimed at contributing with pieces of evidence to assess the relevance of different plausible factors behind the observed patterns in female labor supply. Although certainly imperfect and incomplete, we expect that this

patchwork of evidence sheds some light to the understanding of the processes that have shaped female LFP in Latin America.

Increasing female labor supply is typically associated to the process of economic development. Some of the phenomena that characterize modern development, such as the expansion in education, the reduction in fertility, the increase in white-collar activities and migration to urban areas are linked to an increase in female participation in market activities. To explore these issues we initially carry out a set of decompositions that suggests the extent to which observed changes in female LFP are accounted for by changes in the distribution of some direct determinants of the labor supply decision. For instance, the increase in female LFP could be just the natural consequence of an expansion in education, and the fact that women with higher education credentials are more attached to the labor market. The results of the decompositions suggest that changes in education, marriage, fertility, location and type of work (tasks) all favored a more intense labor market involvement of women in Latin America. Adult females are now more educated, have less children and are more likely to be single than two decades ago, while there is evidence suggesting changes in the structure of employment toward tasks with higher women participation. In this scenario, even with the same conditional propensity to participate in the labor market, the overall female LFP should increase. The relative contribution of these factors to the observed increase in female LFP was significant in the 1990s. In the 2000s these factors continued operating; in fact, without them, the observed deceleration in the growth of female LFP in Latin America would have been even more marked.

We confirm these results with a meta-analysis and in a multivariate regression framework based on a panel dataset of Latin American countries. In sum, some structural factors, such as education, fertility, location and job type, along with innovations or expansions in health (e.g. contraceptive methods), home (e.g. household appliances) and work technologies (e.g. telework), and some cultural changes seem important to account for the long-run increase in female LFP that characterized Latin American societies in the last decades. However, these factors cannot explain the recent deceleration in female LFP. In fact, that deceleration took place despite the fact several of those factors continued operating.

Identifying the reasons behind the slowdown in the growth of female labor supply in many Latin American countries is not an easy task, since the change coincides with many other socioeconomic and political transformations. To begin with, there are some factors that should not be ignored into the global explanation, although their contribution is likely to be small. First, male labor supply was also sluggish in the 2000s: the stagnation in female LFP may in part be traced to

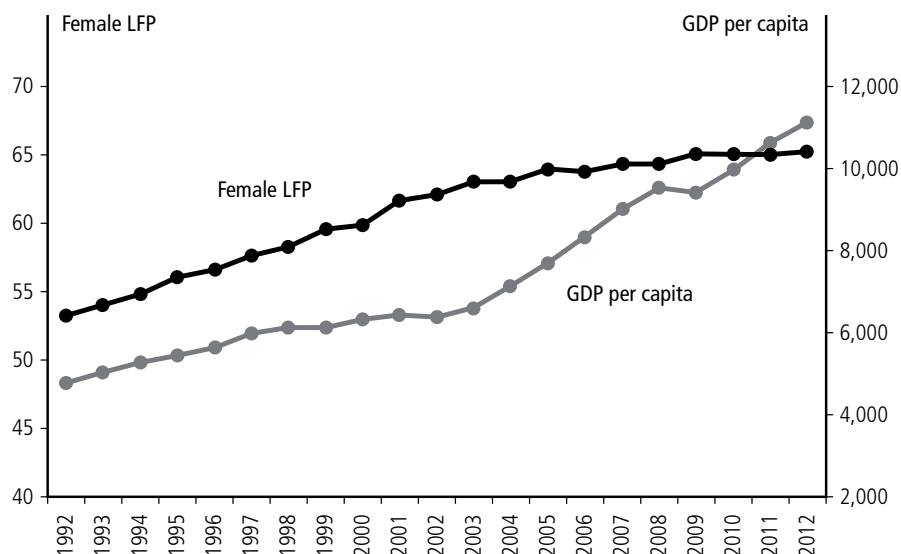
some more general negative forces affecting labor market participation. Second, changes in the sectoral structure of the economy did not benefit the entry of women into the labor markets as much as in the previous decade. The evidence we present in the book suggests that these two effects were probably small, leaving the phenomenon of strong deceleration mostly unexplained.

Unfortunately, it is still too early and the evidence is still too fragmentary to conclude whether the deceleration is a transitory phenomenon, or it is a sign of convergence to a long-run plateau. In fact, one possibility is that female LFP in Latin America is approaching a ceiling, which is mainly determined by cultural factors. In this scenario the LFP will not continue increasing, or will be crawling slowly, even when the region continues its path of economic growth and demographic changes. In this book we argue that this possibility is unlikely, although certainly not implausible. With a few exceptions, even the most developed countries have not reached a ceiling. Developed countries and several developing countries have female LFP rates well above those in Latin America and still increasing. If Latin America were indeed reaching a ceiling, the permanent gap with more developed countries, and even with other developing countries, would be large, growing, and not easy to explain. Another argument against the existence of a ceiling is that the deceleration occurred in most Latin American countries, even in those with low levels of female LFP, and then presumably far from the ceiling. Finally, in most countries the leveling off pattern is more noticeable among vulnerable women, who are still far from the participation levels of their more educated richer counterparts.

An alternative view is that the deceleration in female labor force participation could be just a transient phenomenon. The strong economic growth that experienced the region in the 2000s (Figure 1.3) may have allowed a surge in earnings and social protection benefits that slowed down the entry of women into the labor market. Without a more pressing need to seek for a job, given the higher earnings of their partners or the protection brought about by new social programs, some women may have delayed their decision to participate in the labor market.¹¹ In fact, the evidence suggests that on average those that did decide to participate found more decent jobs than in the past. In that light, the deceleration in LFP may be interpreted not as a setback, but rather as an optimal response to a positive economic scenario. If Latin American economies continue growing, the availability of good jobs rises, and women's education keeps expanding, it seems natural that female LFP will resume its pace of growth in the near future.

11 In addition there is evidence of stagnation in the reduction of the gender wage gaps in the region, a fact that could have contributed to the slowdown in the entry of women into the labor markets.

Figure 1.3: Female LFP and per capita GDP
Latin America, 1992-2012



Source: own calculations based on microdata from national household surveys.

GDP per capita (in PPP adjusted US\$) from WDI.

Note: LFP for women aged 25-54. Unweighted means.

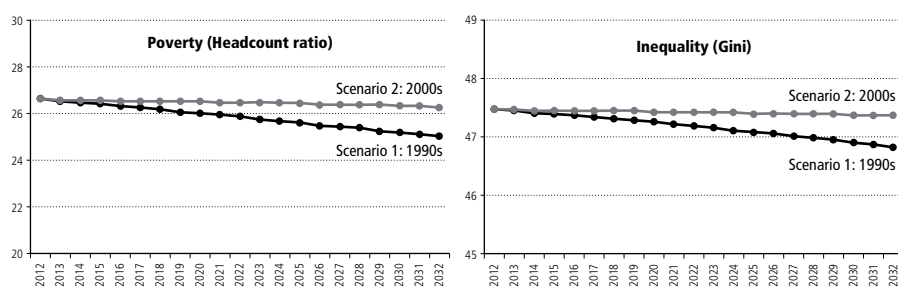
An alternative view is more worrisome. The initially short-term impact of an improved economic situation and more generous social programs on female labor supply may have long-term consequences. Women who prefer to stay out of the labor market given the new economic situation may be less prone to participate in the future, even in a scenario of improved supply of decent jobs. Being out of the labor market for some time may imply loss of productivity, and may reinforce traditional gender roles in the household, causing a reduction in the female attachment to the labor force.

The implications

The changing pattern of female labor force participation may have profound economic and social consequences. When a woman finds a paid job, a significant change in household income takes place, which may affect the poverty status of the family. In fact, the entry of women into the labor market could be a relevant driver of the whole income distribution.

By means of a set of microsimulations we conclude that the changes in female employment in Latin America over the last decades contributed to the observed fall in income poverty and inequality. The stronger insertion of vulnerable women in the labor market allowed some families to escape income poverty, and reduced the income gaps with more affluent households. Although this is certainly not the main reason behind the recent fall in poverty and inequality in Latin America, its contribution to that pattern appears to be significant. Given the positive distributive implications of the increased female employment levels, a natural concern emerges about the social consequences of the recent deceleration in female labor force participation. To further investigate this issue we project poverty and inequality trends in the region under two alternative scenarios regarding LFP (Figure 1.4). We conclude that if the observed deceleration of female labor force participation in the 2000s is not a transient phenomenon, and instead it is the beginning of a stage of low or even null growth in female labor supply, then the contribution of female LFP to the poverty reduction in the region would be negligible. This almost null effect contrasts with a significant, although small, poverty-reduction effect that would occur if the growth in female LFP observed in the 1990s and in most of the twentieth century resumed. The results are similar for inequality. In most countries the deceleration in labor force participation in the 2000s was larger among women with low education. This implies a deceleration of the inequality-reducing impact of the patterns in female LFP. The projected reduction is a negligible 0.1 Gini points in two decades under this scenario.

Figure 1.4: Poverty and inequality based on projections of female LFP Latin America, 2012-2032



Source: own calculations based on national household surveys.

Note: poverty is measured with the headcount ratio with a line fixed at USD 4 a day adjusted for PPP; inequality is measured with the Gini coefficient for household per capita income. Unweighted means across Latin American countries. Female LFP for each year is projected according to the growth rates prevailing between 1992 and 2002 (scenario 1), and alternatively in the period 2002-2012 (scenario 2). See chapter 7 for methodological details.

The implications of increasing female labor participation (and its deceleration in the last years) go well beyond the income dimension. A host of adjustments in family behavior may take place as a consequence of the female transition from inactivity to employment. Women's empowerment, child care, family violence, education, male employment, and fertility are just examples of areas in which female labor force participation may have a significant impact.

The share of family income earned by women, and potentially the share of family resources under women's control, has grown over time along with the expansion of female LFP in Latin America. Although female labor participation contributes to the economic empowerment of women, the evidence suggests a growing trend of female empowerment (as measured by self-assessment of female headship) that manifests even when LFP stagnates. It is likely that this phenomenon is due to changes in social norms that influence empowerment beyond the strictly economic dimensions.

There is also evidence that larger female income shares increase the share of expenditures on children, and eventually contributes to children's human capital accumulation. However, it is not clear to what extent these conclusions would hold in other contexts with less gender inequality, nor is it obvious that economic development by itself would lead to more gender equality.

The increase in female LFP generates demands for childcare that are only partially met by the public sector, allowing a heterogeneous supply to bridge the gap. While children from high-income households can access the high-quality private institutions, children from poorer households have access only to lower-quality services. This means fewer opportunities for the less-advantaged children. The situation worsens as labor participation of women from worse-off households (or in more precarious jobs) increases, which was particularly the case during the 1990s. Also, higher female LFP may be associated to higher school segregation if the women entering the labor market come from better-off households (or access better-paid jobs), thus having means to choose private schools with extended hours that allow them to work, unlike their poorer counterparts.

Theoretical models and empirical evidence highlight the link between LFP and a woman's risk of suffering domestic violence, but results are mixed and further research is needed to better understand the ways in which women's LFP impacts the risk of suffering domestic violence, and whether the effect varies with other characteristics such as education.

Although this book is mainly concerned with female labor force participation, we have also documented other changes that affect women's lives and that

could have sizeable implications on their incomes and standards of living. In particular, fertility rates have been significantly falling during the last decades in Latin America. The average number of children decreased in households from all population groups, but the gap between the most and the least vulnerable groups shrunk, owing to a sharper decline in the number of children living in poor households. By applying decomposition techniques we find that in most countries the changes in fertility that took place over the last decades contributed to a reduction in income inequality as well as in poverty. The fall in fertility among the income-deprived contributed to a reduction in poverty. Besides, since it was larger than the fall among the non-poor, it contributed to the reduction in inequality, as well. The main channel was straightforward: lower fertility rates implied smaller families and hence larger per capita incomes that reduced the probability of falling into income poverty. Lower fertility also fostered labor force participation, especially among women, which contributed to the reduction of poverty and inequality in most countries, although the size of this effect was small.

4. Policy implications

Female labor force participation is desirable on several grounds, including but not limited to female empowerment and poverty reduction. For these and other reasons, promoting female employment should be among a society's objectives. In fact, one of the United Nation's Millennium Development Goals is to "promote gender equality and empower women", a goal monitored by the share of women in employment, among other indicators. Promoting female LFP seems particularly relevant in Latin America, given two facts that are stressed in this book: the level of female engagement in the workforce is lower than in other regions of the world, and it has largely reduced its speed of growth over the last decade. Moreover, both facts are particularly marked for vulnerable women. While highly-educated women in large urban areas in Latin America have employment levels not far from their counterparts in developed countries, vulnerable women are either less attracted to join the workforce or find more restrictions to enter the labor market. This dual situation is complex, and it reflects a host of different driving factors, from social norms to the weak labor perspectives for women with low formal education and other social disadvantages.

This study shows that the gender gap in employment remains very significant, and that its closure is still distant. The recent slowdown in female LFP is likely to place active labor policies at the center of the policy debate, after decades in which their need was less evident. In particular, the stronger deceleration for vulnerable women reinforces the need to consider employment initiatives

for groups with less attractive job prospects, and more prone to leave the labor market when there are no urgent needs.

This book identifies and discusses a large set of policy interventions that may help foster female employment, especially among the most disadvantaged. Some of these initiatives are already in place in Latin America, some are taken from the experience of developed countries, and some could be explored as new options. Achieving women's economic empowerment demands multiple interventions. Policy strategies can be classified according to three main objectives: relaxing the constraints on women's time, improving women's agency, and attaining fair labor markets.

Relaxing the constraints on women's time

Reducing the time-burden attached to family responsibilities may enhance women's economic empowerment. Significant decisions concerning education, work, and fertility overlap with women's active age. As a result, family decisions may crowd out labor market insertion for mothers and wives. The intrinsic gender roles related to maternity increase the costs of women's engagement in a labor market experience and are sometimes reinforced by the caregiving and home-production responsibilities that rely substantially on women. As a response, co-responsibility and care policies seek to alter the within-household distribution of roles to promote women's engagement in paid work.

Maternity leave is a mandatory break period from labor before and after birth, during which time entitled women receive a full salary. The evidence, mostly for developed countries, suggests that maternity leave has a positive impact on female LFP. In Latin America, all countries offer maternity leave schemes with 100% income replacement and almost half of them have paternity leave for birth; only a few extend the benefit to childcare. However, extended maternity leave may deepen traditional gender roles to the extent that they take for granted that women are the primary caregivers, thus detaching them from the labor market for longer periods and eroding their seniority and human capital accumulation. Moreover, small or inexistent paternity leave schemes could make it difficult for women to return to work. The experiences of some countries suggest other promising options: paternity leave that cannot be transferred to women, parental leave for childcare, more flexible schedules and collective financing.

Poor women face serious economic barriers to addressing childcare demands. The weak pre-primary public school systems increase the demand of care services at the household level, raising the costs for mothers who participate in the labor

market. In addition, even when these services exist, they provide an incomplete solution because early childhood school hours are shorter than the typical workday. Early childhood education thus does not fully ameliorate the pressures placed on women's work-family balance. Many Latin American countries are advancing in this area, extending the compulsory years of pre-primary education, investing in formal education at that level, and launching public programs that provide assistance during early childhood to families in poverty. In many cases these programs are based in community centers. However, these initiatives are vastly insufficient and programs have still very low coverage.

The supply of care services for the elderly and people with disabilities also appears as a relevant demand for women, as these care responsibilities are also gender-biased. State support to conciliate labor participation with elderly care is almost inexistent in Latin America.

A serious strategy to facilitate the labor force participation of vulnerable women will give a high priority to policies that expand childcare centers and pre-primary education, extend school hours, and provide care services for the elderly. Such measures can help bridge the gap between vulnerable women and men as well as the gap between vulnerable and well-off women. Men and well-off women represent two groups that experience a comparatively reduced child and elderly care burden, owing to various cultural and economic reasons.

Pregnancy may imply a severe obstacle to the labor prospects of young disadvantaged women. Pregnancy and childbearing at a younger age can generate a work interruption that may have permanent consequences on a woman's attachment to the labor market. By comparison, having children in a later stage of career advancement could ease her return to her previous position. Evidence indicates that the timing of childbearing matters for labor supply, and that negative labor-market consequences are more severe for poor and less educated women.¹² Data from the Demographic and Health Survey for four Latin American countries reveals that while most women in their thirties have at least one child, regardless of their socioeconomic status, the situation of women in their early twenties is very different: while more than 80% of those with low education have at least one child, only 20% of those with high education are mothers at that age. Although fertility decisions are obviously within the private sphere, governments and the civil society can provide information, ease access

12 In addition to the timing of childbearing, the number of children is as important. The evidence suggests that the desired number of children per woman is below the actual number in Latin America, especially in high-fertility countries and among poor and less-educated women.

to contraceptive methods and avoid incentives to increase or jumpstart fertility decisions, which might be implicit in some public policies.

In addition to labor and social policies, advances in other areas may ease time constraints and enhance labor force participation. As an illustration, many poor women face some serious limitations: (i) insecure neighborhoods imply that they spend time protecting their families and homes from crime; (ii) poor public transportation systems limit the possibility of working far from home; (iii) low access to time-saving home appliances, and in some cases even basic services of water and electricity imply a heavy burden on women and could hinder labor market participation.¹³ Improvements in these areas, and in the possibilities to work for the market at home, will certainly facilitate the entry of vulnerable women into the workforce, and improve their job prospects.

Gender roles are culturally rooted but are not immutable features of a society, as the history of women's achievements in the last century teaches us. In most Latin American families, caregiving and home-production responsibilities disproportionately depend on women, reducing the time available for working outside home.¹⁴ Advocacy for co-responsibility at home may help modify some cultural norms on household arrangements, empower women, and in turn ease time constraints and facilitate their insertion into the labor markets.

Improving women's agency

Women's agency refers to the ability to exercise control over resources, sometimes denied by norms or as a result of gender inequality in the economic sense. Policies that ameliorate unequal access to economic resources aim to provide autonomy, promote self-worth and encourage women to participate on equal, rather than subordinated terms. Education, social protection and regulatory policies are examples of this set of policies.

There has been undeniable progress in terms of education enrollment in all Latin American countries over the last decades. Improvements have especially benefited women, closing the gaps with men in all educational levels, in most countries. Universal coverage in primary school has almost been achieved in

13 For instance, in Bolivia only 70% of women in the poorest decile of the distribution have access to electricity and just 3.5% have a washing machine. The figures are even lower in El Salvador, Guatemala and Nicaragua.

14 For instance, in 85% of the poorest households (four bottom deciles) of Argentina, women are the main responsible for the household chores, whereas only 43% of men help with those chores.

several Latin American nations, but the target of universal coverage in secondary school is not under reach in the near future, whereas in most countries only a minority of the population has access to tertiary education. Undoubtedly, extending education to the disadvantaged groups, including vulnerable women, remains a top priority in the policy agenda, with sizeable repercussions in terms of labor force participation.

Conditional cash transfer programs have been major policy innovations in Latin America over the last 15 years. CCTs have had unambiguous positive social consequences, contributing to the substantial fall in income poverty and inequality over the 2000s, and fostering the accumulation of human capital. Despite these positive effects, the impact of CCTs on gender-related issues is subject to debate. The majority of CCTs entitle women to receive the transfer, a design feature that has promoted women's empowerment in terms of household managing. However, the cash subsidy may be viewed as income earned by mothers for taking care of the children and assuring compliance with the program conditions, and hence it may reinforce traditional intrahousehold gender roles, and act as a disincentive for women to participate in the labor market. In addition, CCTs may capture the space and efforts in the public arena to develop more employment-oriented interventions, especially those active labor market policies focused on vulnerable women.

The evidence on the impact of CCTs on female labor supply is still mixed. Although most of the studies do not find significant short-run effects of cash transfers on LFP, the global validity of this result cannot be taken for granted. In fact, recent studies find evidence on labor supply disincentives of CCTs in some countries and for some groups. We believe that CCTs should be defended as key instruments in the national strategies for poverty alleviation and income redistribution; however, it should not be simply assumed that these programs have no negative impact on labor outcomes. Governments should pay attention to the unintended effects of CCTs on gender issues, and be creative in the design of new components that help alleviate some of these potential side effects. A few countries in the region have become aware of possible negative effects and are complementing CCTs with access to labor-oriented programs and training courses.

Regulations on property rights are aimed at guaranteeing women's ability to exercise decisions over economic resources in equitable conditions. For instance, the evidence suggests that land property programs increase women's involvement in household and production decisions. Laws should avoid discriminatory clauses that deny women access to land or housing titles, inheritance or marital assets. There is still room for improvement on this issue.

Labor policies

Active labor market programs (ALMP) include a broad set of interventions such as training, employment services, incentives to small business development, protected employment, and direct employment generation through public employment programs. They seek to overcome poor endowments in education, employment tenure, social networks, and productive assets in order to increase employability among women. Rigorous evaluations of the impacts of these policies on female labor outcomes are scarce, and the results are mixed. In particular, it seems that many programs fail to generate sizeable effects on employability and employment quality.

Anti-discriminatory clauses as well as women's participation quotas in employment are enforced in labor legislations across the region. These labor laws designed to empower women are subject to a lively debate concerning their actual payoffs. Some protective norms may create incentives that warrant their purposes inoperative or even generate adverse outcomes. For example, laws that restrict women's working hours may deter employees from hiring women. Similarly, part-time job schemes or reduced working hours for women may promote female participation but could also favor precarious employment relationships in segmented markets. In contrast, other protective legislations, like anti-discrimination regulations, guarantee equal treatment.

Finally, policy advocacy pursues changes in social attitudes regarding female stereotypes. Policies that raise awareness about the importance of integrating women and generating gender equality in the economy are reflected in initiatives to promote transparency in recruitment and promotion practices, and generating gender balances in top-level boards, seniority positions, and political decision-making. Policy advocacy also implies the dissemination of information about replicable public policies. Some countries in the region have advanced policies that provide firms' certification on gender policies, advise employers on how to create gender-equality corporate policies, or seek to promote anti-discriminatory practices and enable workers to balance work-life responsibilities. These initiatives could be taken as models for countries that lag behind in this arena.

Job flexibility and labor informality

The issue of job flexibility lies at the core of the debate over gender and labor policy. In most societies, and Latin American ones are not exceptions, women have heavier responsibilities at home, at least during certain periods of their lives. Given this, more flexible labor arrangements may be a useful to achieve

the individuals' objectives of caring for children and older adults at home, while at the same time participating in the labor market and pursuing a career. Policies should be aimed at facilitating women insertion into the labor market without losing sight that staying at home, at least some hours a day, could be the optimal choice in some cases. In a recent study Goldin (2014) argues that next advances in the struggle toward gender equality must "involve changes in the labor market, especially how jobs are structured and remunerated to enhance temporal flexibility".

Although job flexibility may be a key instrument to attract more women to the labor market, it has some potentially relevant drawbacks that makes the assessment of its convenience ambiguous, and calls for a case-by-case evaluation. Blau and Kahn (2013) conclude that "there may be a tradeoff between some policies that make it easier for women to combine work and family and women's advancement at work". On the one hand, family-friendly policies facilitate the labor force entry of women who are at a stage in the life cycle when they would prefer to reduce labor market commitments, but at the same time entitlements to part-time work, longer leave and other related benefits may encourage part-time work and employment in lower level positions.

Developing countries, such as those in Latin America, are characterized by a form of job flexibility: labor informality. Most workers in the region are self-employed or part-time salaried workers in small, precarious firms without a signed contract in compliance with the labor regulations. Despite some changes in the last decade, labor informality continues to be a key feature of the Latin American labor markets: more than half of the workers in the region (56.6%) are informal. Labor informality may have a positive side in a developing country: unskilled workers could avoid unemployment by carrying out low-productivity activities in the more flexible informal sector of the economy. In particular, that sector could act as a shelter for unskilled workers when the economy enters a downturn. Labor informality may also be useful for people who cannot engage in more stable labor arrangements, a situation that is more likely among women than among men. However, the benefits of more flexibility come usually at a considerable cost: informality is associated to a lack of social and labor benefits, and frequently also lower wages. While the social costs of informality have been largely discussed elsewhere, we stress an additional relevant downside. Many policies that favor female employment and empowerment require regulations in the formal sector of the economy (maternity leave, income taxation, in-the-job care services, gender quotas). Insofar as informality levels remain high, especially for vulnerable women, these policy instruments will be of a limited scope. In that sense, efforts to increase labor formalization would be central to a strategy of supporting improvements in female employment and empowerment.

Policy evaluation

There has been undeniable progress in the rigorous evaluation of public policies in Latin America over the last decade. The body of evidence on the impact of public programs on various outcomes is increasing at a high pace, encouraged by the active support of international organizations and most governments. In this book we review the evidence on the impact of several policies on female labor participation and other related outcomes. Although the literature is growing, the evidence is still fragmentary. Rigorous impact evaluations are lacking for many specific programs, and there are broad policies with gender and labor consequences that are difficult to evaluate with the available data and instruments. While in many cases the existing pieces of evidence do not allow for clear identification of the causal links between policies and outcomes, they provide some warnings about dimensions that should be taken into account.

The task of identifying best policy practices is full of difficult challenges. The task is even harder, given that the choice of the optimal policy varies with the context. However, although the challenge is enormous, more empirical evidence is the only road to better, more informed policy decisions.

5. Outline of the book

The book is organized as follows. In Chapter 2 we characterize the framework in which changes in female labor force participation have been taking place. These include economy-wide changes in the labor markets, trends in the educational structure of the population, and demographic changes. This initial chapter is descriptive and does not take into account the likely interactions between these phenomena and the changing role of women in the labor markets.

Chapter 3 is aimed at documenting the main trends in female labor market participation and employment in Latin America. It provides evidence on patterns and trends in female labor market participation by country and by period. In particular, we look for signs of a recent reduction in the speed of female entry into the labor markets.

Chapter 4 makes the first step toward the understanding of the changes in female labor force participation by analyzing whether the recent patterns are mainly accounted for by changes in some direct determinants of the labor supply decision, such as education, fertility, location or type of job, or instead they are chiefly related to some more profound transformation in behavior.

In Chapter 5 we explore the argument that female LFP may be reaching a ceiling, and then analyze the potential link between the economic expansion in the 2000s and the deceleration in female LFP, and explore the movements of female LFP along the business cycle.

Chapter 6 is focused more on the long-run determinants of female labor force participation than in the more recent developments. The chapter starts by carefully discussing the theoretical links between female LFP and a large set of covariates, and then reviews the empirical literature, carrying out a meta-analysis. Chapter 6 also offers a statistical exploration of the relationship between several covariates and female LFP in Latin America. Some of these covariates are jointly determined with labor supply (education, marriage and fertility choices), while others are virtually outside the control of the individual: returns to work at home, returns to work outside home for a wage, technologies (health, home, and work), preferences, and decision making setups.

Changes in female labor market participation are likely to have profound labor and social consequences. The aim of chapter 7 is to discuss and provide evidence on some of these potential effects. By applying microeconomic decompositions we provide estimates of the implications in terms of income poverty and inequality of the observed changes in female labor force participation over the last two decades. We also look at the future by projecting rates of female LFP based on the observed patterns in the past, and assessing the impact on income poverty and inequality. The chapter includes an examination of the potential distributive impact of another phenomenon closely linked to female labor force participation: fertility.

Finally, chapter 8 reviews public policies implemented in the region that are aimed at dealing with gender issues in the labor market. The chapter identifies and analyzes policies in the region that address obstacles that women face as they attempt to exercise power in the economic dimension, and in particular, obstacles that they face when making labor market choices.

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Table 1.1: National household surveys used in this study

	Name of survey	Acronym	Surveys used
Argentina	Encuesta Permanente de Hogares Puntual	EPH	1992-2003
	Encuesta Permanente de Hogares Continua	EPH-C	2003-2012
Bolivia	Encuesta Integrada de Hogares	EIH	1992, 1993
	Encuesta Nacional de Empleo	ENE	1997
	Encuesta Continua de Hogares	ECH	1999, 2000
	Encuesta de Hogares	EH	2001, 2002, 2005, 2007-2009, 2011, 2012
Brazil	Pesquisa Nacional por Amostra de Domicílios	PNAD	1992, 1993, 1995-1999, 2001-2009, 2011, 2012
Chile	Encuesta de Caracterización Socioeconómica Nacional	CASEN	1992, 1994, 1996, 1998, 2000, 2003, 2006, 2009, 2011
Colombia	Encuesta Continua de Hogares	ECH	2001-2005
	Gran Encuesta Integrada de Hogares	GEIH	2008-2012
Costa Rica	Encuesta de Hogares de Propósitos Múltiples	EHPM	1992-2009
	Encuesta Nacional de Hogares	ENAH0	2010, 2012
Dominican Republic	Encuesta Nacional de Fuerza de Trabajo	ENFT	2011
Ecuador	Encuesta de Condiciones de Vida	ECV	1994, 1995, 1998, 1999
	Encuesta de Empleo, Desempleo y Subempleo	ENEMDU	2003-2012
El Salvador	Encuesta de Hogares de Propósitos Múltiples	EHPM	1995, 1996, 1998-2012
Guatemala	Encuesta Nacional de Condiciones de Vida	ENCOVI	2011
Honduras	Encuesta Permanente de Hogares de Propósitos Múltiples	EPHPM	1992-1999, 2001-2011
Mexico	Encuesta Nacional de Ingresos y Gastos de los Hogares	ENIGH	1992, 1994, 1996, 1998, 2000, 2002, 2004-2006, 2008, 2010, 2012

	Name of survey	Acronym	Surveys used
Nicaragua	Encuesta Nacional de Hogares sobre Medición de Nivel de Vida	EMNV	1993, 1998, 2001, 2005, 2009
Panama	Encuesta de Hogares	EH	1995, 1997-2012
Paraguay	Encuesta Integrada de Hogares	EIH	1997, 2001
	Encuesta Permanente de Hogares	EPH	1999, 2002-2011
Peru	Encuesta Nacional de Hogares	ENAHO	1997-2012
Uruguay	Encuesta Continua de Hogares	ECH	1992, 1995-1998, 2000-2012
Venezuela	Encuesta de Hogares Por Muestreo	EHM	1992, 1995, 1997-2012

Source: own elaboration.

Chapter 2

A changing scenario: education, family, and economic environment

Mariana Marchionni

1. Introduction

This chapter describes the context in which female labor market decisions took place over the last two decades in Latin America. The chapter documents trends in the evolution of education, fertility, family formation, and labor market conditions. In particular, we intend to link these stylized facts with the rapid growth and subsequent slowdown of female labor force participation in the region.

It is difficult to disentangle which factors caused—and which were caused by—changes in women's attitudes towards the labor market. In fact, most of the variables that we consider (*e.g.* education, fertility) are likely to be determined jointly with labor participation and employment decisions. A causal analysis is beyond the scope of this work. Our goal is simply to provide a framework, based on stylized facts, to better understand the circumstances (not necessarily exogenous) in which female labor changes took place, without delving into a discussion of causality.

We focus our analysis on the past two decades (the period from 1992-2012) and exploit annual information drawn from national household surveys, which are part of the SEDLAC database (CEDLAS and The World Bank).¹ Much of this analysis relies on comparisons that highlight the gender dimension or that showcase differences between women from different socioeconomic backgrounds and geographic locations. The overall picture for the region is described using cross-country averages, although in some cases heterogeneity across countries

1 See Chapter 1 for details on this database and the surveys used.

warrants discussion. As in most of the rest of the book, the analysis is restricted to people aged 25 to 54.

We conclude that the observed changes in education, fertility, and family structure over the last two decades are consistent with increasing female labor force participation. The impressive growth in women's formal education in all Latin American countries is likely a significant factor behind the rise in female LFP, particularly given that educated women are more prone to be active in the labor market. The drop in fertility rates and the transformations in family arrangements and household structure are also factors that might potentially explain the increase in female LFP in the region.

Changes in the economic environment could also be significant determinants of changes in female labor supply. In this section, we mainly highlight two factors: the high growth rates experienced by most Latin American economies, especially in the 2000s, and the changes in the sectoral structure of production. High economic growth has an ambiguous relationship with female LFP: while growth may increase wages and the perspectives of better jobs and hence stimulate women's labor supply, higher household incomes may discourage the entry of women into the labor market by reducing the need of an additional earner in the family. The change in the structure of production seems to have a more straightforward effect, as observed changes in the region mostly favored sectors with relatively high female-to-male ratios, hence potentially fostering women's employment.

2. Changes in education

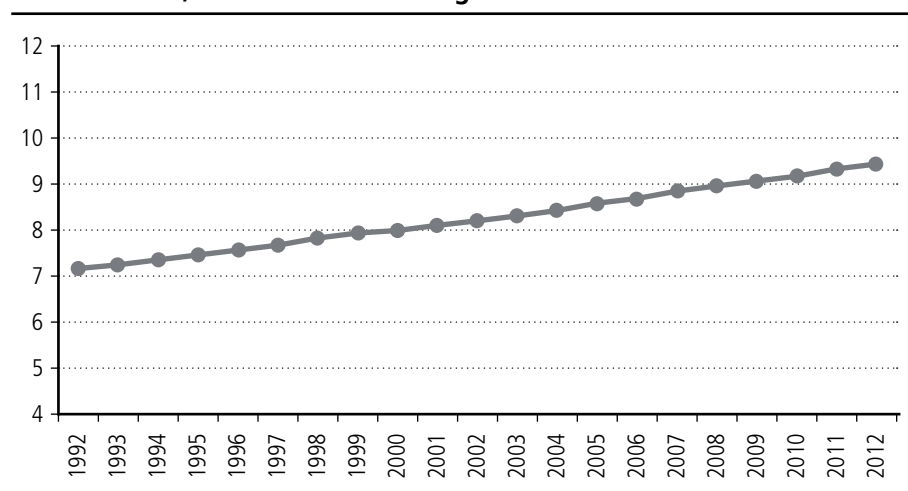
Education affects (and is affected by) the wages and positions to which women can aspire, the attitudes of women towards work, career, and family, and social norms that shape the roles of women inside and outside the household (Goldin, 2006; Chioda, 2011). Evidence from both cross-country and individual level data suggests that women's education is an important determinant of female labor market decisions, and that women's education increases with economic development (Mammen and Paxson, 2000).

In Latin America, female educational attainment has increased over the years, along with improvements in other development indicators.² Between 1992 and 2012, years of schooling for women aged 25-54 rose from 7.2 to 9.4. In other

² More on this in section 2.5.

words, twenty years ago, an average prime-age woman would have left school right after completing primary education, while in the late 2000s, the same woman would continue halfway through secondary school (Figure 2.1, also Table 2.1 in the Appendix). This increase in years of schooling is likely to be significant in terms of skills and knowledge, and therefore have a positive effect on job prospects. For instance, evidence from the Program for International Student Assessment (PISA) indicates that individual tests scores significantly rise between the 7th and the 9th school year, even after controlling for individual, family, classmates, and school characteristics.³

Figure 2.1: Female years of schooling
Latin America, 1992-2012. Women aged 25-54.



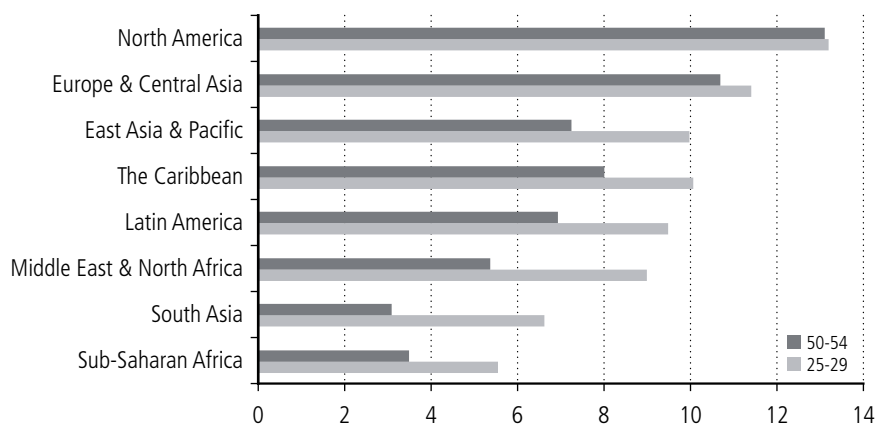
Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

As Figure 2.2 shows, progress in female education is not restricted to Latin America. For all developing regions, years of schooling for the youngest women exceed those of women aged 50-54 by over two school years. Progress in North America, and Europe and Central Asia, where educational attainment for the oldest group was already high decades ago, has been much more modest. If this trend continues, the gap in women's education between developed and developing regions will be substantially reduced in the future.

3 Marchionni, Pinto and Vazquez (2013) provide estimations of this effect for Argentina using PISA 2009 results.

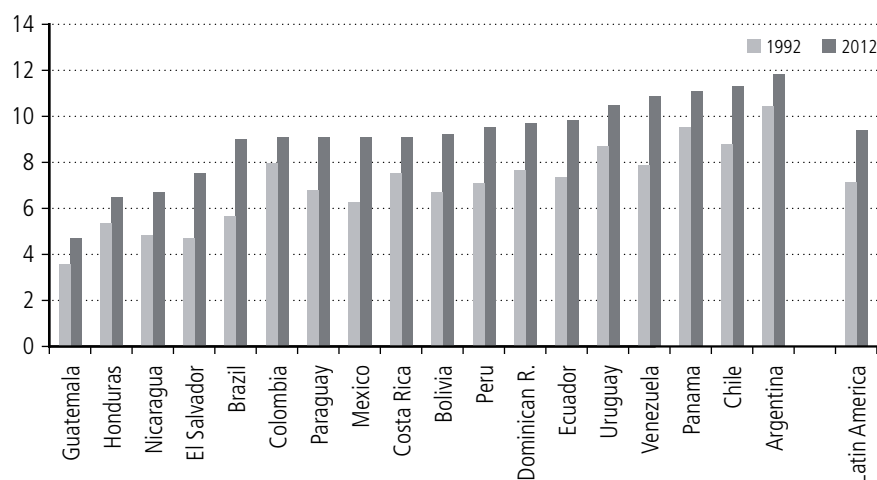
Figure 2.2: Female years of schooling
Regions of the world, circa 2010. Women aged 25-29 and 50-54.



Source: own calculations based on Barro-Lee data (version April 2013).

Note: unweighted means.

Figure 2.3: Female years of schooling by country
Latin American countries, circa 1992 and 2012. Women aged 25-54.



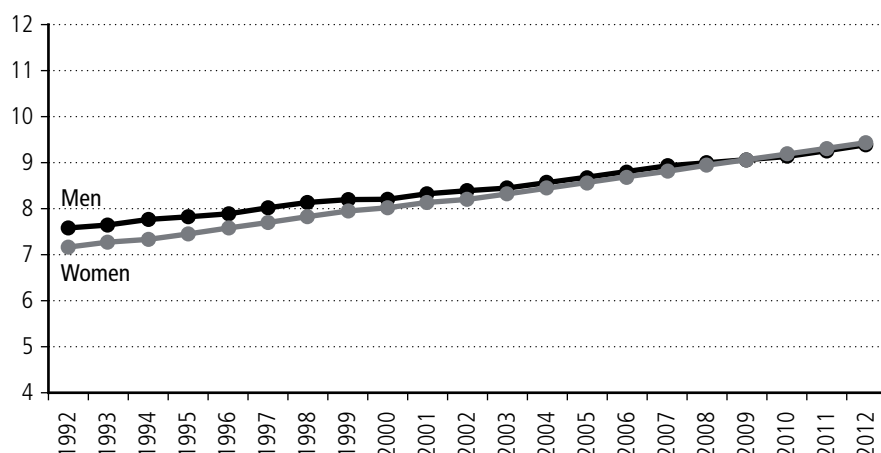
Source: own calculations based on microdata from national household surveys.

Note: Latin America: unweighted means.

Female educational progress in Latin America is common to all countries in the region (Figure 2.3) from the least to the most advanced, although the differences across countries are still important. In 2012, years of schooling for prime-age women varied from less than 5 years in Guatemala to 12 years in Argentina, *i.e.* from incomplete primary to complete secondary. Although several countries that exhibited relatively low female years of schooling in 1992 showed great progress over the next two decades (El Salvador, Brazil, and Mexico) others did not (Guatemala and Honduras). Thus, convergence in the near future remains unlikely.

Although men's educational attainment has also improved in Latin America, progress has been faster for women. Thus, the gap (which initially favored men) narrowed over the years, and recently, it even reversed (Figure 2.4 and Table 2.1).

Figure 2.4: Years of schooling by gender
Latin America, 1992-2012. Adults aged 25-54.

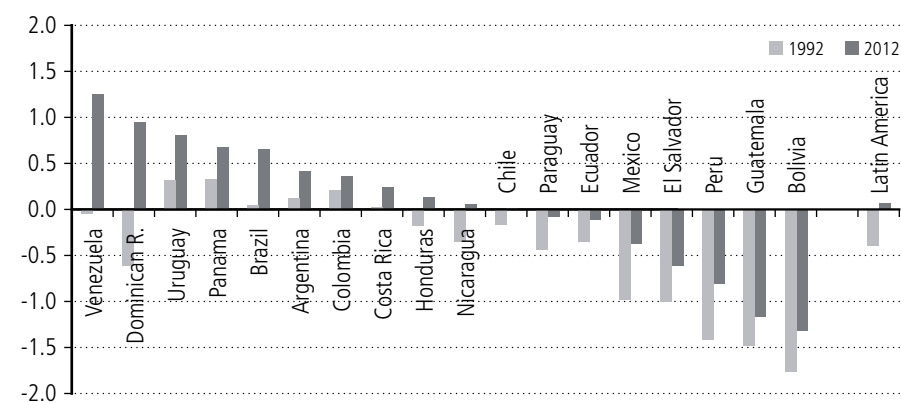


Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

Despite the fact that most countries in the region exhibit similar patterns concerning educational gender gaps, there are peculiarities that are worth noting. In Panama, Uruguay, Colombia, Argentina, Brazil, and Costa Rica, years of education were already higher for women than for men in the early 1990s, and the gap continued to widen over the following years. In contrast, in Bolivia, Guatemala, Peru, El Salvador, and Mexico, years of education remain higher for men than for women, and the gap is rather large in some cases, *e.g.* more than one school year for the first two countries (Figure 2.5).

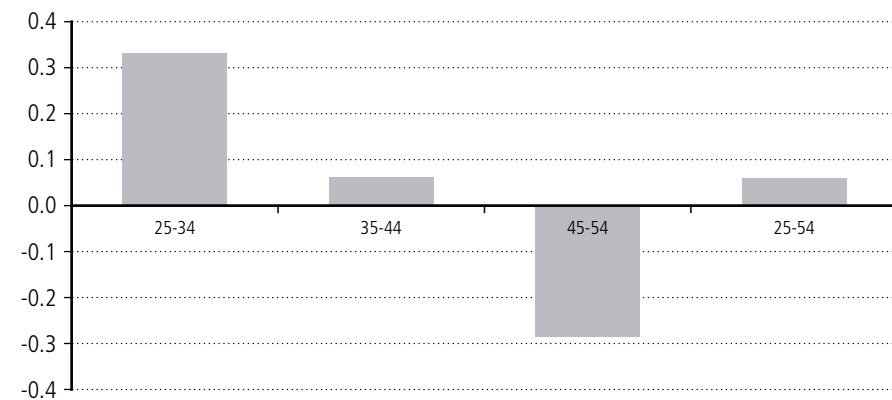
**Figure 2.5: Gender gap (women-men) in years of schooling
Latin American countries, circa 1992 and 2012. Adults aged 25-54.**



Source: own calculations based on microdata from national household surveys.

Note: Latin America: unweighted means.

**Figure 2.6: Gender gap in years of schooling by age group
(women minus men)
Latin America, 2012 or last year available.**



Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

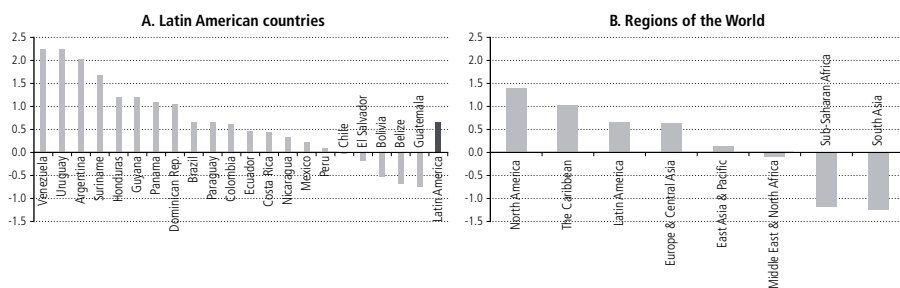
The gender gap (women minus men) in years of schooling decreases with age, as illustrated in Figure 2.6. By 2012, in a typical Latin American country, women between the ages of 25-34 had spent almost 4 more months at school than men

from the same age group. For adults aged 45-54 (who are likely to be the parents of individuals in the former group), the gender gap is of the same order of magnitude but with the opposite sign. This pattern suggests that the gender gap in years of schooling will continue to widen at a considerable pace in the coming years.

School life expectancy estimates reinforce this conclusion. The gap in total years of schooling between Latin American girls and boys who started school in the late 2000s is expected to be eight months by the time they reach adulthood, *i.e.* twice as large than the present gap for young adults. Panel A in Figure 2.7 shows the gender gap in school life expectancy for children who entered school in 2010 for all countries in Latin America. Venezuela, Uruguay, and Argentina lead the ranking: in these countries, a girl's school life expectancy is more than 2 years higher than a boy's. In contrast, boys who recently entered school in Bolivia and Guatemala will spend more time at school than girls.

Panel B in Figure 2.7 compares the gap in school life expectancy between girls and boys across regions of the world. North America leads the ranking with a gender gap of 1.4 school years, followed by the Caribbean. The gender gap in Latin America is similar to that of Europe and Central Asia, even though the expected years of schooling are higher for the latter (14.7 compared to 13 for the former). Meanwhile, in Sub-Saharan Africa and South Asia the considerable lag in women's educational attainment is expected to persist.

Figure 2.7: Gender gap (girls-boys) in school life expectancy (in years)
Children entering school in 2010 or last year available.

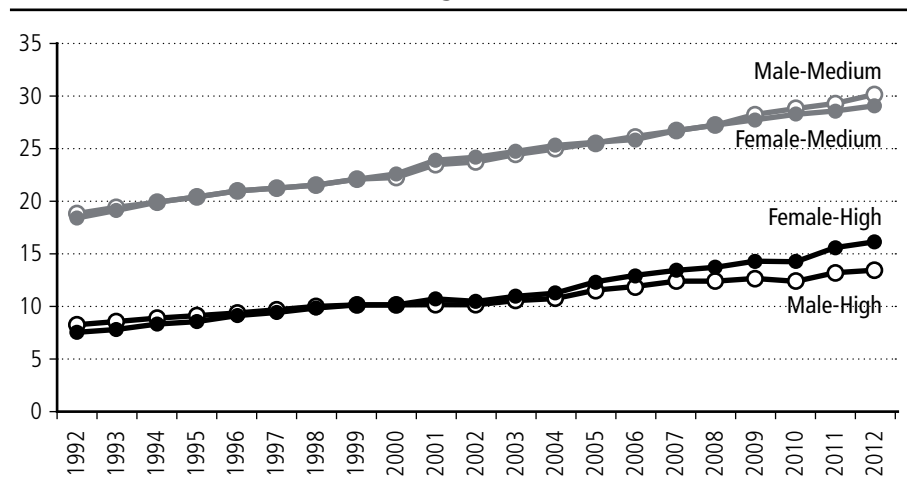


Source: own calculations based on UNESCO eAtlas of Gender Equality on Education.
Note: Latin America in Panel A and regions in Panel B: unweighted means.

Behind the expansion of women's years of schooling is the increasing share of women reaching higher educational levels. Between 1992 and 2012 the proportion of women with secondary or tertiary education rose from 26% to 45% at the expense of low educational levels (less than complete secondary). Figure 2.8

shows the trends for both medium (complete secondary or incomplete tertiary) and high (complete tertiary) educational levels. It is worth noting that in the late 2000s, the share of women with a tertiary or university degree exceeded that of men in a typical Latin American country (see also Table 2.2 in the Appendix).

Figure 2.8: Highest level of education attained by gender (in %) Latin America, 1992-2012. Adults aged 25-54.



Source: own calculations based on microdata from national household surveys.

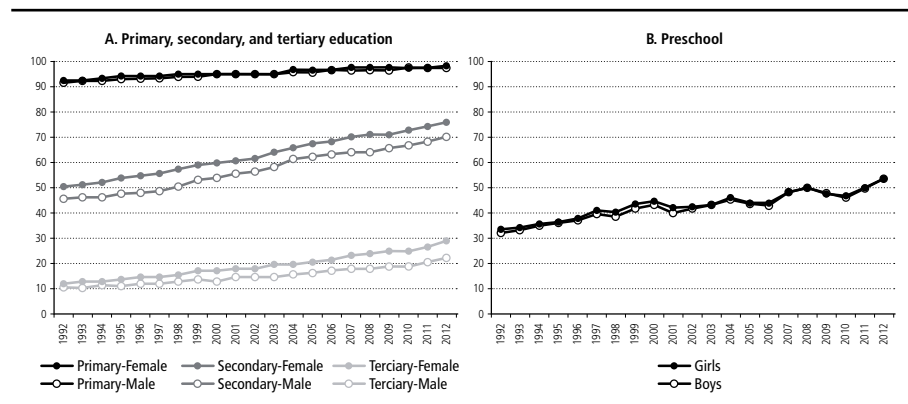
Note: medium education: secondary complete or tertiary incomplete; high education: tertiary complete. Unweighted means.

The increasing proportion of women with a secondary or tertiary degree is partly explained by increased access to secondary and tertiary education (Panel A in Figure 2.9). Net enrollment rates in primary education, which already exceeded 90% in the early 1990s, continued to rise over the following twenty years, reaching 98% for both men and women in a typical Latin American country. But the most significant advances occurred in the middle and upper educational levels. Female net enrollment rates rose from 50% in 1992 to 76% in 2012 in secondary education, and from 12% to 29% in tertiary education. Throughout the period, net enrollment rates were higher for women than for men for all educational levels, but the gap was widest for secondary and tertiary education. In particular, the gap in tertiary education has widened considerably in recent years, which is related to the behavior of the gender gap in educational attainment described earlier.

Another interesting fact is the strong upward trend in enrollment rates at early ages, illustrated in panel B in Figure 2.9. Preschool attendance for children aged 3-5 rose 20 percentage points on average in the region (from 33% to 53%). Beyond

the benefits of early education on cognitive development and future educational attainment, the availability of educational facilities for young children promotes labor participation among mothers (Faur, 2011).⁴

**Figure 2.9: Net enrollment rates (in % of relevant age group)
Latin America, 1992-2012.**



Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

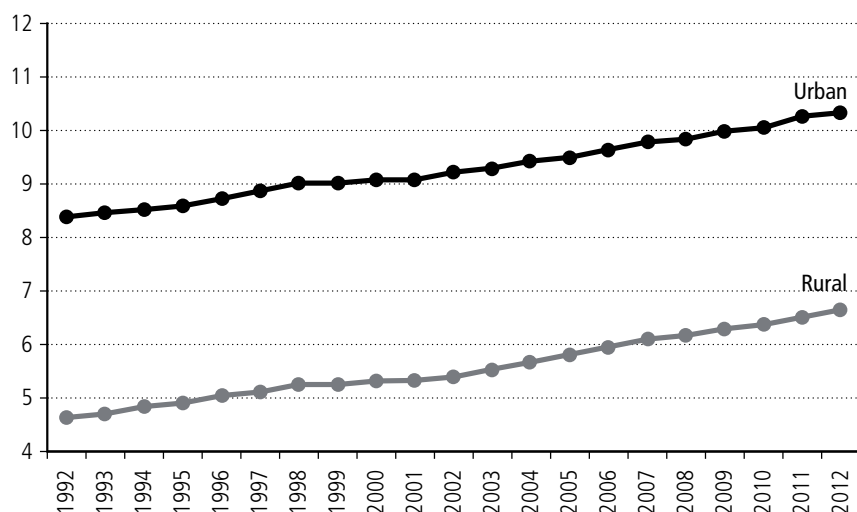
Women's educational progress varies not only across countries but also by area of residence within each country. Even though female years of schooling increased among both rural and urban women, the former are still far behind (Figure 2.10 and Table 2.1). In Latin American urban areas, women's education increased markedly, rising from an average of 8.4 in 1992 to 10.4 years in 2012. Women's education improved at a similar pace in rural areas, going from an average of 4.6 to almost 7 years of schooling (from incomplete to complete primary education, on average). Despite noticeable progress, women's education in rural areas of Latin America is still low, and the rural-urban gap has not changed over the last twenty years.

The increase in female years of schooling in both rural and urban areas was generalized across Latin American countries, even though the pace of change differs between areas and countries (Figure 2.11). Between 1992 and 2012, the urban-rural gap in years of education for women decreased in El Salvador, Ecuador, Costa Rica, and especially in Mexico, while it increased in the rest of the countries in the region. As a result, the urban-rural gap remained practically unchanged on average for the region.⁵

⁴ Chapter 8 elaborates on these policy issues.

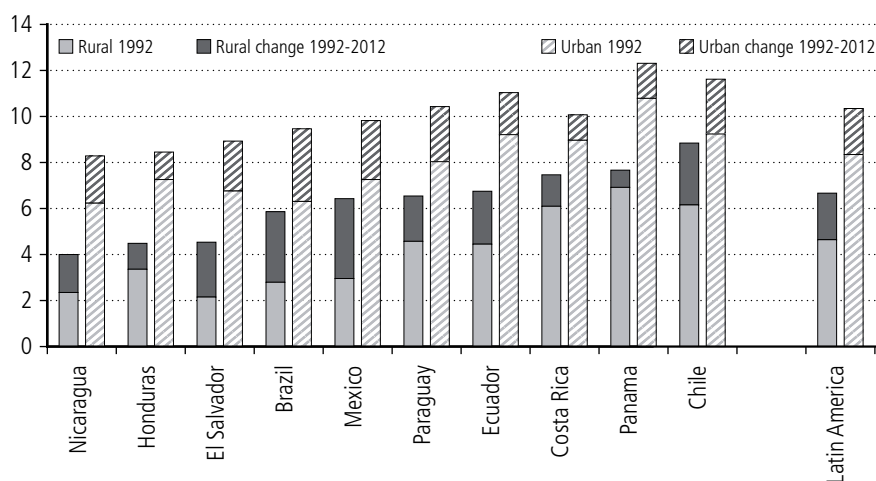
⁵ For more on educational attainment in Latin American rural areas see Cicowiez *et al.* (2006).

Figure 2.10: Female years of schooling by area
Latin America, 1992-2012. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.
 Note: unweighted means.

Figure 2.11: Female years of schooling by area and country
Latin American countries, 1992 and 2012. Women aged 25-29.



Source: own calculations based on microdata from national household surveys.
 Note: Latin America: unweighted means.

3. Changes in fertility

The drop in fertility is at the center of the explanation of the increase in female labor force participation during the twentieth century. The strong negative correlation between fertility rates and female participation in the labor market is a stylized fact in the world, and Latin America is no exception. Moreover, in some more restricted settings, the causal effect of fertility on female labor participation has been addressed (Angrist and Evans, 1998; Cruces and Galiani, 2007; Agüero and Marks, 2008; Tortarolo, 2014).

In this section, we document patterns and trends that describe the sharp drop in fertility in Latin America and the concomitant decrease in the number of young children per household.

Fertility in Latin America, 1950-2010

As the second half of the twentieth century began, fertility in Latin America was higher than the world's average. Total fertility rate (TFR) in the region was about 6 children per woman during the 1950s and 1960s.⁶ Fertility rates began their downward trend only in the mid-1960s, reaching an average of 2.5 children per woman in 2005-2010. This significant reduction in TFR implies a clear convergence towards the levels of the most advanced regions of the world (Figure 2.12 and Table 2.3).⁷

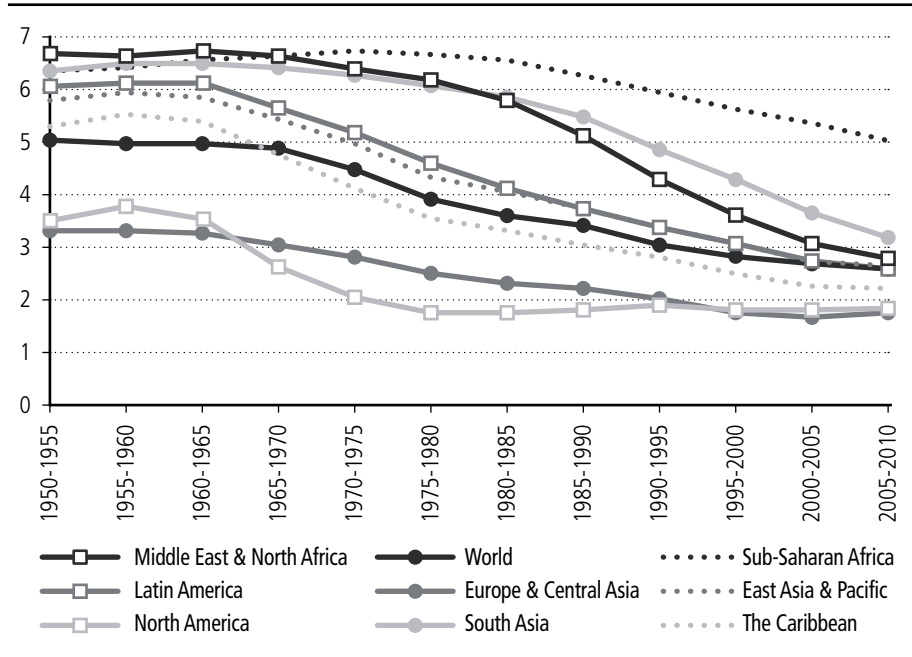
Even though all countries in the region have already entered the fertility transition, experiences have been very heterogeneous. Figure 2.13 shows the TFR for each Latin American country during the periods 1950-1955 and 2005-2010. While most countries were in the high-fertility group at the middle of the last century, none was in that group in 2005-2010. Bolivia and Guatemala went from high to medium-high fertility; Ecuador, Honduras, Nicaragua, Panama, Paraguay, Peru, and Venezuela went from high to medium fertility; and Brazil, Chile, Colombia, Costa Rica, El Salvador and Mexico went from high to low fertility. Fertility had started to decline earlier in Argentina and Uruguay, which were the only

6 Total Fertility Rate is the average number of children a hypothetical cohort of women would have at the end of their reproductive period if, during their whole lives, they were subject to the fertility rates of a given period and if they were not subject to mortality. It is expressed as children per woman (United Nations, World Population Prospects: The 2012 Revision, definition available at <http://esa.un.org/wpp/Excel-Data/fertility.htm>).

7 For further analysis on fertility changes in Latin America see Chackiel (2004) and ECLAC (2008, 2011).

two Latin American countries with medium TFR during the 1950-1955 period. The downward trend continued over the years and by 2005-2010 Argentina and Uruguay belonged to the low-fertility group.

**Figure 2.12: Total Fertility Rate (children per woman)
Regions of the world, 1950-2010.**

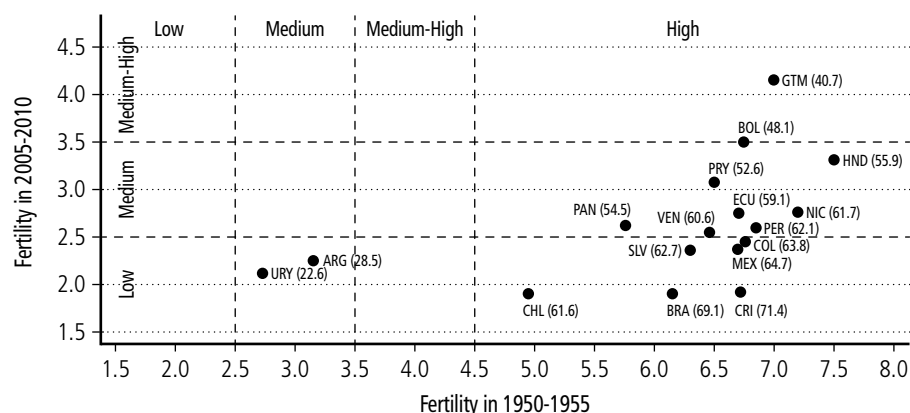


Source: own calculations based on World Population Prospects: The 2012 Revision, DVD Edition.

Figure 2.13 also shows the percentage reduction in TFR during the last 60 years for each country in parenthesis. In general, high initial fertility rates are associated with rapid declines in fertility. In Costa Rica, for instance, the decline in fertility was sharp, falling from 6.7 children per woman in 1950-1955 to 1.9 children per woman in 2005-2010, *i.e.* TFR fell by 71.4%. Conversely, in countries such as Argentina and Uruguay, which made the transition earlier, TFR fell by 28.5% and 22.6%, respectively, in the same period. The fact that adjustment was faster in high-fertility countries has led to a convergence in fertility levels in the region, but there are still differences. Fertility rates in Brazil, Chile and Costa Rica, for example, are already below the replacement level, while in Guatemala we still observe more than 4 children per woman.

The pace of the decline did not only differ across countries, but also over the course of the period analyzed. While the 1960s saw the sharpest drop in fertility rates, the first decade of the twenty first century was characterized by low fertility rates and a low rate of decline for most of the countries in the region.

**Figure 2.13: Classification of Latin American countries
by total fertility rate**



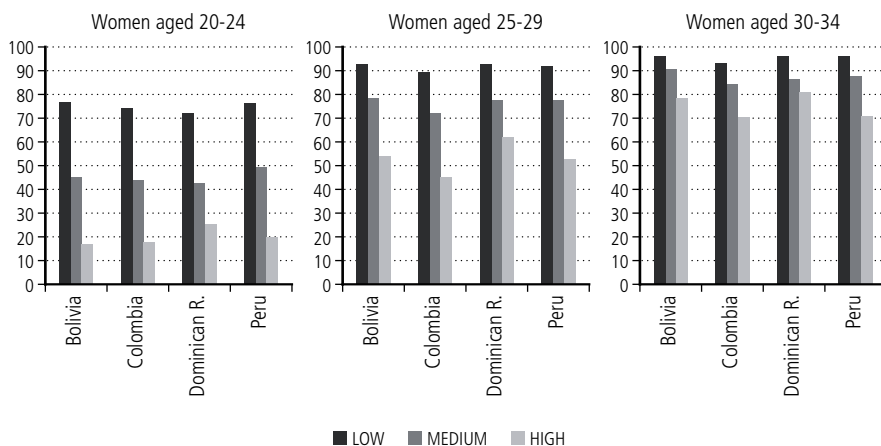
Source: Own calculation based on World Population Prospects: The 2012 Revision, DVD Edition.

Note: High fertility: Total fertility rate (TFR) ≥ 4.5 ; Medium-high: $4.5 > \text{TFR} \geq 3.5$; Medium: $3.5 > \text{TFR} \geq 2.5$; Low: $2.5 > \text{TFR}$. Percentage reduction in TFR in parenthesis.

Despite the steep decline in fertility rates, age at first birth remained fairly stable in Latin America since the 1970s (Rosero-Bixby, 1996 and 2004; Mensch, Singh, and Casterline, 2005). The stability in the onset of childbearing is also closely related to the stable timing of union formation, which we further analyze in section 2.4. There is evidence, however, that suggests that Latin America may have entered a new stage of fertility decline in the 2000s. Census data from the last decade indicates that the proportion of childless women in their twenties and early thirties increased in many Latin American countries, which may reflect an increasing trend in the starting age of childbearing, an increase in permanent childlessness in the region, or both (Rosero-Bixby *et al.*, 2009). However, there are still marked differences between socioeconomic groups, as illustrated in the Box.

Box: Proportion of women with children by age and education

Demographic and Health Surveys for Bolivia, Colombia, Dominican Republic, and Peru reveal that while most women in their thirties have at least one child regardless of their socioeconomic status, the situation of women in their early twenties is very different: while more than 70% of those with low education have at least one child, around 20% of those with high education are mothers at that age.



Source: Own calculations based on Demographic and Health Surveys. The years considered are: 1994, 1998, 2003, and 2008 for Bolivia; 1990, 1995, 2000, 2005, and 2010 for Colombia; 1991, 1996, 1999, 2002, and 2007 for Dominican Republic; 1991, 1996, 2000, 2004, and the period 2008-2012 for Peru.

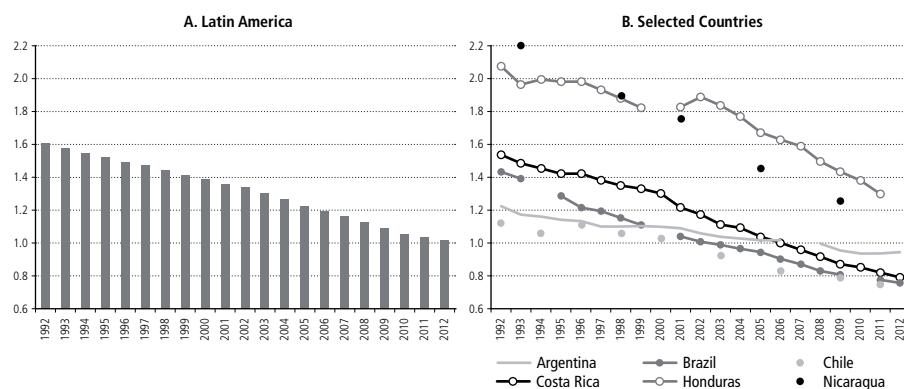
Note: Figures represent the average percentage across years. Low education: less than secondary complete; medium education: secondary complete or tertiary incomplete; high education: tertiary complete.

Number of children per household, 1992-2012

Clearly, the number of young children at home is an imperfect measure of fertility, but it seems an appropriate approach when describing the context in which women make their labor decisions. It also has the advantage of being easily computed from household survey data, which allows one to take into account a wider variety of social and economic variables related to both fertility and female labor decisions. This is not possible when using population censuses or other specific household surveys (*e.g.* demographic and health surveys), from which fertility statistics are usually derived. Moreover, household surveys are readily available for every country in the region for every year.

The number of children per household has been falling during the last decades in Latin America as a result of the decline in fertility rates (Figure 2.14 and Table 2.4).⁸ In 1992, there were 1.6 children under 12 years of age per household in a typical Latin American country. This figure fell to just one child over the next two decades.

Figure 2.14: Number of children under 12 per household
Households with mother aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: Panel A: unweighted means.

As noted earlier, the variety of experiences across countries is evident. The selected countries in panel B in Figure 2.14 represent three broad groups with distinct characteristics. The first group (Argentina and Chile) had few children per household in 1992, and the rate of decline afterwards was low. The second group (Honduras and Nicaragua) is on the opposite end: there were many children per household and high rates of change. The third group (Brazil and Costa Rica) presents an interesting pattern: the number of children per household in 1992 is similar to the regional average, but the adjustment occurs at such a high rate that by 2012 it converges with the number of children per household of early-transition countries, *i.e.* countries in the first group.

8 Since we are interested in labor decisions of women aged 25-54, the number of children per household is computed over the sample of households for which the "mother" belongs to that age-group. Usually, it is not possible to identify the mother of the children within a household from household surveys data. In such cases we define the "mother" as the female head of household or the female spouse of the household head.

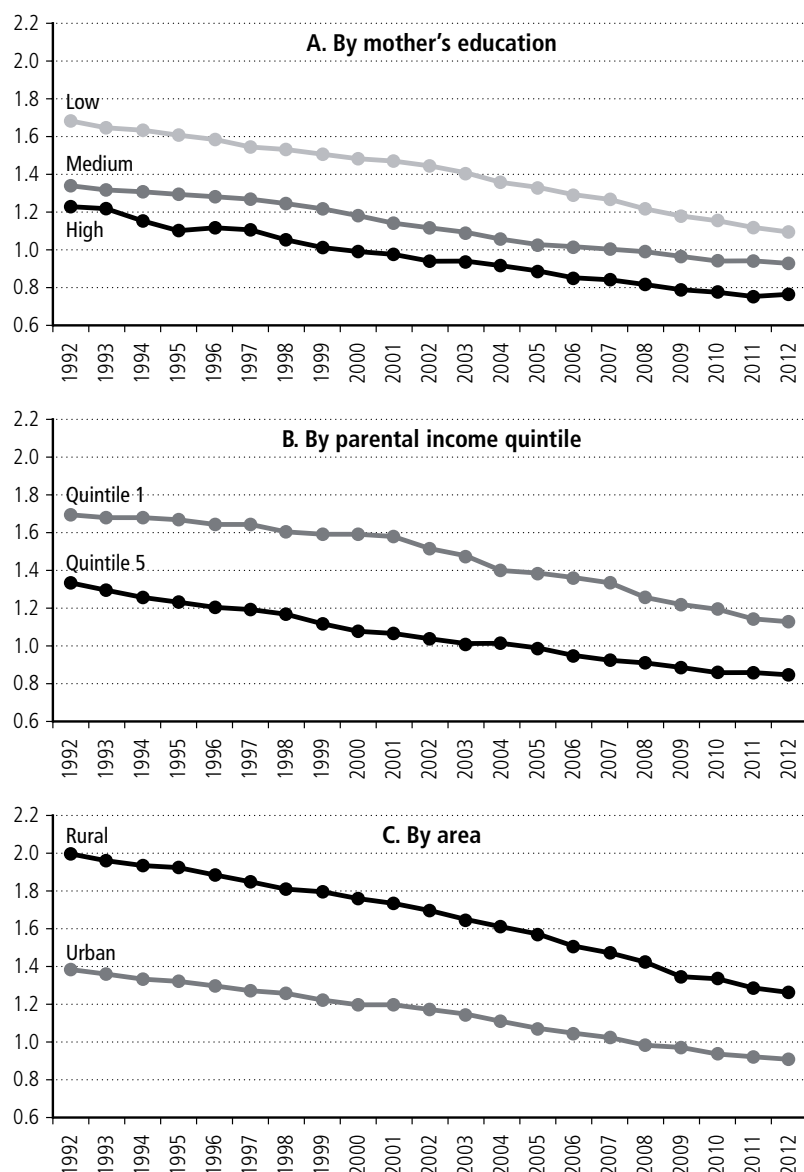
It is well known that in high and medium socioeconomic sectors where the fertility rate is relatively low, fertility transition began earlier (Schkolnik and Chackiel, 2004; ECLAC, 2011). Poor and less-educated population, in rural areas or in marginal urban neighborhoods, face cultural and even linguistic barriers to family planning information. These barriers prevent fertility from falling to the desired levels.⁹ However, despite these limitations, fertility has also started to fall among the least advanced groups.

The average number of children per household decreased across all population groups, but the gap between the most and least advanced groups is still very wide (Figure 2.15 and Table 2.4). For instance, the gap in the number of children by mother's education (panel A) appears to have remained relatively stable on average for the region, although there is some convergence towards the end of the period owing to a sharper decline in the number of children living with a low-educated mother.¹⁰ The gap between extreme quintiles of the parental income distribution (panel B) behaves similarly, as does the gap between rural and urban areas (panel C). In the latter case, the sharper decline in the number of children in rural households suggests a trend towards convergence between areas, but the gap is still significant.

9 The desired number of children per woman is well below the actual number, especially in high-fertility countries such as Guatemala and Bolivia (Chackiel, 2004).

10 Education is held to be a key determinant of fertility, and even though a causal assessment is not always possible, there is ample evidence that suggests a strong association between the two phenomena (Strauss and Thomas, 1995; Castro Martin and Juarez, 1995).

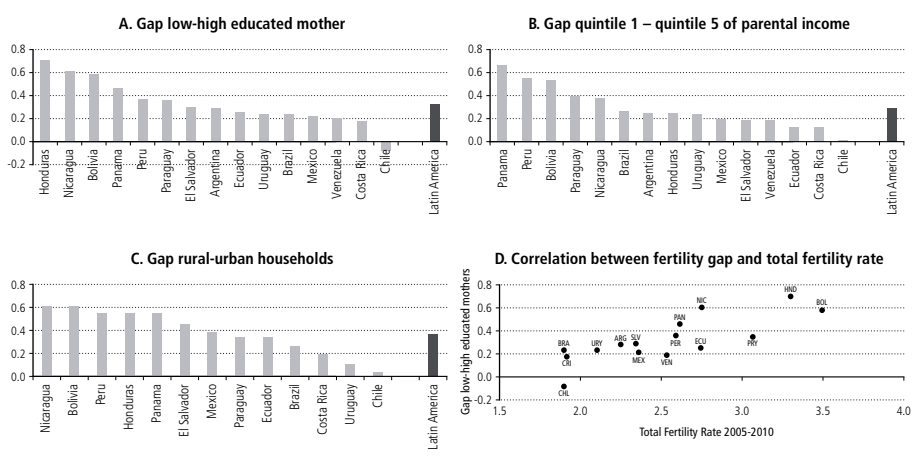
**Figure 2.15: Number of children under 12 per household
Latin America, 1992-2012. Households with mother aged 25-54.**



Source: own calculations based on microdata from national household surveys.

Note: low education: less than secondary complete; medium education: secondary complete or tertiary incomplete; high education: tertiary complete. Quintiles in panel B are defined over households with more than one member, based on parental income by income earner. Panel C excludes Argentina, where household surveys only cover the urban population. Unweighted means.

Figure 2.16: Gap in the number of children under 12 per household Latin American countries, 2012. Households with mother aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: year 2012 or latest year available. Latin America: unweighted means. Definition of educational levels in Panel A: low education: less than secondary complete; medium education: secondary complete or tertiary incomplete; high education: tertiary complete. Quintiles in panel B are defined over households with more than one member, based on parental income by income earner. Panel C excludes Argentina, where household surveys only cover urban population, and Venezuela, where the rural-urban identifier is not available since 2004.

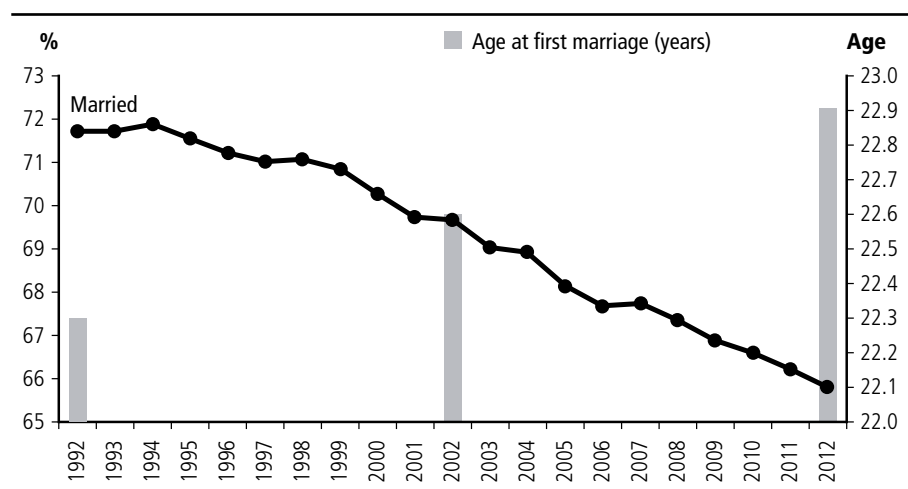
The convergence in the number of young children per household between population groups is likely driven by low fertility countries, while the gap has risen or remained stable in countries where the fertility transition is the least advanced (Schkolnik and Chackiel, 2004). While some low fertility countries such as Brazil, Chile, and Costa Rica exhibit the smallest fertility gaps between population groups, countries like Bolivia and Honduras are on the other extreme in both dimensions (panel D in Figure 2.16). In fact, the cross-country correlation coefficient between the TFR in 2005-2010 and the gap in the number of children between low and highly-educated mothers is 0.80 and highly significant.¹¹ Chapter 7 in the book examines the poverty and inequality implications of these changes in fertility patterns.

¹¹ The correlation between the TFR and the gap rural-urban is 0.74, and between the TFR and the gap quintile 1 – quintile 5 is 0.52, both significant at a 5% level.

4. Changes in family formation and household structure

Marriages, both formal and consensual, organize reproduction and rearing but also delineate social and economic roles by gender. That is why changes in family formation and household structure are linked to social and economic changes, such as improvements in women's educational attainment and labor force participation.¹²

Figure 2.17: Percentage of currently married women and age at first marriage (formal and consensual unions)
Latin America, 1992-2012.



Source: own calculations based on microdata from national household surveys and United Nations, Department of Economic and Social Affairs, Population Division (2013), World Marriage Data 2012 (POP/DB/Marr/Rev2012).

Note: Percentage of married women computed among women aged 25-54. Age at first marriage is the singulate mean age at first marriage (SMAM), which approximates the median age at first marriage among those women who eventually marry. Unweighted means.

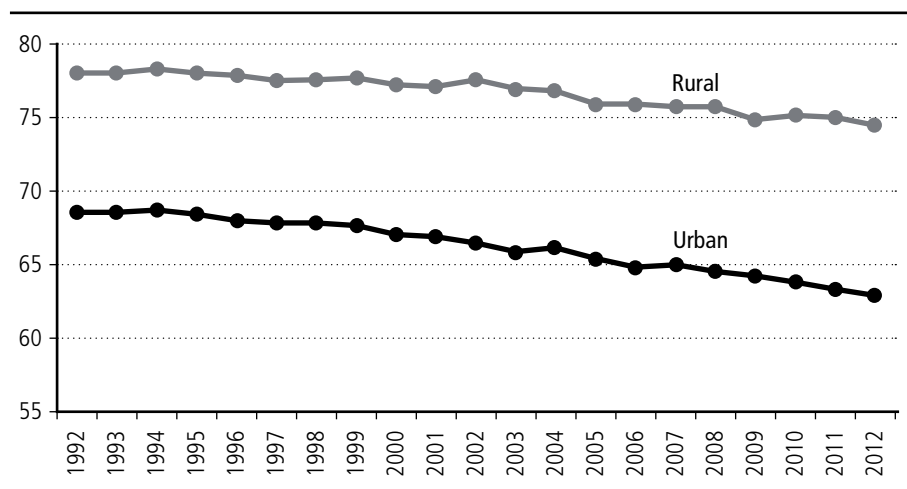
An interesting fact about family formation in Latin America is that the dramatic decline in fertility occurred without significant changes in the timing or prevalence of marriages, either formal or consensual. The percentage of married

12 For an analysis of major trends affecting families in Latin America during the 1980s and the 1990s see Jelin and Díaz-Muñoz (2003).

women has remained high over the years despite a decreasing trend, while the age at first marriage rose slightly but continues to be relatively low compared to developed regions (see Figure 2.17 and Table 2.5 in the Appendix).

Women in rural areas in Latin America are more likely to be married than their urban counterparts (75 percent and 63 percent, respectively, in 2012 for women aged 25-54). Rural women rely mostly on family networks as a means of supporting themselves and to reproduce their communities, and marriage is one way to build these networks. Nevertheless, the slightly decreasing trend in the percentage of married women is observed in both rural and urban areas. Indeed, the urban-rural gap has remained fairly stable around 10 percentage points (see Figure 2.18).

Figure 2.18: Percentage of currently married women by area (formal and consensual unions). Latin America, 1992-2012. Women aged 25-54.



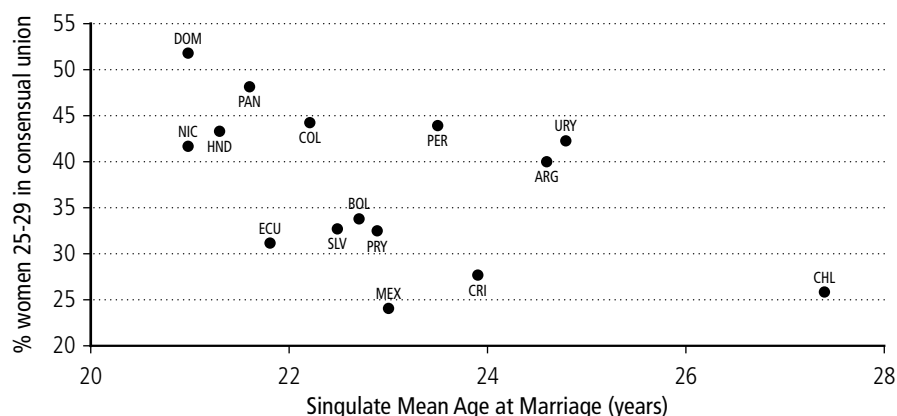
Source: own calculations based on microdata from national household surveys.

Note: Unweighted means. Argentina excluded from rural statistics.

In countries with higher prevalence of consensual unions, age at first marriage tends to be lower, as suggested by Figure 2.19, where the correlation across countries for a year close to 2010 is -0.49 and statistically significant. As pointed out by Fussell and Palloni (2004), if prerequisites for formal marriage include educational attainment and economic independence, a higher prevalence of formal unions is likely to be associated with a delayed entrance to marriage. The percentage of consensual unions has been increasing over the years, especially in countries where it used to be relatively low (*e.g.* Argentina and Uruguay),

while it has remained high for the countries with a historically high prevalence of consensual unions (*e.g.* Dominican Republic, Honduras, Nicaragua, and Panama). In most cases, the rise in consensual unions explains the decline in the proportion of formally married couples (Esteve *et al.*, 2012).

Figure 2.19: Correlation across countries between the percentage of women in consensual unions and age at first marriage Latin American countries, circa 2010. Women aged 25-29.



Source: own calculations based on United Nations, Department of Economic and Social Affairs, Population Division (2013), World Marriage Data 2012 (POP/DB/Marr/Rev2012).

Note: Brazil, Guatemala, and Venezuela are excluded since data circa 2010 is not available. The Singulate Mean Age at Marriage (SMAM) is the average length of single life expressed in years among those who marry before age 50as (United Nations Population Division/Fertility and Family Planning Section, <http://www.un.org/esa/population/publications/WMD2008/Metadata/SMAM.html>).

If the change in social norms that led to the sharp decline in fertility did not significantly affect the prevalence or timing of marriage in Latin America, it may have changed the family arrangements and household structure instead (Fussell and Palloni, 2004). Over the last several decades, female headship has risen markedly in the region. The proportion of women aged 25-54 who are the single household head, *i.e.* no formal spouse or partner in their households, climbed from 12.6% in 1992 to 17% in 2012 in a typical Latin American country (panel A in Figure 2.20 and Table 2.6 in the Appendix). But the growth of the female-headship phenomenon goes beyond the increase in the prevalence of single-parent households. Figure 2.20 shows that the percentage of female

heads among prime-age women, regardless of whether they are married or single, grew at an even higher rate, from 14% to almost 23.8% over those two decades, which possibly reflects the transformation of roles and the empowerment of women within households. Moreover, during the 1990s, female headship appears closely linked to female economic headship, *i.e.* women who earn at least 50% of household income (World Bank, 2012). The story changed dramatically since the early 2000s: the percentage of self-reported female heads continued to grow despite the marked slow-down in the rate of increase of female economic headship. We will return to this point in Chapter 7.

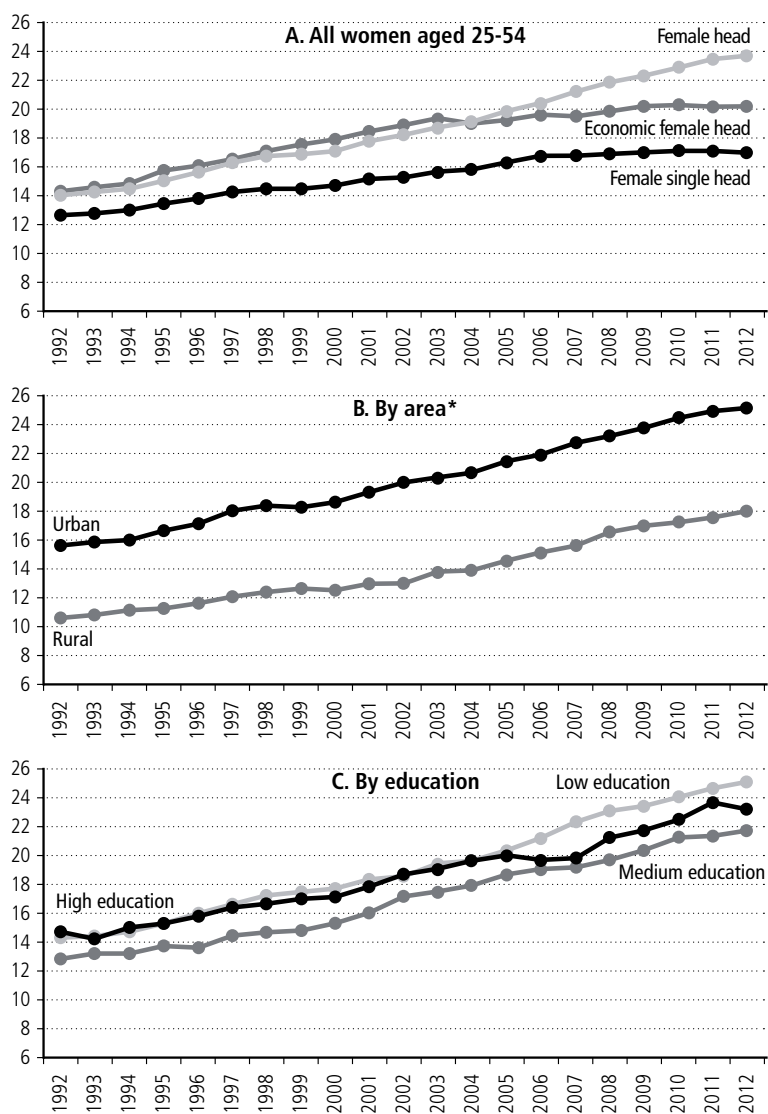
The percentage of female heads exhibits the same increasing pattern in both rural and urban areas, and characterizes all educational groups, though the levels differ (panels B and C in Figure 2.20). Female headship is less frequent among rural and mid-educated women, and the gap has widened somewhat over the years. Strikingly, prevalence of female headship does not decrease monotonically with education: during most of the period, women with a tertiary education degree were as prone as women with just primary education to be the single head in their households.¹³ Interestingly, the break in the high-education series (panel C) coincides approximately with that of the prevalence of female economic heads (panel A), suggesting that there is a link between economic headship and the self-perception of women regarding their status as household heads, which is noticeable only for highly educated women.

The strong increase in the prevalence of female household heads over the 1990s and 2000s is common to all the countries in the region (Figure 2.21). The proportion of prime-age women being the (self-reported) household head ranges from 15% in Peru to 33% in Uruguay around the year 2012. On average, the proportion of female heads grew by 10 percentage points between 1992 and 2012, but in countries like Uruguay, Chile and Brazil the increases were well above the average (22, 17 and 16 points, respectively).¹⁴

13 The patterns of differences between groups are robust to the three definitions of female headship, with the exception that the percentage of female economic heads strongly increases with education.

14 The rise in female-headed households is in part explained by the increase in divorce rates, particularly in urban areas. There is a growing literature on the links between divorce and female labor participation in developed countries (Fernández and Wong, 2014; Stevenson, 2008). It is argued that women enter the labor force as a means of getting insurance against divorce and greater bargaining power within marriage. Unfortunately, data on divorce are relatively scarce in Latin America.

**Figure 2.20: Percentage of female heads of household
Latin America, 1992-2012. Women aged 25-54.**

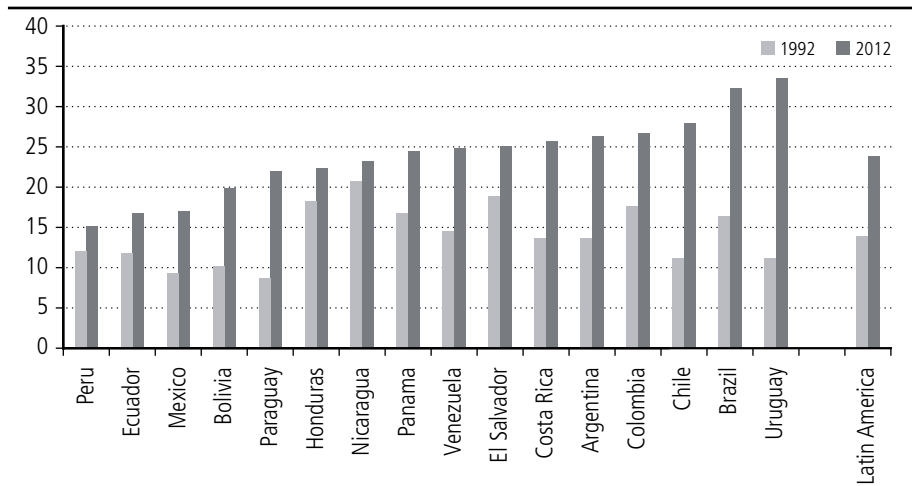


Source: own calculations based on microdata from national household surveys.

Note: Definitions in panel A: Female head is self-reported in any kind of household; Female single head in single headed households (also self-reported); Economic female head if women earns at least 50% of total family income. Panels B and C are based on the first definition. In panel C: Low education: less than secondary complete; medium education: secondary complete or tertiary incomplete; high education: tertiary complete.

*Argentina is not included in rural statistics. Unweighted means.

Figure 2.21: Percentage of female heads of household by country Latin American countries, circa 1992 and 2012. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: Latin America: unweighted means.

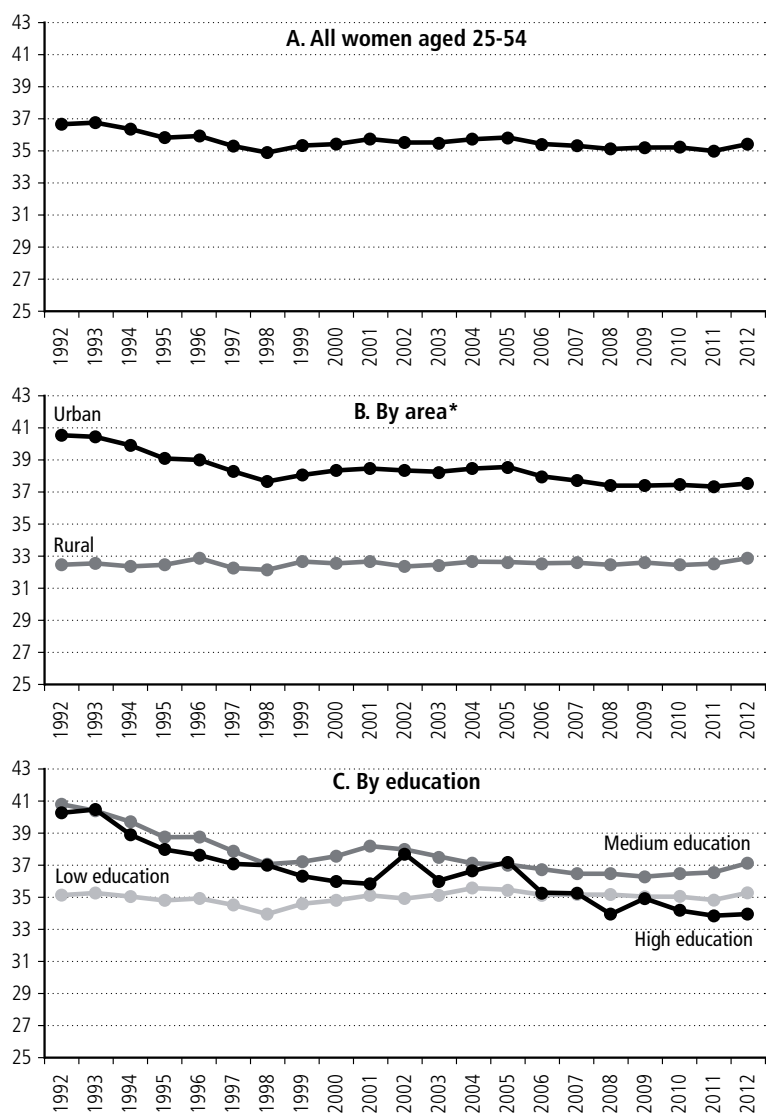
Extended and composite households, *i.e.* those including nonnuclear family members or non-kin members, respectively, are more common in Latin America than in other developing regions (Bongaarts, 2001). Such living arrangements may arise as a means to alleviate the effects of economic shocks, or as a result of family solidarity (for instance when single mothers need to enter the labor market).¹⁵ In fact, the percentage of young women living in extended or composite families is high in Latin America, and this is especially so among single mothers (Esteve *et al.*, 2012).

In Latin America, the proportion of women living in extended or composite households fell in the early 1990s, from 36.7% in 1992 to 34.9% in 1998, then increased slightly in the early 2000s, and then slightly decreased again since the mid-2000s (panel A in Figure 2.22 and Table 2.7 in the Appendix). The same pattern, but much more pronounced, is observed only for certain groups of women, particularly in urban areas and with medium and high educational levels (panels B and C in Figure 2.22). These changes in living arrangements may respond to the economic ups and downs over the years: economic growth in the early 1990s, the effects of the crises in the late 1990s and early 2000s, and economic prosperity since the mid-2000s.¹⁶

¹⁵ De Vos (1995) points out that the higher prevalence of consensual unions is associated with the higher prevalence of extended and compound households in Latin America.

¹⁶ The next section documents changes in the economic conditions in Latin America in the period 1992-2012.

Figure 2.22: Percentage of women living in extended or composite households Latin America, 1992-2012. Women aged 25-54.

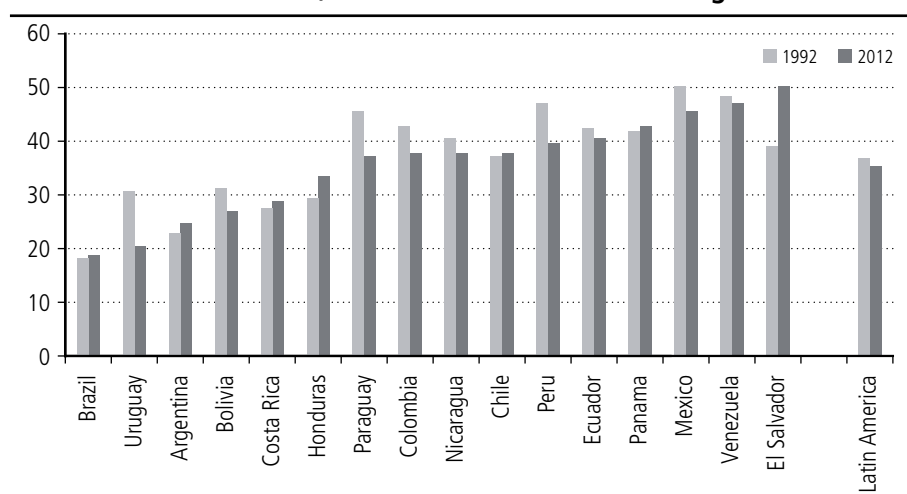


Source: own calculations based on microdata from national household surveys.

Note: Low education: less than secondary complete; medium education: secondary complete or tertiary incomplete; high education: tertiary complete. *Argentina excluded from rural statistics. Unweighted means.

The percentage of prime-age women living in extended or composite households varies greatly across Latin American countries (Figure 2.23). In 2012, numbers ranged from 18.6% in Brazil to 50.3% in El Salvador. Most of the countries experienced a fall in the proportion of such households between 1992 and 2012, with the biggest negative changes in Uruguay, Paraguay, and Peru (-9.9, -8.4, and -7.6 points, respectively), and the biggest positive changes in El Salvador (+11.2 points) and Honduras (+4.2 points).

Figure 2.23: Percentage of women living in extended or composite households by country
Latin American countries, circa 1992 and 2012. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.

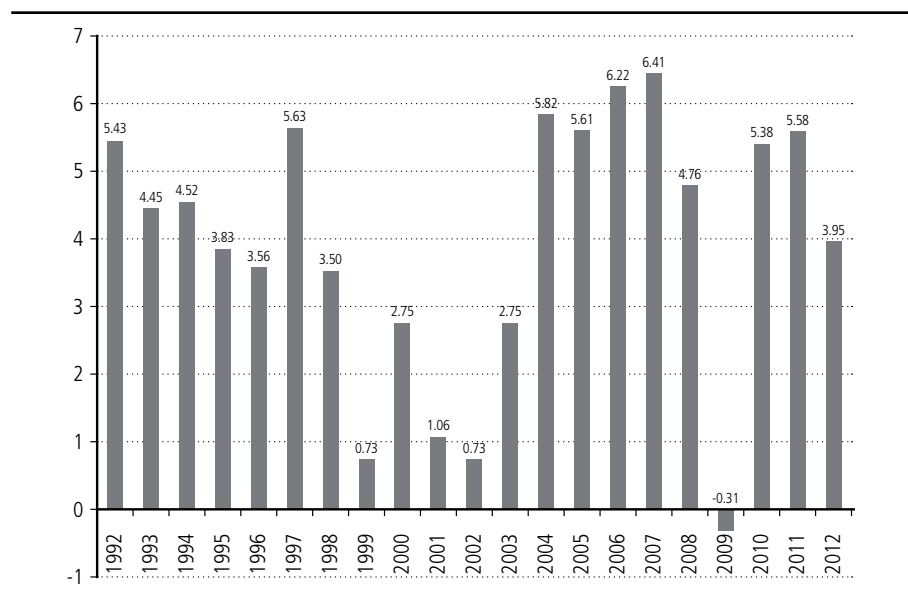
Note: Latin America: unweighted means.

5. Changes in the economic environment

The macroeconomic environment of countries shapes the employment decisions of individuals to a significant extent. Decisions regarding labor participation are likely to change depending on whether the context is highly volatile and uncertain or stable and exhibiting high levels of income growth. In the latter case, the planning horizon is typically longer. Female labor participation is particularly sensitive to the macroeconomic environment. Changes in economic conditions and employment opportunities affect female LFP directly, but also indirectly, through a strong interdependence with the employment status of other household members, particularly husbands.

The accumulated growth of the Gross Domestic Product (GDP) in the region between 1992 and 2012 was 82.3%, while the average annual growth rate was 3.9% (Figure 2.24). It is useful to distinguish three broad stages that summarize the large variability over time that is hidden behind that average. Between 1992 and 1998, GDP grew 4.4% per year on average. The next five years were marked by several crises with a strong negative impact on economic growth: the GDP grew only 1.6% per year on average during this period.¹⁷ Finally, recovery resulted in high growth rates over the following years. Between 2004 and 2012, the annual GDP growth rate was 4.8%, slightly above the 4.4% exhibited during the 1992-1998 period. Despite this apparent similarity, the latter period is characterized by less variability across countries and over time, especially if we ignore the year 2009.¹⁸ Average GDP growth rate in 2004-2012 was 5.4% if we exclude 2009, with a coefficient of variation (across countries and years) of 0.52, which is 25% lower than the 0.69 in 1992-1998.

**Figure 2.24: GDP annual growth rate (in %)
Latin America 1992-2012.**



Source: own calculations based on World Development Indicators.

Note: unweighted means.

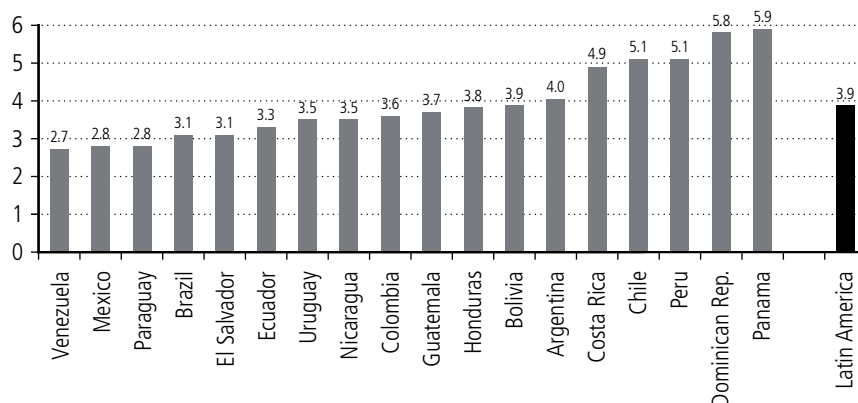
17 The crises of global reach were the Asian financial crisis of 1997 and the Russian financial crisis of 1998. Specific crises in some countries of the region were Mexico's economic crisis in 1994, the Argentinean crisis of 2001, the banking crisis of Uruguay in 2002 and the Dominican financial crisis of 2003. Later, a new global financial crisis occurred in 2008.

18 Half of the Latin American countries experienced negative growth rates in 2009.

For simplicity, in some sections of this study we divide the period under analysis into two decades: 1992-2002 and 2002-2012. In terms of economic growth, the second period was characterized by a higher growth rate (4.6% vs. 3.3%) and a lower variation of the GDP growth rate across countries and time (0.72 vs 1.09). Interestingly, the higher growth in the last decade was also accompanied by greater nominal stability, with an average (median) rate of inflation of 7.8% (5.6%), compared to 39.7% (9.9%) in 1992-2002.

Figure 2.25 shows that the regional average hides very different growth prospects across countries: from a minimum of 2.6% in Venezuela to a maximum of 5.9% in Panama. Interestingly, and despite the effects of numerous global and internal crises, all countries exhibited positive average growth rates for both decades. Unlike what happens at the aggregate level in the region, in 5 of the 18 countries, average annual growth was higher in the first decade (El Salvador, Chile, Dominican Republic, Guatemala, and Mexico, in that order).

**Figure 2.25: GDP annual growth rate (in %)
Latin American countries, 1992-2012.**

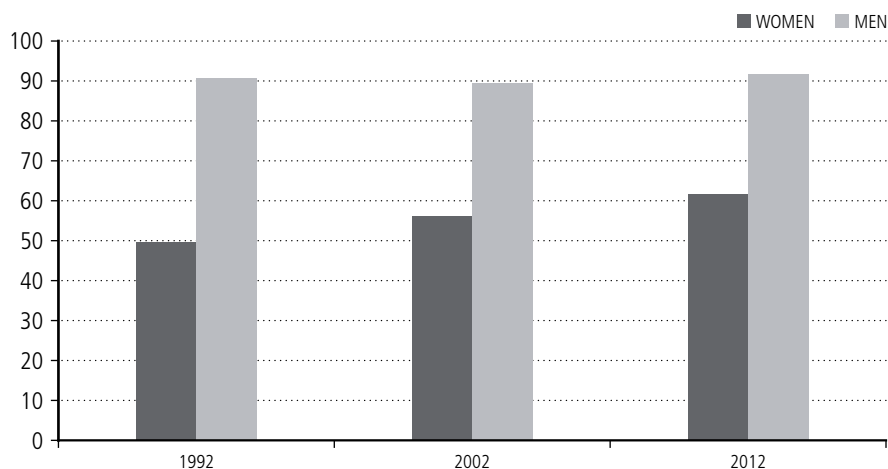


Source: own calculations based on World Development Indicators.

Note: unweighted means over the period 1992-2012.

Output growth brought changes in employment levels, mostly driven by female employment, as we further document in Chapter 3. The proportion of working women aged 25-54 increased by 12 percentage points between 1992 and 2012, while male employment remained high but rather stable around 91% (Figure 2.26).

Figure 2.26: Employment rates by gender
Latin America 1992, 2002 and 2012. Adults aged 25-54.



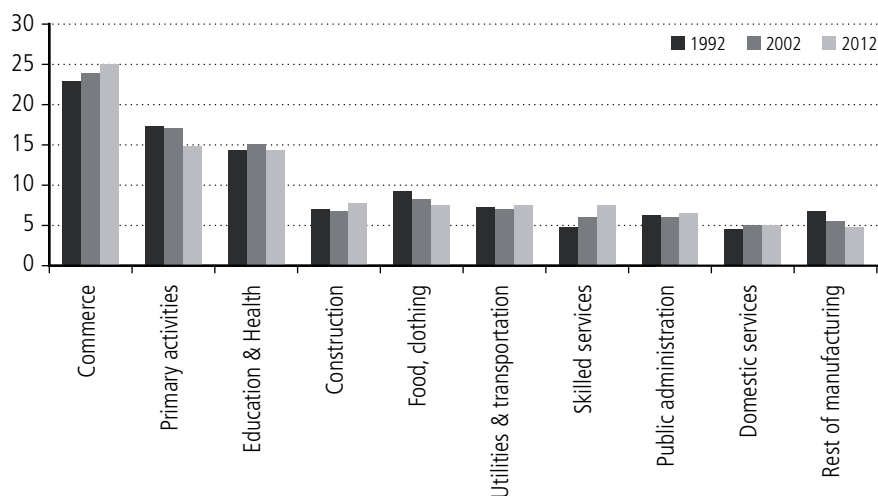
Source: own calculations based on SEDLAC (CEDLAS and the World Bank).

Note: unweighted means.

As we further analyze in Chapter 4, the structure of employment by sector also experienced some changes over this period (Figure 2.27). The share of employment in primary activities and manufacturing fell during both decades, while the share of employment in commerce, domestic services, and skilled services increased. Other sectors expanded in one decade but contracted in the other. Such is the case of education and health, which expanded in the 1990s, and construction, utilities and transportation, and public administration, which expanded in the 2000s. It is worth noting that several sectors in which the majority of workers are women—namely commerce and domestic services, and health and education—are also those that expanded during this period.

A final point to consider is the rise in the proportion of the urban population, which coincides with the above-mentioned contraction of the primary sector. The proportion of the population concentrated in urban areas rose from 63.8% to 69% in 1992-2002. By 2012, nearly three out of every four Latin Americans (73.3%) lived in cities (Figure 2.28). This process of urbanization is common to all the countries in the region, from Uruguay, which had the lowest share of rural population (7.4% in 2012), to Guatemala, where half of the population still lived in rural areas in 2012.

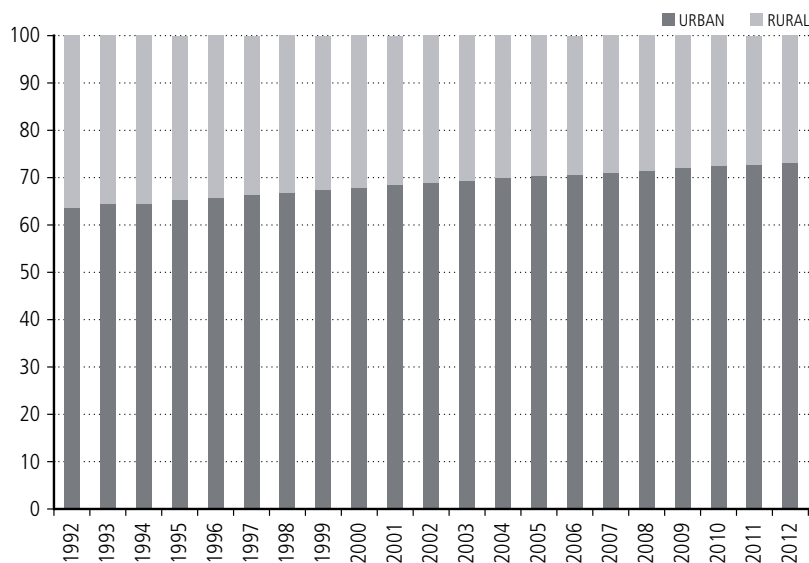
Figure 2.27: Structure of employment by sector (in %)
Latin America 1992, 2002 and 2012. Adults aged 25-54.



Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Note: unweighted means.

Figure 2.28: Rural and urban population (in % of total population)
Latin America, 1992-2012.



Source: own calculations based on World Development Indicators.

Note: unweighted means.

6. Concluding remarks

This chapter has documented some of the changes that took place in Latin America over the period 1992-2012 that are likely related to the changes in female labor participation presented in the rest of this book. The evolution of education, fertility, and economic conditions over the last two decades are consistent with higher female participation rates.

Women's educational attainment has notably improved in Latin America over the last two decades. Women's years of schooling increased faster than men's, causing the male to female schooling gap to reverse in the late 2000s, on average for the region. Despite this common trend, there are countries in which women's educational level is still too low, both in absolute terms and with respect to men's. Moreover, women in rural areas suffer from an even greater educational disadvantage, not only in relation to men but also with respect to urban women, and the rural-urban gap in women's years of schooling has not changed over the last twenty years.

The drop in fertility is central to explaining the increase in female labor force participation during the twentieth century. In Latin America, fertility started to fall in the mid-1960s. Today, some countries and population groups already exhibit low fertility, but others, particularly the poor, the less educated and rural populations, still lag far behind in the transition.

This dramatic decline in fertility occurred without significant changes in the timing or prevalence of marriages, either formal or consensual. The percentage of married women has remained high over the years despite a slight decreasing trend, while the age at first marriage and first birth continues to be relatively low compared to developed regions. Instead, there have been profound transformations in family arrangements and household structure. Female headship has risen markedly in the region, despite the marked slow-down of the increasing trend of female economic heads. It is very likely that both phenomena are closely related to changes in female LFP. The fall in the proportion of women living in extended or composite households has been particularly marked among medium and highly educated groups in urban areas, and the variations mimic the economic ups and downs over the years.

The region has experienced substantial economic transformations that are bound to have implications for female LFP. High economic growth, especially during the 2000s, may have affected labor supply through different channels, while changes in the structure of the economy favoring sectors where women are more intensively employed may have fostered female labor participation.

Changes in the policy environment are also crucial to understand changes in female LFP. In particular, over the last decades, Latin American countries have substantially expanded their social security systems, mainly through the extension of conditional cash transfer programs and non-contributory pensions. In addition, several initiatives were introduced to protect and foster female employment. We will discuss these policy changes in chapters 3, 5, 6 and 8.

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Appendix

**Table 2.1: Average years of schooling
Latin America, 1992-2012. Adults aged 25-54.**

	Men	Women	Women by area	
			Rural	Urban
1992	7.6	7.2	4.6	8.4
1993	7.6	7.3	4.7	8.5
1994	7.7	7.3	4.8	8.5
1995	7.8	7.5	4.9	8.6
1996	7.9	7.5	5.0	8.7
1997	8.0	7.7	5.1	8.8
1998	8.1	7.8	5.2	9.0
1999	8.2	7.9	5.2	9.0
2000	8.2	8.0	5.3	9.1
2001	8.3	8.1	5.4	9.1
2002	8.3	8.2	5.4	9.2
2003	8.5	8.3	5.5	9.3
2004	8.6	8.4	5.7	9.4
2005	8.7	8.6	5.8	9.5
2006	8.8	8.7	5.9	9.6
2007	8.9	8.8	6.1	9.8
2008	9.0	8.9	6.2	9.9

	Men	Women	Women by area	
			Rural	Urban
2009	9.0	9.1	6.3	10.0
2010	9.1	9.1	6.4	10.1
2011	9.2	9.3	6.5	10.3
2012	9.4	9.4	6.7	10.4

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

Table 2.2: Educational structure by gender (in %)
Latin America, 1992-2012. Adults aged 25-54.

	Women						Men					
	prii	pric	seci	secc	supi	supc	prii	pric	seci	secc	supi	supc
1992	38.5	20.2	15.4	13.2	5.2	7.4	35.0	21.2	16.9	12.9	5.8	8.1
1993	37.8	19.9	15.3	13.8	5.4	7.8	34.1	21.3	17.0	13.2	6.0	8.5
1994	36.8	20.0	15.2	14.4	5.4	8.3	33.1	21.4	16.9	13.8	6.0	8.8
1995	35.8	19.7	15.4	14.8	5.7	8.6	32.3	21.0	17.1	14.0	6.3	9.2
1996	34.9	19.5	15.7	15.2	5.7	9.0	31.4	20.5	17.7	14.7	6.3	9.5
1997	33.9	19.4	16.1	15.4	5.8	9.5	30.6	20.5	18.0	14.8	6.4	9.8
1998	32.8	19.6	16.2	15.3	6.1	9.9	29.5	20.7	18.5	14.7	6.6	9.9
1999	32.2	19.5	16.2	15.6	6.4	10.2	28.8	20.7	18.4	15.0	7.0	10.1
2000	31.3	19.6	16.1	15.9	6.8	10.3	28.5	20.5	18.5	15.6	6.7	10.3
2001	31.0	18.9	15.6	16.7	7.1	10.6	28.4	20.1	17.8	16.1	7.4	10.3
2002	30.5	18.7	16.0	16.8	7.5	10.6	28.2	20.0	18.0	16.1	7.5	10.2
2003	29.5	18.4	16.2	16.9	7.9	11.0	27.1	19.8	18.1	16.6	7.8	10.5
2004	28.4	18.5	16.5	17.0	8.4	11.3	26.1	19.8	18.3	17.0	8.0	10.8
2005	27.4	18.1	16.5	17.4	8.1	12.5	25.2	19.3	18.3	17.7	7.9	11.6
2006	26.5	18.3	16.6	17.9	8.0	12.8	24.4	19.5	18.4	18.3	7.7	11.7
2007	25.6	17.9	16.7	18.3	8.3	13.3	23.4	19.2	18.5	18.8	7.8	12.3
2008	24.8	17.5	16.7	18.8	8.4	13.8	22.9	19.0	18.5	19.4	7.9	12.3
2009	24.0	17.5	16.5	18.9	8.9	14.2	22.4	18.6	18.2	19.9	8.4	12.6

	Women						Men					
	prii	pric	seci	secc	supi	supc	prii	pric	seci	secc	supi	supc
2010	23.3	17.3	16.8	19.0	9.3	14.3	21.7	18.5	18.6	19.9	8.8	12.4
2011	22.3	16.8	16.6	19.6	9.1	15.6	20.7	18.0	18.8	20.6	8.8	13.1
2012	21.9	16.5	16.4	20.0	9.1	16.1	20.3	17.7	18.4	21.1	9.0	13.5

Source: own calculations based on microdata from national household surveys.

Note: Highest level attended prii: incomplete primary; pric: complete primary; seci: incomplete secondary; secc: complete secondary; supi: incomplete tertiary; supc: complete tertiary. Unweighted means.

**Table 2.3: Total fertility rate (children per woman)
Regions of the world, 1950-2010.**

	1950-1955	1955-1960	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010
World	5.02	4.96	4.98	4.90	4.47	3.92	3.58	3.38	3.05	2.80	2.65	2.55
Developed regions	2.84	2.82	2.69	2.37	2.13	1.91	1.85	1.83	1.68	1.55	1.56	1.60
Developing regions	6.15	6.01	6.04	6.00	5.41	4.65	4.15	3.84	3.42	3.11	2.90	2.75
East Asia & Pacific	5.82	5.95	5.85	5.43	4.99	4.32	4.04	3.69	3.36	3.03	2.76	2.63
Europe & Central Asia	3.33	3.31	3.26	3.01	2.78	2.49	2.31	2.22	2.00	1.74	1.65	1.72
Middle East & North Africa	6.70	6.65	6.73	6.65	6.40	6.16	5.81	5.09	4.26	3.58	3.05	2.78
Latin America & Caribbean	5.82	5.92	5.85	5.35	4.80	4.25	3.82	3.46	3.16	2.85	2.59	2.42
North America	3.49	3.78	3.54	2.59	2.00	1.75	1.72	1.77	1.86	1.78	1.78	1.84
South Asia	6.38	6.51	6.49	6.43	6.28	6.09	5.88	5.50	4.85	4.29	3.64	3.16
Sub-Saharan Africa	6.37	6.45	6.59	6.64	6.72	6.67	6.53	6.29	5.94	5.63	5.34	5.03
Latin America	6.08	6.12	6.08	5.67	5.15	4.61	4.09	3.68	3.36	3.04	2.77	2.55
The Caribbean	5.32	5.54	5.39	4.75	4.13	3.56	3.32	3.05	2.78	2.48	2.25	2.19
High income: OECD	2.98	3.06	3.04	2.73	2.42	2.09	1.91	1.81	1.75	1.64	1.61	1.70
High income: nonOECD	4.98	4.96	4.82	4.28	3.94	3.48	3.27	3.02	2.67	2.36	2.11	2.02
Low income	6.41	6.51	6.59	6.64	6.72	6.60	6.57	6.36	6.01	5.71	5.37	5.03

	1950-1955	1955-1960	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010
Lower middle income	6.21	6.31	6.33	6.25	6.08	5.83	5.51	5.11	4.65	4.18	3.79	3.55
Upper middle income	5.74	5.76	5.77	5.44	4.98	4.51	4.10	3.69	3.21	2.79	2.52	2.38

Source: own calculations based on United Nations, Department of Economic and Social Affairs, Population Division (2013). World Population Prospects: The 2012 Revision, DVD Edition.

**Table 2.4: Number of children under 12 per household
Latin America, 1992-2012. Households with mother aged 25-54.**

	All households with mother 25-54	Mothers' education			Parental income quintile					Area of residence	
		Low	Medium	High	1	2	3	4	5	Rural	Urban
1992	1.60	1.68	1.35	1.23	1.70	1.85	1.72	1.56	1.33	2.00	1.39
1993	1.57	1.65	1.31	1.22	1.68	1.82	1.71	1.52	1.30	1.97	1.36
1994	1.55	1.63	1.31	1.16	1.68	1.81	1.67	1.49	1.26	1.94	1.34
1995	1.52	1.61	1.29	1.11	1.67	1.77	1.65	1.46	1.23	1.92	1.32
1996	1.49	1.58	1.28	1.12	1.65	1.76	1.63	1.42	1.21	1.89	1.30
1997	1.47	1.55	1.27	1.10	1.64	1.72	1.57	1.40	1.20	1.85	1.28
1998	1.44	1.53	1.24	1.06	1.61	1.72	1.54	1.37	1.17	1.81	1.26
1999	1.41	1.50	1.22	1.01	1.60	1.69	1.52	1.34	1.12	1.79	1.23
2000	1.39	1.48	1.18	1.00	1.59	1.66	1.48	1.30	1.08	1.76	1.20
2001	1.36	1.46	1.15	0.98	1.58	1.62	1.47	1.27	1.07	1.73	1.20
2002	1.34	1.44	1.12	0.94	1.52	1.60	1.45	1.25	1.05	1.70	1.17
2003	1.30	1.41	1.09	0.94	1.47	1.55	1.42	1.23	1.02	1.65	1.15
2004	1.26	1.36	1.06	0.92	1.40	1.51	1.37	1.19	1.01	1.61	1.11
2005	1.23	1.33	1.03	0.90	1.39	1.45	1.33	1.15	0.98	1.57	1.07
2006	1.19	1.30	1.02	0.86	1.36	1.43	1.30	1.12	0.95	1.51	1.05
2007	1.16	1.27	1.01	0.84	1.33	1.39	1.25	1.09	0.92	1.47	1.02
2008	1.13	1.22	0.99	0.82	1.26	1.36	1.21	1.06	0.91	1.42	0.99
2009	1.09	1.18	0.96	0.80	1.22	1.29	1.18	1.03	0.88	1.35	0.97

	All households with mother 25-54	Mothers' education			Parental income quintile					Area of residence	
		Low	Medium	High	1	2	3	4	5	Rural	Urban
2010	1.06	1.15	0.94	0.77	1.19	1.26	1.15	1.01	0.86	1.33	0.94
2011	1.03	1.11	0.94	0.76	1.14	1.23	1.11	0.97	0.86	1.28	0.92
2012	1.01	1.10	0.93	0.77	1.13	1.20	1.09	0.96	0.84	1.26	0.90

Source: own calculations based on microdata from national household surveys.

Note: low education: less than secondary complete; medium education: secondary complete or tertiary incomplete; high education: tertiary complete. Unweighted means.

Table 2.5: Percentage of women by marital status (in %) Latin America, 1992-2012. Women aged 25-54.

	Married (legal or consensual unions)	Single	Divorced and Widowed
1992	71.7	15.7	12.6
1993	71.7	15.5	12.8
1994	71.8	15.1	13.0
1995	71.6	14.9	13.5
1996	71.2	14.9	13.9
1997	71.0	14.6	14.4
1998	71.0	14.5	14.5
1999	70.8	14.4	14.8
2000	70.2	14.7	15.1
2001	69.7	14.8	15.5
2002	69.7	15.4	15.0
2003	69.0	16.2	14.8
2004	68.9	16.1	15.0
2005	68.2	16.5	15.3
2006	67.7	17.0	15.3
2007	67.7	17.1	15.2
2008	67.4	17.3	15.3
2009	66.9	17.6	15.6
2010	66.6	18.1	15.3
2011	66.2	18.4	15.4
2012	65.8	18.7	15.5

Source: own calculations based on microdata from national household surveys.

Note: Statistics exclude Brazil. Unweighted means.

Table 2.6: Percentage of female household heads among women Latin America, 1992-2012*. Women aged 25-54.

	Female hh single hh (def. 1)	Female hh (def. 2)	Economic female hh (def. 3)	Female hh (definition 1)			Female single hh (definition 2)			Economic female hh (definition 3)							
				Education			Education			Education							
				Low	Medium	High	Rural	Urban	Low	Medium	High	Rural	Urban	Low	Medium	High	
1992	14.0	12.6	14.3	12.9	14.7	10.6	15.6	12.8	11.6	13.7	9.7	13.9	12.1	18.5	26.5	10.4	16.0
1993	14.2	12.7	14.5	13.3	14.2	10.8	15.8	13.0	11.9	13.2	9.9	14.1	12.2	18.7	26.6	10.7	16.2
1994	14.4	13.0	14.8	13.3	15.0	11.1	15.9	13.2	12.0	13.8	10.1	14.2	12.4	19.0	26.0	11.1	16.2
1995	15.0	13.4	15.7	15.3	15.3	11.3	16.6	13.7	12.3	14.2	10.3	14.7	13.3	19.8	26.9	11.9	16.9
1996	15.6	13.7	16.1	16.0	13.6	15.7	17.1	14.1	12.0	14.4	10.3	15.1	13.6	19.7	27.2	11.9	17.5
1997	16.2	14.2	16.5	16.7	14.5	16.4	12.0	18.0	14.5	12.6	14.7	10.5	15.6	14.0	20.0	12.3	18.1
1998	16.7	14.5	17.1	17.2	14.8	16.6	12.3	18.3	14.9	12.9	14.7	10.8	15.8	14.6	20.4	13.3	18.2
1999	16.9	14.4	17.6	17.5	14.8	17.0	12.6	18.3	14.8	12.8	15.1	10.9	15.6	15.2	20.1	13.9	18.5
2000	17.1	14.7	17.9	17.7	15.3	17.1	12.5	18.6	15.1	13.1	15.0	10.8	15.9	15.5	20.1	13.7	19.0
2001	17.8	15.1	18.5	18.4	16.0	17.9	13.0	19.3	15.6	13.6	15.3	11.1	16.3	16.0	20.4	14.1	19.4
2002	18.2	15.2	18.8	18.6	17.1	18.7	12.9	19.9	15.4	14.4	15.7	10.9	16.5	16.2	21.5	13.9	19.9
2003	18.8	15.6	19.4	19.4	17.5	19.1	13.8	20.3	16.0	14.8	15.8	11.6	16.8	16.8	21.5	14.4	20.5
2004	19.2	15.9	19.1	19.6	18.0	19.7	13.9	20.7	16.1	15.0	16.2	11.7	17.0	16.3	21.4	14.4	20.2
2005	19.8	16.3	19.3	20.4	18.7	20.1	14.5	21.4	16.6	15.4	16.6	12.2	17.5	16.4	21.4	15.0	20.3
2006	20.4	16.7	19.6	21.3	19.0	19.6	15.1	21.9	17.2	15.6	16.1	12.7	17.8	16.8	21.4	15.4	20.7
2007	21.2	16.8	19.5	22.3	19.2	19.8	15.6	22.7	17.6	15.3	15.5	12.7	17.9	16.7	21.1	15.2	20.5
2008	21.9	16.9	19.8	23.0	19.7	21.2	16.5	23.2	17.6	15.3	16.7	13.0	17.9	16.9	20.8	15.4	20.9
2009	22.4	16.9	20.2	23.4	20.4	21.7	17.0	23.7	17.6	15.2	16.7	13.2	17.8	17.3	21.2	16.0	21.1
2010	23.0	17.0	20.3	24.0	21.2	22.4	17.2	24.4	17.8	15.7	17.0	12.9	18.1	17.4	21.4	15.8	21.3
2011	23.5	17.0	20.2	24.6	21.3	23.6	17.5	24.9	17.8	15.7	16.9	12.6	18.2	17.2	20.9	15.8	21.2
2012	23.8	17.0	20.2	25.1	21.7	23.1	18.0	25.1	17.8	15.8	16.1	12.7	18.1	17.2	20.9	15.9	21.2

Source: own calculations based on microdata from national household surveys.

Note: Definitions: def. 1: female household head (hh) comes from the report in the surveys, in any kind of household; def. 2: female single hh comes also from the report but only single-parent households are considered; def. 3: economic female hh if women earns at least 50% of total family income. Low education: less than secondary complete; medium education: secondary complete or tertiary incomplete; high education: tertiary complete. *Statistics by area exclude Argentina. Unweighted means.

Table 2.7: Percentage of women living in extended or composite households Latin America, 1992-2012. Women aged 25-54.

	All	Low education	Medium education	High education	Rural	Urban
1992	36.7	35.1	40.8	40.2	32.4	40.5
1993	36.8	35.3	40.4	40.5	32.6	40.5
1994	36.4	35.0	39.7	38.9	32.3	39.9
1995	35.8	34.8	38.7	37.9	32.5	39.0
1996	35.9	34.9	38.7	37.7	32.9	39.0
1997	35.4	34.4	37.8	37.1	32.3	38.3
1998	34.9	33.9	37.0	36.9	32.1	37.6
1999	35.3	34.6	37.2	36.4	32.7	38.0
2000	35.4	34.8	37.5	36.0	32.6	38.3
2001	35.7	35.1	38.1	35.7	32.7	38.4
2002	35.6	34.9	38.0	37.6	32.3	38.3
2003	35.6	35.2	37.5	36.0	32.4	38.2
2004	35.8	35.5	37.0	36.7	32.6	38.4
2005	35.8	35.5	36.9	37.2	32.7	38.5
2006	35.4	35.1	36.8	35.2	32.5	37.9
2007	35.3	35.1	36.4	35.3	32.5	37.7
2008	35.2	35.1	36.5	33.9	32.4	37.4
2009	35.2	35.0	36.2	34.9	32.5	37.5
2010	35.2	35.0	36.4	34.1	32.5	37.4
2011	35.0	34.8	36.6	33.8	32.6	37.3
2012	35.4	35.2	37.0	34.0	32.9	37.5

Source: own calculations based on microdata from national household surveys.

Note: low education: less than secondary complete; medium education: secondary complete or tertiary incomplete; high education: tertiary complete. Unweighted means.

Chapter 3

Female labor force participation: the evidence

Leonardo Gasparini and
Mariana Marchionni

1. Introduction

Women's increased participation in the labor market stands as one of the most salient global economic and social transformations of the last fifty years. Latin America has not been an exception: on average, while in the 1960s only two out of ten prime-age women in the region were either working or looking for a job, that proportion climbed to more than six out of ten at the beginning of the 2010s. The rise in female labor force participation has been remarkably steep and uninterrupted, and it contrasts against the turbulent economic and social dynamics that have characterized Latin America in the last half-century.

In this chapter we focus our analysis of female labor force participation on the last two decades (1992-2012) by exploiting a rich database of microdata from national household surveys. We find that although the levels of female labor supply are lower in Latin America than in several regions of the world, the gaps have substantially shrunk over time due to the strong increase in the engagement of Latin American women in labor market activities. The chapter highlights, however, a fact that has so far been overlooked by the literature: there are signs of a widespread and significant deceleration in female entry into the labor market.¹ This deceleration seems to have been taking place since the early-2000s, and it applies to all groups of women, but particularly to those women who live with a spouse and in more vulnerable households. This new piece of evidence adds an additional interesting question to the research agenda: we need to better

1 There are some contributions documenting this fact at the country level (*e.g.* Beccaria, Maurizio and Vázquez, 2014).

understand the determinants and implications of both the strong rise in female labor force participation in the last half-century and its recent deceleration.

While the following chapters are aimed at identifying the determinants of labor force participation, understanding their consequences, and discussing their policy implications, in this chapter we provide a detailed characterization of the basic facts. The rest of this chapter is organized as follows. In section 2 we discuss some issues regarding the measurement of labor force participation and employment in Latin America, including data sources and definition of variables. Section 3 documents the levels of female participation across countries and groups using the latest household survey data. Section 4 is the core of the chapter: it presents the main patterns of female labor force participation in Latin America over time and in comparison with other regions of the world. In section 5 we characterize patterns in labor participation over time by groups defined by key variables. These variables, which include education, age, marital status, and the number of children, strongly influence preferences and opportunities in the labor market. In section 6 we document changes in the structure of women's employment by sector and type of job vis-a-vis the pattern experienced by males. Section 7 concludes with some final remarks.

2. Some measurement issues

As discussed in Chapter 1 of the book, the precise definition of labor force participation implies some conceptual and practical challenges. It is conventional to consider a person in the labor force if she is either employed or actively seeking a job. Typically, a person is classified as employed if she is regularly engaged in an economic activity. However, some activities, such as housework and child rearing, are not counted as employment by statistical agencies if they are not performed for a wage or salary, as is often the case for housewives. In this chapter and in the rest of the book, we follow the usual practice of including only market economic activities as employment.² The concept of "actively seeking a job" is also ambiguous and it is difficult to capture with precision in surveys or censuses, as it requires a detailed inquiry into all the activities that a person carries out with the aim of finding a job.

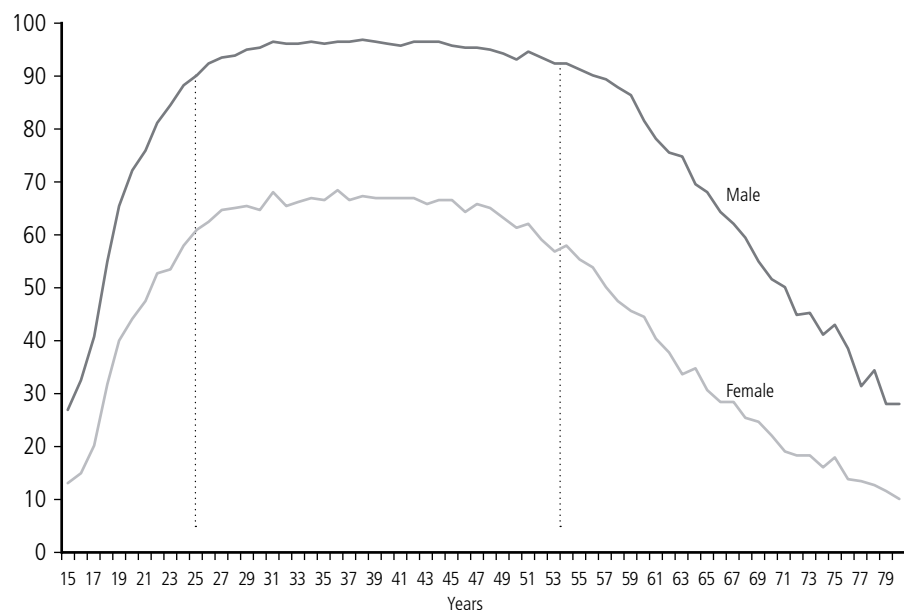
As in the rest of the book, this chapter mainly draws on microdata from household surveys, rather than on census data. National household surveys allow

2 In some cases the absence of a clear distinction between market and home activities blurs the measurement of labor force participation, especially for women in certain activities (*e.g.* in rural areas).

for a more precise estimate of labor force participation and for a much closer and frequent monitoring of the developments in the labor markets, because most surveys are collected on a yearly basis. They also permit a richer analysis, as surveys include a wider set of potential covariates of LFP. Most statistics in the chapter are obtained by processing microdata from household surveys following the standardized protocol of the Socioeconomic Database for Latin America and the Caribbean (SEDLAC) (see Chapter 1 for details on this database and the surveys used).

It is important to recognize that despite the fact that (i) the national statistical offices in Latin American countries typically measure employment using the same ILO general methodology, and that (ii) we apply consistent methods of processing the data, perfect comparability across countries/years is never assured. However, being aware of these comparability problems does not mean dismissing the use of data altogether. With all of their limitations, surveys and censuses still provide valuable information and are the best sources available to generate useful statistics of labor force participation and its covariates.

Figure 3.1: Labor force participation by age and gender
Latin America, 2012.



Source: own calculations based on microdata from national household surveys.

Note: unweighted means of country rates.

Most of the analysis on labor supply in this chapter is limited to people aged 25 to 54 years old in order to isolate our analysis from issues of education and youth labor market participation, and issues of elderly employment and pension systems. Figure 3.1 supports the choice of the sample by showing the unweighted mean of labor force participation by age. The inverted-U shape of the curve reveals low but increasing participation among youths, a plateau for those around the 25-54 bracket, and a fall afterwards. The decline in LFP among women in their 50s coincides with the retirement age in some labor activities (*e.g.* education).

In the next section we start the analysis of the evidence by focusing on the levels of female labor force participation in the Latin American economies, deferring the documentation of trends to the next sections.

3. Levels of female participation

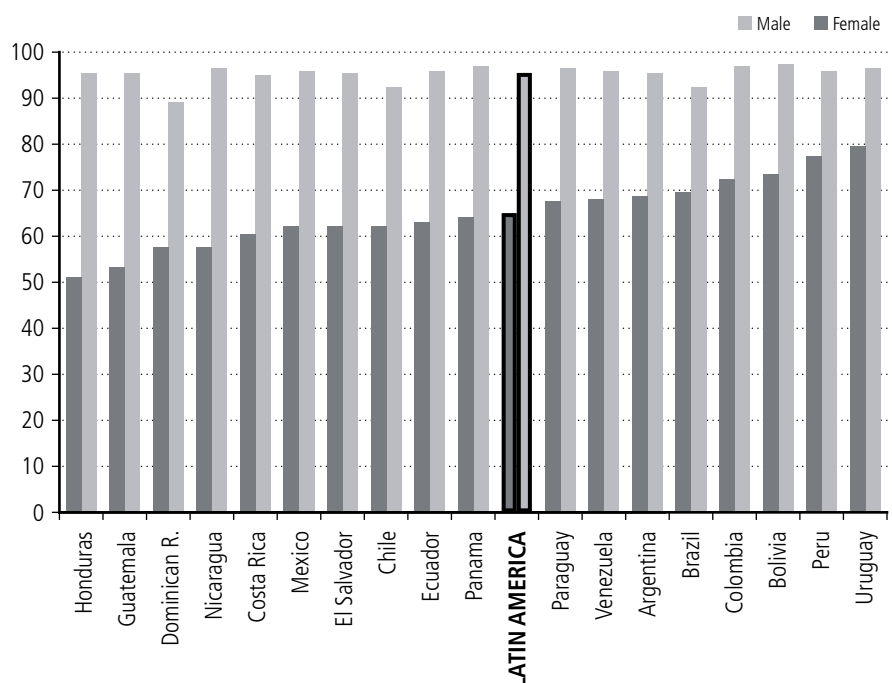
Despite the long and sustained pattern of increasing female labor force participation that has characterized Latin America labor markets over the last half century, the rates are still significantly lower for women as compared to men. Information from national household surveys reveals that the gap is considerable. In a typical Latin American country, around 65 out of 100 adult women (ages 25 to 54) participate in the labor force by either working or actively seeking employment. By contrast, the proportion for men is 95 out of 100. While the figure for men is quite similar across Latin American economies, there is appreciable cross-country heterogeneity in the rate of female labor force participation (Figure 3.2).³ In 2012 that rate ranged from 51% in Honduras to 80% in Uruguay.⁴ In this section we further document the levels of female LFP in Latin America and explore some factors that are correlated with the differences across countries.

The gender gaps are generalized across different age groups. Although the rates of participation are substantially lower for youths and for the elderly, the gaps between females and males in those age groups remain large (Table 3.1 in the Appendix). The difference is somewhat smaller among youths but they are still considerable: on average 24 points instead of 30 for prime-age adults (Figure 3.3).

3 Other authors have previously documented and discussed the large cross-country heterogeneity (*e.g.* Paz, 2008).

4 It is unlikely that these differences are mainly driven by methodological differences in capturing labor participation: the rate of LFP for males is similar in Honduras and Uruguay.

**Figure 3.2: Labor force participation by gender
Latin American countries, 2012. Adults aged 25-54.**



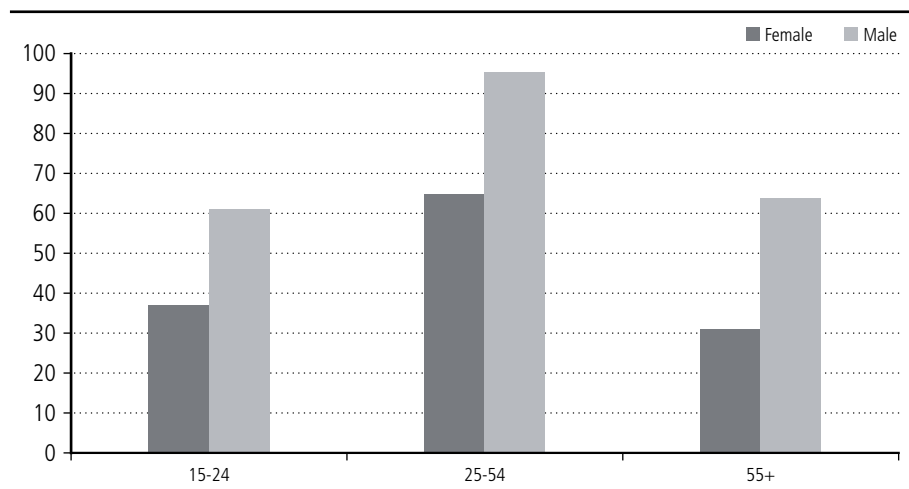
Source: own calculations based on microdata from national household surveys.

Note: year 2012 or closest year with available survey. Latin America: unweighted mean.

The differences in employment between adult females and males are quite similar to the gaps in labor force participation (Table 3.2 in the Appendix). This similarity is mainly driven by the relatively low unemployment rates for both groups: 5.2% for women and 3.4% for males, on average for the region in 2012. With the exceptions of El Salvador, Mexico, and Nicaragua, the unemployment rates are significantly higher for females than for males. The unemployment duration is also longer for females: more than two months, on average.

The overall level of work activity can be split into the number of individuals in work (the *extensive margin* of labor supply) and the intensity of work supplied by those employed (the *intensive margin*). This reflects the distinction between whether to work and how much to work, at the individual level. The differences between females and males are substantial in both margins. On average, a typical woman works 40 hours per week, while a man works 48 hours. The size of this gap varies across countries, but in all countries the difference is

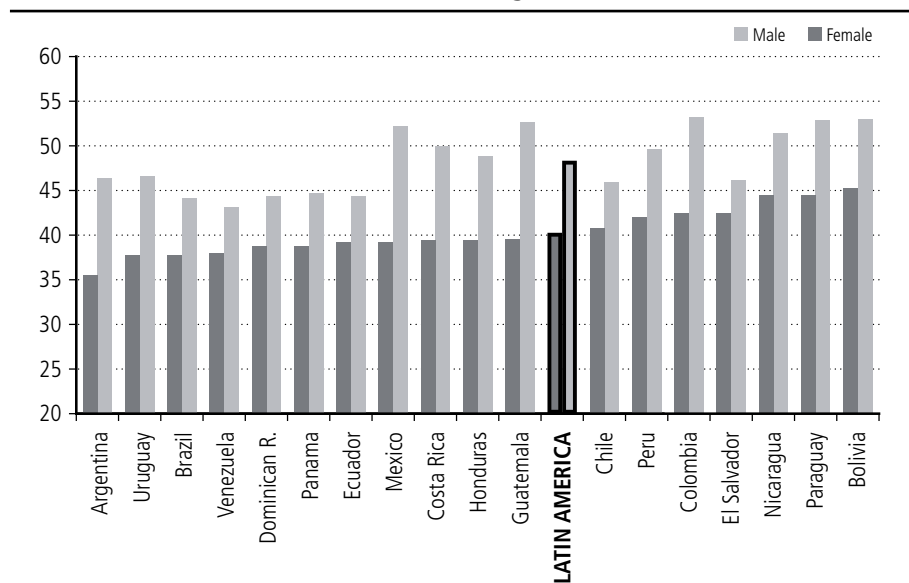
**Figure 3.3: Labor force participation by age and gender
Latin America, 2012.**



Source: own calculations based on microdata from national household surveys.

Note: year 2012 or closest year with available survey. Unweighted means.

**Figure 3.4: Hours of work per week
Latin American countries, 2012. Adults aged 25-54.**



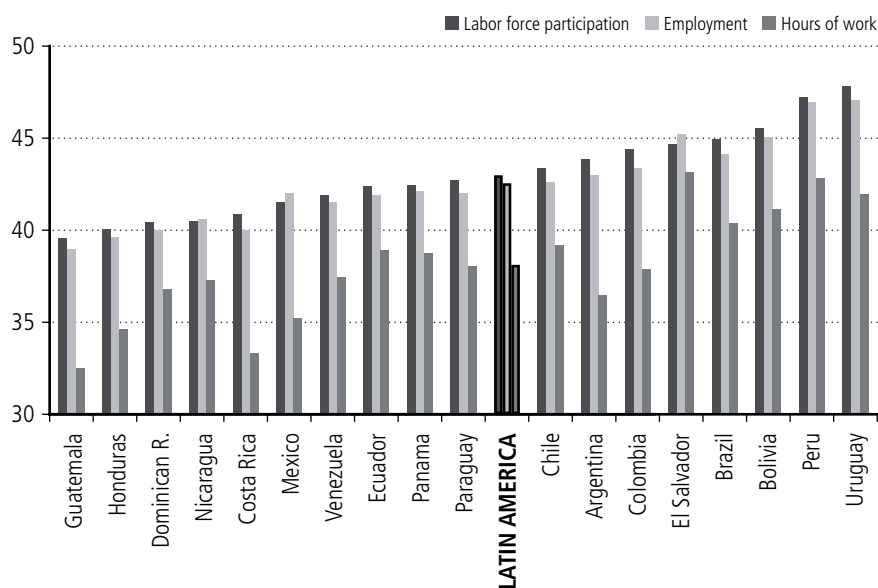
Source: own calculations based on microdata from national household surveys.

Note: year 2012 or closest year with available survey. Hours of work per week. Latin America: unweighted means.

statistically significant (Figure 3.4 and Table 3.3 in the Appendix). Accordingly, the proportion of part-time workers (less than 30 hours per week) is significantly higher for women in all countries (Table 3.4 in the Appendix). On average, the gap is 16 points: 24% of female workers have part-time employment, while the corresponding share is just 8% for men.

Figure 3.5 summarizes the current situation in terms of female participation in the labor market by showing the share of women in the labor force, in total employment and in hours of work. The correlation between the three shares across countries is high, suggesting that the degree to which women take part in the labor market is similar when alternatively considering the three variables.⁵

Figure 3.5: Share of women in labor force, employment, and total hours of work per week
Latin American countries, 2012. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: year 2012 or closest year with available survey. Hours of work per week. Latin America: unweighted means.

5 The linear correlation coefficient between LFP and employment is 0.98, and between LFP and hours is 0.86.

The order of the countries in terms of female labor participation does not follow an obvious pattern. The group of economies where female participation is more widespread includes countries from different regions, income levels, and economic structures. This heterogeneity poses a challenge for the explanation of the differences in female labor participation across Latin American countries.

Table 3.5 highlights some differences in the employment profile of women and men in the region.⁶ The share of prime-age, highly educated, urban workers, is significantly higher among females than males. The proportions of wage earners and self-employed are similar for both gender groups; in contrast, the share of entrepreneurs is substantially lower among females, and the share of zero-income family-workers is significantly higher. These results, to be further explored in the next sections, apply to all countries, although with varying intensities. The only relevant difference involves the distribution of workers between salaried work and self-employment. Although on average this distribution is similar between women and men, there are differences across countries. In those economies with more developed labor markets (Argentina, Brazil, Chile, Costa Rica, Uruguay), the share of wage earners is substantially higher among females than males. For instance, in Brazil, 74% of female workers are wage earners, as opposed to 67% of men.

**Table 3.5: Structure of employment for each gender group
Latin America, 2012.**

	Female	Male	Difference
<i>By age</i>			
(15-24)	16.7	20.3	-3.6
(25-40)	40.7	37.2	3.6
(41-54)	28.3	25.5	2.8
(55 +)	14.2	17.0	-2.8
Total	100.0	100.0	
<i>By education</i>			
Low	40.2	47.9	-7.7
Medium	36.5	36.9	-0.4
High	23.3	15.3	8.1
Total	100.0	100.0	
<i>By area</i>			
Rural	24.5	33.6	-9.0
Urban	75.5	66.4	9.0
Total	100.0	100.0	

⁶ The tables with the information for each country are available upon request.

	Female	Male	Difference
<i>By labor relationship</i>			
Entrepreneurs	3.0	6.2	-3.2
Wage earners	61.4	62.3	-0.9
Self-employed	29.2	29.5	-0.3
Zero income	6.4	2.0	4.4
Total	100.0	100.0	
<i>By informality (productive definition)</i>			
Formal	49.5	56.3	-6.8
Informal	50.5	43.7	6.8
Total	100.0	100.0	
<i>By informality (social protection definition)</i>			
Formal	46.6	48.3	-1.7
Informal	53.4	51.7	1.7
Total	100.0	100.0	
<i>By economic sector</i>			
Primary activities	9.1	22.3	-13.1
Industry low tech	9.1	5.7	3.4
Industry high tech	2.8	7.2	-4.4
Construction	0.7	12.0	-11.3
Commerce	30.0	19.6	10.4
Utilities & transportation	2.3	10.8	-8.6
Skilled services	6.9	7.2	-0.3
Public administration	5.9	6.2	-0.3
Health & education	22.3	8.3	13.9
Domestic servants	10.9	0.7	10.3
Total	100.0	100.0	

Source: own calculations based on microdata from national household surveys.

Note: year 2012 or closest year with available survey. Education: low=less than secondary complete, medium=secondary complete and superior incomplete, high=tertiary complete. Informality (productive definition): Formal=entrepreneurs, salaried workers in large firms and the public sector, and self-employed with college education. Informality (social protection definition): Formal=with rights to social and labor benefits linked to the job. Unweighted means.

We implement two definitions of informality. Under the first definition, informal workers are those working in small firms or those who are self-employed without a college degree; the second definition classifies a worker as informal if she does not have access to social protection. In both cases informality is more common among

females than among males. Country statistics reveal that in some economies the difference in informality rates (social protection definition) is not statistically significant. Brazil and Mexico are two examples of countries where the coverage of the social protection system linked to employment is similar across gender groups.

The last panel in Table 3.5 shows the structure of employment by economic sector. The share of workers in commerce, education/health, and domestic service is particularly high among females as compared to males.

The main results discussed so far are confirmed when using census data instead of household survey data. Naturally, there are some differences in the actual figures as questionnaires differ, but the main patterns remain unchanged. In particular, labor force participation is substantially lower for females than for males. On average, for Latin America and for the age group 15-65, the censuses reveal that while 78% of men participate in the labor market, the share falls to 43% for women.⁷ The correlation between both sources (census and surveys) across countries for female labor participation rates is positive and statistically significant (0.625). The results are also consistent for other labor variables; for instance, census data confirms that the employment rates are higher for males than for females in all countries (on average the gap is around 30 points), while unemployment rates are somewhat higher for females, although not in all countries.

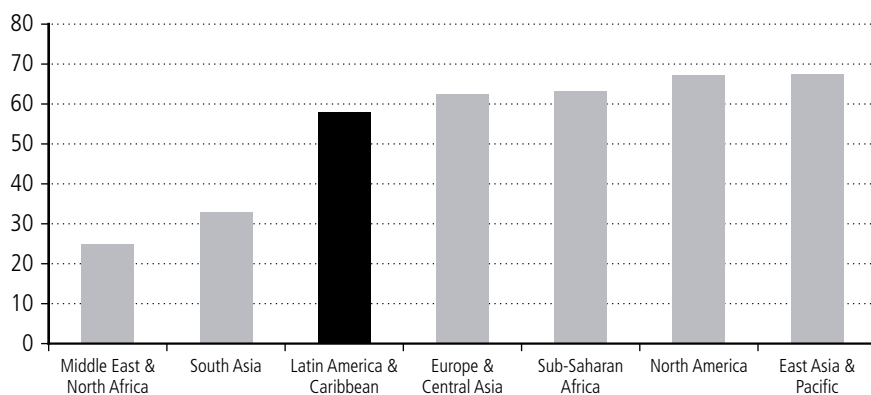
Latin America in the world

There are large differences across countries in the role played by women in the labor markets. In some regions cultural and religious reasons mainly account for low female participation. While in the world the female participation rate for ages 15-65 is 55%, that rate falls to around 30% in South Asia and just 25% in Middle East and North Africa (Figure 3.6). The rate in Latin America and the Caribbean (58%) is close to the global mean, but it lies below the rate of most regions of the world, including Sub-Saharan Africa (62%), Europe and Central Asia (63%), East Asia and Pacific (67%), and North America (67%).

Although in all societies women's participation in the labor market is lower than that of men, the extent of the gender gap varies widely across countries (Figure 3.7). The ratio of females/males in Latin America and the Caribbean is 0.69, which is greater than in the Middle East and South Asia, but lower than in the remaining regions, where the ratio exceeds 0.8.

⁷ Note that these figures refer to the 15-65 age group which is typically used to report census statistics, instead of the 25-54 group that is used in this chapter.

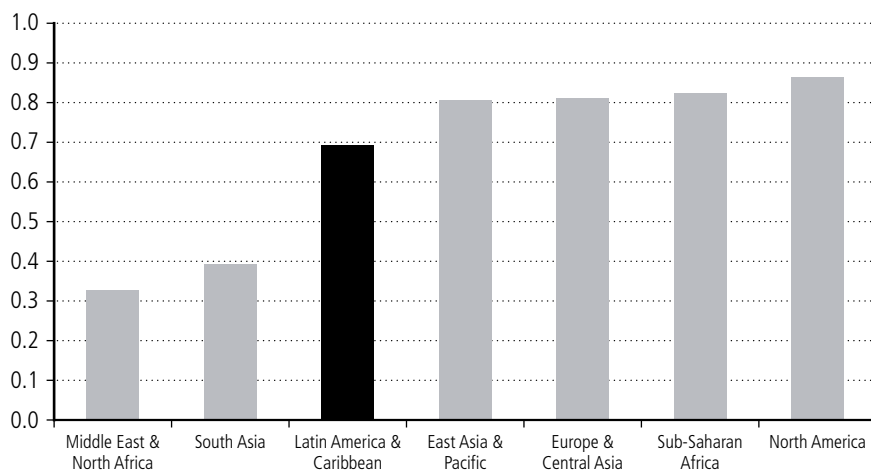
**Figure 3.6: Female labor force participation rate
Regions of the world, 2012. Women aged 15-64.**



Source: own calculations based on World Development Indicators (WDI).

Note: unweighted means.

**Figure 3.7: Labor force participation rate, ratio females/males
Regions of the world, 2012. Ages 15-64.**

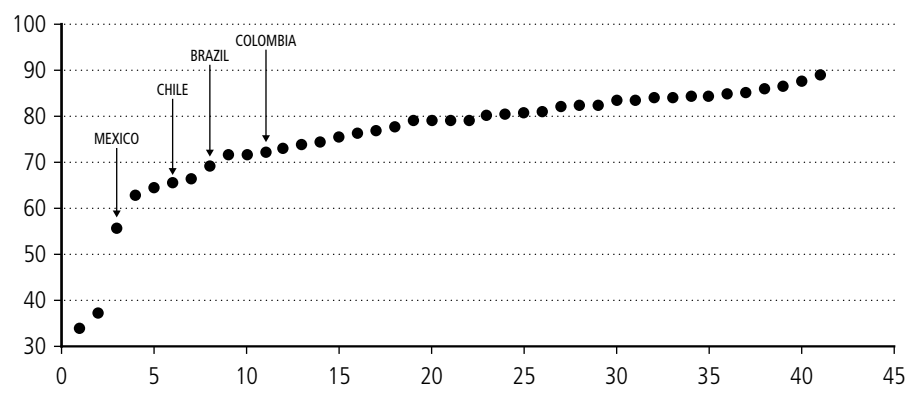


Source: own calculations based on WDI.

Note: unweighted means.

The OECD Employment Database has recently added information on some developing countries, allowing comparisons for various age brackets, including the one used in this study (25-54). Latin American societies still lag behind in female labor participation as compared to the industrialized economies of the OECD and those in Eastern Europe. With the exception of Turkey and India, where female employment is infrequent, the four Latin American countries included in the database rank among those with the lowest female LFP.⁸

**Figure 3.8: Female labor force participation rate
Countries of the world, 2012. Women aged 25-54.**



Source: OECD Online Employment Database. Countries included (from smallest to largest female LFP): India, Turkey, Mexico, Korea, South Africa, Chile, Italy, Brazil, Ireland, Japan, Colombia, Greece, USA, Australia, Hungary, Israel, New Zealand, UK, Poland, Belgium, Luxembourg, Slovak R., China, Czech R., Spain, Germany, Canada, Netherlands, Estonia, France, Norway, Switzerland, Finland, Austria, Denmark, Portugal, Iceland, Russia, Sweden and Slovenia.

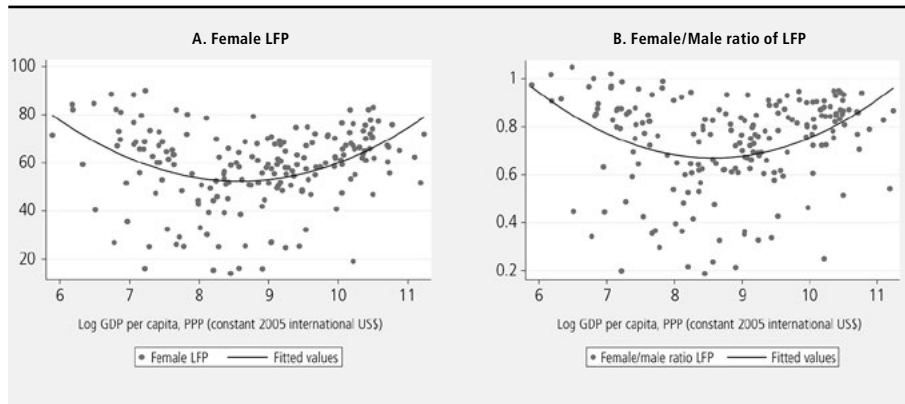
Explaining the differences in female labor participation across countries is a difficult research question, mined by data limitations and methodological problems. Part of the literature has focused on the development level as a potential relevant factor for female participation.⁹ In a series of papers, Goldin (1995, 2006 and 2014) establishes the existence of a U-shaped labor supply of women across the process of economic development. At the early stages of development, when agriculture is the main activity, women have relative high levels of participation,

⁸ Notice that Colombia, included in the OECD database, is one of the Latin American countries with the highest female LFP (fourth position in Figure 3.2).

⁹ This literature is further revised in chapter 6.

frequently laboring as unpaid family workers. As development and urbanization advance, women participation is reduced due to men's higher incomes, still low women education, and social barriers against women in paid urban jobs. The third stage includes significant increases in women's education and the emergence of a white-collar sector, which foster the paid employment of married women.¹⁰ The evidence from Figure 3.9 confirms a U-shaped relationship between female labor force participation and (log) GDP per capita in a cross-section of countries.¹¹ However, the relationship is weak: the R-squared associated with the regressions is lower than 0.10.¹² Development alone fails to account for a large part of the differences of female LFP across countries.

Figure 3.9: Female labor force participation and development
Countries of the world, 2010. Women aged 15-64.



Source: own calculations based on WDI.

The curve is upward sloping in the range relevant to the Latin American countries. Higher levels of GDP per capita are associated with higher rates of female participation (in absolute terms and relative to men). This positive relationship is confirmed with data from our database (Figure 3.10). The link,

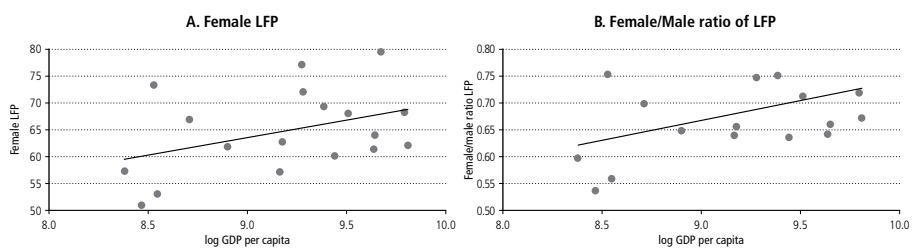
10 Goldin (1995), Mammen and Paxson (2000).

11 There are other dimensions regarding women's status that may not follow this pattern, such as female participation in politics and entrepreneurial activities (Alesina, Giuliano and Nunn, 2013).

12 The U-shaped relationship becomes somewhat stronger when one restricts the analysis to women past their childbearing age (Olivetti, 2013). Since fertility is higher in poorer countries and it is inversely related to female labor force participation, the restriction helps to minimize the confounding effect that cross-country differences in fertility might have on the correlation between female labor force participation and GDP per capita.

however, remains weak; the R^2 is 0.17. While Guatemala and Honduras, two of the poorest countries in the region, have low levels of female LFP, Bolivia, also a poor country, ranks third according to this variable. Mexico, Panama, and Uruguay have similar levels of GDP per capita but very different levels of female LFP: 61.5, 63.9, and 79.5, respectively. In sum, Latin American countries are in a stage for which higher development implies on average higher female labor force participation; however, the relation is mediated by a host of factors that turn the empirical link weak.

Figure 3.10: Female labor force participation and development Latin American countries, 2012. Women aged 25-54.



Source: own calculations based on microdata from national household surveys. GDP taken from WDI.

Note: year 2012 or closest year with available survey. GDP per capita adjusted for PPP (constant 2005 international dollars).

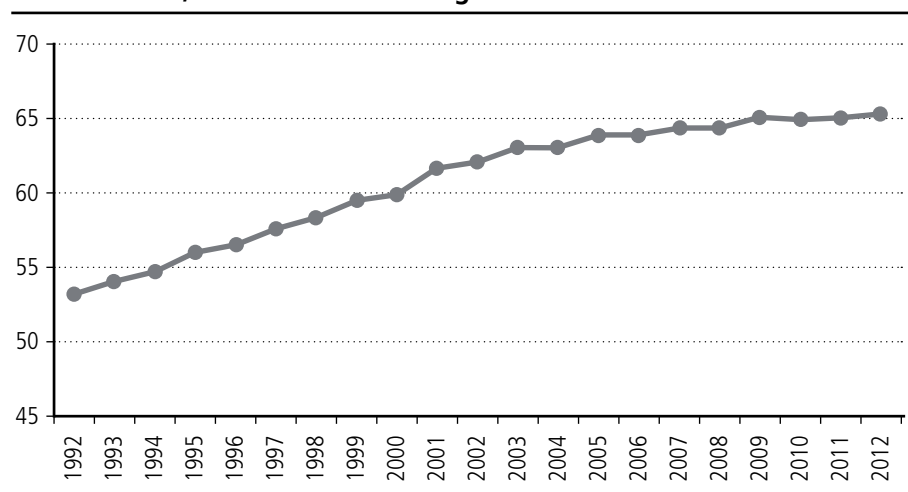
4. Trends

The strong increase in female LFP is arguably one of the central stylized facts about the dynamics of Latin American labor markets in the second half of the twentieth century. The evidence drawn from census data suggests that this increasing pattern was steep and uninterrupted over that period (Chioda and Demombynes, 2010). Based on census data, Chioda (2011) reports that the LFP of married women increased from 11% in 1960 to 40% in the early 2000s. The growth was significant but slowed down in the 1960s, and then sped up again in the following decades. The remarkable rise in female LFP over the last half century was achieved by both married and unmarried women, following a pattern initiated some decades before in the developed world (Chioda, 2011).

In contrast to other more historical accounts, in this study we focus our analysis on the last two decades (the period from 1992 to 2012) by exploiting annual information drawn from national household surveys. This allows us a closer and

more detailed view of labor market dynamics in Latin America.¹³ One of our main findings is that while the process of increasing female labor force participation continued at high speeds in the 1990s, it substantially lost pace in the 2000s, particularly during the second half of that decade (Figure 3.11). While female LFP rose at a rate of 0.81 percentage points per year between 1992 and 2005, that rate went down to 0.20 percentage points between 2005 and 2012. The contrast between a strong increase in female labor market participation during the 1990s and a substantial deceleration in the 2000s is one of the main facts to be explored in this study.

Figure 3.11: Female labor force participation
Latin America, 1992-2012. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.

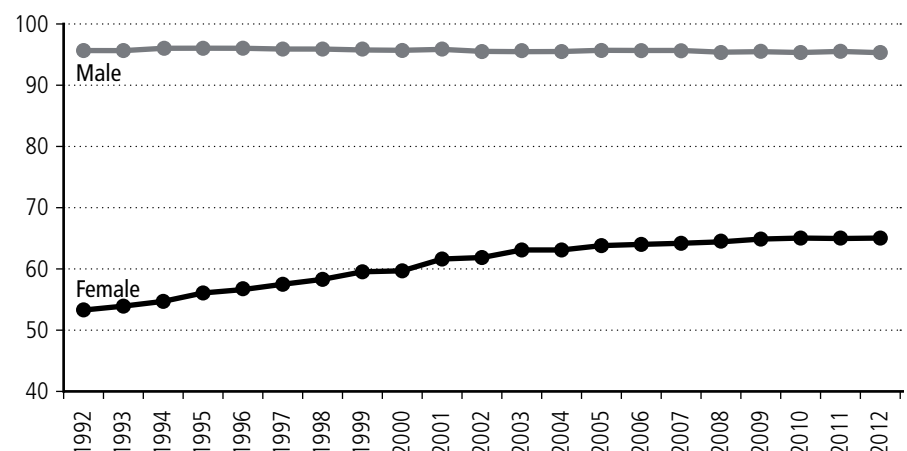
Note: unweighted means.

Males are a natural group of comparison to evaluate changes for women. If the patterns in women's indicators mimic men's, the drivers of those patterns are likely not closely related to gender issues. The labor market participation of prime-age males in Latin America is typically very high and relatively stable: rates fluctuated around 95.7 from the early 1990s to the mid-2000s, and then slowly decreased to 95.2 in 2012 (Figure 3.12). This pattern suggests that the increase in female LFP in the 1990s and part of the 2000s is a fully gendered phenomenon,

13 In the rest of the section we restrict the sample to 15 countries, excluding Colombia, Guatemala, and Dominican Republic, due to difficulties in constructing consistent series of labor force participation and other covariates spanning over the two decades.

while the stagnation in the second half of the 2000s may be partly—though only partly—traced to some negative general forces in labor market participation.

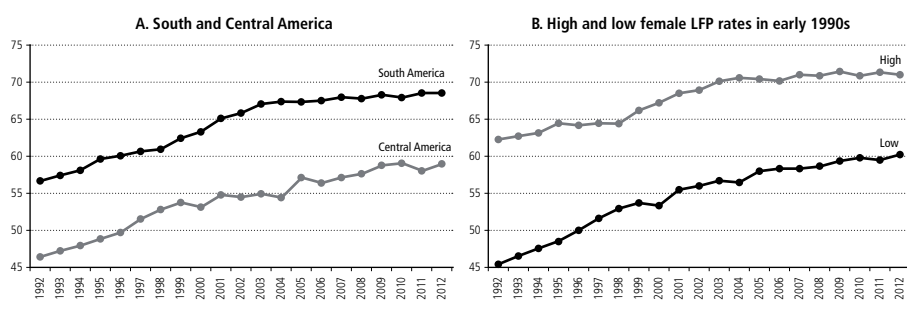
Figure 3.12: Female and male labor force participation
Latin America, 1992-2012. Adults aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

Figure 3.14: Female labor force participation
Latin America, 1992-2012. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.

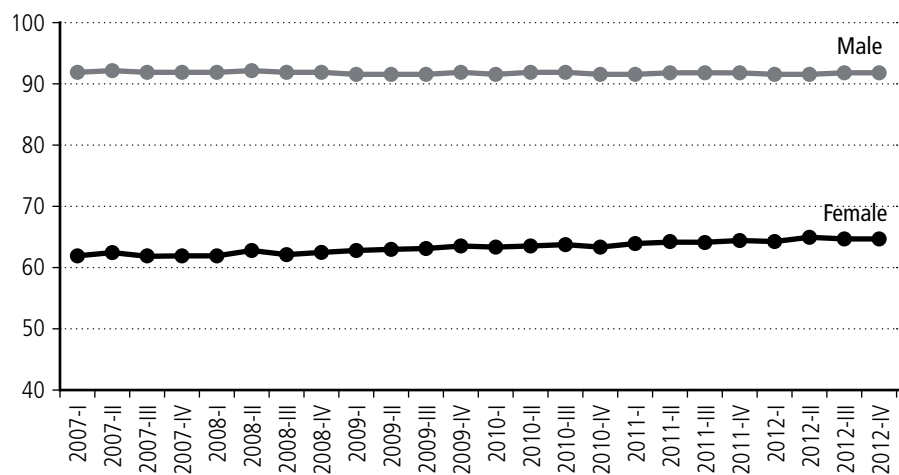
Note: unweighted means. High (low): countries with female LFP above (below) the median (average 1992-1995).

Given the differences in trends, the male-female gap in LFP plunged from 42.5 in the early 1990s to 34 in the early 2000s, and then more slowly fell to reach a value of 30 in 2012. Naturally, the patterns described above are not representative of all Latin

American countries, but are sufficiently generalized to drive the mean: Argentina, Bolivia, Brazil, Chile, Costa Rica, Honduras, Mexico, Nicaragua, Panama, Paraguay, and Venezuela have experienced a deceleration in the growth of female LFP in the early-to-mid-2000s after at least more than one decade of strong growth (Figure 3.13 in the Appendix). The contrasting patterns of the last two decades are also evident when dividing countries by sub-region (South America and Central America) (Figure 3.14). The figure also suggests that the deceleration in the 2000s took place in economies with both relatively high and relatively low initial levels of female LFP.

Labor-force surveys allow a closer look at the labor markets, as information is collected more frequently, although in some countries samples are restricted to certain areas and questionnaires are more limited. The project LABLAC carried out by CEDLAS and The World Bank draws information from Latin American labor-force surveys to compute a wide set of labor variables with a quarterly frequency, including labor force participation. Information from LABLAC starting in 2007 confirms a slow growth in female LFP, at 0.2 points per year for a sample of seven countries (Figure 3.15).¹⁴

**Figure 3.15: Female and male labor force participation
Latin America, 2007-2012. Adults aged 25-64.**



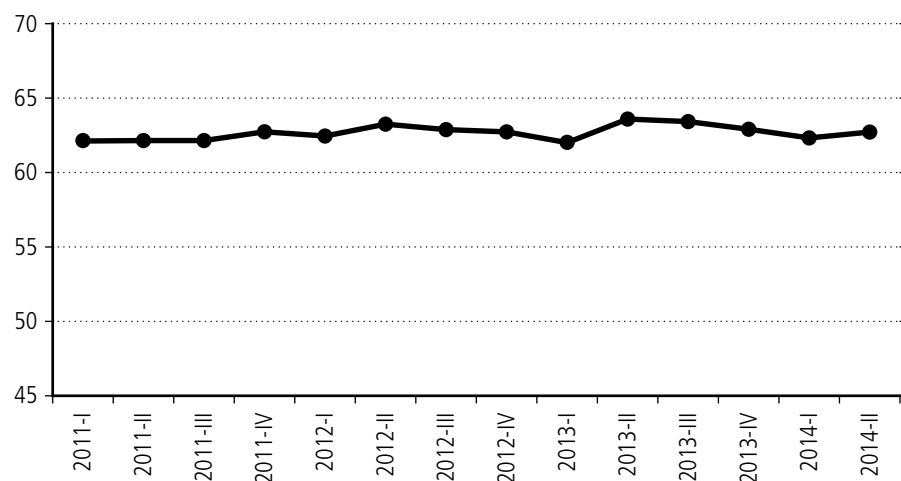
Source: own calculations based on labor-force surveys, LABLAC project (CEDLAS and The World Bank).

Note: unweighted means for seven Latin American countries (Argentina, Brazil, Chile, Ecuador, Mexico, Peru and Uruguay).

¹⁴ Argentina, Brazil, Chile, Ecuador, Mexico, Peru and Uruguay. Data is available from the LABLAC website.

This source of information allows us a more updated monitoring of labor variables (at the cost of a smaller sample of countries, shorter time series, and lower comparability). At the time of writing, a subsample of five countries (Brazil, Chile, Ecuador, Mexico, and Peru) published data for 2014. According to Figure 3.16, female LFP has remained almost unchanged between 2011 and 2014 (62.3 in 2011 and 62.5 in the first half of 2014).

Figure 3.16: Female labor force participation Latin America, 2011-2014. Women aged 25-64.



Source: own calculations based on labor-force surveys, LABLAC project (CEDLAS and The World Bank).

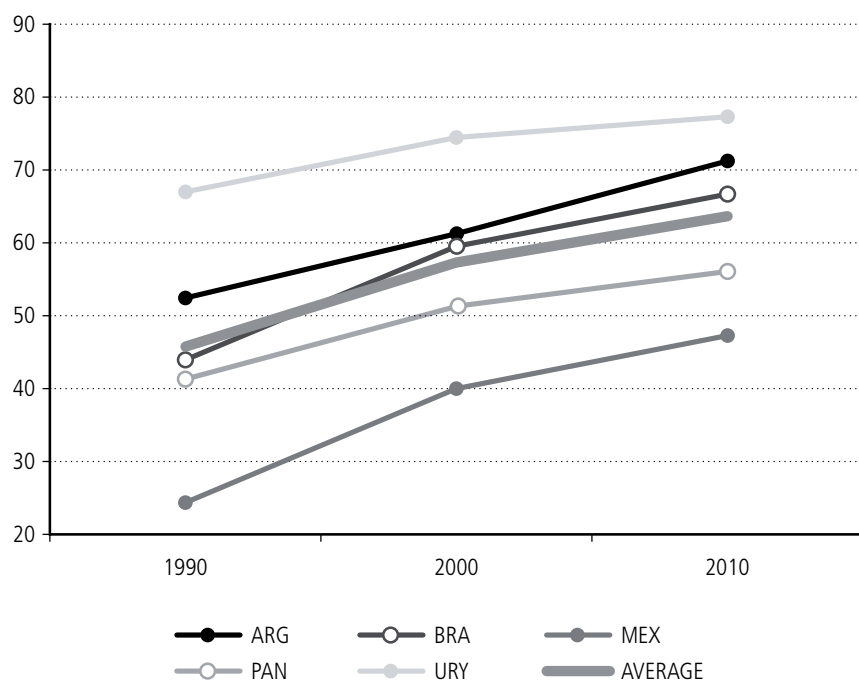
Note: unweighted means for five Latin American countries (Brazil, Chile, Ecuador, Mexico and Peru).

ILO and census data confirm the deceleration

The International Labor Organization (ILO) develops the economically active population EAPPE Database (ILO, 2011), a collection of country-reported and ILO estimated LFP rates. Data from the latest edition of this dataset confirms the deceleration in female labor force participation in Latin America. According to these estimates, the rate of female LFP strongly increased in the 1990s (1992-2002) from 50 to 60.2, and then reduced its rate of growth in the 2000s (2002-2012), rising from 60.2 to 65.9.

The deceleration in female LFP is also registered by census data. Based on microdata from IPUMS we could compute female LFP in a sample of 5 countries with observations around years 1990, 2000, and 2010. In this sample, the share of prime-age females in the labor force climbed from 45.8% to 57.4% in the 1990s and continued increasing, but at a slower pace, in the 2000s, from 57.4% to 63.9%. The deceleration takes place in Brazil, Mexico, Panama, and Uruguay. The exception is Argentina, where the increase is similar in both decades, a result that contrasts with the evidence from other sources, and that could be rooted in some methodological changes.

Female labor force participation – Census data



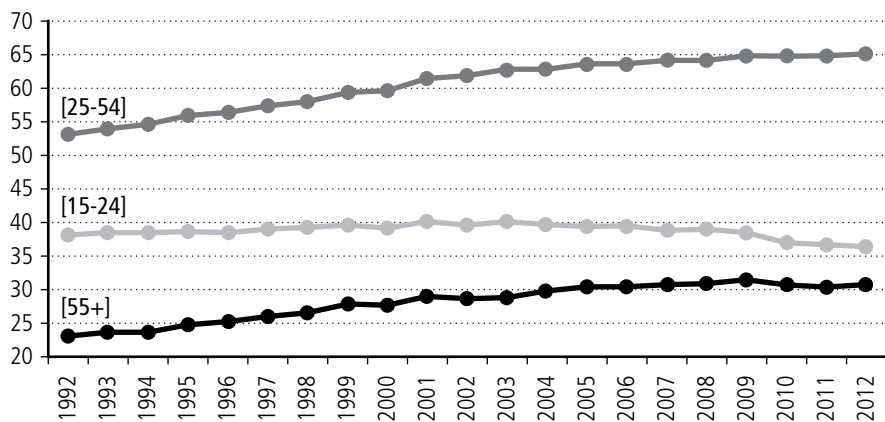
Source: own estimates from microdata from the Integrated Public Use Microdata Series, International. Minnesota Population Center.

Note: Sample of 5 countries; women aged 25-54.

There are substantial differences in the level of labor supply by age group (Figure 3.17 and Table 3.6 in the Appendix). The LFP of women aged 15 to 24 is significantly lower than that of their prime-age counterparts. Patterns for these younger women also differ by decade: the rate of LFP stayed unchanged in the 1990s and declined since the mid-2000s. On average for the region,

the share of young females participating in the labor force fell by two points between 2002 and 2012. The increase in schooling rates is likely one of the main drivers of the decreasing participation of young women in Latin American labor markets (Chioda, 2011). It is interesting to note that the change from stable to decreasing LFP for young females occurred at the same time as the change from rapid to slow increase of prime-age women's LFP, which may call for a factor that affects both groups similarly. Participation among older women (+55) is lower (below 30%) and followed a similar pattern as that of their prime-age counterparts.

Figure 3.17: Female labor force participation by age Latin America, 1992-2012.

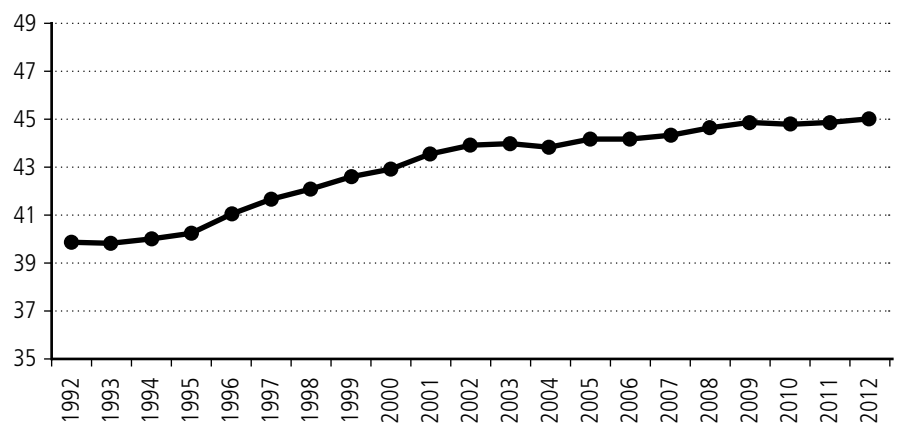


Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

In the early 1990s the world's leaders adopted the UN Millennium Declaration, which defined a precise set of goals, known as the *Millennium Development Goals* (MDGs). One of the MDGs is to "promote gender equality and empower women." Among the three indicators used to monitor that target is the share of women in wage employment in the non-agricultural sector. In Latin America, that share increased four percentage points in the decade following the MDGs declaration and just one additional point since 2002 (Figure 3.18). While in the early 1990s the share of women in a typical Latin American economy in non-agricultural wage employment was 40%, today that share amounts to 45%. The slower growth in that variable during the last decade casts doubts on the likelihood of reaching gender equality, as measured by this indicator, in the near future.

Figure 3.18: Share of women in wage employment in non-agricultural employment Latin America, 1992-2012.



Source: own calculations based on microdata from national household surveys.

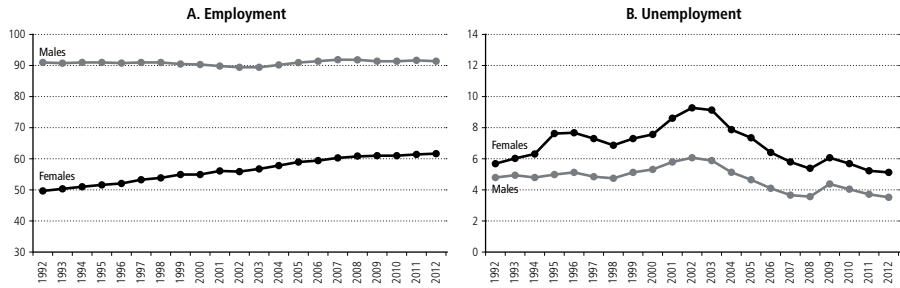
Note: unweighted means.

The difference in patterns between males and females documented for labor participation also applies to employment (Figure 3.19). The share of prime-age women holding a job increased in the 1990s from 49.7% to 56.1%, and in the 2000s to 61.8%. Interestingly, the speed in female employment growth was somewhat reduced in the 2000s despite much stronger labor markets in the region: the reason seems to be related to the sluggish increase in female labor force participation, documented above. In fact, male employment, which fell a bit in the 1990s, increased two percentage points in the 2000s.

Unemployment rates are higher for women than for men. On average, that gap widened from 1 to 3 points in the 1990s and shrunk to 1.5 points by 2012. Again, this more robust fall in prime-age female unemployment is partly driven by the slower entry of women into the labor market.

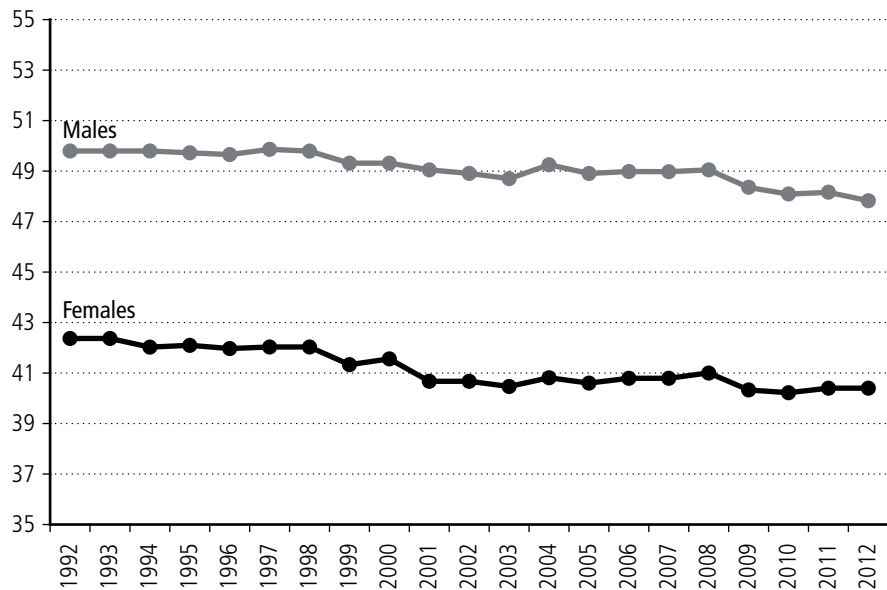
In summary, the more turbulent labor markets of the 1990s were characterized by a strong increase in female LFP and employment, and a surge in unemployment. Instead, the stronger labor situation of the 2000s was associated with a slower increase in female LFP, slower entry of women into jobs, and declining unemployment levels.

Figure 3.19: Employment and unemployment rates by gender Latin America, 1992-2012. Adults aged 25-54.



Source: own calculations based on microdata from national household surveys.
Note: unweighted means for Latin American countries.

Figure 3.20: Female and male hours of work per week Latin America, 1992-2012. Adults aged 25-54.



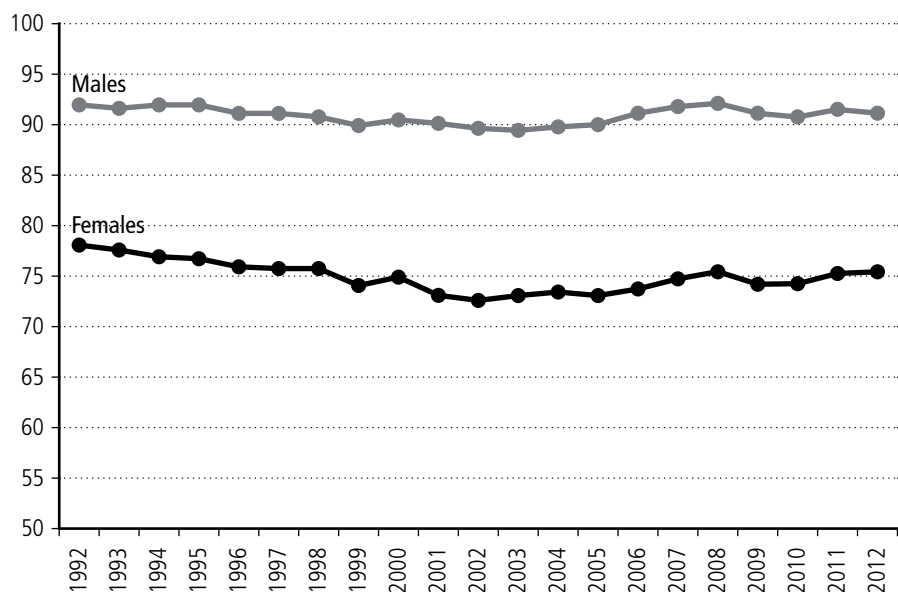
Source: own calculations based on microdata from national household surveys.
Note: sample of employed workers. Hours of work per week. Unweighted means.

So far we have focused our analysis on the binary variable of participation (the “extensive margin”): women are either in or out of the labor market. However,

participation may take different forms, from a short and sporadic labor activity to a full attachment to a permanent job. Figure 3.20 takes a preliminary look at this issue by depicting mean weekly hours of work (the “intensive margin”) by gender. A typical Latin American prime-age female worker works 40 hours per week, while a typical man works around 48 hours (*i.e.* about a day more). That gap has not significantly changed over the last few decades: it widened modestly in the 1990s, when women’s hours of work fell somewhat more strongly than men’s, and it narrowed in the 2000s, when the decline was more intense for men. On average, both female and male workers now devote two fewer hours per week to labor market activities as compared to two decades ago.

The analysis of hours of work does not reveal substantial divergent patterns by gender. The same is true when considering the share of workers in full-time jobs (more than 30 hours per week). The gap between males and females in that indicator increased in the 1990s and was reduced in the 2000s, but the changes were minor (Figure 3.21). We conclude that the main labor variable for which there is a strong pattern over time with clear gender differences is labor force participation, so the rest of this chapter is focused on the extensive margin.

Figure 3.21: Workers in full-time jobs by gender (in %)
Latin America, 1992-2012. Adults aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

Female LFP, development and the economic cycle

The labor force participation of women in Latin America strongly increased in the second half of the twentieth century, and continued increasing up until the present, although at a slower rate. Explaining this pattern is not an easy task as a number of factors surely interplay to generate the labor market outcomes observed in the data. The following three chapters of this book take a deeper look at these potential driving factors. In this section, we begin looking at some of these arguments.

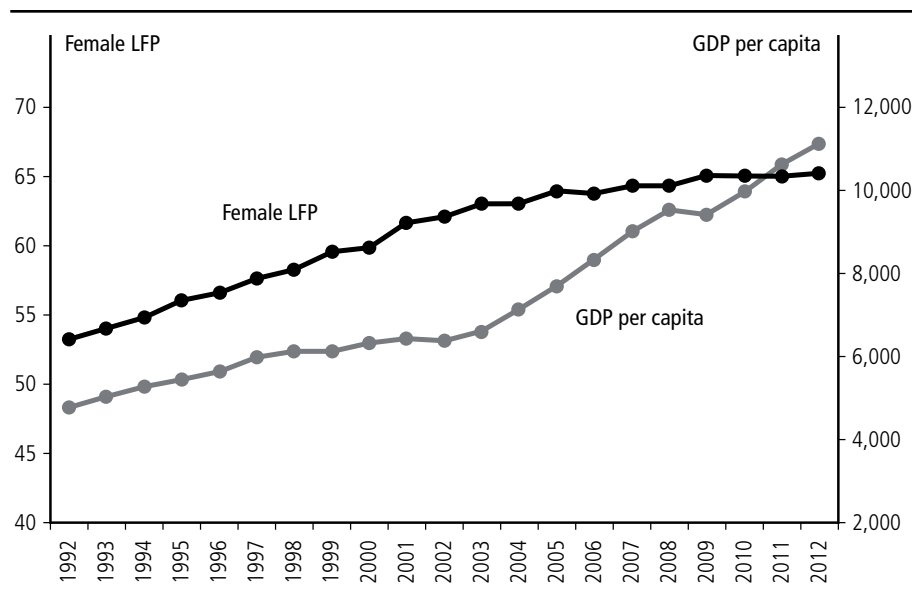
The steep and uninterrupted surge of female LFP in Latin America over the last decades fits into the story of increasing labor supply of women across the process of economic development, where education and the emergence of a white-collar sector fostered paid employment of married women. In fact, some patterns of this process resemble those that took place in developed countries around three decades ago (Chioda, 2011). As documented in the previous chapter, Latin America experienced a strong increase in women's education such that the gap with men completely vanished in some countries. At the same time, various demographic changes took place: the fertility rate fell markedly, and even though the prevalence of marriage (formal and consensual) and the timing of first marriage and first birth remained fairly stable, there were changes in household structure, such as the significant increase in the proportion of households headed by women.¹⁵ In addition, economic transformations increased the demand for workers in sectors where the female participation was higher, typically white-collar activities. These demographic, social and economic transformations, which are typical of a development process, took place in Latin America over the last few decades, although with heterogeneities across countries. Although we are suggesting here that the persistent increase in female labor force participation is probably mainly a consequence of the development process, we do not ignore that causalities may be much more complicated. An autonomous surge in female LFP (*e.g.* for cultural transformations) may be the driving force of some of the changes that we listed above (*e.g.* the fall in fertility). We will return to these issues in the following chapters.

The remarkable growth in female LFP over the last half century has recently debilitated. The increase in female labor supply was slower in the 2000s than in previous decades. One possible explanation for this pattern is that female LFP is approaching a ceiling that is mainly determined by cultural factors. As any share, LFP has a ceiling that, in the case of women in Latin America, could be

15 See Chioda (2011) and Chapter 2 of this book.

lower than for other regions, for various cultural and economic reasons. In this scenario, the LFP will not continue to increase, or it will increase very slowly, even as the region continues to grow (more on this in the following chapters). A second alternative is that this deceleration is just temporary and responds to some transitory circumstances. The strong economic growth that the region experienced in the 2000s allowed for a surge in earnings and social protection benefits that may have retarded the entry of women into the labor market. Without a more pressing need to search for a job, given the higher earnings of their spouses or the protection of new social programs, some women may have delayed their decision to participate in the labor market.¹⁶ The fact that the deceleration of the increase in female LFP occurred in coincidence with a strong rise in GDP growth rates is consistent with this story (Figure 3.22). In the sections that follow, we continue to document the patterns of female LFP in the region, and will return to the issue of driving factors in the next chapters.

Figure 3.22: Female LFP and per capita GDP
Latin America, 1992-2012. Adults aged 25-54.



Source: own calculations based on microdata from national household surveys. GDP per capita (in PPP adjusted US\$) from WDI.

Note: unweighted means.

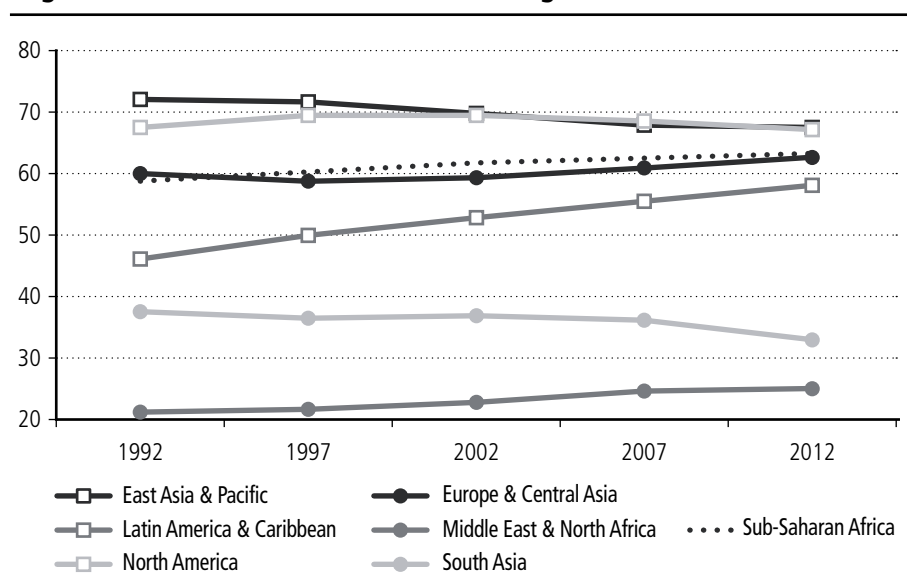
¹⁶ This argument is related to the “additional worker effect” in the labor literature. See Chapters 5 and 6.

Latin America in the world

When placed in international perspective, the increase in female labor force participation in the Latin American economies over the last two decades has been strong. Latin America's position in the ranking of female LFP has not changed but the gap with the top-ranked regions has shrunk substantially (Figure 3.23 and 3.24).¹⁷ For example, in 1992, the gap between Latin America and Europe and Central Asia was 14 percentage points; by 2012 it had narrowed to 5. Even when the rise in female LFP in Latin America slowed in the 2000s, the growth rate was still higher than in most of the rest of the world.

These figures, however, should be taken with prudence, since a host of methodological issues hinder the comparison across countries and over time. Notice also that the figures refer to the age range 15-64, and hence include changes in labor participation in youths and older adults, groups that we do not consider in our analysis.

Figure 3.23: Female labor force participation rate
Regions of the world, 1992-2012. Women aged 15-64.

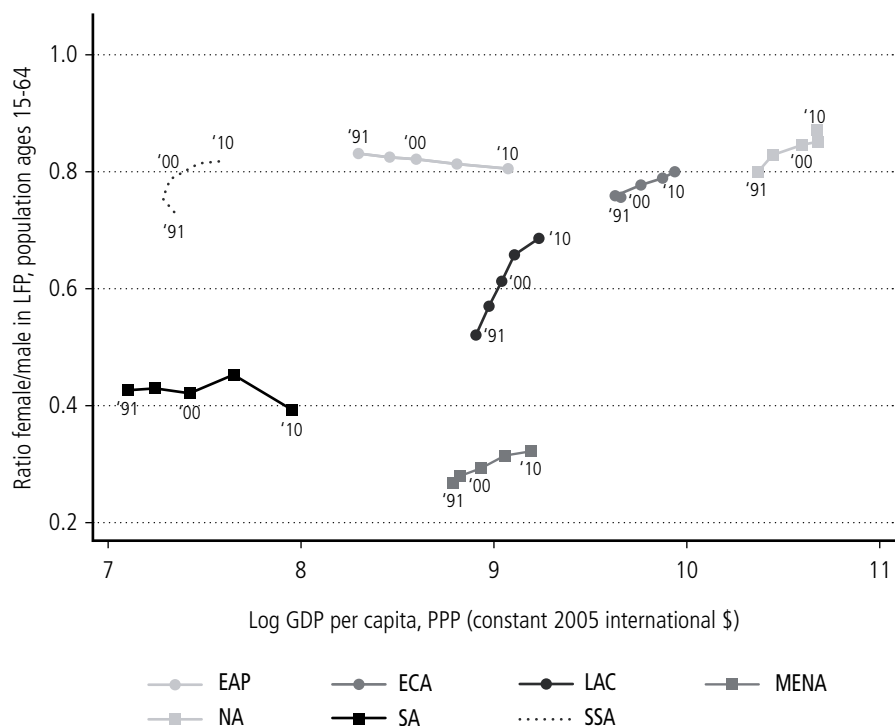


Source: World Development Indicators.

Note: unweighted means.

¹⁷ See also Table 3.8 in the Appendix. Chioda (2011) also highlights the increase in female LFP in the region since the 1980s compared to other regions in the world.

**Figure 3.24: Changes in ratio female/male in LFP and in GDP by region
Regions of the world. Ages 15-64.**



Source: own calculations based on WDI.

Note: EAP=East Asia and Pacific, NA=North America, ECA=Europe and Central Asia, SA=South Asia, LAC=Latin America and the Caribbean, SSA=Sub-Saharan Africa, MENA=Middle East and North Africa.

In the next two sections we characterize changes in female labor force participation; first we examine women in terms of their characteristics and those of their families, while in the next section we look at the sectors and types of jobs where they work.

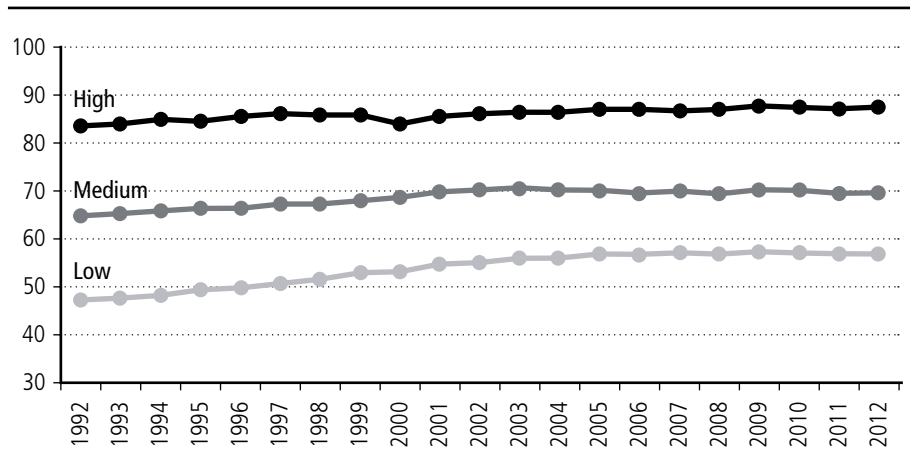
5. Characterizing changes in female participation

Working women are not a random sample of the female population: the decision to participate in the labor market is determined by preferences and opportunities that are strongly dependent on personal and family factors, such as education,

age, marital status, or number of children. In this section, we characterize female workers in terms of these variables, with a particular focus on changes over time.

Education is one of the main determinants of labor force participation. On average, the probability that a Latin American prime-age woman with low education (without a secondary school degree) is labor active is 57%; this number rises to 88% for a woman with higher education (a tertiary degree). This gap of about 30 percentage points has not changed in the last decade after a reduction of 7 points in the 1990s (Figure 3.25).

Figure 3.25: Female labor force participation by education Latin America, 1992-2012. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.

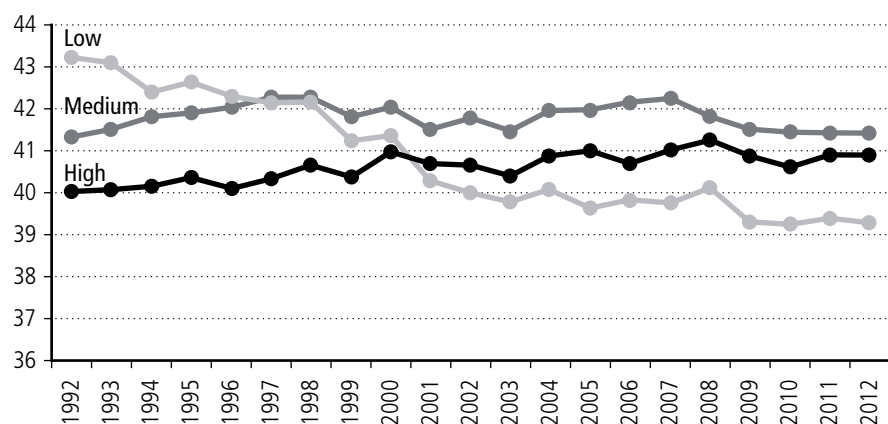
Note: Education: low=less than secondary complete, medium=secondary complete and superior incomplete, high=tertiary complete. Unweighted means.

The evidence suggests some similarities and some significant differences in the patterns of entry into the labor market across education groups. First, LFP increased over the two decades for all groups, although the increase was slower in the 2000s. The contrast between decades is much more marked for those women without a tertiary degree. While in the 1990s the LFP increased 8 points for women with low education and 2.4 points for women with tertiary education, in the 2000s the rates were similar: 1.7 and 1.3, respectively. In fact, the contrast is more striking when one examines the last 5 years: while LFP increased 0.9 points in the high-education group it went down 0.2 points in the low-education group. In sum, although the nature of these changes were similar across education groups, most of the action took place for women with low (and to a lesser extent,

medium) education, which are also the majority in the Latin American prime-age female population, as documented in the previous chapter. Women without a tertiary degree strongly entered the labor markets in the 1990s, but substantially slowed down this behavior in the early to mid-2000s.

Interestingly, the pattern is different in the intensive margin. While weekly hours of work did not change much for the rest of the female workers, the low education group experienced a decline of 3 hours in the 1990s and almost one hour in the 2000s. This pattern is consistent with what we already observed in Figure 3.19: female labor force participation strongly increased in the 1990s, but the share of full-time jobs and the hours of work decreased. What Figure 3.26 suggests is that this global pattern is mainly driven by the behavior of unskilled female workers. Two phenomena are consistent with this observation: first, the intense entry into the labor market may have mostly occurred in part-time jobs; and second, there may have been a more generalized reduction of hours for all working women (not only the new entrants).

Figure 3.26: Female hours of work per week by education Latin America, 1992-2012. Women aged 25-54.



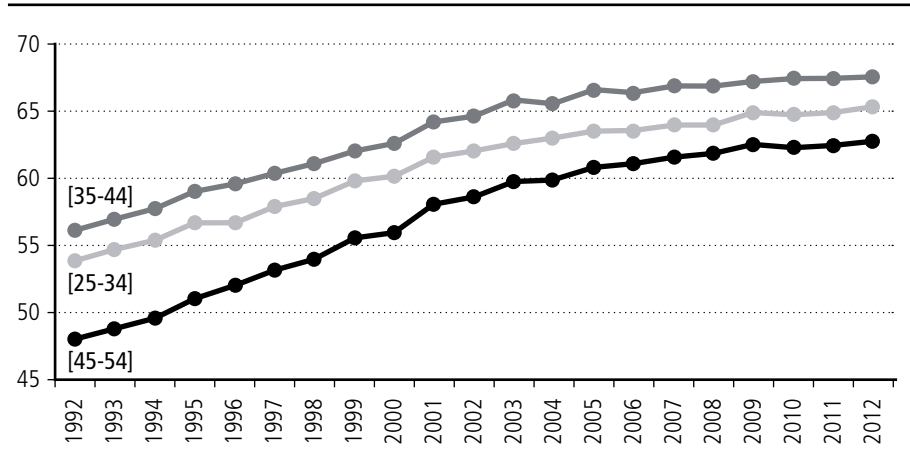
Source: own calculations based on microdata from national household surveys.

Note: Education: low=less than secondary complete, medium=secondary complete and superior incomplete, high=tertiary complete. Unweighted means.

The typical inverted U-shape age profile of labor supply is present within the group of prime-age women, although the differences across age groups are rather small. On average for the region, in 2012 the LFP was 65.4% for women aged 25 to 34, 67.6% for those aged 35 to 44, and 62.7% for those aged 45 to 54. The

gap between these groups shrank in the last decades due to a stronger increase in the older group. There is a clear difference between the steep increase in LFP in the 1990s and a slower pattern in the 2000s for all age groups (Figure 3.27).

Figure 3.27: Female labor force participation by age Latin America, 1992-2012.



Source: own calculations based on microdata from national household surveys.

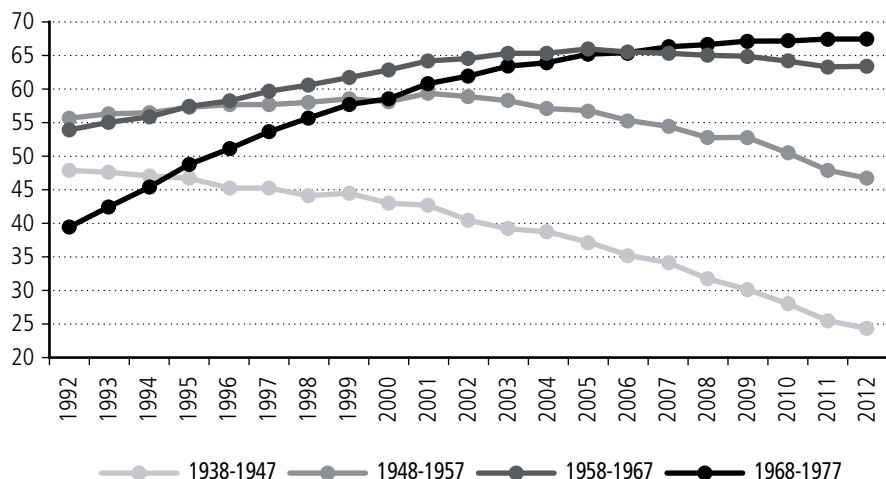
Note: Age: group 1=25-34, group 2=35-44, group 3=45-54. Unweighted means.

The analysis of female LFP by age cohorts provides some interesting results. Figure 3.28 suggests a typical inverse-U shape for the LFP-age profile: female participation is decreasing over time for the older cohorts (those born between 1938 and 1957), and increasing for the younger cohorts (those born between 1958 and 1977). Notice that the height of these profiles is greater for the younger cohorts, revealing a long pattern of increasing female LFP.

A closer look at the figures in Table 3.12 in the Appendix unveils the recent deceleration in the growth of female LFP. Consider three cohorts: those born between 1948-1957; the younger cohort, born between 1958-1967; and the youngest cohort, born between 1968-1977. The female labor force participation rates of these cohorts when their members had an average age of 40 were 56.1%, 65.5%, and 67.5%, respectively: they exhibit a large jump between the two first cohorts and a small one for the youngest cohort.

The increasing height of the participation profiles across the three cohorts suggests that the overall rate of female LFP is subject to inertia. The following example illustrates the point. In a given year, the pool of women aged 25-54 includes many

**Figure 3.28: Female labor force participation by cohort
Latin America, 1992-2012.**



Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

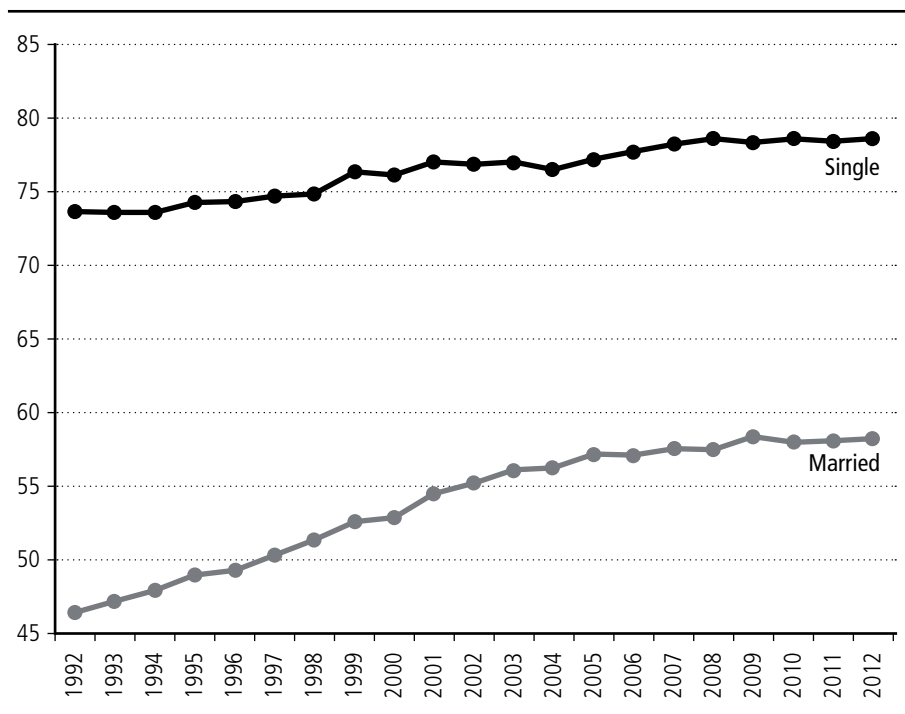
that belong to older cohorts. These older cohorts typically have lower education and other cultural factors that go against higher labor participation. Over the subsequent years, younger cohorts gradually replace older cohorts in the pool of women aged 25-54. These younger cohorts have higher levels of education. Other things equal, this replacement tends to increase the average rate of female labor force participation. Interestingly, the overall rate of female LFP in Latin America experienced a deceleration in the 2000s, despite this factor of inertia.

The deceleration could also be traced to cohort-specific patterns in the LFP age profiles. For example, note the difference in the rates of growth of LFP of the second cohort over the 1990s and the third cohort over the 2000s. When women in the second cohort went from 30 to 40 years old (on average), their labor participation grew by 10 percentage points, while LFP increased only by 5 points for women in the youngest cohort at the same age.

Women's decision to participate in the labor market has been closely linked to the presence of a male spouse in the household. Women living with a male breadwinner are substantially less likely to engage in labor market activities. In Figure 3.29 and Table 3.13 in the Appendix we divide prime-age women according to whether they live with a partner or not, either legally married or in

a consensual union. Not surprisingly, labor force participation for the “single” category, which includes women who are the breadwinners of their households, is much higher than for the “married” category. On average for Latin America, in 2012 the difference was more than 20 points (78.7% for single and 58.3% for married women). That gap was significantly reduced in the 1990s, and remained stable over the last decade. In summary, similar to developments in other regions of the world, the increase in female labor force participation was especially marked among married women in Latin America. LFP among unmarried women was already high and it increased at lower rates. For both groups, the rapid increase came to a halt in the early 2000s; that stop is particularly evident among the married, since it contrasts with the dramatic growth in the previous decade.

Figure 3.29: Female labor force participation by marital status Latin America, 1992-2012. Women aged 25-54.

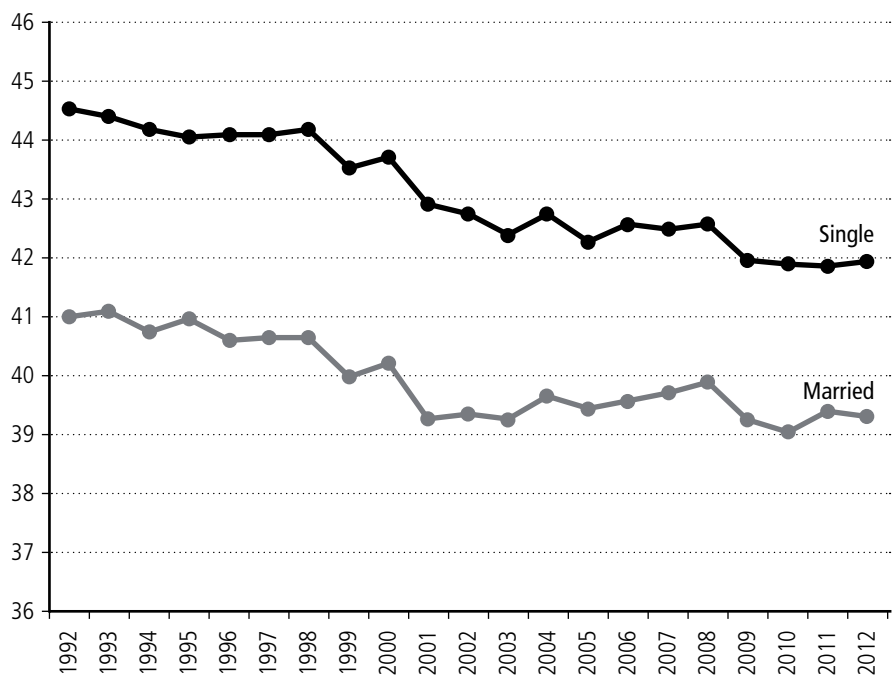


Source: own calculations based on microdata from national household surveys.

Note: Married=living with a partner (legally married or not). Unweighted means.

The patterns for hours of work were significantly different: for both groups they fell in the 1990s and stayed roughly unchanged in the 2000s (Figure 3.30).

**Figure 3.30: Female hours of work per week by marital status
Latin America, 1992-2012. Working women aged 25-54.**



Source: own calculations based on microdata from national household surveys.

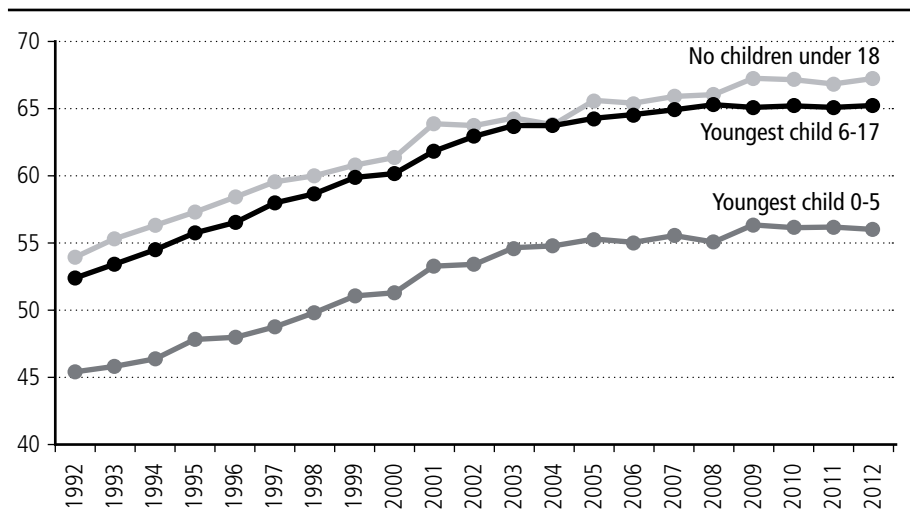
Note: Married=living with a partner (legally married or not). Hours of work per week. Unweighted means.

The presence of children and their ages are relevant determinants of female labor market decisions. In Latin American societies, mothers are usually the primary child caregivers, which compromises their ability to actively engage in work activities. The evidence is consistent with this assertion: on average while 67% of prime-age women with no children under 18 participate in the labor market, that share falls to 56% for those with at least a child under 5 years-old (Figure 3.31). The patterns are similar for the three groups over time, although more marked for those women with children ages 6 to 17. The male-female gap for that group shrank more than 10 points in the 1990s, and only less than 2 points in the following decade.

As discussed before, the nature of a labor market activity is not always well defined. A typical ambiguous case is that of a household member who helps in a family productive undertaking, but does not have a formal payment or even a regular

assignment in that activity. Those sorts of arrangements are more common on small farms, and particularly among women and youth. Aware of that situation, household surveys typically include a question aimed at capturing these work situations. However, a person in this condition does not always declare herself to be employed. This failure could be a factor behind the large gap in rural and urban female LFP as estimated from household survey data (Figure 3.32). The contrast in the pattern in labor supply between the two last decades is evident in both areas, although it is more marked for women in rural areas: female LFP grew 8.5 points in the 1990s and just 2.5 in the 2000s. This slowdown also affected men's labor supply in rural areas, but with less intensity, so that the gap between male LFP and female LFP reduced at a much lower rate than it had over the previous decade (Table 3.15 in the Appendix).

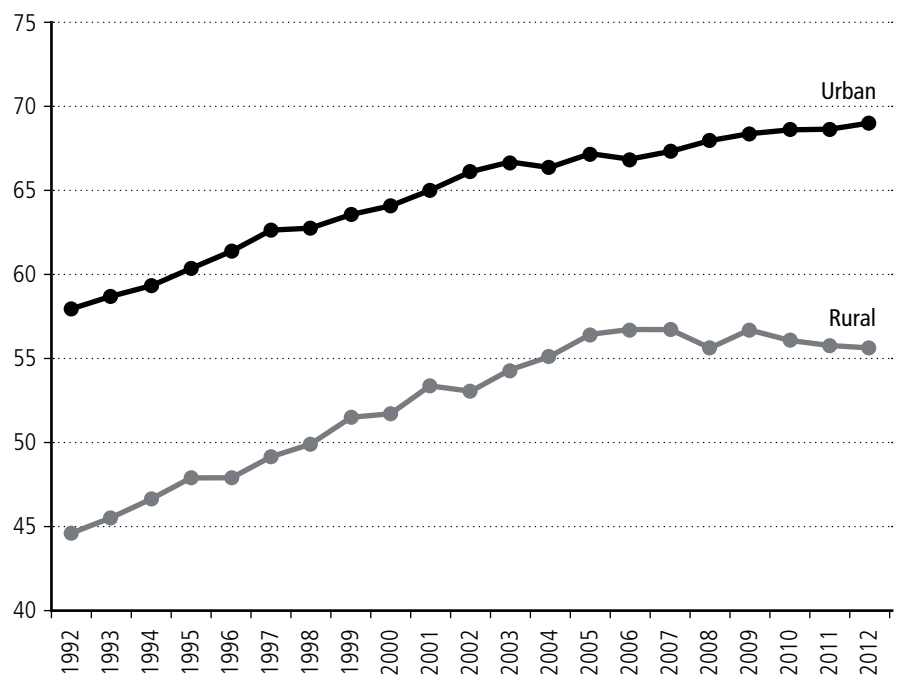
Figure 3.31: Female labor force participation by age of children
Latin America, 1992-2012. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.
 Note: Categories of variable: 1=no children under 18, 2=youngest child is 0-5,
 3=youngest child is 6-17. Unweighted means.

Labor decisions are usually made within a family framework. We have seen that married women tend to work less than unmarried women, and women with children are less likely to participate in the labor market. The spouse's income is also correlated with female labor decisions. The relationship is complex, however. Women married to higher-income partners are not pressed by an economic need to get a paid job, but at the same time, they tend to have some characteristics

Figure 3.32: Female labor force participation by area
Latin America, 1992-2012. Women aged 25-54.



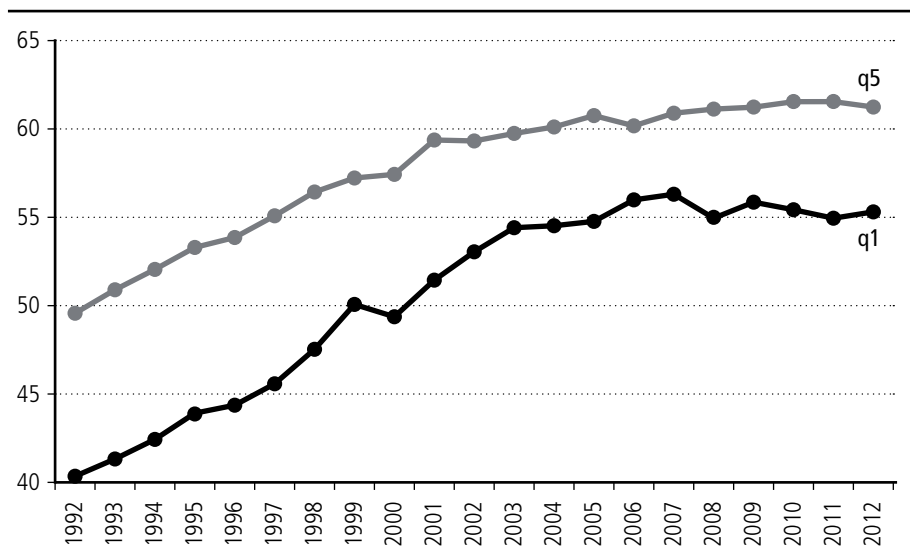
Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

(*e.g.* higher education, less children) that make them more prone to participate in the labor market. The evidence suggests that in Latin America, women married to higher-income partners tend to work more than other women (Figure 3.33). Interestingly, female labor force participation increased more strongly for women married to low-income partners in the 1990s, but experienced a larger deceleration in this process in the 2000s (Table 3.16 in the Appendix).

Similar patterns arise when grouping women according to their household per capita income (Figure 3.34). Poorer women tend to participate much less than their wealthier counterparts. While on average, 46.3% of Latin American women in the first decile of the household per capita income distribution are in the labor market, that share climbs to 83.5% for those in the top decile. Of course, there is circularity here, since household income depends on female earnings, so the decision of not working by an adult woman likely sends the household to a lower decile.

Figure 3.33: Female labor force participation by income of spouse Latin America, 1992-2012. Married women aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: National quintiles of individual income. Unweighted means.

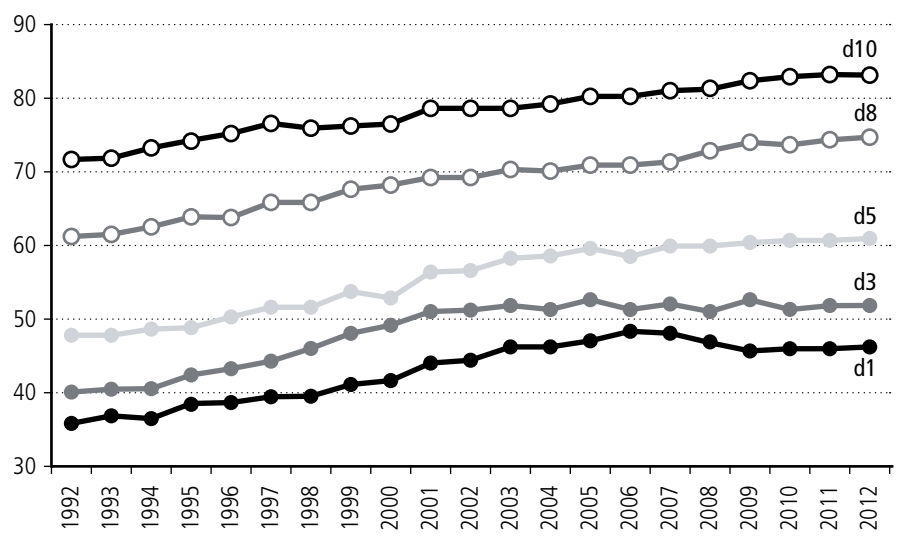
The intensity of labor supply changes clearly differs across income groups. In the 1990s low-income women entered the labor force at a higher rate than wealthier women.¹⁸ Instead, in the 2000s the increase was much slower, both in comparison with the previous decade, and in comparison with the higher-income groups (Table 3.17 in the Appendix).

To sum up, the evidence suggests that the pattern of gradual convergence in labor force participation across groups of women that occurred in previous decades has come to a halt in recent years. Figure 3.35 summarizes this fact by showing gaps between different groups of women. The groups with lower levels of LFP (unskilled, married, with children, rural, poor) experienced the highest rates of growth in that variable in the 1990s, generating a substantial narrowing of the gaps. By contrast, in the 2000s the deceleration in female LFP was stronger among these groups, implying stable, or even increasing, gaps.

We close this section with comments on three issues that will be picked up later in the book.

¹⁸ This pattern was highlighted by Espino (2005) and World Bank (2012).

Figure 3.34: Female labor force participation by household income Latin America, 1992-2012. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.

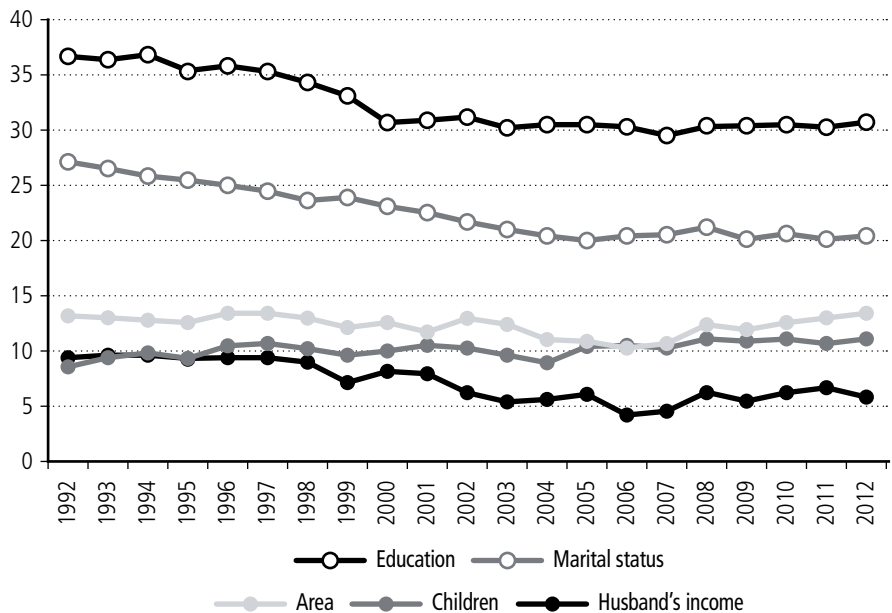
Note: deciles of the distribution of household per capita income. Unweighted means.

Typically, women who are less educated, rural, married, and have children have different preferences, opportunity costs and constraints from the rest, that make them more prone to enter or leave the labor market depending on the economic situation. The fact that the deceleration during the 2000s is especially evident among groups with lower and more elastic labor supply suggests that changes in the socioeconomic scenario may have played a role in accounting for changes in female LFP. The next three chapters more deeply analyze the determinants of labor supply.

Second, the fact that the deceleration in female LFP has mainly occurred among more vulnerable groups (unskilled, rural, poor) may have significant social implications. In particular, lower female labor supply among vulnerable groups may have negative consequences in terms of poverty and inequality reduction. We will pick up this issue again in Chapter 7.

Finally, if the patterns in the last few years continue, convergence in labor force participation across groups of women may be out of reach. Instead, a worrisome dual scenario of highly educated, urban, richer women converging to the rates of LFP of the developed countries, and a group of less-educated, poorer women trapped in low participation rates may be plausible.

Figure 3.35: Gaps in female labor force participation Latin America, 1992-2012. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: Unweighted means for Latin American countries. Education: high-low education. (low=less than secondary complete, high=tertiary complete). Marital status: single-married. Area: urban-rural. Children: no children-with children under 5. Husband's income: quintile 5-quintile 1.

6. Characterizing changes in female employment

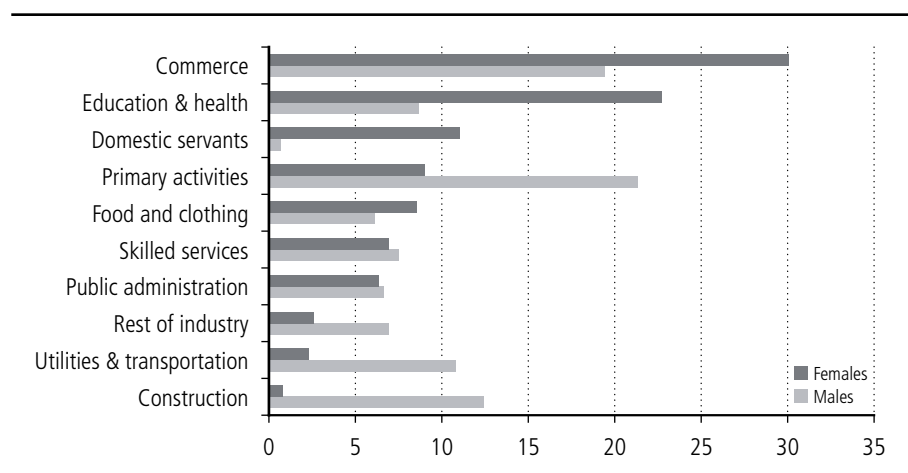
Has the structure of female employment changed over the last decades in Latin America? This section tackles this question, stressing the comparison with the changes that have affected male employment. We are interested in documenting which sectors and types of jobs attracted female employment and, in particular, whether this pattern differed from the one experienced by males.

Differences in preferences, as well as unequal *de facto* or *de jure* opportunities for men and women in the labor market, affect the allocation of workers of both genders across types of jobs. For instance, women may choose to work in sectors

more conducive to flexible and/or part-time schedules and may face stronger informal barriers to entry in some jobs (*e.g.* construction). In this section we take a preliminary look at these issues by documenting the structure of female employment in the region.

The evidence from household surveys suggests that the picture of female employment in the region has not changed much in terms of sector structure (Figure 3.36). The majority of Latin American women are still employed in commerce (30%), education/health (23%) and domestic services (11%). The share of these sectors accounts for more than 60% of total female employment; that share has not changed substantially over the last twenty years. As it was decades ago, most Latin American women work as street or shop vendors, teachers, nurses and domestic servants.

**Figure 3.36: Distribution of workers by economic sector
Latin America, 2012.**



Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

Sector changes in female employment were rather small in general, although there was some heterogeneity across countries. The most relevant widespread changes were the increase in participation in skilled services (from 4.3% to 6.9%) and in public administration (from 5.1% to 6.3%) (Table 3.18). Instead, women moved away from primary activities (from 10.8% to 9%) and the manufacturing industry (from 14.8% to 11.1%), especially in the 2000s. It is also interesting to notice the reduction in women's participation in domestic services in the 2000s.

Table 3.18: Distribution of female and male workers by economic sector Latin America, 1992, 2002 and 2012. Adults aged 25-54.

	Females			Changes			Males			Changes		
	1992	2002	2012	92-02	02-12	92-12	1992	2002	2012	92-02	02-12	92-12
Primary activities	10.8	10.2	9.0	-0.5	-1.3	-1.8	26.1	24.5	21.3	-1.6	-3.2	-4.9
Food and clothing	11.6	10.4	8.5	-1.2	-1.8	-3.0	7.4	6.5	6.1	-0.9	-0.4	-1.3
Rest of industry	3.2	2.6	2.6	-0.6	0.0	-0.7	8.1	7.2	6.9	-1.0	-0.3	-1.2
Construction	0.5	0.5	0.8	0.0	0.2	0.2	10.0	10.8	12.3	0.8	1.5	2.3
Commerce	28.0	29.1	30.0	1.1	0.9	2.0	18.8	19.2	19.4	0.4	0.2	0.6
Utilities & transportation	2.1	2.0	2.3	-0.2	0.3	0.1	9.6	9.9	10.7	0.2	0.9	1.1
Skilled services	4.3	5.3	6.9	1.0	1.6	2.6	4.7	6.1	7.5	1.4	1.3	2.8
Public administration	5.1	5.1	6.3	0.0	1.2	1.3	6.7	6.3	6.6	-0.5	0.4	-0.1
Education & health	23.1	22.8	22.6	-0.2	-0.2	-0.4	7.8	8.8	8.6	1.0	-0.3	0.7
Domestic servants	11.3	11.9	11.0	0.7	-1.0	-0.3	0.7	0.8	0.7	0.1	-0.1	0.0
Total	100.0	100.0	100.0				100.0	100.0	100.0			

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

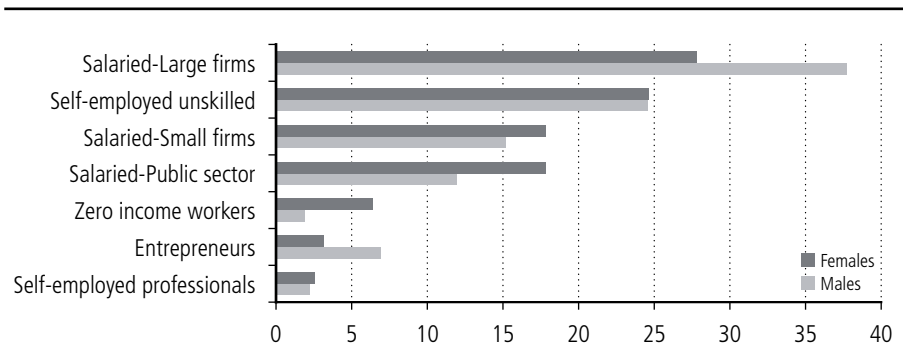
More than half of Latin America's working women are salaried employees in a medium-to-large firm (more than 5 employees) or are unskilled self-employed (Figure 3.37). There is also a significant share of women working in small firms or in the public sector. Although the share of zero-income workers is not large (6.4%), it contrasts with the much smaller share for males (1.8%). Instead, the number of male entrepreneurs is more than twice the number of females. The small number of women in that group suggests that they may face gender-based structural difficulties.¹⁹

Just for illustrative purposes, let us divide jobs into two groups according to their flexibility: self-employment, family jobs and salaried employment in very small firms tend to be more flexible jobs than salaried positions in larger firms, in the public sector, and as employers. According to this simple classification, on average 52% of prime-age women work in more flexible jobs, as compared to 43% of

19 Being an entrepreneur may signify an affirmation of gender identity for men, but a transgression for women (Espino, 2005; Gluzmann *et al.*, 2012; Navarro and Gallo, 2013).

men. Greater flexibility eases the compatibility between remunerated work and housework, the latter of which continues to mostly be women's responsibility in Latin America.

Figure 3.37: Distribution of female and male workers by type of work Latin America, 2012. Adults aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

Changes in the structure of women's jobs have not been large over recent decades (Table 3.19). The increase in the share of salaried workers in medium-to-large firms in the 2000s stands out, although that phenomenon was less intense for women than it was for men. The significant reduction in the share of more precarious jobs, such as family and self-employment, during that decade should also be highlighted.

The massive entry of women into the labor market during the 1990s was disproportionately intense in part-time jobs (Figure 3.38). By contrast, in the 2000s, the share of full-time jobs increased at the expense of the share of both part-time and over-time employment.

Figure 3.39 is illustrative of the significant gains in terms of social protection and decent jobs that took place in the last decade as well as the magnitude of the challenges ahead. While, on average, the share of informal jobs (*e.g.* those without access to social protection) remained unchanged in the 1990s, it substantially fell in the 2000s. However, today, the majority of Latin American female workers are still unprotected by labor regulations and have no access to social benefits, such as pensions and health services, by way of employment. In fact, most Latin American women enter the labor market through the informal sector (Paz, 2009). In many cases this precarious insertion perpetuates and turns into a structural characteristic of female employment.

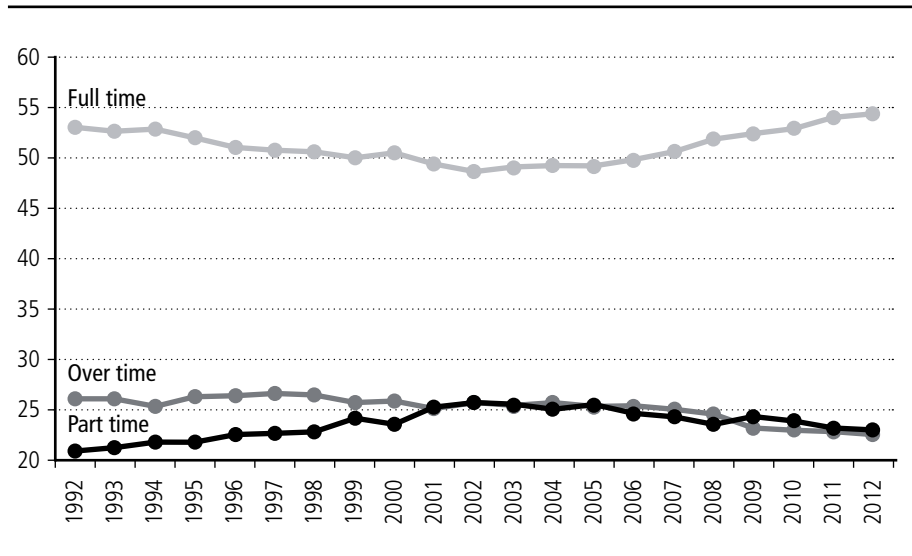
Table 3.19: Distribution of female and male workers by type of work Latin America, 1992, 2002 and 2012. Adults aged 25-54.

	Females			Changes			Males			Changes		
	1992	2002	2012	92-02	02-12	92-12	1992	2002	2012	92-02	02-12	92-12
Entrepreneurs	3.1	3.1	3.2	0.0	0.1	0.1	8.7	7.4	6.9	-1.3	-0.5	-1.8
Salaried-Larger firms	23.3	22.5	27.7	-0.9	5.3	4.4	31.7	32.1	37.7	0.4	5.6	6.0
Salaried-Public sector	18.5	17.4	17.8	-1.1	0.4	-0.7	13.7	11.9	11.9	-1.9	0.0	-1.8
Self-employed professionals	1.5	1.8	2.5	0.3	0.7	1.0	1.2	1.6	2.1	0.3	0.6	0.9
Salaried-Smaller firms	16.5	18.1	17.9	1.6	-0.2	1.3	14.8	15.4	15.1	0.6	-0.4	0.3
Self-employed unskilled	27.8	28.3	24.6	0.4	-3.7	-3.3	28.0	29.5	24.5	1.5	-5.1	-3.6
Zero income workers	9.3	8.9	6.4	-0.3	-2.6	-2.9	1.7	2.0	1.8	0.3	-0.2	0.1
Total	100.0	100.0	100.0				100.0	100.0	100.0			

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

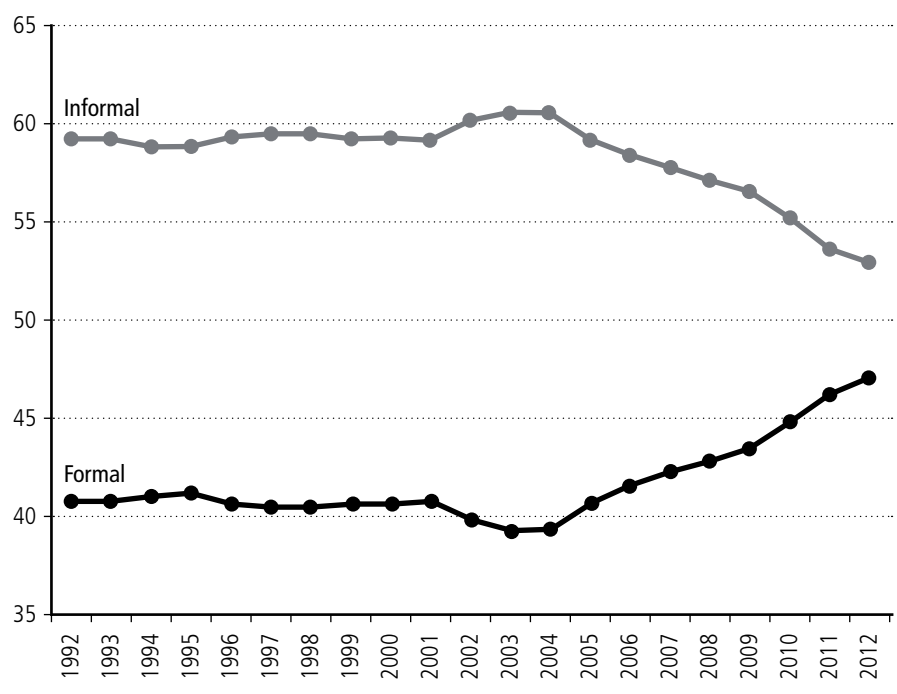
Figure 3.38: Distribution of female workers by hours of work per week Latin America, 1992-2012. Working women aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: Part time: <30 hours; over time: >48 hours per week. Unweighted means.

Figure 3.39: Distribution of female workers by job formality
Latin America, 1992-2012. Working women aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: unweighted means. Formal job=with rights to social and labor benefits.

7. Concluding remarks

This chapter has documented some facts about the levels and trends of female labor force participation in Latin America. Some interesting patterns emerge from the inspection of the empirical evidence.

The long process of increasing female labor force participation that began in the last century has continued into the present, contributing to a sizeable reduction in the gap between men and women. Although the gender gap in Latin America has been dramatically reduced, it is far from being closed and it is still larger than in several other regions of the world, including some developing ones. The long-run increase in labor force participation has been strong for all groups of adult women.

The chapter highlights, however, a fact that has thus far been largely overlooked: there are clear signs that gains in female labor force participation have decelerated since the early-mid 2000s. This phenomenon is widespread across the region, although not generalized to all economies. The deceleration has taken place in all demographic groups, but especially among groups for which LFP had increased more strongly in the previous decade—in particular among married, unskilled women.

This deceleration has been particularly noticeable among the most vulnerable women: women with low education, living in rural areas, and married to low-earning spouses. The gaps in LFP with more affluent women is growing in some countries, and ceasing to shrink in others. The slower entry of vulnerable women into the labor market calls for a serious discussion about its normative and positive implications.

Interestingly, in the 2000s while the entry of women into the labor market was less intense than in the previous decade, it took place in better job positions. The share of women in full-time, salaried, formal jobs with social protection significantly increased in the last decade, which was characterized by stronger labor markets and economic growth. Instead, the sectoral structure of employment seems to have moved slowly. Changes in the speed of growth in female LFP do not appear to have been driven by changes in the productive structure of the economy.

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Appendix

Figure 3.13: Labor force participation
Latin American countries, 1992-2012. Adults aged 25-54.

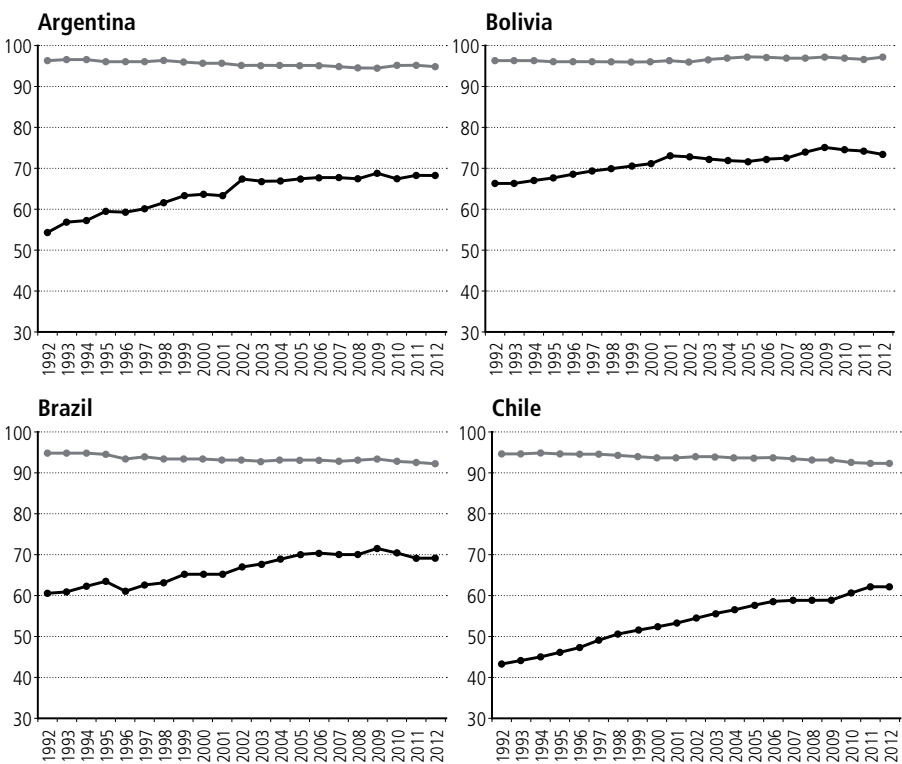


Figure 3.13: Labor force participation [cont.]

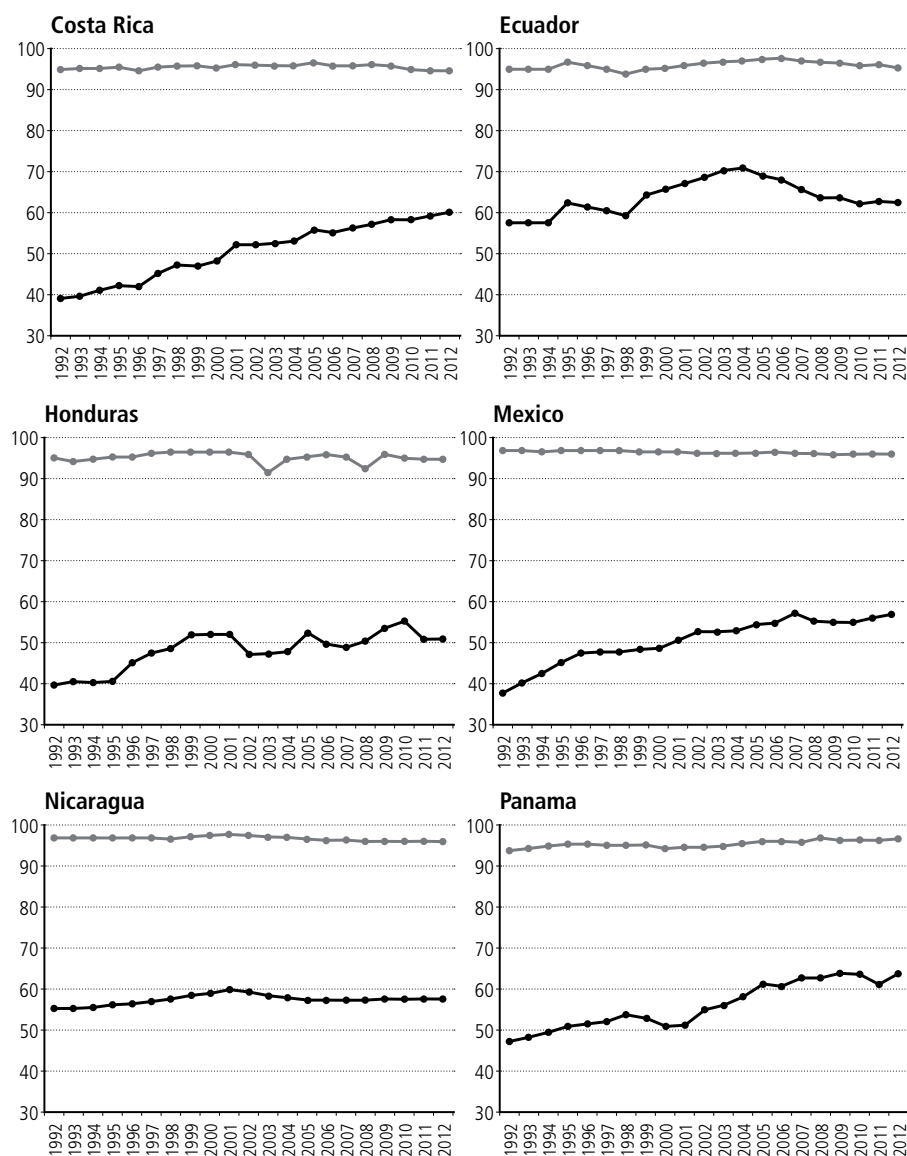
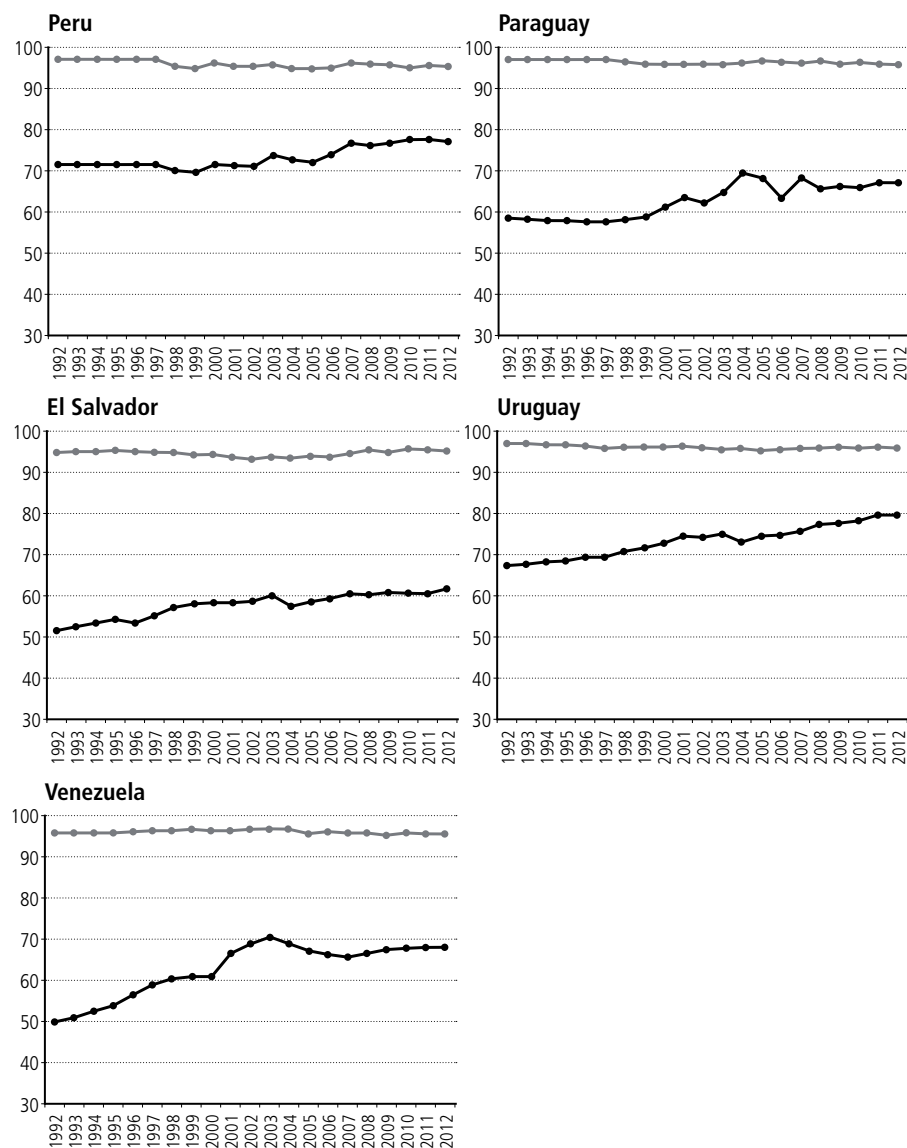


Figure 3.13: Labor force participation [cont.]



Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Note: Female LFP in black and male LFP in grey.

**Table 3.1: Labor force participation
Latin America, 2012.**

	Age 25-54				Age 15-24				Age +55				All			
	Total	Female	Male	Diff.	Total	Female	Male	Diff.	Total	Female	Male	Diff.	Total	Female	Male	Diff.
Argentina	81.1	68.3	94.9	-26.6***	41.4	31.8	50.7	-18.9***	37.1	25.3	52.7	-27.4***	60.9	48.7	74.5	-25.8***
Bolivia	84.8	73.4	97.2	-23.8***	45.9	37.4	54.9	-17.5***	64.8	53.0	78.1	-25.1***	69.8	59.3	81.3	-22.0***
Brazil	80.4	69.4	92.3	-22.9***	59.0	50.6	67.2	-16.5***	36.9	25.0	51.4	-26.4***	65.9	54.9	77.9	-23.0***
Chile	76.2	62.0	92.2	-30.2***	35.6	28.7	42.3	-13.5***	35.4	21.7	53.2	-31.5***	55.9	43.5	70.1	-26.7***
Colombia	83.9	72.2	96.5	-24.3***	54.4	44.5	64.1	-19.5***	47.0	31.8	64.9	-33.1***	69.1	56.9	82.0	-25.0***
Costa Rica	76.6	60.1	94.5	-34.4***	46.2	35.5	56.3	-20.9***	35.4	20.0	53.5	-33.4***	60.1	45.2	76.0	-30.8***
Dominican R.	72.9	57.2	89.4	-32.1***	39.8	27.9	51.1	-23.2***	40.2	22.4	59.1	-36.7***	57.0	42.2	72.1	-29.9***
Ecuador	78.2	62.7	95.5	-32.9***	42.2	31.1	52.5	-21.4***	50.4	34.8	67.9	-33.1***	61.9	47.7	77.0	-29.2***
El Salvador	76.8	61.9	95.3	-33.4***	47.1	31.8	62.3	-30.5***	46.3	29.3	67.9	-38.6***	61.8	46.8	79.5	-32.7***
Guatemala	72.4	53.1	95.0	-41.9***	54.6	36.8	73.6	-36.8***	51.0	31.1	73.1	-42.0***	63.0	44.2	84.1	-39.8***
Honduras	70.6	51.0	94.8	-43.9***	49.9	30.2	69.3	-39.1***	51.1	30.1	74.9	-44.8***	59.9	40.4	81.9	-41.4***
Mexico	77.9	61.5	95.8	-34.3***	53.0	39.4	66.2	-26.8***	47.9	32.5	65.5	-32.9***	65.2	49.9	81.7	-31.8***
Nicaragua	75.5	57.5	96.0	-38.5***	51.9	30.7	72.6	-41.9***	47.7	27.1	71.8	-44.7***	63.3	44.1	84.1	-40.1***
Panama	79.5	63.9	96.7	-32.8***	46.1	31.7	60.4	-28.7***	42.3	25.8	60.6	-34.7***	63.3	48.1	79.9	-31.8***
Paraguay	81.1	67.1	96.0	-28.9***	57.6	46.6	68.6	-22.0***	52.2	37.6	67.6	-30.1***	68.5	55.3	82.3	-27.0***
Peru	85.9	77.2	95.5	-18.4***	58.6	52.0	65.0	-13.0***	61.4	50.2	73.7	-23.5***	73.0	64.5	82.2	-17.7***
Uruguay	87.3	79.5	96.0	-16.5***	52.9	45.2	60.4	-15.2***	36.8	28.2	48.0	-19.8***	65.0	56.4	74.7	-18.4***
Venezuela	81.7	68.0	95.4	-27.4***	42.6	30.1	54.7	-24.6***	44.5	28.3	62.2	-33.9***	64.7	50.8	78.8	-28.0***
Average	79.0	64.8	95.0	-30.2	48.8	36.8	60.7	-23.9	46.0	30.8	63.7	-32.9	63.8	49.9	78.9	-29.0

Source: own calculations based on microdata from national household surveys.

Note: year 2012 or closest year with available survey. *** significant at 1% level, ** significant at 5% level, * significant at 10% level.

**Table 3.2: Employment variables
Latin America, 2012. Adults aged 25-54.**

	Employment				Unemployment				Duration				Job dissatisfaction			
	Total	Female	Male	Diff.	Total	Female	Male	Diff.	Total	Female	Male	Diff.	Total	Female	Male	Diff.
Argentina	76.6	63.2	91.0	-27.7***	5.6	7.5	4.2	3.3***	10.1	11.7	7.8	3.9***	18.6	19.0	18.3	0.7
Bolivia	82.0	70.2	95.0	-24.8***	3.2	4.4	2.3	2.1***	14.4	19.0	8.5	10.4***	20.3	19.3	21.1	-1.8**
Brazil	76.8	65.1	89.4	-24.3***	4.5	6.2	3.1	3.0***	14.0	15.8	11.4	4.4***				
Chile	71.6	57.3	87.8	-30.5***	6.0	7.6	4.8	2.8***	2.3	2.5	2.0	0.4***	45.4	43.8	46.6	-2.8***
Colombia	77.4	64.9	90.7	-25.9***	7.8	10.1	6.0	4.2***	5.7	6.3	5.0	1.3***	39.9	41.4	38.9	2.5***
Costa Rica	72.2	55.4	90.4	-35.0***	5.7	7.8	4.3	3.5***	5.8	6.9	4.3	2.6***	48.8	44.0	52.0	-8.0***
Dominican R.	70.4	54.7	87.0	-32.3***	3.3	4.4	2.6	1.8***	5.9	6.1	5.8	0.3	38.1	34.2	40.7	-6.5***
Ecuador	75.5	59.9	92.9	-33.0***	3.4	4.4	2.7	1.6***	3.5	3.6	3.3	0.3	14.4	14.3	14.5	-0.2
El Salvador	73.5	59.9	90.2	-30.3***	1.7	0.9	2.3	-1.4***								
Guatemala	70.3	50.7	93.2	-42.5***	2.9	4.4	1.9	2.5***	2.8	4.3	1.9	2.3***	20.5	17.4	22.5	-5.2***
Honduras	68.1	48.7	92.1	-43.5***	3.5	4.5	2.8	1.6***	6.2	7.0	5.4	1.6	33.6	32.0	34.6	-2.6**
Mexico	75.3	60.3	91.9	-31.7***	3.2	2.1	4.1	-2.0***								
Nicaragua	70.9	54.0	90.0	-35.9***	6.2	6.0	6.3	-0.3								
Panama	77.3	61.7	94.6	-32.8***	2.7	3.4	2.2	1.2***	4.1	4.5	3.5	1.0	16.5	14.2	18.2	-4.1***
Paraguay	78.4	63.9	93.8	-29.9***	3.4	4.8	2.3	2.5***	7.2	8.5	5.5	3.1**	10.9	9.5	11.9	-2.4***
Peru	83.9	75.0	93.8	-18.8***	2.3	2.8	1.8	1.0***	0.8	0.8	0.8	-0.0	20.2	19.3	21.0	-1.6***
Uruguay	83.5	74.8	93.2	-18.4***	4.4	5.9	2.9	3.0***	1.9	2.0	1.9	0.0	21.9	22.6	21.2	1.4***
Venezuela	76.5	63.0	90.0	-27.0***	6.4	7.4	5.7	1.7***	11.1	15.1	7.5	7.6***				
Average	75.6	61.3	91.5	-30.2	4.2	5.2	3.5	1.8	6.4	7.6	5.0	2.6	26.9	25.5	27.8	-2.4

Source: own calculations based on microdata from national household surveys.

Note: year 2012 or closest year with available survey. Duration=unemployment duration in months. Job dissatisfaction=willingness to change job; *** significant at 1% level, ** significant at 5% level, * significant at 10% level.

**Table 3.3: Hours of work
Latin America, 2012. Workers aged 25-54.**

	Age 25-54				Age 15-24				Age +55				All			
	Total	Female	Male	Diff.	Total	Female	Male	Diff.	Total	Female	Male	Diff.	Total	Female	Male	Diff.
Argentina	41.6	35.5	46.2	-10.7***	36.0	30.3	39.1	-8.9***	39.2	33.2	42.9	-9.7***	40.5	34.6	44.6	-10.1***
Bolivia	49.5	45.2	53.0	-7.7***	41.5	39.2	43.1	-3.9***	46.8	43.6	49.2	-5.6***	47.5	43.9	50.4	-6.5***
Brazil	41.2	37.7	44.0	-6.3***	38.5	36.5	39.8	-3.3***	37.0	31.0	40.6	-9.5***	40.2	36.7	42.7	-6.0***
Chile	43.7	40.7	45.8	-5.1***	40.7	38.9	41.8	-3.0***	42.7	39.4	44.5	-5.1***	43.1	40.3	45.0	-4.7***
Colombia	48.5	42.4	53.2	-10.8***	42.9	39.2	45.2	-6.0***	43.9	36.8	48.0	-11.2***	46.9	41.1	50.9	-9.8***
Costa Rica	45.8	39.3	49.9	-10.6***	43.3	40.3	44.9	-4.6***	39.9	30.9	43.8	-12.9***	44.6	38.5	48.1	-9.6***
Dominican R.	42.1	38.7	44.3	-5.6***	38.7	35.5	40.2	-4.7***	38.7	32.8	41.1	-8.3***	40.9	37.5	42.9	-5.4***
Ecuador	42.1	39.1	44.3	-5.2***	38.4	36.0	39.6	-3.6***	38.9	35.5	40.9	-5.4***	40.8	37.9	42.7	-4.8***
El Salvador	44.4	42.4	46.0	-3.6***	40.0	39.9	40.1	-0.2	40.6	39.6	41.2	-1.5***	42.9	41.6	43.8	-2.2***
Guatemala	47.6	39.7	52.6	-13.0***	43.9	38.9	46.4	-7.5***	43.4	37.4	46.2	-8.8***	46.0	39.2	49.8	-10.6***
Honduras	45.1	39.5	48.8	-9.3***	41.6	39.8	42.3	-2.5***	41.1	33.0	44.9	-11.8***	43.5	38.6	46.1	-7.5***
Mexico	46.7	39.1	52.1	-12.9***	43.1	38.1	46.1	-8.1***	41.7	34.5	45.9	-11.3***	45.2	38.3	49.8	-11.5***
Nicaragua	48.5	44.5	51.3	-6.9***	44.2	43.3	44.6	-1.3*	47.3	43.1	49.2	-6.1***	47.3	44.1	49.1	-5.0***
Panama	42.2	38.9	44.7	-5.8***	37.3	36.0	37.9	-1.9***	36.1	32.5	37.8	-5.3***	40.5	37.7	42.3	-4.6***
Paraguay	49.3	44.5	52.8	-8.3***	47.0	43.8	49.0	-5.2***	44.3	39.9	46.9	-7.0***	48.0	43.7	50.9	-7.2***
Peru	46.0	42.0	49.6	-7.6***	39.6	38.8	40.2	-1.4***	40.6	37.0	43.3	-6.3***	43.7	40.4	46.3	-5.9***
Uruguay	42.4	37.7	46.5	-8.9***	37.1	33.9	39.1	-5.1***	37.7	33.3	41.1	-7.8***	40.8	36.4	44.3	-7.9***
Venezuela	41.0	38.0	43.1	-5.1***	39.7	37.3	40.9	-3.6***	39.6	35.3	41.7	-6.4***	40.6	37.6	42.5	-4.9***
Average	44.9	40.3	48.2	-8.0	40.8	38.1	42.2	-4.1	41.1	36.0	43.8	-7.8	43.5	39.3	46.2	-6.9

Source: own calculations based on microdata from national household surveys.

Note: year 2012 or closest year with available survey. Weekly hours in all jobs.

*** significant at 1% level, ** significant at 5% level, * significant at 10% level.

**Table 3.4: Part-time and full-time work
Latin America, 2012. Workers aged 25-54.**

	Part time				Full time				Overtime			
	Total	Female	Male	Diff.	Total	Female	Male	Diff.	Total	Female	Male	Diff.
Argentina	19.5	32.4	9.9	22.5***	55.0	52.9	56.5	-3.6***	25.6	14.7	33.6	-19.0***
Bolivia	13.3	21.2	6.9	14.3***	44.6	43.6	45.4	-1.9*	42.1	35.2	47.7	-12.5***
Brazil	12.5	20.7	6.1	14.7***	71.0	67.7	73.7	-6.0***	16.4	11.6	20.2	-8.6***
Chile	10.9	17.0	6.5	10.5***	71.9	70.3	73.1	-2.8***	17.2	12.7	20.4	-7.7***
Colombia	13.7	24.6	5.4	19.2***	45.0	46.2	44.1	2.1***	41.3	29.2	50.4	-21.2***
Costa Rica	15.4	26.5	8.4	18.1***	47.3	50.0	45.5	4.5***	37.3	23.5	46.1	-22.6***
Dominican R.	15.4	23.8	9.9	13.9***	62.5	61.0	63.4	-2.4**	22.1	15.2	26.7	-11.5***
Ecuador	10.7	17.5	5.9	11.5***	68.1	66.8	69.1	-2.3***	21.1	15.7	25.0	-9.3***
El Salvador	13.7	21.1	7.6	13.5***	53.5	46.0	59.6	-13.6***	32.8	32.9	32.8	0.1
Guatemala	15.9	32.9	5.1	27.9***	40.8	37.2	43.1	-5.9***	43.3	29.9	51.8	-21.9***
Honduras	18.8	31.9	10.4	21.5***	45.4	39.2	49.4	-10.2***	35.7	28.9	40.2	-11.3***
Mexico	17.9	31.2	8.4	22.8***	43.2	43.3	43.2	0.2	38.9	25.5	48.4	-23.0***
Nicaragua	11.7	20.7	5.5	15.1***	48.5	45.4	50.7	-5.3***	39.8	33.9	43.8	-9.8***
Panama	14.8	20.2	10.9	9.3***	68.0	68.1	67.9	0.3	17.2	11.6	21.2	-9.6***
Paraguay	14.2	25.8	5.9	19.9***	38.5	37.3	39.5	-2.2*	47.2	36.9	54.6	-17.7***
Peru	20.0	28.2	12.7	15.5***	38.7	38.3	39.1	-0.7	41.3	33.5	48.2	-14.7***
Uruguay	14.8	23.4	7.1	16.3***	61.9	61.2	62.5	-1.2**	23.4	15.4	30.5	-15.1***
Venezuela	8.9	14.9	4.7	10.2***	82.5	79.5	84.6	-5.1***	8.6	5.6	10.7	-5.1***
Average	14.6	24.1	7.6	16.5	54.8	53.0	56.1	-3.1	30.6	22.9	36.2	-13.4

Source: own calculations based on microdata from national household surveys.

Note: year 2012 or closest year with available survey. Part-time: less than 30 hours per week. Weekly hours in all jobs. *** significant at 1% level, ** significant at 5% level, * significant at 10% level.

**Table 3.6: Labor force participation by age
Latin America, 1992-2012.**

	Females				Males				Difference males-females			
	[25-54]	[15-24]	[+ 55]	Total	[25-54]	[15-24]	[+ 55]	Total	[25-54]	[15-24]	[+ 55]	Total
1992	53.3	38.3	23.2	42.9	95.8	67.8	61.8	81.1	42.5	29.6	38.6	38.2
1993	54.1	38.6	23.6	43.5	95.8	68.2	61.7	81.2	41.7	29.6	38.1	37.7
1994	54.8	38.6	23.9	43.9	95.9	68.6	62.2	81.4	41.1	30.0	38.3	37.6
1995	56.0	38.8	25.0	44.8	96.1	68.7	63.5	81.8	40.0	29.9	38.4	37.0
1996	56.6	38.6	25.2	45.1	95.8	67.6	62.5	81.2	39.3	29.0	37.3	36.1
1997	57.6	39.2	26.1	45.9	95.8	67.8	63.2	81.3	38.2	28.6	37.1	35.4
1998	58.3	39.5	26.6	46.6	95.7	67.3	63.2	81.3	37.4	27.8	36.6	34.7
1999	59.5	39.7	27.9	47.6	95.6	66.4	63.6	81.0	36.1	26.7	35.7	33.5
2000	59.9	39.2	27.8	47.5	95.6	65.7	63.1	80.8	35.7	26.5	35.3	33.2
2001	61.7	40.2	29.1	49.0	95.6	65.8	63.3	80.8	34.0	25.5	34.2	31.7
2002	62.1	39.8	28.7	49.1	95.5	65.3	63.3	80.6	33.5	25.5	34.7	31.5
2003	63.0	40.2	29.0	49.7	95.3	64.3	62.5	80.1	32.3	24.1	33.5	30.3
2004	63.0	39.8	29.9	49.8	95.5	64.3	63.2	80.3	32.5	24.4	33.3	30.5
2005	63.9	39.6	30.5	50.2	95.7	63.5	63.3	80.0	31.8	23.8	32.8	29.8
2006	63.8	39.5	30.6	50.2	95.6	63.7	63.6	80.2	31.8	24.2	33.0	30.0
2007	64.3	39.0	30.9	50.4	95.6	63.4	63.9	80.2	31.3	24.5	33.0	29.8
2008	64.4	39.1	30.9	50.4	95.5	63.0	64.2	80.0	31.1	24.0	33.3	29.6
2009	65.0	38.6	31.5	50.7	95.5	62.5	63.7	79.7	30.5	23.9	32.3	29.0
2010	65.0	37.2	30.9	50.1	95.4	61.2	62.8	79.1	30.4	24.0	31.9	29.0
2011	65.0	36.9	30.6	50.2	95.3	60.4	63.0	79.0	30.3	23.6	32.3	28.8
2012	65.3	36.5	30.7	50.4	95.2	60.0	63.0	78.8	30.0	23.5	32.3	28.4
Changes												
1992-2002	8.8	1.5	5.5	6.2	-0.3	-2.5	1.5	-0.4	-9.1	-4.1	-4.0	-6.7
2002-2012	3.2	-3.3	2.1	1.3	-0.3	-5.3	-0.3	-1.8	-3.5	-2.0	-2.4	-3.1

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

**Table 3.7: Labor market indicators by gender
Latin America, 1992-2012. Adults aged 25-54.**

	Employment			Unemployment			Hours of work			Full-time job		
	Females	Males	Diff	Females	Males	Diff	Females	Males	Diff	Females	Males	Diff
1992	49.7	91.1	41.4	5.7	4.8	-0.9	42.3	49.8	7.5	78.2	92.1	13.9
1993	50.4	91.0	40.7	6.0	4.9	-1.1	42.3	49.8	7.5	77.6	91.8	14.2
1994	51.0	91.2	40.2	6.3	4.8	-1.5	42.0	49.8	7.8	76.9	92.0	15.1
1995	51.8	91.3	39.4	7.6	5.0	-2.6	42.1	49.7	7.6	76.8	92.0	15.3
1996	52.3	90.9	38.7	7.7	5.1	-2.5	42.0	49.6	7.6	76.0	91.3	15.3
1997	53.4	91.3	37.9	7.3	4.8	-2.4	42.0	49.8	7.9	75.9	91.2	15.3
1998	54.1	91.2	37.1	6.9	4.8	-2.1	42.0	49.8	7.8	75.7	90.8	15.1
1999	55.0	90.7	35.7	7.3	5.1	-2.2	41.3	49.3	8.0	74.2	90.1	15.9
2000	55.2	90.5	35.3	7.6	5.3	-2.3	41.6	49.3	7.8	74.9	90.5	15.6
2001	56.2	90.0	33.8	8.6	5.8	-2.8	40.7	49.0	8.3	73.1	90.3	17.2
2002	56.1	89.7	33.6	9.3	6.1	-3.2	40.7	48.9	8.3	72.7	89.8	17.1
2003	57.0	89.7	32.7	9.1	5.9	-3.2	40.5	48.7	8.2	73.1	89.4	16.3
2004	57.9	90.6	32.7	7.9	5.1	-2.8	40.8	49.2	8.4	73.4	89.9	16.5
2005	59.0	91.2	32.2	7.3	4.6	-2.7	40.6	48.9	8.3	73.1	89.9	16.8
2006	59.6	91.7	32.1	6.4	4.1	-2.3	40.8	49.0	8.2	73.9	91.2	17.3
2007	60.5	92.0	31.5	5.8	3.7	-2.1	40.8	49.0	8.2	74.7	91.8	17.1
2008	60.8	92.1	31.3	5.4	3.6	-1.8	41.0	49.0	8.1	75.5	92.2	16.7
2009	61.1	91.4	30.3	6.1	4.3	-1.7	40.3	48.3	8.0	74.2	91.1	16.9
2010	61.3	91.6	30.3	5.7	4.0	-1.7	40.2	48.1	7.9	74.3	90.9	16.6
2011	61.6	91.8	30.1	5.2	3.7	-1.5	40.4	48.2	7.8	75.3	91.5	16.3
2012	61.8	91.7	29.9	5.1	3.5	-1.6	40.4	47.8	7.4	75.5	91.3	15.8
Changes												
1992-2002	6.4	-1.4	-7.8	3.6	1.3	-2.3	-1.7	-0.9	0.8	-5.5	-2.3	3.2
2002-2012	5.7	2.0	-3.7	-4.2	-2.5	1.6	-0.3	-1.1	-0.8	2.8	1.5	-1.3

Source: own calculations based on microdata from national household surveys.

Note: hours of work in hours per week; full-time=more than 30 hours per week.
Unweighted means.

**Table 3.8: Female labor market participation
Regions of the world, 1992-2012. Women aged 15-64.**

	Female labor force participation					Change in female LFP			
	1992	1997	2002	2007	2012	1992-1997	1997-2002	2002-2007	2007-2012
East Asia & Pacific	72.3	71.9	70.1	67.9	67.5	-0.4	-1.8	-2.2	-0.4
Europe & Central Asia	59.9	58.6	59.7	61.0	62.6	-1.3	1.1	1.3	1.6
Latin America & Caribbean	46.2	49.8	53.2	55.9	57.9	3.6	3.4	2.7	2.1
Middle East & North Africa	21.0	21.5	22.6	24.4	24.9	0.5	1.0	1.9	0.4
North America	67.6	69.7	69.4	68.6	67.3	2.2	-0.3	-0.8	-1.3
South Asia	37.2	36.5	36.9	36.3	33.0	-0.6	0.3	-0.6	-3.3
Sub-Saharan Africa	59.2	60.4	62.0	62.8	63.4	1.2	1.5	0.8	0.6
World	57.3	57.0	56.8	56.2	55.4	-0.3	-0.2	-0.6	-0.8

Source: own calculations based on WDI.

Note: unweighted means by region.

**Table 3.9: Labor force participation by education
Latin America, 1992-2012. Adults aged 25-54.**

	Females				Males				Difference males-females			
	Low	Medium	High	Total	Low	Medium	High	Total	Low	Medium	High	Total
1992	47.2	64.9	83.9	53.3	95.9	94.5	97.5	95.8	48.7	29.7	13.6	42.5
1993	47.8	65.4	84.2	54.1	95.9	94.7	97.2	95.8	48.1	29.3	13.0	41.7
1994	48.2	65.8	85.0	54.8	96.0	94.8	97.4	95.9	47.8	29.0	12.3	41.1
1995	49.5	66.5	84.8	56.0	96.1	95.4	97.2	96.1	46.6	28.9	12.4	40.0
1996	49.9	66.6	85.6	56.6	95.8	95.2	97.6	95.8	45.9	28.6	12.0	39.3
1997	50.8	67.4	86.1	57.6	95.9	95.0	97.5	95.8	45.0	27.6	11.4	38.2
1998	51.7	67.5	85.9	58.3	95.6	95.0	97.4	95.7	44.0	27.5	11.5	37.4
1999	53.0	68.1	86.0	59.5	95.7	94.7	97.4	95.6	42.7	26.6	11.4	36.1
2000	53.3	68.9	84.0	59.9	95.6	94.8	97.1	95.6	42.3	26.0	13.1	35.7
2001	54.9	69.9	85.7	61.7	95.6	95.0	97.2	95.6	40.7	25.0	11.5	34.0
2002	55.3	70.2	86.3	62.1	95.5	94.9	96.7	95.5	40.2	24.7	10.4	33.5
2003	56.2	70.4	86.6	63.0	95.1	95.2	97.3	95.3	38.9	24.7	10.8	32.3
2004	56.2	70.2	86.7	63.0	95.4	95.2	97.4	95.5	39.2	25.1	10.7	32.5
2005	56.8	70.3	87.3	63.9	95.5	95.4	97.8	95.7	38.6	25.1	10.4	31.8

	Females				Males				Difference males-females			
	Low	Medium	High	Total	Low	Medium	High	Total	Low	Medium	High	Total
2006	56.9	69.5	87.1	63.8	95.5	95.3	97.7	95.6	38.6	25.8	10.5	31.8
2007	57.2	69.8	86.8	64.3	95.4	95.2	97.5	95.6	38.1	25.3	10.7	31.3
2008	57.1	69.8	87.3	64.4	95.1	95.2	97.9	95.5	38.1	25.4	10.6	31.1
2009	57.5	70.4	87.8	65.0	95.1	95.3	97.6	95.5	37.7	24.9	9.8	30.5
2010	57.2	70.3	87.6	65.0	95.0	95.2	97.5	95.4	37.8	24.9	9.9	30.4
2011	57.0	69.6	87.3	65.0	94.9	95.1	97.5	95.3	37.9	25.5	10.2	30.3
2012	57.0	69.7	87.6	65.3	94.8	95.0	97.6	95.2	37.8	25.3	9.9	30.0
Changes												
1992-2002	8.0	5.3	2.4	8.8	-0.4	0.4	-0.8	-0.3	-8.5	-4.9	-3.2	-9.1
2002-2012	1.7	-0.5	1.3	3.2	-0.7	0.1	0.8	-0.3	-2.4	0.6	-0.5	-3.5

Source: own calculations based on microdata from national household surveys.

Note: Education: low=less than secondary complete, medium=secondary complete and superior incomplete, high=tertiary complete. Unweighted means.

Table 3.10: Hours of work by education
Latin America, 1992-2012. Workers aged 25-54.

	Females				Males				Difference males-females			
	Low	Medium	High	Total	Low	Medium	High	Total	Low	Medium	High	Total
1992	43.2	41.3	40.1	42.3	50.3	48.9	47.8	49.8	7.0	7.6	7.8	7.5
1993	43.1	41.5	40.1	42.3	50.2	49.2	48.1	49.8	7.1	7.6	8.0	7.5
1994	42.4	41.8	40.2	42.0	50.2	49.1	48.1	49.8	7.7	7.3	7.9	7.8
1995	42.6	41.9	40.4	42.1	50.0	49.2	48.2	49.7	7.4	7.4	7.8	7.6
1996	42.3	42.0	40.1	42.0	49.9	49.2	48.0	49.6	7.6	7.2	7.9	7.6
1997	42.2	42.3	40.3	42.0	50.1	49.5	48.2	49.8	7.9	7.2	7.9	7.9
1998	42.1	42.3	40.7	42.0	49.9	49.5	48.5	49.8	7.8	7.2	7.8	7.8
1999	41.2	41.8	40.4	41.3	49.3	49.2	48.2	49.3	8.1	7.4	7.8	8.0
2000	41.4	42.1	41.0	41.6	49.5	49.3	47.9	49.3	8.1	7.3	6.9	7.8
2001	40.3	41.5	40.7	40.7	49.0	49.2	48.1	49.0	8.8	7.7	7.4	8.3
2002	40.0	41.8	40.7	40.7	48.9	49.3	47.5	48.9	8.9	7.6	6.9	8.3
2003	39.8	41.5	40.4	40.5	48.7	49.0	47.7	48.7	8.9	7.6	7.2	8.2
2004	40.1	42.0	40.9	40.8	49.3	49.2	48.0	49.2	9.2	7.3	7.1	8.4
2005	39.6	42.0	41.0	40.6	48.9	49.1	47.6	48.9	9.3	7.2	6.6	8.3

	Females				Males				Difference males-females			
	Low	Medium	High	Total	Low	Medium	High	Total	Low	Medium	High	Total
2006	39.8	42.2	40.7	40.8	49.1	49.2	47.4	49.0	9.2	7.0	6.7	8.2
2007	39.8	42.3	41.0	40.8	49.1	49.2	47.6	49.0	9.3	6.9	6.6	8.2
2008	40.1	41.8	41.3	41.0	49.1	49.4	47.4	49.0	9.0	7.6	6.1	8.1
2009	39.3	41.5	40.9	40.3	48.5	48.7	46.7	48.3	9.2	7.2	5.8	8.0
2010	39.3	41.4	40.6	40.2	48.3	48.4	46.2	48.1	9.1	6.9	5.6	7.9
2011	39.4	41.5	40.9	40.4	48.3	48.3	46.5	48.2	8.9	6.8	5.6	7.7
2012	39.3	41.4	40.9	40.4	47.9	48.0	46.3	47.8	8.6	6.6	5.4	7.4
Changes												
1992-2002	-3.2	0.4	0.6	-1.7	-1.3	0.4	-0.3	-0.9	1.9	0.0	-0.9	0.8
2002-2012	-0.7	-0.3	0.2	-0.3	-1.0	-1.3	-1.2	-1.1	-0.3	-1.0	-1.5	-0.8

Source: own calculations based on microdata from national household surveys.
 Note: Education: low=less than secondary complete, medium=secondary complete and superior incomplete, high=tertiary complete. Hours of work per week. Unweighted means.

**Table 3.11: Labor force participation by age
 Latin America, 1992-2012. Adults aged 25-54.**

	Females				Males				Difference males-females			
	[25,34]	[35,44]	[45,54]	Total	[25,34]	[35,44]	[45,54]	Total	[25,34]	[35,44]	[45,54]	Total
1992	53.9	56.2	48.0	53.3	95.6	97.2	94.1	95.8	41.7	41.0	46.1	42.5
1993	54.7	57.0	48.8	54.1	95.6	97.3	94.1	95.8	40.9	40.3	45.3	41.7
1994	55.4	57.7	49.6	54.8	95.7	97.2	94.3	95.9	40.3	39.5	44.6	41.1
1995	56.6	59.1	51.0	56.0	95.8	97.3	94.6	96.1	39.2	38.3	43.6	40.0
1996	56.8	59.6	52.0	56.6	95.7	97.1	94.3	95.8	38.9	37.5	42.3	39.3
1997	58.0	60.4	53.2	57.6	95.6	97.2	94.3	95.8	37.6	36.7	41.2	38.2
1998	58.6	61.1	54.0	58.3	95.4	96.9	94.4	95.7	36.8	35.8	40.4	37.4
1999	59.8	62.1	55.6	59.5	95.4	96.8	94.3	95.6	35.6	34.7	38.7	36.1
2000	60.1	62.6	55.9	59.9	95.2	96.9	94.3	95.6	35.2	34.3	38.4	35.7
2001	61.7	64.3	58.2	61.7	95.3	96.8	94.6	95.6	33.6	32.6	36.4	34.0
2002	62.1	64.7	58.7	62.1	95.1	96.9	94.3	95.5	33.0	32.2	35.6	33.5
2003	62.7	65.8	59.8	63.0	95.1	96.6	93.9	95.3	32.4	30.8	34.1	32.3
2004	62.9	65.6	59.8	63.0	95.1	96.9	94.3	95.5	32.1	31.3	34.5	32.5
2005	63.4	66.7	60.9	63.9	95.2	96.9	94.7	95.7	31.8	30.2	33.8	31.8

	Females				Males				Difference males-females			
	[25,34]	[35,44]	[45,54]	Total	[25,34]	[35,44]	[45,54]	Total	[25,34]	[35,44]	[45,54]	Total
2006	63.5	66.4	61.1	63.8	95.3	96.9	94.5	95.6	31.8	30.5	33.4	31.8
2007	64.0	66.9	61.6	64.3	95.1	96.9	94.6	95.6	31.1	30.0	33.0	31.3
2008	64.1	66.9	61.9	64.4	94.8	96.8	94.7	95.5	30.8	29.9	32.8	31.1
2009	65.1	67.3	62.6	65.0	94.9	96.7	94.8	95.5	29.9	29.5	32.2	30.5
2010	64.8	67.5	62.4	65.0	94.7	96.7	94.7	95.4	29.9	29.2	32.3	30.4
2011	64.9	67.5	62.5	65.0	94.7	96.7	94.5	95.3	29.8	29.2	32.1	30.3
2012	65.4	67.6	62.7	65.3	94.5	96.7	94.5	95.2	29.2	29.1	31.7	30.0
Changes												
1992-2002	8.2	8.5	10.6	8.8	-0.5	-0.3	0.2	-0.3	-8.7	-8.8	-10.5	-9.1
2002-2012	3.3	2.9	4.1	3.2	-0.6	-0.2	0.2	-0.3	-3.9	-3.1	-3.9	-3.5

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

**Table 3.12: Labor force participation by cohort
Latin America, 1992-2012.**

	Females born between				Males born between				Difference males-females			
	1938-1947	1948-1957	1958-1967	1968-1977	1938-1947	1948-1957	1958-1967	1968-1977	1938-1947	1948-1957	1958-1967	1968-1977
1992	47.8	55.8	53.8	39.5	93.5	97.2	95.7	69.5	45.7	41.4	41.9	30.0
1993	47.7	56.1	54.9	42.4	92.9	97.2	96.0	73.9	45.2	41.1	41.1	31.5
1994	47.0	56.5	55.9	45.3	92.5	97.0	96.4	78.7	45.4	40.5	40.5	33.4
1995	46.9	57.3	57.5	48.7	92.0	97.1	96.8	83.2	45.1	39.7	39.3	34.5
1996	45.4	57.7	58.1	50.9	90.8	96.5	96.9	86.1	45.4	38.9	38.7	35.2
1997	45.2	57.7	59.7	53.5	89.7	96.3	97.0	89.4	44.5	38.6	37.3	35.8
1998	44.3	57.9	60.6	55.6	89.3	95.9	96.9	91.2	45.1	38.0	36.3	35.6
1999	44.6	58.6	61.8	57.7	87.9	95.5	97.0	92.1	43.3	36.9	35.2	34.4
2000	42.9	58.1	62.7	58.6	85.9	95.2	96.9	93.6	42.9	37.1	34.2	35.0
2001	42.8	59.3	64.2	60.9	84.3	94.9	96.9	94.5	41.5	35.6	32.7	33.6
2002	40.5	58.7	64.5	62.0	82.6	94.4	96.9	95.1	42.1	35.7	32.4	33.1
2003	39.4	58.3	65.5	63.4	79.1	93.4	96.5	95.6	39.7	35.1	31.0	32.2
2004	38.6	56.9	65.5	63.9	77.0	93.2	96.7	96.1	38.4	36.2	31.2	32.3
2005	37.3	56.8	66.0	65.0	74.7	92.9	96.6	96.5	37.4	36.1	30.5	31.5
2006	35.3	55.5	65.6	65.3	72.3	92.0	96.4	96.9	37.0	36.6	30.8	31.6

	Females born between				Males born between				Difference males-females			
	1938-1947	1948-1957	1958-1967	1968-1977	1938-1947	1948-1957	1958-1967	1968-1977	1938-1947	1948-1957	1958-1967	1968-1977
2007	34.2	54.4	65.5	66.2	69.8	91.2	96.2	96.9	35.6	36.8	30.7	30.6
2008	31.8	52.8	65.2	66.4	67.7	90.4	96.0	96.7	35.9	37.6	30.8	30.3
2009	30.1	52.7	64.8	67.0	63.8	89.3	95.7	96.8	33.7	36.6	30.9	29.8
2010	28.1	50.4	64.3	67.1	60.5	87.5	95.4	96.7	32.5	37.1	31.0	29.7
2011	25.6	47.9	63.5	67.4	57.3	85.4	95.0	96.8	31.7	37.4	31.5	29.4
2012	24.4	46.7	63.3	67.5	55.7	84.2	94.7	96.8	31.3	37.5	31.4	29.3
Changes												
1992-2002	-7.3	2.9	10.7	22.6	-11.0	-2.8	1.2	25.6	-3.6	-5.7	-9.5	3.1
2002-2012	-16.1	-12.0	-1.2	5.5	-26.9	-10.1	-2.2	1.7	-10.8	1.8	-1.0	-3.7

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

**Table 3.13: Labor force participation by marital status
Latin America, 1992-2012. Adults aged 25-54.**

	Females			Males			Difference males-females		
	Single	Married	Total	Single	Married	Total	Single	Married	Total
1992	73.6	46.5	53.3	90.2	97.7	95.8	16.6	51.2	42.5
1993	73.7	47.2	54.1	90.3	97.7	95.8	16.6	50.4	41.7
1994	73.7	47.9	54.8	90.6	97.7	95.9	16.9	49.8	41.1
1995	74.3	48.9	56.0	90.9	97.8	96.1	16.6	48.9	40.0
1996	74.3	49.3	56.6	90.4	97.7	95.8	16.0	48.4	39.3
1997	74.8	50.5	57.6	90.6	97.6	95.8	15.9	47.2	38.2
1998	74.8	51.3	58.3	90.3	97.5	95.7	15.4	46.3	37.4
1999	76.3	52.4	59.5	89.5	97.6	95.6	13.2	45.2	36.1
2000	76.0	52.9	59.9	89.7	97.7	95.6	13.7	44.7	35.7
2001	77.1	54.6	61.7	89.8	97.7	95.6	12.7	43.1	34.0
2002	76.9	55.2	62.1	89.9	97.6	95.5	13.0	42.4	33.5
2003	77.1	56.1	63.0	89.6	97.4	95.3	12.5	41.3	32.3
2004	76.6	56.3	63.0	90.1	97.6	95.5	13.6	41.4	32.5
2005	77.1	57.2	63.9	90.2	97.9	95.7	13.0	40.6	31.8
2006	77.7	57.2	63.8	90.1	97.9	95.6	12.4	40.6	31.8

	Females			Males			Difference males-females		
	Single	Married	Total	Single	Married	Total	Single	Married	Total
2007	78.3	57.6	64.3	89.7	97.9	95.6	11.4	40.4	31.3
2008	78.6	57.5	64.4	89.8	97.8	95.5	11.2	40.3	31.1
2009	78.5	58.3	65.0	90.0	97.9	95.5	11.5	39.5	30.5
2010	78.7	58.1	65.0	89.7	97.9	95.4	11.1	39.8	30.4
2011	78.4	58.1	65.0	89.7	97.8	95.3	11.3	39.7	30.3
2012	78.7	58.3	65.3	89.7	97.8	95.2	11.1	39.5	30.0
Changes									
1992-2002	3.2	8.7	8.8	-0.4	-0.1	-0.3	-3.6	-8.8	-9.1
2002-2012	1.8	3.1	3.2	-0.1	0.2	-0.3	-1.9	-2.8	-3.5

Source: own calculations based on microdata from national household surveys.

Note: Married=living with a partner (legally married or not). Unweighted means.

**Table 3.14: Labor force participation by age of children
Latin America, 1992-2012. Adults aged 25-54.**

	Females				Males				Difference males-females			
	Group 1	Group 2	Group 3	Total	Group 1	Group 2	Group 3	Total	Group 1	Group 2	Group 3	Total
1992	53.9	45.3	52.5	49.9	94.9	98.7	97.3	97.5	41.0	53.3	44.8	47.6
1993	55.3	45.8	53.4	50.8	94.9	98.7	97.3	97.5	39.6	52.9	43.9	46.7
1994	56.2	46.4	54.5	51.7	95.0	98.7	97.4	97.5	38.8	52.3	42.9	45.9
1995	57.3	47.8	55.7	53.0	95.6	98.8	97.5	97.7	38.3	51.0	41.8	44.7
1996	58.3	48.0	56.5	53.6	95.7	98.7	97.4	97.6	37.4	50.7	40.9	44.1
1997	59.5	48.8	58.0	54.9	95.5	98.7	97.3	97.5	36.0	49.9	39.3	42.7
1998	60.0	49.7	58.7	55.6	95.2	98.6	97.3	97.4	35.1	48.8	38.7	41.8
1999	60.8	51.1	59.8	56.9	95.4	98.8	97.2	97.5	34.6	47.7	37.4	40.6
2000	61.3	51.3	60.1	57.3	95.3	98.7	97.4	97.5	34.0	47.4	37.3	40.2
2001	63.9	53.3	61.9	59.3	95.5	98.8	97.5	97.6	31.6	45.4	35.6	38.3
2002	63.7	53.5	63.0	59.8	95.2	98.8	97.4	97.5	31.5	45.3	34.5	37.6
2003	64.3	54.6	63.8	60.8	94.9	98.4	97.4	97.2	30.6	43.8	33.6	36.4
2004	63.7	54.8	63.8	60.9	95.6	98.6	97.6	97.5	31.8	43.8	33.8	36.6
2005	65.7	55.3	64.3	61.8	96.0	98.8	97.8	97.7	30.4	43.5	33.6	36.0
2006	65.4	55.0	64.5	61.8	95.8	98.8	97.8	97.7	30.4	43.8	33.3	35.9

	Females				Males				Difference males-females			
	Group 1	Group 2	Group 3	Total	Group 1	Group 2	Group 3	Total	Group 1	Group 2	Group 3	Total
2007	65.9	55.5	64.9	62.3	95.8	98.9	97.9	97.7	29.9	43.4	33.0	35.5
2008	66.1	55.1	65.2	62.3	95.7	98.7	97.8	97.6	29.6	43.6	32.7	35.3
2009	67.3	56.4	65.1	63.1	95.8	98.9	98.0	97.7	28.6	42.4	32.9	34.6
2010	67.1	56.1	65.3	63.1	95.9	98.8	97.9	97.7	28.8	42.7	32.7	34.6
2011	66.9	56.1	65.1	63.0	96.0	98.7	97.9	97.6	29.1	42.6	32.7	34.6
2012	67.2	56.0	65.2	63.1	95.7	98.8	97.9	97.6	28.5	42.8	32.7	34.5
Changes												
1992-2002	9.8	8.1	10.5	9.9	0.3	0.1	0.1	0.0	-9.5	-8.0	-10.3	-10.0
2002-2012	3.5	2.5	2.2	3.3	0.5	0.0	0.5	0.1	-3.0	-2.5	-1.7	-3.2

Source: own calculations based on microdata from national household surveys.

Note: Group 1=no children under 18, Group 2=youngest child is 0-5, Group 3=youngest child is 6-17. Unweighted means.

**Table 3.15: Labor force participation by area (urban-rural)
Latin America, 1992-2012. Adults aged 25-54.**

	Females			Males			Difference males-females		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
1992	57.9	44.6	52.9	95.3	96.8	95.8	37.3	52.2	42.9
1993	58.6	45.6	53.6	95.3	96.9	95.8	36.6	51.3	42.2
1994	59.3	46.6	54.4	95.2	97.0	95.8	35.9	50.5	41.4
1995	60.5	47.8	55.6	95.5	97.2	96.1	35.0	49.4	40.4
1996	61.5	47.9	56.3	95.3	96.9	95.8	33.9	48.9	39.5
1997	62.6	49.1	57.4	95.3	96.9	95.8	32.7	47.7	38.4
1998	62.8	49.9	58.0	95.1	96.7	95.6	32.3	46.8	37.6
1999	63.7	51.5	59.2	95.0	96.7	95.6	31.4	45.2	36.3
2000	64.1	51.6	59.6	95.1	96.7	95.6	30.9	45.0	36.0
2001	65.1	53.4	61.5	95.1	96.7	95.6	30.0	43.4	34.1
2002	66.1	53.1	61.7	95.0	96.6	95.5	28.9	43.5	33.9
2003	66.7	54.3	62.7	95.0	96.2	95.3	28.3	41.9	32.6
2004	66.4	55.2	62.7	95.1	96.4	95.5	28.8	41.3	32.8
2005	67.1	56.4	63.6	95.3	96.4	95.7	28.2	40.1	32.1

	Females			Males			Difference males-females		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
2006	66.9	56.6	63.5	95.2	96.7	95.7	28.3	40.1	32.2
2007	67.4	56.7	64.0	95.1	96.6	95.6	27.6	39.9	31.6
2008	67.9	55.6	64.1	95.3	96.1	95.5	27.4	40.5	31.4
2009	68.5	56.6	64.8	95.2	96.2	95.6	26.8	39.6	30.8
2010	68.6	56.0	64.8	95.0	96.2	95.4	26.4	40.2	30.6
2011	68.6	55.7	64.7	94.9	96.1	95.3	26.3	40.3	30.6
2012	69.1	55.6	65.0	94.9	96.0	95.3	25.8	40.3	30.2
Changes									
1992-2002	8.1	8.5	8.8	-0.2	-0.2	-0.2	-8.4	-8.7	-9.0
2002-2012	3.0	2.5	3.4	-0.2	-0.6	-0.3	-3.2	-3.1	-3.6

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

**Table 3.16: Labor force participation by income of spouse
Latin America, 1992-2012. Adults aged 25-54.**

	Females						Males					
	q1	q2	q3	q4	q5	Total	q1	q2	q3	q4	q5	Total
1992	40.4	42.4	43.4	46.0	49.7	44.3	97.5	96.5	97.1	96.5	97.3	97.0
1993	41.3	42.8	44.2	46.9	51.0	45.2	97.7	96.8	97.1	97.0	96.9	97.1
1994	42.5	43.9	44.5	47.9	52.1	46.1	97.5	96.8	97.1	96.9	97.0	97.1
1995	43.9	45.3	46.1	48.8	53.3	47.4	97.6	96.8	97.1	97.2	97.3	97.2
1996	44.4	45.1	46.6	49.5	53.9	47.9	97.1	96.7	97.0	97.3	97.4	97.1
1997	45.6	46.6	47.7	51.1	55.2	49.2	96.9	96.5	97.0	97.4	97.3	97.0
1998	47.4	48.0	49.2	50.8	56.4	50.3	96.6	96.9	97.1	97.0	97.3	97.0
1999	50.1	49.4	50.8	52.0	57.3	51.9	97.4	97.4	97.1	96.8	97.2	97.2
2000	49.4	50.7	51.0	52.5	57.4	52.2	97.2	97.1	97.3	97.2	97.1	97.2
2001	51.6	51.3	52.3	55.7	59.5	54.1	97.4	97.2	97.4	97.4	97.5	97.4
2002	53.1	52.3	52.9	55.1	59.4	54.5	97.7	97.4	97.2	96.9	97.3	97.3
2003	54.4	53.4	53.6	56.7	59.8	55.6	97.5	97.1	97.1	97.1	97.2	97.2
2004	54.5	53.4	53.7	56.3	60.2	55.6	98.2	97.2	97.0	97.2	97.1	97.4

	Females						Males					
	q1	q2	q3	q4	q5	Total	q1	q2	q3	q4	q5	Total
2005	54.7	54.2	55.5	57.1	60.8	56.5	98.2	97.1	97.7	97.6	97.4	97.6
2006	56.0	54.0	54.8	56.3	60.2	56.2	98.2	97.4	97.1	97.2	97.4	97.5
2007	56.4	55.0	55.0	56.9	60.9	56.8	98.1	97.5	97.5	97.6	97.3	97.6
2008	55.0	54.2	55.3	57.8	61.2	56.7	97.8	97.3	97.4	97.5	97.4	97.5
2009	55.8	55.0	56.8	58.6	61.2	57.5	98.2	97.3	97.8	97.4	97.4	97.6
2010	55.4	54.9	56.5	58.1	61.6	57.3	98.1	97.6	97.5	97.4	97.4	97.6
2011	55.0	55.7	55.5	57.9	61.6	57.1	98.3	97.4	97.4	97.5	97.5	97.6
2012	55.3	55.1	56.4	58.0	61.3	57.2	98.2	97.3	97.0	97.7	97.6	97.6
Changes												
1992-2002	12.7	9.9	9.5	9.1	9.7	10.2	0.1	0.9	0.0	0.4	0.0	0.3
2002-2012	2.2	2.8	3.5	2.9	1.9	2.7	0.5	-0.1	-0.1	0.8	0.3	0.3

Source: own calculations based on microdata from national household surveys.

Note: National quintiles of individual income. Quintile 1 includes spouses with no income. Unweighted means.

Table 3.17: Labor force participation by household per capita income Latin America, 1992-2012. Adults aged 25-54.

	Females											Males										
	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	Total	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	Total
1992	35.9	38.8	40.3	43.4	47.9	50.2	55.7	61.3	66.1	71.8	52.7	92.5	95.1	95.1	96.3	95.4	96.3	95.8	96.5	96.5	96.8	95.8
1993	36.9	39.3	40.8	44.3	47.9	50.8	57.2	61.7	68.0	72.1	53.5	92.4	95.2	94.8	96.0	95.5	96.1	96.0	96.4	96.6	96.9	95.8
1994	36.8	40.7	40.8	45.2	48.7	51.8	58.6	62.7	68.8	73.4	54.4	93.1	95.5	94.7	96.4	95.4	96.2	96.1	96.7	96.3	97.0	95.9
1995	38.5	42.6	42.6	46.6	49.1	53.5	60.5	64.1	69.8	74.4	55.8	93.7	95.6	94.8	96.4	95.8	96.1	96.4	96.8	96.7	97.1	96.1
1996	38.9	42.2	43.4	46.7	50.5	54.2	60.8	64.2	70.1	75.4	56.2	93.3	95.2	94.4	95.8	96.0	95.7	95.9	96.4	96.7	97.3	95.9
1997	39.8	42.8	44.6	47.7	51.7	55.5	60.4	66.1	72.0	76.6	57.3	92.7	95.5	94.8	95.9	95.7	95.7	96.2	96.3	96.7	97.1	95.9
1998	39.6	43.8	46.0	49.2	51.8	56.9	62.5	65.9	71.9	76.0	58.0	92.0	95.0	94.8	95.8	95.7	95.6	95.9	96.2	96.8	96.6	95.7
1999	41.4	46.7	48.3	49.7	53.9	58.7	63.1	67.8	72.5	76.4	59.4	92.7	94.8	95.1	95.7	95.6	95.8	96.1	96.4	96.2	96.1	95.6
2000	41.8	46.3	49.4	51.9	53.2	58.6	62.6	68.4	73.5	76.7	59.7	92.3	95.3	94.8	95.6	95.4	95.4	95.9	96.3	96.4	96.5	95.6
2001	44.4	48.5	51.2	52.3	56.7	60.1	64.9	69.3	74.1	78.7	61.5	93.0	95.5	95.3	95.7	95.2	95.6	95.4	96.4	96.3	96.3	95.6
2002	44.4	49.3	51.6	52.8	56.9	61.0	64.5	69.3	74.0	78.7	61.7	93.6	95.4	95.3	95.3	95.3	95.4	95.5	96.1	96.2	96.2	95.5
2003	46.3	50.3	52.1	54.1	58.5	61.6	65.8	70.6	74.4	78.9	62.6	92.9	95.1	95.2	95.2	95.5	95.5	95.8	96.2	96.2	96.3	95.5

	Females											Males										
	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	Total	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	Total
2004	46.3	49.7	51.4	54.0	58.6	61.7	66.4	70.4	75.0	79.4	62.7	92.0	95.7	94.9	95.2	95.5	95.5	95.7	96.2	96.6	96.4	95.5
2005	47.3	49.3	52.7	55.2	59.8	63.3	67.4	71.1	76.1	80.3	63.6	92.5	95.2	95.2	95.1	95.5	95.7	95.7	96.4	96.6	97.1	95.7
2006	48.6	49.8	51.6	55.2	58.7	63.0	67.1	70.9	75.8	80.4	63.5	92.5	95.3	95.1	95.3	95.3	95.7	95.8	96.3	96.4	97.0	95.7
2007	48.2	49.7	52.2	56.3	60.2	64.2	67.0	71.7	76.8	81.2	64.0	92.2	95.0	95.1	94.9	95.3	95.7	95.7	96.5	96.5	96.7	95.6
2008	46.8	49.0	51.2	55.9	60.1	63.6	69.1	73.0	77.8	81.5	64.1	91.6	94.5	94.9	94.9	95.7	95.7	95.7	96.7	96.6	97.1	95.6
2009	45.9	50.1	52.7	57.3	60.6	64.8	69.3	74.3	78.2	82.6	64.8	91.8	94.3	94.5	95.4	95.6	95.6	96.1	96.3	96.3	97.1	95.5
2010	46.0	49.8	51.4	57.0	61.0	64.9	69.6	73.7	78.3	83.3	64.8	91.8	93.8	94.5	94.5	95.2	95.7	96.1	96.4	96.4	97.1	95.4
2011	46.2	48.5	51.9	56.7	60.8	65.6	70.0	74.5	78.5	83.4	64.9	91.5	93.6	94.2	94.3	95.2	95.7	96.3	96.4	96.6	96.9	95.3
2012	46.3	48.2	52.1	56.2	61.0	66.0	70.7	74.8	79.3	83.5	65.1	91.2	93.6	94.4	94.3	95.0	95.7	96.1	96.5	96.5	96.9	95.3
Changes																						
1992-2002	8.5	10.5	11.3	9.4	9.0	10.8	8.8	8.0	7.9	7.0	9.0	1.1	0.3	0.2	-1.1	-0.1	-0.9	-0.3	-0.4	-0.3	-0.6	-0.3
2002-2012	1.9	-1.1	0.6	3.5	4.1	4.9	6.2	5.5	5.3	4.8	3.4	-2.4	-1.8	-0.9	-1.0	-0.3	0.3	0.5	0.3	0.4	0.6	-0.3

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

Chapter 4

Characterizing female participation changes

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1. Introduction

Over the last decades the Latin American economies have experienced substantial changes in their labor markets. The steep increase in female labor force participation stands out as one of the main transformations. Latin American women have been increasingly taking part in the labor force: on average for the region, the share of adult women who are employed or looking for a job climbed from around 50% in the early 1990s to 65% two decades later. As documented in the previous chapter, this remarkable increase has not been smooth: while growth was steep in the 1990s, it significantly decelerated in the next decade.

Disentangling all the factors that may account for the observed pattern in female labor supply is not an easy task, since several potential driving factors were simultaneously at play during the period under study. Endogeneity issues and lack of data are among the serious obstacles for the empirical identification of the causal links between female participation and its covariates.

Since a comprehensive general equilibrium assessment of all of the driving factors is not feasible, we take a more modest approach in this book: we deploy several empirical strategies that contribute with pieces of evidence to the assessment of the relevance of different plausible factors behind the observed patterns in female labor supply. Although certainly imperfect and incomplete, we expect that this patchwork of evidence will shed some light on the processes that have shaped female LFP in Latin America.

This chapter makes a first step toward that goal by analyzing whether the patterns in female LFP are mainly accounted for by changes in the distribution

of some direct determinants of the labor supply decision, or if they are chiefly the consequence of some more profound transformation in behavior.

To illustrate this point, assume that individuals can have either high or low education, and that they can work in one of two sectors, white or blue-collar. There are theoretical reasons and empirical evidence supporting the fact that high-educated people tend to participate more in the labor market, while white-collar jobs tend to have a larger than average female-to-male employment ratio. In this framework, an exogenous increase in women's education and a change in the productive structure of the economy toward white-collar jobs may foster female labor force participation. Notice that this would be the case even with no changes in the individual propensity to participate in the labor market conditional on education, and with no changes in the propensity to employ female workers in each sector. The increase in female LFP would be the "natural" consequence of a change in the distribution of two of its main determinants.

In this chapter we carry out a set of decompositions that try to isolate the direct effect of some of these changes on female labor force participation. The methodology is applied to household survey microdata for the Latin American countries during the period 1992-2012, exploiting a dataset that includes homogeneous definitions for the education, demographic and labor variables involved in the analysis.

The results of the decompositions suggest that changes in education, marriage, fertility, and location all favored a more intense labor market involvement among women. Adult females are now more educated, have fewer children and are more likely to be single than they were two decades ago. In this scenario, even with the same conditional propensity to participate, the overall female LFP should increase.

The contribution of this *composition effect* to the observed increase in female LFP was significant, and remained roughly of the same size over the last two decades. However, the relative impact was higher in the 2000s: without the observed educational and demographic changes in the female population, the deceleration in the growth of female LFP in Latin America in the 2000s (documented in the last chapter) would have been even more marked.

The chapter provides some evidence that suggests that changes in the structure of employment toward tasks more frequently performed by women may have also contributed to an increase in female LFP in the region. By contrast, changes in the sectoral structure of the economy may have operated in direction of the observed deceleration in female LFP, although that impact was probably rather small.

The rest of this chapter is organized as follows. In section 2 we explain the methodology and introduce the data, whereas in section 3 we present and discuss the main results. Section 4 is devoted to the assessment of the impact of changes in the sectoral structure of the economy on female employment. Section 5 closes with some concluding remarks.

2. Data and methodology

In order to assess the impact of changes in the distribution of some variables on the aggregate rate of female labor force participation, we implement a decomposition in which the population of potential female workers (in our case, those aged 25 to 54) are divided according to some potential covariate of labor participation, like educational levels. The change in the aggregate rate of female LFP over time could be decomposed into two terms: a weighted average of the changes in LFP within groups (the *within* effect) and a weighted average of the changes in the share of women in each group (the *composition* effect).¹ If changes in the distribution of the variable used to define the groups are the main drivers of changes in LFP, the second term will be relatively large.

Analytically, the overall rate of female labor force participation P_t can be expressed as a weighted average of the LFP rates of all the groups k

$$P_t = \sum_k P_{kt} \cdot \omega_{kt}$$

where P_{kt} is the participation rate for group k at time t and ω_{kt} is the fraction of women in group k at time t . The change in female LFP over time can then be decomposed into a change in participation rates within groups, and changes in the structure of the female population across groups.

$$\begin{aligned} P_{t+1} - P_t = & \frac{1}{2} \left[\sum_k \omega_{kt} (P_{kt+1} - P_{kt}) + \sum_k \omega_{kt+1} (P_{kt+1} - P_{kt}) \right] \\ & + \frac{1}{2} \left[\sum_k P_{kt} (\omega_{kt+1} - \omega_{kt}) + \sum_k P_{kt+1} (\omega_{kt+1} - \omega_{kt}) \right] \end{aligned}$$

Rearranging,

$$\Delta P_t = \underbrace{\sum_k \bar{\omega}_k \Delta P_k}_{\text{Within}} + \underbrace{\sum_k \bar{P}_k \Delta \omega_k}_{\text{Composition}}$$

1 See Elías and Ñopo (2010) and Amador *et al.* (2013), among others who implement this decomposition.

where $\bar{w}_k = (w_{kt} + w_{kt+1})/2$ and $\bar{P}_k = (P_{kt} + P_{kt+1})/2$, and Δ stands for changes between time t and $t+1$. We implement this methodology dividing the population alternatively by education, age, marital status, number/age of children, and area of residence (urban-rural).

Identifying all the causal links between labor participation and its covariates is extremely difficult and typically requires a structural general equilibrium model. Carrying out this analysis for one country would be extremely arduous; it would be impossible for the whole region. Here, we take a more modest approach by performing a set of simple decompositions, which implies assuming that the main determinants of the changes in education (or other covariates) are mostly determined by factors that are not affected by LFP issues, and that the propensity to participate in the margin will be similar than that of the mean. At least for education, we believe that these are not very strong assumptions.

As in the rest of the study, the main source of data for this chapter is the Socio-Economic Database for Latin America and the Caribbean (SEDLAC), jointly developed by the CEDLAS and the World Bank. This database contains information on more than 300 national household surveys conducted in all Latin American countries. All variables in SEDLAC are constructed using consistent criteria across countries and years, and identical programming routines. In this paper we use microdata for 15 Latin American countries, covering the period 1992-2012.

3. Results for labor force participation

The decompositions require dividing the female population into groups according to variables that are potentially relevant determinants of the labor supply outcome. To motivate the selection of this set of variables we present the results of a probit model for female labor force participation at the individual level, estimated with microdata from the latest national household survey in each Latin American country. The dependent variable is equal to one if a given woman (aged 25 to 54) participates in the labor market and zero otherwise. The main regressors are variables that indicate the individual's marital status, education, children, age, location, and income from other non-labor sources and other family members. These variables are chosen because they belong to the intercept between the set of variables identified by the economic theory as relevant determinants of the female labor supply (Killingsworth and Heckman, 1986), and the set of variables commonly included in the Latin American household surveys (SEDLAC, 2015).

Although there are heterogeneities, the main results of the probit regressions hold in all countries (Table 4.1 in the Appendix). Marital status is strongly associated with the participation decision: on average, being married/cohabiting decreases the probability of labor force participation by around 22 percentage points, as compared to not living with a partner. Except for the case of Nicaragua, in all Latin American countries the coefficients for this variable are negative and highly significant, ranging from around 15 pp in Brazil, Dominican Republic, Uruguay and Venezuela, to more than 30 pp in Costa Rica, Ecuador, and Guatemala. The median estimate is similar to the mean: 22 points.

As expected, the effect of education is also very relevant. On average, having a primary education degree is associated with an increase in the probability of participating of 3 pp when compared to women who have not completed that basic educational level (the median is 4 pp). The increase associated with a secondary school degree is on average 10 pp, while it rises to 29 pp for a college degree. The median values are 13 and 26, respectively. In almost all countries female labor force participation is monotonically increasing in education (Figure 4.1 in the Appendix).

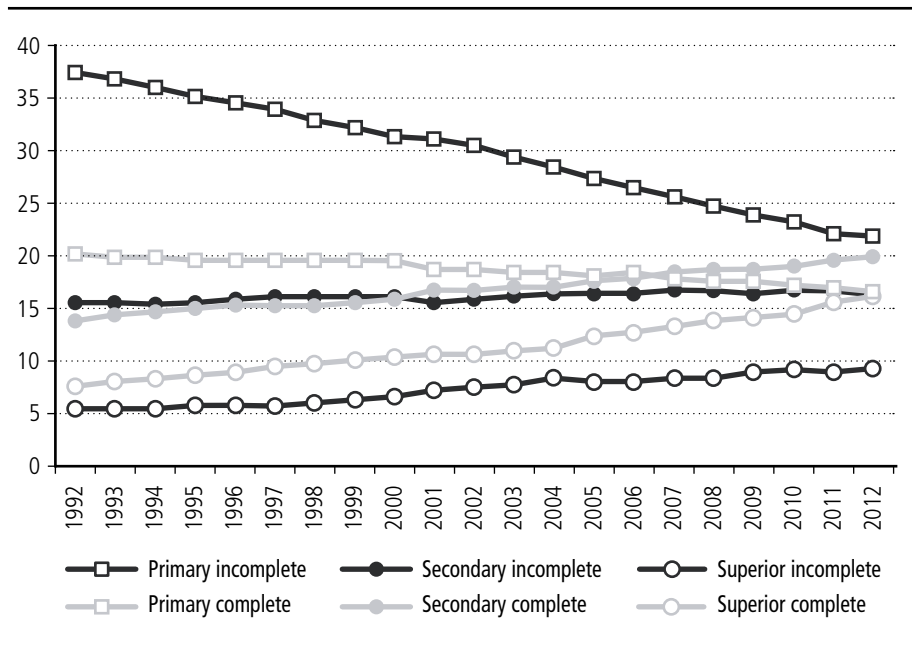
Women's fertility appears somewhat less tightly related to participation: according to the probit models, on average, having children under the age of 5 is associated with a reduction of 7 pp in the probability of participating, as compared to childless women. The estimates range from a non-significant effect in several countries to 21 pp in Costa Rica. Countries are more heterogeneous regarding the sign and the size of the coefficient of the dummy for having children. In most cases it is positive, although small.

The urban dummy is positive and significant in most countries, suggesting higher female participation in urban labor markets conditional on other factors, although the result is not general for all Latin American economies. The last rows in Table 4.1 indicate that labor force participation for adult women is decreasing in non-earned income. Keeping all other factors constant, a higher non-labor income reduces the probability of participating in the labor market. The same seems true for incomes from other family members, although there is more variability across countries.

This characterization illustrates the relevance of some factors—education, marriage, children, age, area of residence—in accounting for the labor force participation decision. Changes in the distribution of these variables may affect the aggregate level of female LFP in each country. In order to explore that possibility, we apply the decomposition methodology explained in the previous section.

We begin our discussion of the results by focusing on one of the main determinants of female labor force participation: education. In chapter 2 we highlighted the remarkable increase in education in all Latin America countries over the last decades, particularly among women. Figure 4.2 illustrates this phenomenon by dividing the population of adult women (aged 25 to 54) into six groups according to their attained educational levels. The progress is undeniable: while on average in 1992 more than a third of Latin American adult women had not finished primary school, in 2012 that share fell to around one fifth. On the other hand, the share of adult women with a tertiary degree increased from 8% to 10% in the 1990s, and then strongly climbed to 17% in the following decade.

Figure 4.2: Changes in composition of women by educational level Latin America. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

As was discussed above, female labor force participation is strongly linked to formal education. While, on average, roughly half of Latin American women with incomplete primary school are active in the labor market, that share climbs to almost 90% for those with a tertiary education degree (Table 4.2).

**Table 4.2: Female LFP by education
Latin America. Women aged 25-54.**

	Female LFP			Shares		
	1992	2002	2012	1992	2002	2012
Primary incomplete	43.5	50.7	51.7	36.4	29.5	21.0
Primary complete	47.8	56.0	58.0	19.9	18.6	16.4
Secondary incomplete	54.2	61.1	62.3	16.3	16.2	16.5
Secondary complete	63.7	68.2	68.0	13.8	17.1	20.3
Superior incomplete	68.5	75.7	73.9	5.7	7.9	9.3
Superior complete	83.9	86.5	87.8	7.8	10.7	16.5
Total	53.0	62.1	65.7	100.0	100.0	100.0

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

If more women have access to higher levels of education, which are linked to higher labor participation, then the process of education expansion could be the main driver of the global increase in female LFP. The results of the decomposition, presented in Table 4.3, help to assess this hypothesis. On average, female LFP increased 9.1 points in the 1990s.² The within effect accounts for 6.6 points, meaning that if no changes in education had occurred in that decade, female LFP would have nonetheless increased by that amount. The composition effect suggests that if the propensity to participate in the labor market had not changed within groups over the decade, female LFP would have nonetheless increased 2.5 points due to a more educated composition of the female population.

**Table 4.3: Decomposition of changes in female LFP by education
Latin America. Women aged 25-54.**

	1992-2002	2002-2012	1992-2012
Difference	9.1	3.6	12.7
Effects			
Within	6.6	0.9	7.4
Composition	2.5	2.7	5.3

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

2 There are some small differences between the figures in these exercises and those reported in chapter 3 due to some methodological issues in implementing the decompositions.

Interestingly, while the within effect is dominant in the 1990s, it substantially shrinks in the 2000s and becomes dominated by the composition effect. In fact, the latter effect remains stable over time: the education expansion was smooth, implying a stable impact over female labor market participation. The small within effect in the 2000s is the result of the negligible increase in female LFP in most education groups, documented in the first panel of Table 4.2.

In summary, the increase in female LFP in the 2000s was not only modest compared to that of the 1990s, but also mostly driven by the enhanced education structure of the female population, as opposed to an autonomous increase in participation within education groups.

As can be seen from the equations in section 2, the within and composition effects can be decomposed into the contributions of each educational level. The large relevance of the within effect in the 1990s is mostly accounted for by a strong increase in LFP among women without a secondary degree (Table 4.4). The dramatic fall in the relevance of the within effect in the 2000s is explained by the reduction in the rate of increase of LFP in all educational levels but, again, the change in behavior among less-educated women seems to have been crucial. As for the composition effect, Table 4.4 reveals that while in the 1990s the increase in the shares of both the secondary complete and the tertiary complete groups were equally important in pushing female LFP up, the role of the latter group was crucial in the 2000s. This is consistent with the acceleration in the growth of female college graduates during that decade.

**Table 4.4: Within and composition effects by education levels
Latin America. Women aged 25-54.**

	Within			Composition		
	1992-2002	2002-2012	1992-2012	1992-2002	2002-2012	1992-2012
Primary incomplete	2.1	0.3	2.1	-3.0	-4.6	-7.3
Primary complete	1.7	0.3	1.9	-0.6	-1.3	-1.8
Secondary incomplete	1.2	0.3	1.5	-0.2	0.2	0.0
Secondary complete	0.8	0.1	1.0	2.4	2.2	4.5
Superior incomplete	0.5	-0.1	0.4	1.6	1.0	2.6
Superior complete	0.3	0.1	0.5	2.4	5.1	7.4
Total	6.6	0.9	7.4	2.5	2.7	5.3

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

This general story for the region applies to several countries when taken individually, such as Argentina, Honduras, and Paraguay (Table 4.5). In some economies, the within effect in the 2000s is even negative: such is the case in Bolivia, Brazil, Ecuador, Nicaragua, and Venezuela. For others, the within effect in the 2000s remains larger than the composition effect, but it is smaller than it was the previous decade; Chile, Costa Rica, Panama, and Uruguay belong to that group. Finally, in a few countries, the story seems to have been different: in El Salvador the composition effect dominated in the 1990s but not in the 2000s, while in Peru the within effect picked up in the latter decade.

**Table 4.5: Decomposition of changes in female LFP by education
Latin American countries. Women aged 25-54.**

	1992-2002	2002-2012	1992-2012
Argentina			
Total change	11.9	4.0	15.9
Within	8.8	1.3	9.7
Composition	3.1	2.7	6.1
Bolivia			
Total change	10.9	1.4	12.3
Within	11.2	-0.1	10.8
Composition	-0.3	1.5	1.5
Brazil			
Total change	6.4	2.6	8.9
Within	4.4	-1.7	2.6
Composition	2.0	4.2	6.4
Chile			
Total change	13.9	6.4	20.4
Within	8.2	4.5	13.1
Composition	5.7	2.0	7.3
Costa Rica			
Total change	13.0	8.2	21.2
Within	9.7	6.3	15.8
Composition	3.3	2.0	5.4
Ecuador			
Total change	8.3	-7.6	0.7
Within	7.3	-10.4	-3.4
Composition	1.0	2.8	4.1
El Salvador			
Total change	8.2	3.5	11.8
Within	1.7	2.6	4.1
Composition	6.6	1.0	7.7

	1992-2002	2002-2012	1992-2012
Honduras			
Total change	5.6	3.7	9.3
Within	4.1	0.9	5.3
Composition	1.5	2.7	3.9
Mexico			
Total change	14.9	9.0	23.9
Within	12.1	6.9	19.3
Composition	2.8	2.1	4.6
Nicaragua			
Total change	4.7	-2.4	2.3
Within	2.7	-5.1	-2.5
Composition	2.1	2.6	4.7
Panama			
Total change	8.9	9.1	18.0
Within	5.7	4.6	10.3
Composition	3.2	4.5	7.7
Paraguay			
Total change	3.4	5.3	8.7
Within	5.6	0.6	6.0
Composition	-1.6	4.7	3.2
Peru			
Total change	-0.5	6.3	5.8
Within	-0.9	5.9	4.8
Composition	0.4	0.3	1.0
Uruguay			
Total change	7.9	5.2	13.2
Within	3.4	3.1	6.6
Composition	4.5	2.1	6.6
Venezuela			
Total change	18.8	-0.6	18.1
Within	15.1	-5.5	8.4
Composition	3.7	4.9	9.7

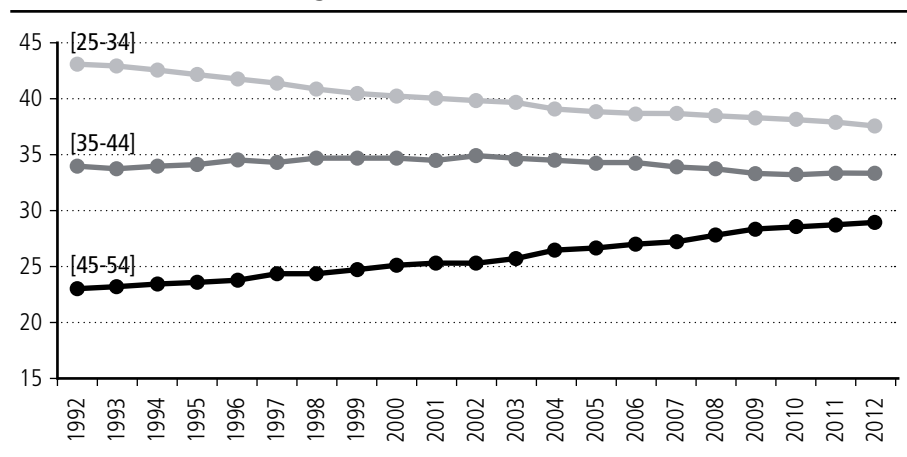
Source: own calculations based on microdata from national household surveys.

We should pause here to offer a word of caution regarding these interpretations. The decomposition suggests that, for some autonomous reason, there was an expansion in education in Latin America, and almost mechanically, a more educated pool of women implied a higher LFP. In this light, the results of the decompositions indicate, for instance, that the policies that were successful in fostering labor participation in the 2000s were mainly the education policies

that allowed for the expansion of schooling during the previous decades. Of course, the real world could be more complicated. It could be for instance that in the past the government encouraged employment in a sector that requires skilled labor intensively, and that the increased demand stimulated women to attend high school or college in order to get a job in that sector. In this case, it is the sector/employment policy what is triggering the reaction in the rest of the variables. In stressing the results of the decompositions, we implicitly assume that these more complicated channels are of a second order of importance. At least in the case of education, we do not believe this to be a strong assumption.

We now consider changes in the age structure of the population. A demographic transition is underway in Latin America, implying an aging process of the female population (Figure 4.3). While in the early 1990s 43.4% of that population was in the [25-34] age group, in the early 2010s that share fell to 37.7%. By contrast, the share in the older age bracket [45-54] climbed from 22.9% to 28.9% over the two decades.

**Figure 4.3: Changes in composition of women by age groups
Latin America. Women aged 25-54.**



Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

Younger women have a stronger attachment to the labor market than their older counterparts. The gaps, however, have been reduced over time, as women in their forties and fifties strongly increased their labor force participation over the last two decades (Table 4.6). On average, in 2012 LFP was 63% for women aged 45 to 54; 66% for those aged 25 to 34; and 68% for females aged 35 to 44.

**Table 4.6: Female LFP by age
Latin America. Women aged 25-54.**

	Female LFP			Shares		
	1992	2002	2012	1992	2002	2012
25-34	53.7	62.2	65.9	43.4	39.8	37.7
35-44	56.4	64.9	67.9	33.7	34.8	33.4
45-54	47.9	58.5	63.0	22.9	25.4	28.9
Total	53.2	62.1	65.6	100.0	100.0	100.0

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

Given the lower labor market participation of older women, the demographic transition could have implied a decrease in the overall rate of female LFP. The results of the decomposition presented in Table 4.7 help to assess this hypothesis. As expected, the composition effect is negative: the aging of the female labor force is associated with a fall in participation. However, the size of the effect is small, just 0.1 points, and stable over time.

**Table 4.7: Decomposition of changes in female LFP by age
Latin America. Women aged 25-54.**

	1992-2002	2002-2012	1992-2012
Difference	8.9	3.5	12.4
Effects			
Within	9.0	3.7	12.7
Composition	-0.1	-0.1	-0.3

Source: own calculations based on microdata from national household surveys.

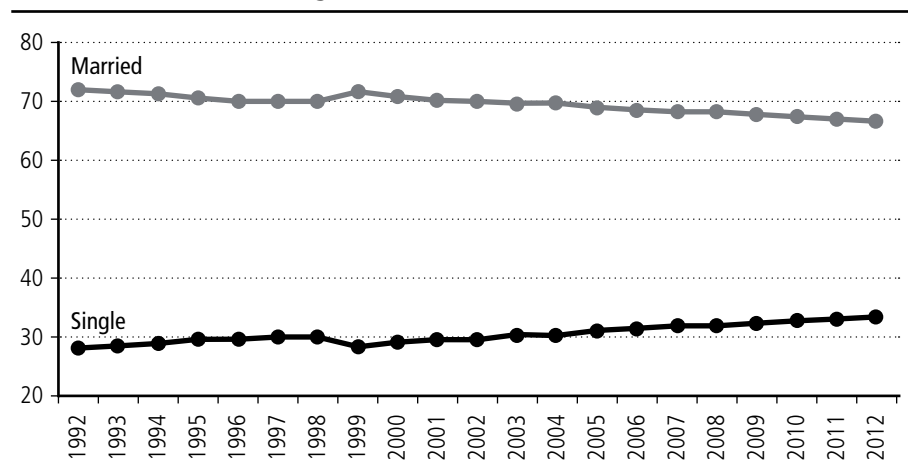
Note: unweighted means.

Marital status is a key covariate of female labor decisions. In particular, single women (in our definition, those not living with a spouse) are much more prone to work than married women, even when controlling for other observable factors. Unlike in other regions of the world where the fertility decline was accompanied by a sharp drop in the prevalence of marriages, the percentage of married women (both in legal and consensual unions) in Latin America has experienced only a slight decreasing trend, remaining relatively high over the years.³ On average,

3 For instance, Fussell and Palloni (2004) point out the presence of persistent marriage regimes in Latin America.

the share of single adult women increased from 27.9% in 1992 to 29.8% in 2002 and accelerated to 33.7% in 2012 (Figure 4.4). That pattern may be associated with increasing female LFP, given the higher LFP of single women (Table 4.8).

Figure 4.4: Changes in composition of women by marital status
Latin America. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

Table 4.8: Female LFP by marital status
Latin America. Women aged 25-54.

	Female LFP			Shares		
	1992	2002	2012	1992	2002	2012
Single	74.5	77.2	78.8	27.9	29.8	33.7
Married	47.1	54.7	58.7	72.1	70.2	66.3
Total	54.8	61.5	65.6	100.0	100.0	100.0

Source: own calculations based on microdata from national household surveys.

Note: unweighted means. Married women: both in legal and consensual unions.

That conjecture is confirmed in Table 4.9: the growth in the share of single women is associated with the increase in female LFP over these two decades. The impact was 0.4 points in the 1990s and 0.8 in the 2000s, when the pattern against marriage picked up. The contribution of the two groups to the change in the two effects was similar in sign, but different in size (Table 4.10). In fact, it is the change in behavior among married women what drives the marked contrast between the strong within effect in the 1990s and the milder effect in the 2000s.

Table 4.9: Decomposition of changes in female LFP by marital status Latin America. Women aged 25-54.

	1992-2002	2002-2012	1992-2012
Difference	8.5	4.3	11.2
Effects			
Within	8.1	3.5	9.7
Composition	0.4	0.8	1.5

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

Table 4.10: Within and composition effects by marital status Latin America. Women aged 25-54.

	Within			Composition		
	1992-2002	2002-2012	1992-2012	1992-2002	2002-2012	1992-2012
Single	1.0	0.2	1.3	1.4	3.2	4.5
Married	7.1	2.4	9.3	-1.0	-2.3	-3.1
Total	8.1	2.7	10.6	0.4	0.9	1.4

Source: own calculations based on microdata from national household surveys.

Note: unweighted means. Married women: both in legal and consensual unions.

Our next covariate is the number of children. There have been strong changes in fertility in Latin America; the share of adult women without children substantially rose from 17.6% in 1992 to 21.5% in 2002 and 27.2% in 2012 (Figure 4.5 and Table 4.11). Given that women with no children are more prone to participate than women with children, these changes in fertility may be associated with an increase in LFP.

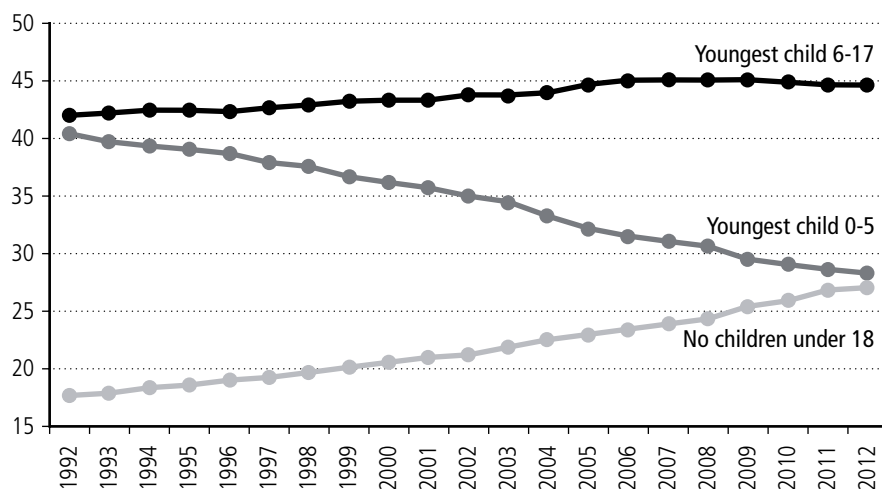
Table 4.11: Female LFP by number of children Latin America. Women aged 25-54.

	Female LFP			Shares		
	1992	2002	2012	1992	2002	2012
No children under 18	53.3	63.6	67.4	17.6	21.5	27.2
Youngest child is 0-5	45.4	53.6	56.6	40.6	34.8	28.2
Youngest child is 6-17	52.6	63.0	65.6	41.8	43.7	44.6
Total	49.8	59.8	63.5	100.0	100.0	100.0

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

**Figure 4.5: Changes in composition of women by number of children
Latin America. Women aged 25-54.**



Source: own calculations based on microdata from national household surveys.
Note: unweighted means.

The results in Table 4.12 confirm this presumption, while making it clear that there is a difference in the relative relevance of this effect for the two decades under analysis. The fertility factor was smaller in the 1990s, especially as compared to the strong increase in LFP for each category of women. By contrast, in the 2000s the change in fertility patterns was stronger, while the within-group increases in LFP were weaker, combining for a more sizeable relative impact: around a fourth of the increase in the aggregate LFP rate in the region is accounted for by changes in fertility, mainly by the sharp increase in the share of adult women without children. Naturally, the link between fertility and labor decisions is strong, and the causal relationships may be intricate, so these results should be taken merely as a suggestion that fertility changes, for whatever reasons that they took place, may be one relevant determinant of changes in female LFP. We will return to these issues in the next chapters.

Two facts suggest that a decomposition by area (urban-rural) may be worthwhile. On the one hand, women living in urban areas tend to participate more in the labor markets than their rural counterparts (Table 4.13); on the other hand, the share of women living in cities has increased over the last two decades (Figure 4.6).

Table 4.12: Decomposition of changes in female LFP by number of children Latin America. Women aged 25-54.

	1992-2002	2002-2012	1992-2012
Difference	10.0	3.7	13.7
Effects			
Within	9.5	3.0	12.6
Composition	0.5	0.7	1.1

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

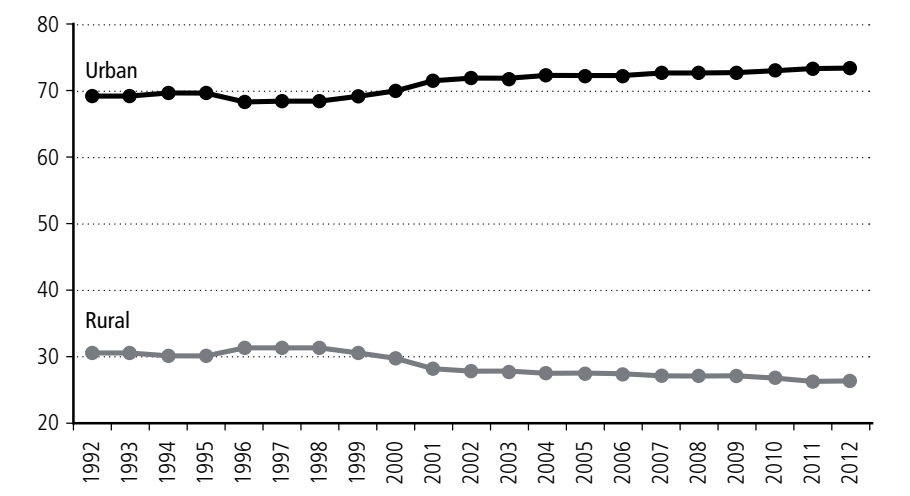
Table 4.13: Female LFP by area (urban-rural) Latin America. Women aged 25-54.

	Female LFP			Shares		
	1992	2002	2012	1992	2002	2012
Rural	42.2	50.8	53.0	36.0	34.0	28.2
Urban	57.2	65.0	67.7	64.0	66.0	71.8
Total	51.3	60.0	63.5	100.0	100.0	100.0

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

Figure 4.6: Changes in composition of women by area of residence Latin America. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

The interpretation of the decomposition is a bit trickier in this case. If, for instance, the increase in the share of urban population is only related to exogenous urban-rural differences in birth rates, then the result in Table 4.14 reflects a causal link. In this case, the spatial gap in population growth is responsible for 0.5 points in the increase in female LFP in the 1990s and 0.1 points in the 2000s. Rather, if the increase in the share of the urban population is mainly the result of inactive or unemployed people moving from rural areas to cities to seek employment, then the results are more difficult to interpret.

Table 4.14: Decomposition of changes in female LFP by area (urban-rural) Latin America. Women aged 25-54.

	1992-2002	2002-2012	1992-2012
Difference	7.7	3.9	11.6
Effects			
Within	7.2	3.8	10.9
Composition	0.5	0.1	0.7

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

To close this section, we divide the population of adult women into 18 groups formed by the intersection of three of the main determinants of female LFP identified above: marriage, education, and children (Table 4.15). For almost all groups, female LFP increases strongly in the 1990s and decelerates in the 2000s; in some cases, it even falls (the exception is the group of females with a college degree and no children).

Table 4.15: Female LFP by groups of education, marital status and children Latin America. Women aged 25-54.

			Female LFP			Shares		
			1992	2002	2012	1992	2002	2012
Married	Low	No children under 18	41.9	53.0	54.7	9.5	9.6	10.4
		Youngest child is 0-5	37.5	44.3	45.3	27.9	21.9	14.1
		Youngest child is 6-17	44.8	54.6	56.2	26.5	25.0	21.9
	Medium	No children under 18	58.7	65.9	67.3	2.2	3.3	4.8
		Youngest child is 0-5	54.6	61.2	59.3	7.0	6.6	7.3
		Youngest child is 6-17	60.5	64.7	66.2	5.6	7.4	8.9
	High	No children under 18	75.4	82.1	89.3	1.0	1.8	3.1
		Youngest child is 0-5	77.8	81.8	81.1	2.5	3.1	3.8
		Youngest child is 6-17	80.3	85.3	86.1	2.2	3.1	4.3

			Female LFP			Shares		
			1992	2002	2012	1992	2002	2012
Single	Low	No children under 18	69.0	71.6	73.9	3.5	3.7	4.2
		Youngest child is 0-5	75.5	78.6	75.5	2.7	2.5	2.0
		Youngest child is 6-17	76.3	81.2	81.7	5.7	5.9	5.9
	Medium	No children under 18	81.2	84.2	86.8	1.0	1.6	2.4
		Youngest child is 0-5	89.3	87.0	83.5	0.6	0.6	1.0
		Youngest child is 6-17	85.3	90.5	86.9	1.0	1.7	2.5
	High	No children under 18	95.0	91.9	93.4	0.6	1.1	1.8
		Youngest child is 0-5	95.5	94.7	96.3	0.2	0.2	0.4
		Youngest child is 6-17	92.7	96.0	94.6	0.5	0.8	1.2
Total			50.5	60.5	64.6	100.0	100.0	100.0

Source: own calculations based on microdata from national household surveys.

Note: unweighted means. Married women: both in legal and consensual unions.

Education: low=less than secondary complete, medium=secondary complete and superior incomplete, high=tertiary complete.

The results of the decomposition using this grouping confirm the contrast between a strong within effect that dominates the changes in female LFP in the 1990s, and a milder effect in the 2000s that becomes dominated by the composition effect (Table 4.16). It should be noted that most of the composition effect comes from changes in the educational structure of the female population.

**Table 4.16: Decomposition of changes in female LFP by groups of education, marital status and children
Latin America. Women aged 25-54.**

	1992-2002	2002-2012	1992-2012
Difference	10.0	4.0	14.0
Effects			
Within	7.2	1.1	8.1
Composition	2.8	2.9	5.9

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

4. Exploring changes in employment

As discussed in the introduction, a change in the structure of employment may foster female labor force participation. Autonomous expansions in sectors or tasks

more friendly to female employment may lead to a surge in the aggregate rate of female LFP even with unchanged propensity to employ women within jobs.

Implementing the same decomposition as in the previous sections is unfeasible, since unlike education, age, or marital status, job characteristics are only defined for employed women. Instead, we carry out a decomposition that accounts for changes in the share of women in total employment. As discussed in chapter 3, the strong entry of women into the labor force was translated into a substantial increase in the participation of females in total employment. When the sample was restricted to workers aged 25 to 54, the proportion of women increased strongly from 36.5% in 1992 to 40.5% in 2002, and then more slowly to 42.4% in 2012.

This change may be driven by two forces. On the one hand, the female-to-male ratio may be increasing in all sectors. On the other hand, the distribution of jobs may be shifting toward those with a higher female-to-male ratio. Formally, the change in the share of female workers in total employment can be written as:

$$\Delta\left(\frac{E_f}{E}\right) = \sum_s \frac{E_{st+1}}{E_{t+1}} \Delta\left(\frac{E_{fs}}{E_s}\right) + \sum_s \frac{E_{fst}}{E_{st}} \Delta\left(\frac{E_s}{E}\right)$$

where E is the number of people employed, f stands for women, t is time, s labels the economic sector, and Δ stands for changes between time t and $t+1$. Hence, for instance, E_{fst} is the total number of women employed in sector s at time t . The first term in the decomposition captures the impact of changes in the propensity to employ women within sectors (the *within effect*), while the second one captures the impact of changes in the structure of employment across sectors (the *composition effect*).

We first implement this decomposition by dividing workers according to their main jobs into 10 economic sectors: primary activities, low-tech industry (food, clothing), rest of industries, construction, commerce, utilities and transportation, skilled services (finance, business services), public administration, education and health, and domestic services.

Table 4.17 reflects an increasing share of women in all sectors over time. The pace of that increase was heterogeneous over time. In particular, on average it was a bit slower in the 2000s as compared to the previous decade. That deceleration was particularly evident for more unskilled sectors, including primary activities, low-tech industries, commerce, and domestic services.

Table 4.17: Share of women in each sector and employment structure by sector
Latin America. Workers aged 25-54.

Sector	Share of women in employment			Sectoral structure		
	1992	2002	2012	1992	2002	2012
Primary activities	16.3	20.3	22.8	17.3	16.9	14.6
Food & clothing	47.5	51.0	49.0	9.4	8.3	7.6
Rest of manufacturing	18.5	20.0	21.9	6.7	5.5	4.8
Construction	2.6	3.3	4.3	7.0	6.8	7.7
Commerce	46.3	50.7	53.4	22.7	23.8	24.7
Utilities & transportation	10.6	11.4	13.3	7.3	6.9	7.4
Skilled services	33.8	36.3	40.5	4.7	5.9	7.4
Public administration	29.8	34.9	40.5	6.3	5.9	6.6
Education & health	60.8	62.8	65.3	14.3	15.0	14.2
Domestic services	87.6	91.2	93.0	4.5	5.0	4.9
Total	36.7	40.5	42.7	100.0	100.0	100.0

Source: own calculations based on microdata from national household surveys.

Note: the first panel shows the participation of female workers in total employment by sector, while the second panel presents the sectoral structure of employment for all workers. Unweighted means.

The structure of employment experienced some changes over time (second panel in Table 4.17). While the share of employment in primary activities and the manufacturing industry continued a decreasing path initiated decades ago, some sectors gained participation. Interestingly, while education and health, and domestic services—two sectors with a high female-to-male ratio—expanded during the 1990s, in the 2000s construction, utilities and transportation, and public administration—three sectors with lower than average female-to-male ratios—expanded.

The results of the decompositions capture these patterns (Table 4.18). While the composition effect was positive in the 1990s (*i.e.* it helped the increase in the female share in total employment), it became negative, although virtually null in the 2000s.⁴ This piece of evidence adds another possible explanation to the deceleration in the growth in female LFP in the 2000s. The change in the structure of employment may have benefited less the entry of women into the labor market, as compared to changes in the previous decade. The evidence suggests however that this effect has probably been small.

⁴ The within effect is positive in both decades, although somewhat higher in the 1990s.

Table 4.18: Decomposition of changes in share of women in employment by sector of activity
Latin America. Adults aged 25-54.

	1992-2002	2002-2012	1992-2012
Difference	3.8	2.2	6.1
Effects			
Within	2.9	2.5	5.3
Composition	0.9	-0.2	0.9

Source: own calculations based on microdata from national household surveys.

Note: unweighted means.

Naturally, relevant changes in production and employment can also occur without changes in the sectoral structure of the economy. Technological innovations, for instance, can transform the demand for tasks performed by workers within sectors and across the economy. New production processes that require more women-friendly tasks would imply a boost to female employment.

The fact that tasks are not usually coded in Latin American household surveys makes the analysis at the regional level more difficult. Here we just illustrate some results for two countries, Brazil and Chile, during the 2000s. The results, however, are illustrative: the share of women increased in most task categories in both countries, while the structure of employment slowly shifted towards tasks in which women are over-represented (Table 4.19). The decompositions capture these changes: the within effect is positive, but it becomes very small at the end of the decade, while the composition effect is positive and significant in size (Table 4.20).

Table 4.19: Share of women in each task and employment structure by task
Brazil and Chile. Women aged 25-54.

Task	Brazil					
	Share of women in employment			Tasks structure		
	1999	2004	2009	1999	2004	2009
Managers	30.0	34.7	36.5	6.3	6.1	6.0
Professionals	52.1	60.8	62.5	5.3	7.4	9.0
Technicians and associate professionals	51.2	47.8	45.4	6.9	8.0	8.0
Clerical support workers	58.3	59.9	61.7	7.6	7.7	8.6
Service and sales workers	61.6	63.4	64.9	30.6	30.7	30.6
Skilled agricultural, forestry and fishery workers	37.2	34.4	32.6	18.4	15.5	13.0
Craft and related trades workers	16.2	16.6	15.7	20.9	20.3	20.2
Plant and machine operators, and assemblers	31.6	29.5	29.3	2.3	2.2	2.3
Elementary occupations	0.9	1.8	1.7	1.7	2.1	2.2
Total	42.4	43.9	44.8	100.0	100.0	100.0

Chile						
Task	Share of women in employment			Tasks structure		
	2000	2003	2009	2000	2003	2009
Managers	37.4	46.2	36.4	5.8	5.6	2.5
Professionals	50.9	49.0	53.9	11.6	11.7	13.0
Technicians and associate professionals	55.0	55.6	52.4	11.0	11.5	12.0
Clerical support workers	42.9	41.0	54.6	5.8	6.1	5.8
Service and sales workers	58.0	57.0	54.7	13.7	13.2	17.2
Skilled agricultural, forestry and fishery workers	12.4	12.4	13.0	6.9	6.3	3.8
Craft and related trades workers	13.5	13.2	13.0	14.8	15.9	13.9
Plant and machine operators, and assemblers	7.8	8.5	8.9	9.7	9.7	9.3
Elementary occupations	44.0	48.6	48.1	20.7	20.1	22.6
Total	37.3	38.2	40.8	100.0	100.0	100.0

Source: own calculations based on microdata from PNAD and CASEN.

Note: the first panel shows the participation of female workers in total employment by task, while the second panel presents the structure of employment.

Table 4.20: Decomposition of changes in share of women in employment by task
Brazil and Chile. Women aged 25-54.

Brazil			
	1999-2004	2004-2009	1999-2009
Difference	1.5	0.9	2.3
Effects			
Within	0.9	0.2	1.2
Composition	0.6	0.6	1.2

Chile			
	2000-2003	2003-2009	2000-2009
Difference	0.9	2.6	3.5
Effects			
Within	1.1	0.2	1.2
Composition	-0.1	2.3	2.3

Source: own calculations based on microdata from PNAD and CASEN.

5. Concluding remarks

This chapter proposes some simple decompositions as a way to assess whether changes in the distribution of some variables may have affected the rates of female labor force participation in Latin America over the last two decades. We conclude that changes in education, marriage, fertility, and location all favored a more intense labor market involvement among women. Women now are more educated, have fewer children and are more likely to be single than they were two decades ago. In this scenario, even with the same conditional propensity to participate, the overall female LFP should increase.

The contribution of these factors to the observed increase in female LFP in the 1990s was significant but not dominant; rather, the role played in the 2000s seems to have been decisive. Without the changes in the structure of the female population (in particular, in terms of education), the deceleration in female LFP growth in Latin America in the 2000s documented in the last chapter would have probably been more marked.

There is also some evidence that suggests that changes in the structure of employment toward tasks more frequently performed by women may have also contributed to the increase in labor force participation. Instead, changes in the sectoral structure of the economy may have operated in the direction of the observed deceleration in female LFP, although that impact was probably rather small.

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Appendix

Figure 4.1: Predicted probability of participating in labor force Latin American countries. Women aged 25 to 54

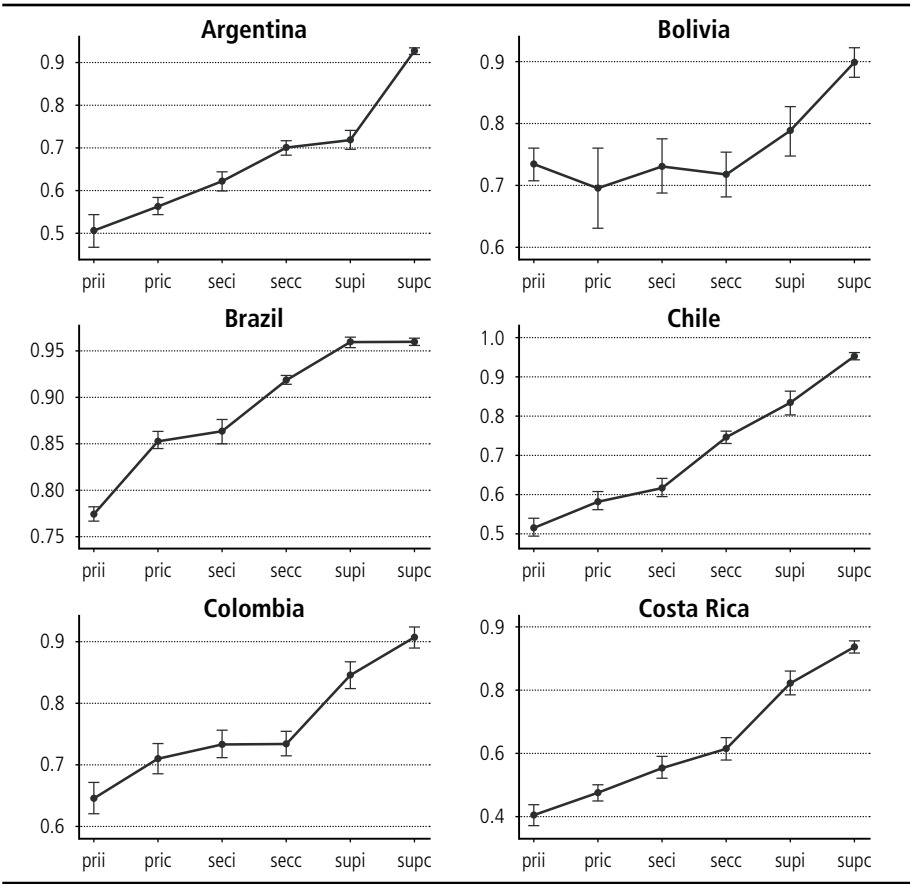


Figure 4.1: Predicted probability of participating in labor force [cont.]

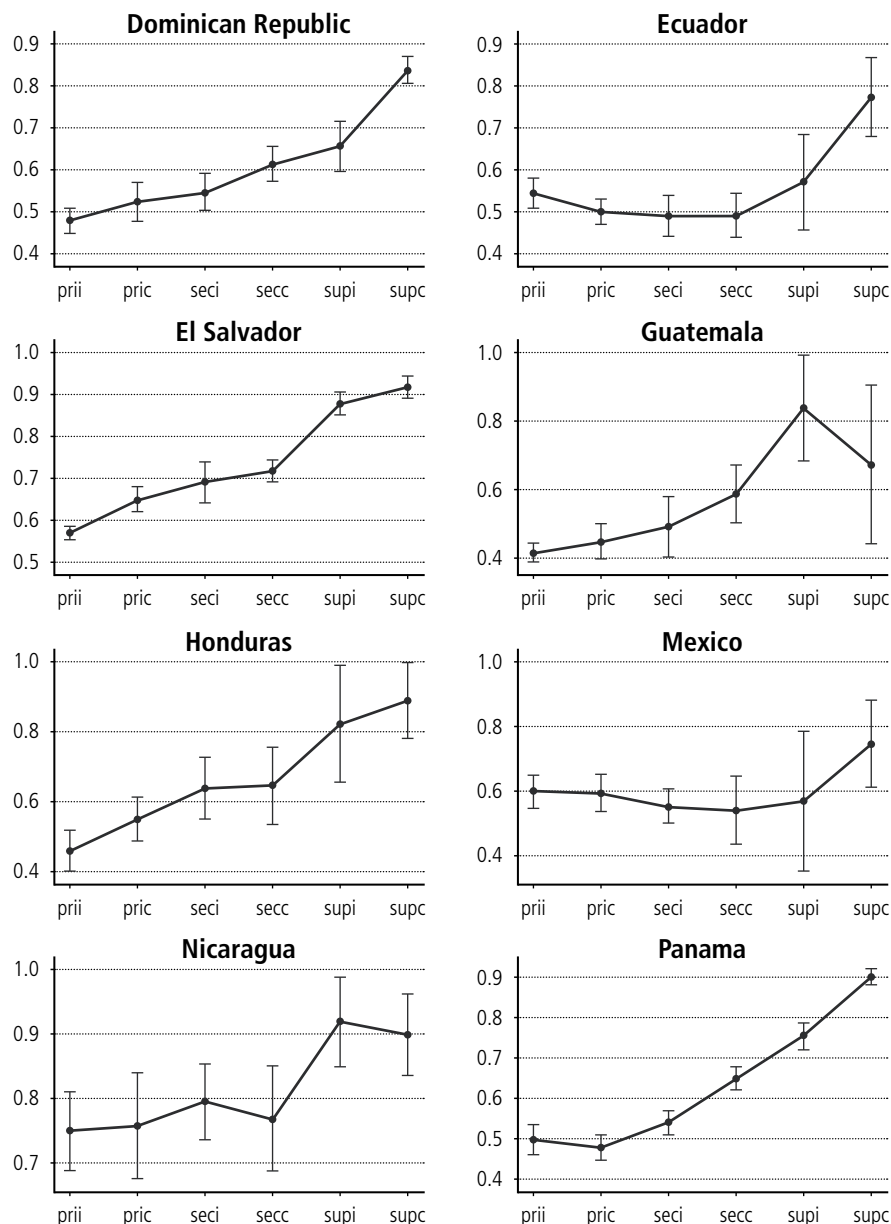
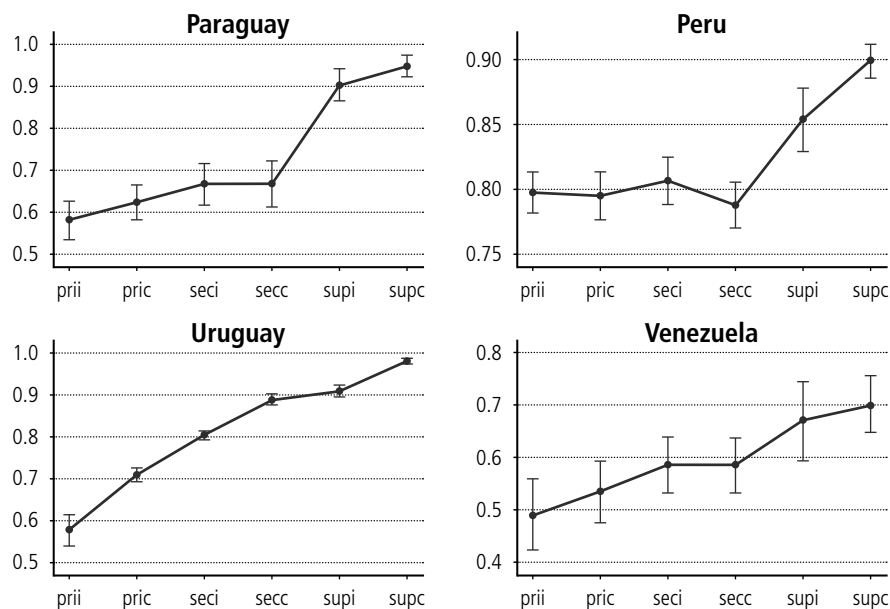


Figure 4.1: Predicted probability of participating in labor force [cont.]



Source: own calculations based on microdata from national household surveys.

Note: Educational levels: prii: incomplete primary; pric: complete primary; seci: incomplete secondary; secc: complete secondary; supi: incomplete tertiary; supc: complete tertiary. Observations for year 2012 or closest year with available survey.

**Table 4.1: Probit models of labor force participation
Marginal effects. Women aged 25-54.**

	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Dom. Rep.	Ecuador	El Salvador	Guatemala	Honduras	Mexico	Nicaragua	Panama	Paraguay	Peru	Uruguay	Venezuela
Married/ Cohabiting	-0.2736*** (0.007)	-0.2488*** (0.013)	-0.1552*** (0.008)	-0.2089*** (0.008)	-0.2274*** (0.009)	-0.3559*** (0.014)	-0.1583*** (0.019)	-0.3433*** (0.019)	-0.2970*** (0.011)	-0.3426*** (0.021)	-0.1868*** (0.032)	-0.2297*** (0.033)	-0.0495 (0.033)	-0.2421*** (0.014)	-0.1948*** (0.024)	-0.1615*** (0.008)	-0.1283*** (0.006)	-0.1405*** (0.023)
Primary Complete	0.0498*** (0.017)	-0.0380 (0.033)	0.0514*** (0.011)	0.0575*** (0.012)	0.0585*** (0.014)	0.0713*** (0.019)	0.0443*** (0.025)	-0.0445*** (0.015)	0.0796*** (0.015)	0.0358 (0.026)	0.0898** (0.036)	-0.0047 (0.034)	0.0083 (0.044)	-0.0193 (0.021)	0.0395 (0.026)	-0.0026 (0.011)	0.0800*** (0.010)	0.0431 (0.040)
Secondary Incomplete	0.0961*** (0.016)	-0.0024 (0.023)	0.0848*** (0.014)	0.0847*** (0.012)	0.0814*** (0.013)	0.1479*** (0.021)	0.0679*** (0.024)	-0.0539*** (0.029)	0.1196*** (0.025)	0.0771* (0.045)	0.1774*** (0.051)	-0.0472 (0.033)	0.0449 (0.036)	0.0405* (0.027)	0.0794*** (0.027)	0.0088 (0.011)	0.1548*** (0.011)	0.0938** (0.039)
Secondary Complete	0.1653*** (0.015)	-0.0152 (0.020)	0.1299*** (0.009)	0.1995*** (0.010)	0.0828*** (0.013)	0.2022*** (0.021)	0.1332*** (0.023)	-0.0515*** (0.031)	0.1485*** (0.014)	0.1744*** (0.043)	0.1863*** (0.060)	-0.0582 (0.058)	0.0189 (0.045)	0.1440*** (0.020)	0.0801*** (0.030)	-0.0094 (0.011)	0.1685*** (0.006)	0.0935** (0.039)
Superior Incomplete	0.1711*** (0.014)	0.0935** (0.022)	0.2416*** (0.013)	0.2350*** (0.011)	0.1836*** (0.012)	0.3773*** (0.018)	0.1726*** (0.031)	0.0256 (0.061)	0.3086*** (0.015)	0.4261*** (0.080)	0.3614*** (0.087)	-0.0312 (0.114)	0.1680*** (0.039)	0.2365*** (0.020)	0.2940*** (0.020)	0.0569*** (0.014)	0.1711*** (0.005)	0.1760*** (0.046)
Superior Complete	0.3809*** (0.010)	0.1770*** (0.016)	0.2528*** (0.012)	0.3813*** (0.007)	0.2453*** (0.010)	0.4868*** (0.011)	0.3576*** (0.019)	0.2404*** (0.054)	0.3478*** (0.014)	0.7596*** (0.119)	0.4314*** (0.059)	0.1550** (0.078)	0.1499*** (0.038)	0.3831*** (0.014)	0.3435*** (0.016)	0.1081*** (0.010)	0.2520*** (0.005)	0.2105*** (0.038)
Youngest child is 0-5	-0.1425*** (0.012)	-0.0622*** (0.023)	-0.0330*** (0.010)	-0.0863*** (0.015)	0.0198 (0.015)	-0.2094*** (0.021)	-0.0676*** (0.026)	0.0051 (0.029)	-0.0954*** (0.017)	-0.0861*** (0.039)	-0.1184** (0.052)	-0.0509 (0.047)	-0.0283 (0.031)	-0.0761*** (0.021)	-0.0774** (0.034)	-0.0536*** (0.013)	-0.1096*** (0.010)	-0.0151 (0.040)
Youngest child is 6-17	-0.0605*** (0.010)	0.0028 (0.020)	0.0858*** (0.010)	0.0080 (0.012)	0.0935*** (0.013)	-0.0913*** (0.017)	0.0291 (0.020)	0.0493** (0.023)	0.0181 (0.013)	0.0463 (0.036)	-0.0572 (0.043)	0.0375 (0.038)	0.0331 (0.036)	-0.0300* (0.017)	0.0208 (0.028)	0.0223** (0.010)	-0.0227*** (0.007)	0.0727** (0.029)
Age	0.0458*** (0.005)	0.0334*** (0.008)	0.0391*** (0.004)	0.0451*** (0.005)	0.0505*** (0.006)	0.0473*** (0.009)	0.0481*** (0.010)	0.0334*** (0.011)	0.0592*** (0.006)	0.0227** (0.011)	0.0770*** (0.019)	0.0380** (0.017)	0.0327* (0.018)	0.0371*** (0.008)	0.0491*** (0.013)	0.0296*** (0.005)	0.0226*** (0.004)	0.0721*** (0.015)
Age Squared	-0.0006*** (0.000)	-0.0004*** (0.000)	-0.0005*** (0.000)	-0.0006*** (0.000)	-0.0006*** (0.000)	-0.0007*** (0.000)	-0.0006*** (0.000)	-0.0004*** (0.000)	-0.0008*** (0.000)	-0.0003*** (0.000)	-0.0010*** (0.000)	-0.0005** (0.000)	-0.0004*** (0.000)	-0.0004*** (0.000)	-0.0006*** (0.000)	-0.0004*** (0.000)	-0.0003*** (0.000)	-0.0010*** (0.000)
Urban	-0.0233 (0.016)	-0.1083*** (0.008)	-0.0940*** (0.011)	-0.0002*** (0.016)	-0.0001*** (0.016)	-0.0009*** (0.014)	-0.0086*** (0.017)	-0.0382 (0.019)	-0.9930*** (0.010)	-0.0326*** (0.020)	-0.0244*** (0.034)	-0.0152*** (0.028)	0.1386*** (0.043)	0.0134 (0.041)	-0.0480** (0.021)	-0.0480** (0.008)	0.0014 (0.011)	
Non-earned income	-0.0799*** (0.004)	-0.0420*** (0.009)	-0.0940*** (0.006)	-0.0002*** (0.000)	-0.0001*** (0.000)	-0.0009*** (0.000)	-0.0086*** (0.001)	-0.0382 (0.070)	-0.9930*** (0.049)	-0.0326*** (0.011)	-0.0244*** (0.005)	-0.0152*** (0.004)	-0.0139*** (0.004)	-0.0285* (0.016)	-0.0001*** (0.000)	-0.0667*** (0.011)	-0.0008*** (0.000)	-0.0051 (0.004)
Other family income	-0.0050*** (0.001)	-0.0082*** (0.002)	0.0093*** (0.002)	0.0000*** (0.000)	-0.0000*** (0.000)	-0.0000*** (0.000)	-0.0004*** (0.000)	-0.0565*** (0.021)	-0.0799*** (0.013)	0.0002 (0.002)	-0.0018 (0.001)	-0.0028 (0.002)	-0.0008 (0.002)	-0.0145*** (0.006)	-0.0000*** (0.000)	-0.0007*** (0.002)	-0.0014*** (0.000)	-0.0146*** (0.004)
Observations	17,317	4,729	21,688	15,166	10,934	6,822	4,392	3,986	11,860	3,842	1,182	1,612	938	6,811	2,618	13,980	20,363	2,142
Pseudo R-squared	0.1620	0.0873	0.0544	0.1750	0.1043	0.1696	0.0751	0.0808	0.1263	0.0889	0.0887	0.0410	0.0582	0.1167	0.0900	0.0496	0.1217	0.0816

Source: own calculations based on microdata from national household surveys.

Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10. Observations for year 2012 or closest year with available survey.

Chapter 5

Female participation and the economic cycle

Leonardo Gasparini and
Pablo Gluzmann

1. Introduction

As documented in previous chapters, after nearly half a century of sustained growth in female labor force participation (LFP), the evidence suggests a widespread and significant deceleration in the rate of female entry into the Latin American labor markets. In previous chapters, we characterized changes in female labor force participation and found that the deceleration took place in most, although not all, Latin American countries since the early 2000s, and that it occurred among all groups of women, but particularly among those who were married and in more vulnerable households. The deceleration occurred despite some forces that facilitated female LFP growth, such as the increase in education, and some demographic changes. The unweighted mean of the LFP rate for prime-age women (25-54) across Latin American economies rose 9 points in the 1990s (from 53 in 1992 to 62 in 2003), and then just 3 points the following decade (to 65 in 2012).

One possible explanation for this deceleration is that female LFP in Latin America is approaching a ceiling that is determined by cultural and policy factors. In this scenario the LFP will not continue increasing, or will continue to rise but at an extremely slow pace even as the region continues on a path of economic growth and demographic changes. An alternative interpretation is that the deceleration in female LFP is just temporary and responds to some transitory circumstances. In particular, the strong and rather unusual economic growth that the region experienced in the 2000s allowed for a surge in earnings and social protection benefits that may have retarded the entry of women into the labor market. Without a more pressing need to seek for a job, given the higher earnings of their spouses or the protection of new social programs, some women may have delayed their decision to participate in the labor market.

In this chapter we elaborate on these two arguments. Section 2 discusses the possibility of a ceiling to female labor force participation in Latin America, and compares the situation with other regions of the world. In section 3 we discuss the potential link between the economic expansion and the deceleration in female LFP, while section 4 explores the movements of female LFP along the business cycle. The chapter closes in section 5 with some final remarks.

In this chapter we put forward some arguments in favor of the hypothesis that the recent deceleration in female LFP could be related to the economic expansion of the 2000s, and present some evidence consistent with this story. However, the evidence is only suggestive and far from conclusive. Moreover, a single factor can hardly account for a complex phenomenon, like the dynamics of female labor force participation in a vast region. In this chapter we focus on the economic cycle, while in chapter 6 we take a closer look to several other potential determinants of female labor supply in Latin America.

2. Approaching a ceiling?

The labor force participation rate, like any share, has a ceiling. In fact, the rate for prime-age males seems to have reached a ceiling in Latin America, as in most regions of the world. The unweighted mean of the rate for males aged 25 to 54 across Latin American countries has been around 95.5% at least for the last two decades.¹

Despite the large increase in the last half-century, women's labor force participation rates are still much lower than men's. The mean rate for prime-age women in Latin America is around 65%, still 30 points lower than that of their male counterparts. Yet, the evidence suggests that, unlike previous decades, this gap has been shrinking very slowly over the last few years. In fact, female LFP appears to be reaching a plateau in some economies of the region. One possible explanation for this deceleration is that female LFP is approaching a ceiling. This should be considered a "conditional" ceiling: female LFP will not trespass a certain level (or will grow only very slowly) if some cultural and policy factors remain stable. In that sense, the women's ceiling is "softer" than the men's, but it is still relevant as only cultural transformations or strong policy interventions may substantially alter its level. If the interpretation of the recent deceleration as approaching a ceiling is correct, and no major cultural or policy changes occur,

1 Of course, the only "hard" ceiling is 100%, but a host of reasons (frictions, cultural factors, individual preferences, economic factors) usually make it unattainable.

then we should expect female LFP in Latin America to reach a plateau, and the wide gap with men to persist.

A plateau in female participation has emerged in the United States since around the 1990s (Blau and Kahn, 2013; Goldin, 2014). Goldin (2006) reports that participation rates for women of almost all ages, education levels and marital statuses have leveled off in the US. The LFP rate for females aged 25 to 54 grew slowly from 74.6% to 75.9% between 1992 and 2002, and descended to 74.5% by 2012. This fact has led many to wonder whether the economy has reached some sort of natural rate of female labor force participation. That situation may also apply to Latin America, although the ceiling would be lower.

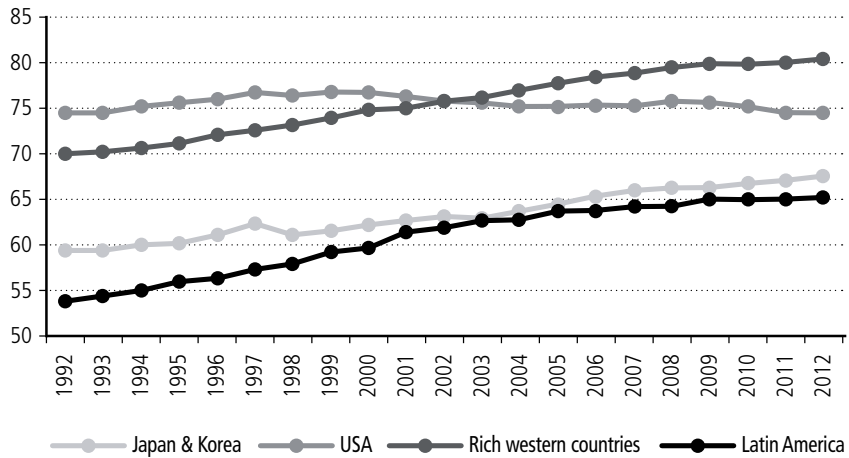
Interestingly, although a similar pattern has emerged in some Nordic economies (Denmark, Finland, Iceland), the stagnation in female labor force participation is not a widespread phenomenon among developed economies. The female LFP rate in the wealthiest 20 western economies grew at 0.6 points a year in the 1990s and at 0.5 points a year in the following decade (from 70% in 1992 to 75.9% in 2002, to 80.4% in 2012). Although there are some signs of deceleration, female labor force participation still continues to grow at healthy rates in most developed economies. The stagnation in the United States has been linked to weaker “family-friendly” policies, including parental leave and part-time work entitlements (Blau and Kahn, 2013).

Figure 5.1 illustrates LFP rates for women aged 25 to 54 for groups of developed OECD countries. The plateau is only visible for the US, at a level 10 points higher than in Latin America. The comparison with Japan and Korea is interesting: the gap in female LFP with Latin America vanished in the 1990s, but grew again in the 2000s, due to the deceleration in Latin America and the stable rates in the East Asian countries.

Data from the World Development Indicators reveal signs of stagnating (or even decreasing) female labor force participation in some East and South Asian countries, but not in Africa, Middle East, Eastern Europe and Central Asia, where rates remained similar or even rose in the 2000s, as compared to previous decades. A similar assessment emerges from the EAPES Database (ILO, 2011). This database allows for a comparison of different regions of the world with a focus on our age group of interest: women between 25 and 54 years of age.

The mean rates of female LFP in Central America are among the lowest in the world (Figure 5.2); in fact, they only exceed the rates in the Islamic countries of Northern Africa and the Middle East, for which the inclusion of women in the labor market is limited, due mostly to cultural factors. On average, the

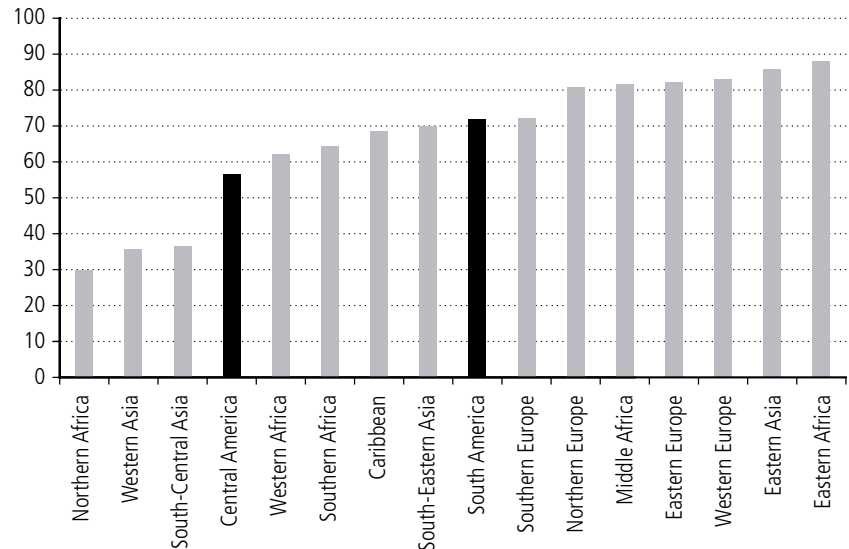
Figure 5.1: Female labor force participation
Regions of the world, 1992-2012. Women aged 25-54.



Source: OECD Online Employment Database and own calculations for Latin America
<http://www.oecd.org/els/emp/onlineoecdemploymentdatabase.htm#unr>.

Note: Latin America and rich western countries: unweighted means.

Figure 5.2: Female labor force participation rate
Regions of the world, 2012. Women aged 25-54.



Source: own calculations based on EAPEP Database (ILO, 2011).

Note: unweighted means.

participation of South American women is higher than in some areas of Africa and South Asia, but lower than in Europe, Eastern Asia, and most of the non-Muslim Africa.

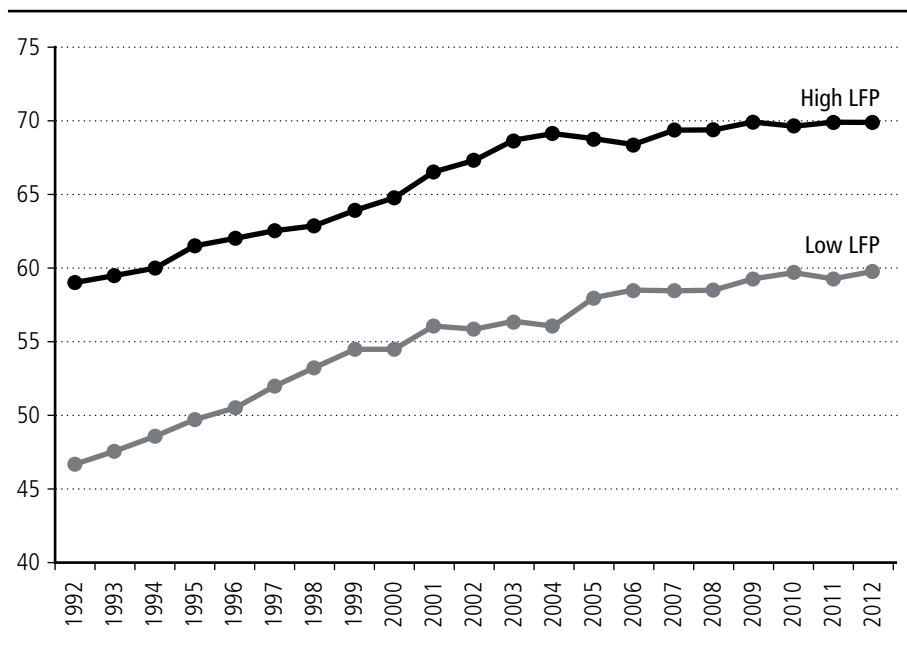
So, are we reaching a ceiling? Unfortunately, it is impossible to tell whether the recent deceleration in female LFP in Latin America is a natural pattern of convergence to a nearby ceiling. However, although we could not rule out this possibility, we consider it unlikely. With a few exceptions, even the most developed countries have not reached a female LFP ceiling, as rates continue to grow. Developed countries and several developing countries have female LFP rates well above those in Latin America and are still increasing, so it is difficult to believe that the natural rate in our region will rest at levels substantially lower than in most of the world. If Latin America were indeed reaching a ceiling, the permanent gap with more developed countries, and even with other developing countries, would be large, growing, and difficult to explain. For instance, the rates of Spain (81.1%) and Portugal (85.5%), the European countries that are culturally the closest to Latin America, are much higher than those for our region.

Another argument against the existence of a ceiling is that the deceleration occurred in most countries, regardless of the initial level of female LFP. We would expect that only countries with already relatively high levels of LFP experience a reduction in the rate of growth starting a pattern of convergence to a long-run level. However, as Figure 5.3 documents, the deceleration also took place in countries with a relatively low rate of female LFP, and hence, in principle, with a longer way to go toward the equilibrium long-run level.

If despite these arguments Latin America is indeed converging to a plateau, then the issue of female labor force participation will become even more relevant to the policy agenda. It would be necessary to further investigate the gender-based constraints, institutions, rules, customs, beliefs and values that prevent female labor force participation in Latin America to reach the levels of other regions.

In fact, the potential problem may be limited to certain groups and countries. As discussed in previous chapters, the rates of female labor force participation for skilled urban women in middle-high income Latin American countries are not far from those in the developed economies, and they have not experienced a strong deceleration in the last decade. Instead, participation among more vulnerable women remains very low, and has suffered a more intense deceleration over the last few years. Efforts should be directed at this target group, especially if the evidence confirms the existence of a plateau.

Figure 5.3: Female labor force participation rate
Latin American countries, 1992-2012. Women aged 25-54.



Source: own calculations based microdata from national household surveys.

Note: High: countries with female LFP above the median (average 1992-1995). Low: countries with female LFP below the median (average 1992-1995). Unweighted means.

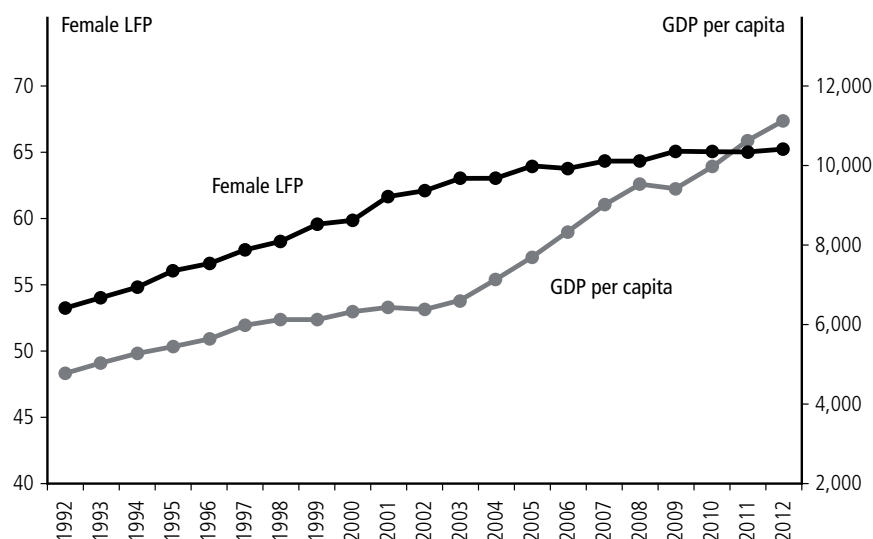
An alternative explanation to a ceiling is that the deceleration is the consequence of some transient phenomena, or the result of the short run response to some shocks, such as unusual economic growth and more ambitious social policies. We turn to this issue in the next section.

3. Participation and economic growth

We have extensively documented the contrast between the last two decades in terms of female labor force participation. The contrast also applies to many other economic variables, a fact that hinders the search for causal relationships. In this section we focus on economic growth. Female labor participation is particularly sensitive to the macroeconomic environment. Changes in economic conditions affect female LFP directly, but also indirectly through a strong interdependence with the employment status of other household members, particularly husbands.

The (unweighted) mean value of per capita GDP in Latin America grew at annual 2.8% in the 1990s and almost duplicated that rate in the 2000s (5.7%). In particular, the economies in the region grew at the very fast rate of 8% between 2003 and 2008. The 2000s were not only a decade of higher growth but also more macroeconomic stability with more stable growth rates, low inflation and absence of big crises, which were endemic to Latin America in the previous decades.²

**Figure 5.4: Female LFP and per capita GDP
Latin America, 1992-2012.**



Source: own calculations based on microdata from national household surveys. GDP per capita (in PPP adjusted US\$) from WDI.

Note: Women aged 25-54. Unweighted means.

Figure 5.4 illustrates the fact that the deceleration in female LFP occurred in coincidence with a strong rise in GDP growth rates.³ Besides this temporal correlation, there are arguments that link the two patterns. The strong economic growth that the region experienced in the 2000s allowed for a surge in incomes that may have retarded the entry of women into the labor market. Without a more pressing need to look for a job, and given the higher earnings of their

2 The coefficient of variation (across countries and years) was 25% lower in the 2000s than in the high-growth episode of the 1990s (1992-1998).

3 The linear correlation coefficient between changes in female LFP and per capita GDP is -0.50 (statistically significant).

spouses or the cash transfers of new social programs, some women may have delayed their decision to participate in the labor market.

This argument could be viewed as a variant of the added-worker effect.⁴ This effect is typically invoked to account for the increase in female LFP during recessions. As the main breadwinner becomes unemployed or faces a wage cut, secondary workers (typically female spouses) enter the workforce to compensate for the reduced household income, implying a counter-cyclical pattern of female LFP, *i.e.* a movement in a direction opposite to the business cycle.^{5 & 6}

Conversely, during a period of strong expansion, as the male breadwinner improves his job conditions and household real income increases, female spouses may be less willing to join the workforce. In many cases, the adjustment in female behavior does not imply the extreme change of leaving a job, but rather it could imply retardation in the decision to enter into the labor market. In a more favorable economic environment in their households, women may not be compelled to accept any type of job, and instead they may wait longer for better job matches, or may delay their labor market participation a few years in order to spend more time with their children or older adults that require care.

The argument views the family as a decision making unit and assumes that some women are secondary workers with a less permanent attachment to the labor market than their partners, a situation that is more frequent among less skilled women in the region. Under this framework, a married woman may choose to retard her entry into the labor market by taking advantage of the income gain of her husband. Since individual incomes in a family are pooled, an increase in one individual's income may result in other family members gaining time to spend on other activities (*i.e.* taking care of the children) by working less in the labor market. Of course, for a counter-cyclical pattern to emerge, this income effect must outweigh the substitution effect: in a better economic scenario, workers – both men and women – face better opportunities and as the earning power increases they may be more attracted to the labor market.

4 See Katz (1961), Mincer (1962), Lundberg (1985), Maloney (1991) and Mattingly and Smith (2010).

5 In practice, the added-worker effect may be outweighed by the discouraged-worker effect. Given the difficulties in finding jobs during a recession, workers may give up searching, causing a fall in labor force participation (*i.e.* a pro-cyclical pattern).

6 Paz (2009) finds for Argentina a sizeable impact of the labor status of husbands (employed or unemployed) on the probability of their spouses to enter the workforce (mostly as informal workers). Fernandes and Felício (2005) and Parker and Skoufias (2004) find similar results for Brazil and Mexico, respectively.

The robust economic growth of the 2000s brought about a stronger fiscal situation that allowed for a substantial expansion in social spending. In particular, cash transfer programs dramatically increased their coverage in the region. Conditional cash transfer programs and non-contributory pensions were introduced or expanded in all countries, contributing to the reduction in poverty and inequality (Cruces and Gasparini, 2012). These transfers were another significant source of increased income for vulnerable households, and hence they add another channel to the added-worker argument, discussed above.

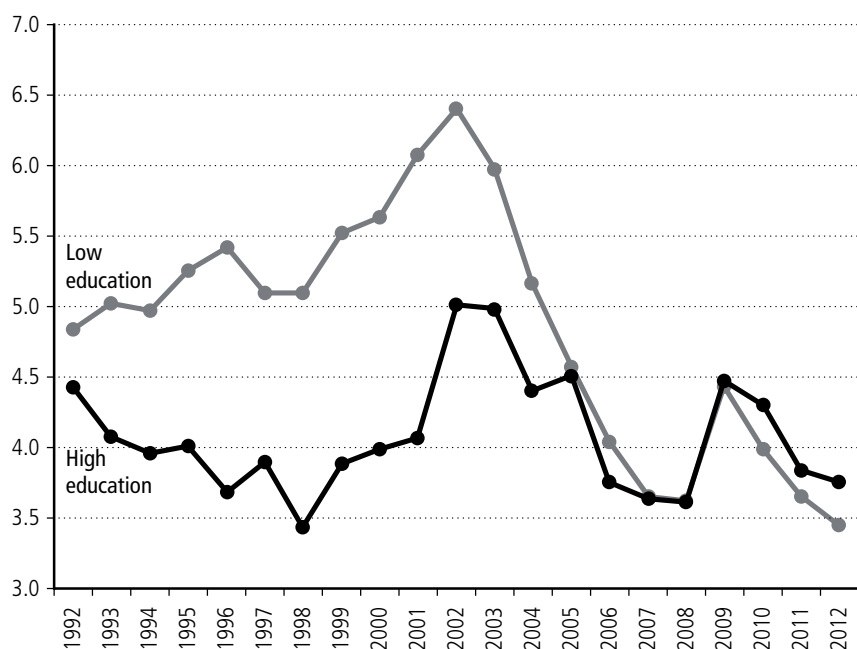
It is important to notice that both channels are likely more relevant for women in vulnerable households. Unskilled poor women with children are more likely to act as secondary workers, having more sporadic and loose links with the labor market and hence, their labor behavior is more sensitive to the economic conditions. In addition, these are the women whose households benefited most from the improved economic scenario of the 2000s by way of three channels: a reduction in unemployment, a shrinkage of the wage gaps, and an increase in non-labor incomes.

Figure 5.5 illustrates the first factor by showing unemployment rates for prime-age men, *i.e.*, those who are likely the husbands of prime-age women. While unemployment rates did not change much for skilled men, they plunged for unskilled men. On average, the unemployment rate descended from 6.5% in 2002 to 3.5% in 2012. If the female labor participation decision is sensitive to the unemployment situation of the male spouse, Figure 5.5 suggests a potentially relevant added-worker effect, particularly among unskilled women (who are typically married to unskilled men).

The economic expansion of the 2000s implied a generalized increase in real earnings. Interestingly, this increase was more intense among the unskilled. Figure 5.6 shows that the hourly wage gap between skilled and unskilled male prime-age workers substantially decreased in the 2000s. This fact not only suggests that household incomes increased for women in more vulnerable households, but also that the increase was higher than for the non-poor, a fact that again suggests a stronger added-worker effect for vulnerable women.

Due to several reasons, poverty-alleviation programs have greatly expanded in the region. In particular, since the implementation of Bolsa Escola in Brazil and PROGRESA in Mexico in the mid-1990s, conditional cash transfers programs (CCTs) have continued to expand in the region, both in terms of coverage and spending. CCTs are programs that consist of cash transfers to poor households with children, conditional on households making certain investments on their children's human capital – education, health and nutrition.

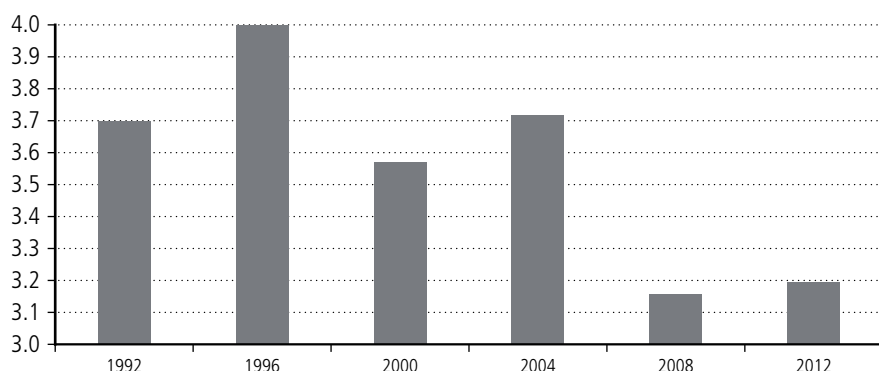
**Figure 5.5: Unemployment rates for men
Latin America, 1992-2012. Men aged 25-54.**



Source: own calculations based on microdata from national household surveys.

Note: low=less than secondary complete, high=tertiary complete. Unweighted means.

**Figure 5.6: Hourly wage gap between men with high and low education
Latin America, 1992-2012. Men aged 25-54.**

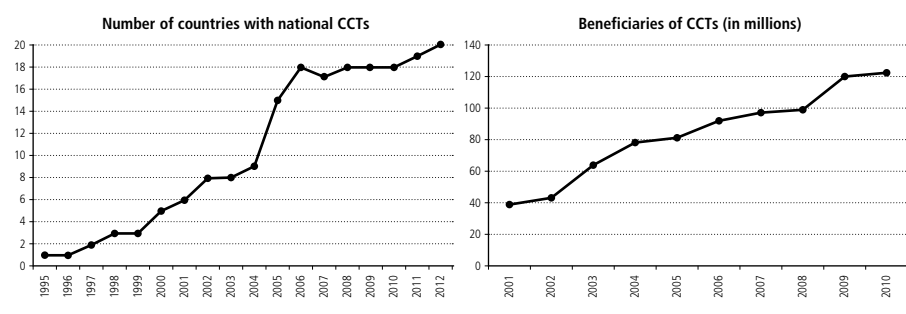


Source: own calculations based on microdata from national household surveys.

Note: low=less than secondary complete, high=tertiary complete. Unweighted means.

Figure 5.7 shows the increase in the number of countries with national CCTs in the region over the last two decades. Today, virtually all countries in Latin America have a program of this type. The benefits of these programs are largely targeting the poor. Cruces and Gasparini (2012) estimate that on average 78% of the transfers of these programs accrue at the bottom two quintiles of the income distribution. CCTs have been identified as a relevant factor driving the increase in household real income in more vulnerable households, and hence are a significant determinant of the observed fall in income poverty and inequality in the region. Although they are typically the main pillar of the social protection system for the poor, CCTs are not the only policy instrument directed towards the most disadvantaged. Non-contributory pensions, for instance, have increasingly expanded in the region during the 2000s, adding another source of income for vulnerable households.

Figure 5.7: Coverage of CCTs in Latin America



Source: Stampini and Tornarolli (2013).

In sum, through several channels the strong economic expansion that Latin America experienced in the 2000s had a more intense positive impact on the incomes of vulnerable households, which in addition are those in which women are most prone to alter their labor force participation decisions based on the economic prospects of the household. It follows from this argument that we should observe a stronger deceleration in LFP for married, unskilled, more vulnerable women, a fact that is consistent with the evidence discussed in Chapter 3 at length. While in the 1990s, LFP rose 8 points for the low-education prime-age women and 2.4 for the high-education women, the increase plunged to around 1.5 for both groups in the 2000s.

Of course, this is far from a conclusive piece of evidence supporting the added-worker effect. However, it suggests that this factor may have played a relevant role in the recent deceleration of female LFP. The next section further elaborates

on this issue by exploring labor force participation along the economic cycle in a regression framework.

4. Participation and the economic cycle

In this section we explore the movements of labor force participation over the business cycle within a simple econometric framework. In particular, we build a panel of countries from 1992 to 2012 and run fixed-effect regressions of female LFP and other labor variables. As right-hand-side variables we include the log of real per capita GDP (adjusted for PPP) taken from WDI and, alternatively, a decomposition into two terms: a cyclical and a trend component. To divide GDP into components we use the Hodrick–Prescott filter.⁷

The results for LFP suggest that female labor supply is affected by the economic changes, and that the impact is much more intense than for males (Table 5.1). In particular, there is a highly significant effect of both the trend and the cyclical component, although with different signs. The trend component of growth is associated with an increase in female LFP; instead, the short-term movements are countercyclical: a short-run strong expansion in GDP is associated with a *fall* in female labor supply. This piece of evidence seems to support the hypothesis that the recent deceleration was driven by the exceptional growth rates of the 2000s.⁸

As a consequence of the above results, the male-female gender gap in labor force participation has a negative relationship with the trend in GDP, but a positive relationship with the cyclical component. Along the development process, female labor force participation increases, cutting down the male-female gender gap. However, short-term expansions are associated with a reduction in the entry of women into the workforce, and hence a widening of the gender gap, possibly due to the reasons discussed in the previous section.

In Table 5.2 (see Appendix) we divide the analysis by education into three groups: (1) women without a secondary degree, (2) those with a high school degree but without a college degree, and (2) those with a degree from a tertiary institution. Interestingly, the negative cyclical component is large and highly significant for those women with fewer years of formal education (less than complete secondary school), and smaller for the rest. This difference is consistent with the story discussed in the last section, in which less-skilled, more vulnerable

⁷ See Hodrick and Prescott (1997).

⁸ Beccaria et al. (2015) analyze the case of Argentina, and find more mixed results.

women are more prone to react to economic fluctuations. In particular, in the case of Latin America, the sudden and strong expansion of the economy in the 2000s may have been associated with a larger deceleration in the labor supply for this group of women.

Table 5.1: Models of labor force participation
Latin American countries, panel 1992-2012. Adults aged 25-54.

	Female		Male		Relative (male/female)	
	(1)	(2)	(3)	(4)	(5)	(6)
Log per capita GDP	20.80 (12.93)***		-1.30 (2.07)**		-0.66 (10.80)***	
Cyclical component		-23.90 (4.04)***		1.60 (1.07)		0.75 (4.32)***
Trend component		24.50 (16.23)***		-1.50 (2.29)**		-0.78 (12.79)***
Constant	-127.80 (8.73)***	-161.40 (11.76)***	107.00 (18.98)***	109.10 (18.03)***	7.63 (13.64)***	8.69 (15.66)***
Observations	235	235	235	235	235	235
R-squared	0.89	0.91	0.72	0.73	0.83	0.86

Notes: Fixed effects (by country) estimations. Unbalanced panel of 17 countries. Labor force participation as percentage of adults (female or male) aged 25-54. Robust *t* statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Employment is also related to GDP growth, for both men and women (Table 5.3). The trend component is particularly strong for women; instead, the cyclical component is not significant. Unemployment increases when GDP falls; both the trend and the cyclical components are significant for both genders.

In the final table we explore the gender wage gap across the economic cycle (Table 5.4). We find that the relative hourly wage (male/female) increases with the cyclical component and falls with the trend, although the latter effect is not statistically significant. Over the development process, women have increased their participation in the labor market and reduced the wage gap with men. Short-run expansions, instead, seem to be associated with a retraction in female labor supply and smaller wage gains for women.

**Table 5.3: Models of employment and unemployment
Latin American countries, panel 1992-2012. Adults aged 25-54.**

	Employment				Unemployment			
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log per capita GDP	24.20 (21.15)***		3.00 (3.27)***		-7.30 (4.16)***		-4.50 (5.73)***	
Cyclical component		-2.20 (0.42)		21.50 (7.97)***		-30.30 (7.40)***		-20.70 (8.91)***
Trend component		26.40 (23.82)***		1.50 (1.78)*		-5.40 (2.89)***		-3.10 (4.38)***
Constant	-162.90 (15.66)***	-182.80 (18.15)***	63.60 (7.53)***	77.50 (10.04)***	72.50 (4.54)***	55.20 (3.26)***	45.10 (6.30)***	32.90 (5.03)***
Observations	235	235	235	235	235	235	235	235
R-squared	0.91	0.92	0.68	0.74	0.61	0.65	0.69	0.74

Notes: Fixed effects (by country) estimations. Unbalanced panel of 17 countries. Employment as percentage of adults (female or male) aged 25-54. Unemployment as percentage of labor force (female or male) aged 25-54. Robust *t* statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

**Table 5.4: Models of hourly wages
Latin American countries, panel 1992-2012. Adults aged 25-54.**

	Relative (male/female)	
	(1)	(2)
Log per capita GDP	-0.03 (0.49)	
Cyclical component		0.78 (2.14)**
Trend component		-0.10 (1.55)
Constant	1.39 (2.20)**	2.00 (3.32)***
Observations	232	232
R-squared	0.15	0.16

Notes: Fixed effects (by country) estimations. Unbalanced panel of 17 countries. Robust *t* statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

5. Final remarks

Latin America has experienced a significant deceleration in female labor force participation during the last decade. Unfortunately, it is still too early and the evidence is still too fragmentary to conclude whether this deceleration is a transitory phenomenon, or if it is a sign of convergence to some long-run levels.

We have argued in this chapter that the latter possibility is more unlikely, although certainly not implausible. In fact, some advanced countries have already approached LFP ceilings that have proven difficult to trespass. The deceleration in female LFP could be instead just a transient phenomenon. The strong economic growth that the region experienced in the 2000s may have allowed a surge in earnings and social protection benefits that slowed women's entry into the labor market. In fact, the evidence suggests that, on average, women who did decide to participate found more decent jobs than in the past. In this light, the deceleration in LFP may not be interpreted as a setback, since it would be the optimal response to a positive economic scenario. If the Latin American economies continue to grow, the availability of decent jobs continues to rise, and women's education keeps expanding, female labor force participation is likely to resume its pace of growth in the near future.

An alternative view is more worrisome. The short-term impact of an improved economic situation and more generous social programs on female labor supply may have long-term consequences. Women who prefer to stay out of the labor market given the new economic situation may be less prone to participate in the future, even in a scenario with an improved supply of decent jobs. Being out of the labor market for some time may imply loss of productivity, and may reinforce gender roles in the household, which may couple to reduce the probability of female labor force participation.

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Appendix

**Table 5.2: Models of labor force participation by education group
Latin American countries, panel 1992-2012. Adults aged 25-54.**

A. Less than secondary school

	Female		Male		Relative (male/female)	
	(1)	(2)	(3)	(4)	(5)	(6)
Log per capita GDP	17.70 (10.38)***		-2.10 (3.18)***		-1.04 (10.13)***	
Cyclical component		-25.60 (3.91)***		2.30 (1.37)		1.01 (3.56)***
Trend component		21.20 (13.33)***		-2.40 (3.51)***		-1.21 (11.89)***
Constant	-106.30 (6.86)***	-138.90 (9.59)***	114.00 (19.21)***	117.30 (18.58)***	11.36 (12.20)***	12.90 (13.97)***
Observations	235	235	235	235	235	235
R-squared	0.91	0.93	0.76	0.77	0.85	0.88

B. Complete secondary school or incomplete college

	Female		Male		Relative (male/female)	
	(1)	(2)	(3)	(4)	(5)	(6)
Log per capita GDP	8.90 (4.80)***		-0.60 (0.86)		-0.25 (1.74)*	
Cyclical component		-13.90 (2.17)**		-0.50 (0.25)		0.03 (0.05)
Trend component		10.80 (5.56)***		-0.70 (0.80)		-0.27 (1.71)*
Constant	-11.50 (0.69)	-28.60 (1.63)	100.80 (14.73)***	100.90 (13.40)***	3.25 (2.46)**	3.46 (2.35)**
Observations	235	235	235	235	235	235
R-squared	0.82	0.83	0.69	0.69	0.81	0.81

C. Complete college

	Female		Male		Relative (male/female)	
	(1)	(2)	(3)	(4)	(5)	(6)
Log per capita GDP	7.10 (4.45)***		0.20 (0.28)		-0.35 (6.83)***	
Cyclical component		-9.00 (2.48)**		2.00 (1.05)		0.42 (3.17)***
Trend component		8.40 (4.68)***		0.10 (0.09)		-0.42 (7.78)***
Constant	22.10 (1.53)	10.10 (0.62)	95.00 (13.04)***	96.40 (12.11)***	4.73 (10.00)***	5.31 (10.84)***
Observations	235	235	235	235	235	235
R-squared	0.74	0.75	0.46	0.46	0.82	0.84

Notes: Fixed effects (by country) estimations. Unbalanced panel of 17 countries. Labor force participation as percentage of adults (female or male) aged 25-54. Robust *t* statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Chapter 6

Determinants of female labor force participation

Matias Busso and
Darío Romero Fonseca*

1. Introduction

One of the most dramatic changes experienced in Latin America in the past half-century has been the annual increase in the proportion of women who decide to enter the labor force. The female labor supply in the region has increased by almost 50% in the past three decades. The increase was likely caused by a combination of several factors, ranging from education and fertility to technological and cultural changes. Our goal and main contribution is to assess the relative importance of a large set of factors that can explain female labor force participation dynamics in Latin America.

Identifying the contributions of individual factors presents a complex task because an individual's decision to work or not influences and is influenced by many events and conditions in that individual's life. Section 2 discusses a set of basic stylized facts through the lens of a general and simple conceptual framework that allows us to classify the so-called determinants of female labor supply into three categories. The first category concerns a group of interrelated choices that influence and are influenced by past, present, and anticipated labor force participation. These choices include decisions about education, marriage, and fertility. The second group of possible determinants is largely exogenous

* This chapter was written by Matias Busso and Darío Romero Fonseca (Research Department, Inter-American Development Bank). Rosa Vidarte and Joaquin Serrano provided excellent research assistance by computing many of the statistics used in this chapter. The views expressed herein are those of the authors and should not be attributed to the Inter-American Development Bank.

and outside the control of the individual. These determinants are socioeconomic environmental variables that have a central role in shaping individual-level interrelated decisions. Included in this category are the expected returns to education and to home production, the cultural context, and existing technologies in reproductive health, home production, and production of goods and services in the economy. The third group of determinants is less tangible and consists of decision-making arrangements. In theory, decisions about labor supply can be made individually or jointly with a spouse or family.

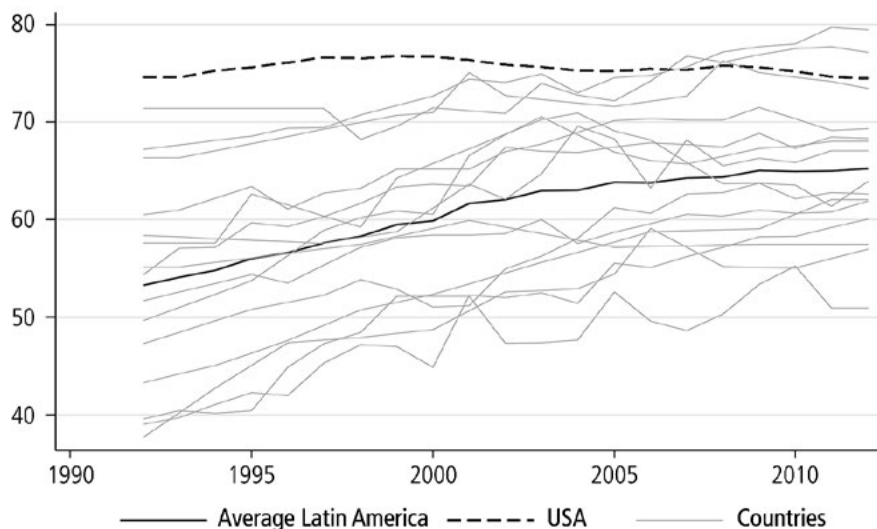
Section 2 also presents a set of salient empirical regularities of female labor supply in Latin America. First, there was a long-term increase in female labor force participation for all demographic groups. Second, this increase seems to have slowed in recent years, converging at a lower level than the one observed in developed economies. Third, female labor force participation is converging between demographic groups. Specifically, women in poor households are now behaving more like women in rich households, and unskilled women are behaving more like skilled women. This convergence has, however, stopped in recent years.

To what extent can a variety of determinants explain these empirical regularities? In Section 3, we discuss the mechanisms that underlie the effects of a variety of determinants of female labor supply and, by doing so, we organize the results of a vast relevant empirical literature on the topic. The empirical studies provide credible strategies for identifying causal mechanisms and combine these elasticities with changes in the key variables to assess the extent to which they can account for the stylized facts. In Section 4, we apply some of these plausible theoretical and empirical explanations to the data. Using household surveys from 15 countries over a 30-year period, we build a panel of socio-economic and demographic indicators and estimate the correlation between female labor force participation and covariates that are linked to the explanations identified in the literature. Section 5 concludes by taking stock of the plausibility of the main long-run determinants of female labor supply in Latin America.

2. Empirical regularities

Section 2 begins with a summary of some basic facts about the female labor supply as viewed through the lens of a simple conceptual framework. In 6.1 of the Appendix, we provide a full set of statistics that characterize female labor force participation in Latin America. Here, we focus on a few simple stylized facts. Figure 6.1 shows long-term trends in the labor force participation of females aged 25–54 years.

**Figure 6.1: Female labor force participation
Latin America and the United States**

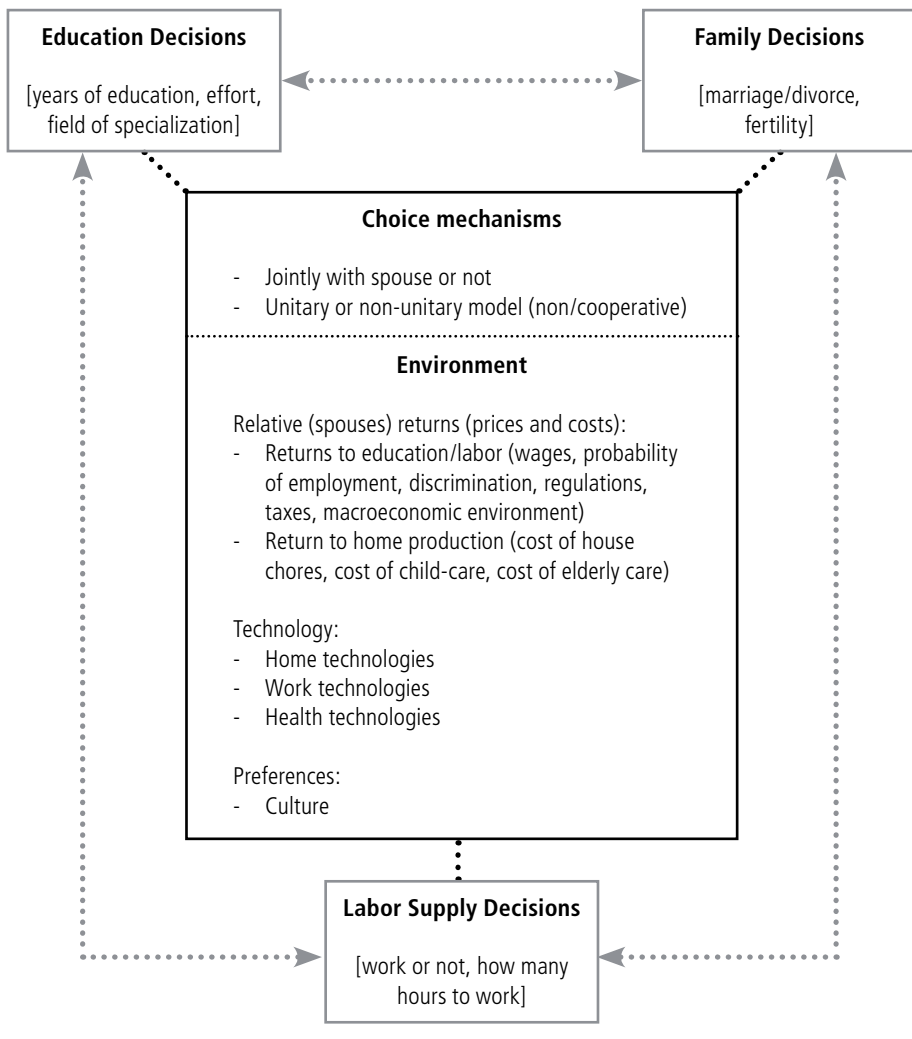


Source: own calculations based on microdata from national household surveys.

The solid line shows the simple average (arithmetic mean) of female labor force participation in Latin America, and the light gray lines indicate the corresponding level of participation in individual countries. As a reference, the dashed line shows the female labor force participation in the United States. Three important facts can be derived from these data. First, female labor force participation in Latin America increased from 54% in 1990 to 65% in 2010. Second, there is some convergence among individual countries (gray lines) in that countries with initially lower participation experienced faster rates of growth. Third, the rate of growth in female labor force participation declined and almost stagnated after 2000. This plateau was achieved at a lower level than that in the United States. As the gray lines indicate, only a few countries have reached the U.S. level of participation, and in most countries, there is room for growth in participation.

Why did the female labor supply increase, and why has it stagnated? A broad conceptual framework can help one understand the determinants of these phenomena. The labor supply is related to many factors, some of which are individual-level decisions made before or during a person's working age whereas other factors are outside the individual's control. Figure 6.2 provides a schematic view of both types of factors.

Figure 6.2: Interrelated decisions, choice mechanisms, and environment



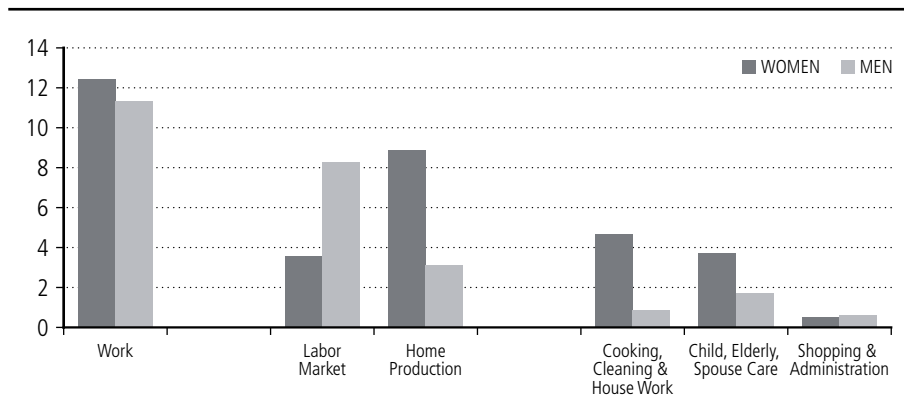
At any given time, the decisions to participate in the labor market and the number of hours to work involve choices that depend on the relative returns earned in the labor market compared to home production and the value of leisure.¹ Expected wages (earnings) depend on the individual's productivity, whereas the value of home production is a function of the values of providing child care and elderly

¹ The term "returns" has been broadly defined in this analysis. Moreover, it assumes the value of leisure is the same for men and women.

care services, housework (e.g., cooking or cleaning), and other home-based activities, such as home administration and shopping. Taking preferences as given, individuals facing a higher relative return from work in the labor market will be more likely to participate in it.

What do people in Latin America do when they are not working? Figure 6.3 shows the average number of hours per day used in different work activities for persons aged between 30 and 50 years in Mexico.²

Figure 6.3: Average time use (hours) for 30-50 years old Mexico



Source: author's calculation based on Encuesta Nacional sobre Uso del Tiempo Mexico 2009 (INEGI).

Women tend to work 12 hours a day, which is about 1 hour more than men. Women tend to work more hours at home (8.8 hours) than in the labor market (3.6 hours). The vast majority of women's working hours are spent on housework, child care, and caring for the elderly and their spouses. Thus, it is important to examine how technological changes can facilitate home production (e.g., home appliances) and how types of policy changes subsidizing child care may influence the labor supply. This *prima facie* simple static decision is much more complex when viewed through the lens of the life course. From that perspective, labor market participation is associated with several important choices. Figure 6.2 shows that these decisions relate to educational investments and family formations.

2 To the best of our knowledge, Mexico is the only country in Latin America that has collected time use data for a representative sample of men and women.

Individuals' choices regarding educational investments are typically made before they can fully enter the labor market, and they concern the quantity, quality, and type of education that individuals obtain. In theory, higher and better quality education should lead to more productivity and thus to higher returns in the labor market, increasing the labor supply. Some of the increase in educational levels could be exogenously due to governmental policies that reduce the cost of education and would be, therefore, unrelated to the (future) labor supply. However, a part of the increase in education could be the endogenous result of a larger proportion of women aspiring to work in the future and therefore, obtaining higher education today.

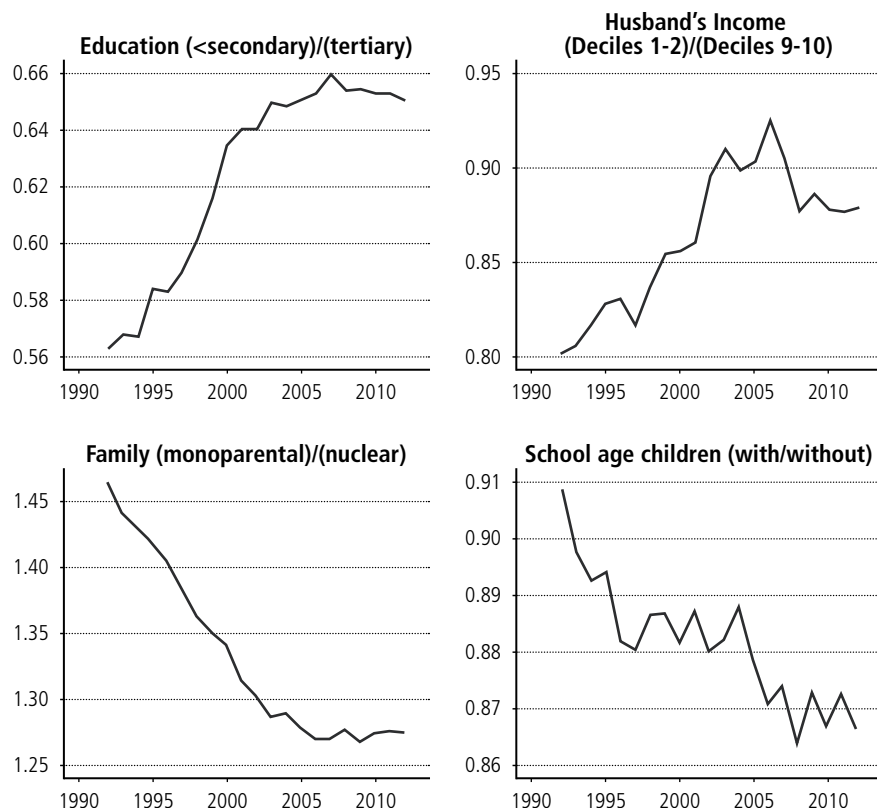
Choices about family formation are made before and during labor force participation. Decisions made during labor force participation include whether and when to marry/get divorced, whether and when to have children, and the number of children to have. Getting married somewhat changes the way that decisions are made (from personal when single to joint when married) and can lower the labor supply of one partner if the relative wages of the spouses differ widely. Similarly, bearing children directly influences women's labor supply during the first few months after the birth of the child. Moreover, it indirectly influences labor supply because it increases the opportunity cost of working outside the home, and in a context of different relative wage returns of partners in the household, it decreases the labor supply of the partner with the lower potential wage, usually the woman. Similar to education, observed changes in marriage and fertility rates could partly be due to exogenous changes in the environment, which are outside a woman's control (*e.g.*, contraception). However, they might reflect women's endogenous decisions to participate in the labor force.

It is useful to compare the ways in which women in different demographic groups (by education, marriage, and fertility) supply labor. Between 1990 and 2005, the participation rates of women in disadvantaged groups caught up to those of women with relatively more advantages. However, the trend apparently abated in 2005, suggesting that some aspect changed for the more disadvantaged women, resulting in the plateau illustrated in Figure 6.1.

Figure 6.4 compares these two groups of women. Each panel in Figure 6.4 shows the ratio of female labor force participation between two groups with respect to a specific factor.

The graph on the top left-hand side looks at education. Between 1990 and 2000, the participation rates of the group that received less education become increasingly similar to those that received more education. However, around the year 2000, the gap stopped closing; women with higher (tertiary) education

**Figure 6.4: Ratio of female labor force participation
Latin America, by groups**



Source: own calculations based on microdata from national household surveys.

showed increased participation, by 40%, in the labor force than those with less than a secondary education. Similarly, women whose husbands earned income was in the first 2 deciles of the distribution participated less than those whose husbands earned income was in the top 9-10 deciles (graph on the top right-hand side). Similar to the convergence in education, convergence with respect to husbands' incomes stalled in 2005. The bottom left graph shows that women in single-mother households participated more than women in nuclear households (*i.e.*, married mothers). The labor force participations of these two groups seemed to converge until 2005. Last, the bottom right graph presents a different pattern regarding women with school-age children; women with children aged 0–5 years tended to participate less than women with older school-age children. This gap

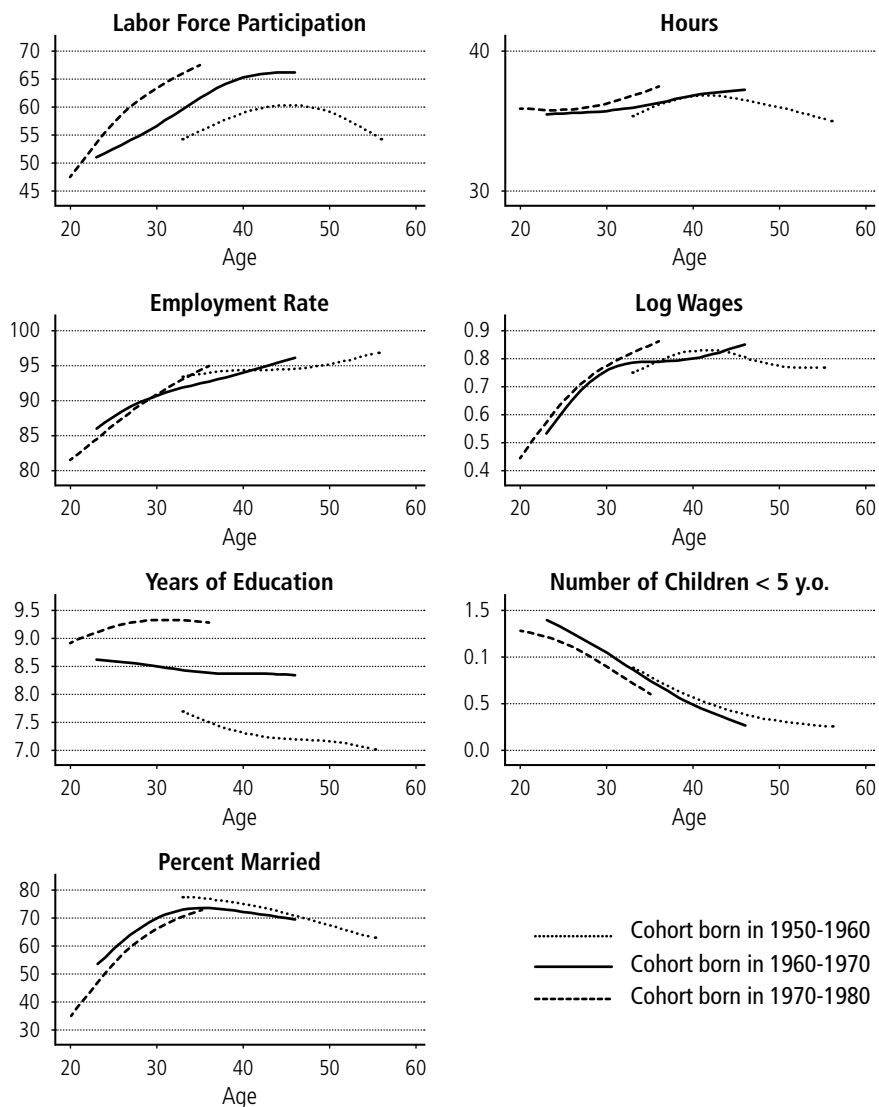
is the only gap that increased during the period, suggesting that returns to home production actually increased.

The interrelated decisions concerning education, family formation, and labor supply are influenced by two important factors: the arrangement in which the decision-making occurs and the environmental or social context in which the decisions are made. Choice mechanisms, or decision-making arrangements, differ in two respects. First, a decision about labor supply can either be made by the household as a unit (referred to as the unitary model) or by the spouses independently. However, scholars have rejected the unitary model (*e.g.*, Lundber, Pollak, and Wales, 1997) in favor of models of intra-household bargaining. Second, decisions can be made cooperatively or non-cooperatively. For example, in some models, the wife decides about her labor supply after the husband has decided about his labor supply, whereas in other models, the partners bargain in a non-cooperative fashion. These different arrangements have implications for labor supply decisions. Heath and Tan (2014) found that, generally, all else being equal, decision-making arrangements that empower women more are more likely to yield higher levels of labor supply.

In addition, there are contextual aspects of the environment, largely out of the individual's control, that can influence labor supply, such as changes in returns to work for a wage, changes in returns to work at home, labor and health technologies, and preferences influenced by culture and religion. The environment influencing the labor supply tends to change slowly over time. To assess how changes in labor supply relate to changes in the environment, the first approach would be to examine the behavior of women born in different decades (*i.e.*, different cohorts have different environments). Figure 6.5 presents seven graphs for three cohorts: (1) women born in the 1950s (dotted line), women born in the 1960s (solid line), and women born in the 1970s (dashed line). Each line represents an (smoothed) average of all countries in Latin America. The *x*-axis plots age, and the *y*-axis plots a different variable in each sub-figure. Given that data is only available for 1990 through 2010, different age ranges are observed for each cohort.

The graph on the top left-hand side shows that younger cohorts tend to participate more in the labor force, and their participation seems to peak at younger ages. Interestingly, the action seems to be on the extensive margin (participation, shown in the graph on the top left) rather than on the intensive margin (hours worked) or on employment rates. The graph in the top middle panel indicates that there is not much difference in the number of hours worked per week by women of different cohorts at the same ages. The labor market incentives do not seem to differ either. Clearly, the probabilities of employment and wages increase

**Figure 6.5: Cohorts
Latin America**



Source: own calculations based on microdata from national household surveys.

with age, but at any given age, women in different cohorts experience the same incentives. These results justify further investigation of the extensive, as opposed to the intensive, margins.

The three central sub-figures and the sub-figure on the lower left show that women in younger cohorts are more educated than those in older cohorts, tend to have fewer young children living with them, and tend to marry at older ages. In fact, the average number of years of education for females aged 20–60 years has increased over the past 25 years in Latin America, from about 6.4 years, on average, in 1986 to about 9.4 years, on average, in 2012. Overall, the long-term changes in labor supply were accompanied by changes in education, marriage, and fertility. These changes were likely generated by changes in the environment.

3. Determinants and mechanisms

Section 3 describes the specific mechanisms through which various determinants, both endogenous (education and family formation) and exogenous (returns, technology, and preferences) influence labor supply. This is achieved by a review of the relevant literature and by providing, where possible, quantitative estimates of the effects of these determinants on female labor supply, to assess their relative effects.

3.1. Education

The first level of education—kindergarten or primary school—reflects decisions made by an individual’s parents. These decisions depend on a number of factors, including culture, the availability of resources and infrastructure, policies in place regarding mandatory years of schooling, and conditional cash transfer programs, among others. In many cultures, families invest less in their daughters’ educations than in their sons’. Glick (2008) argues that, holding other factors constant, daughters will receive less schooling than sons when: (1) parents expect to receive more money in the future from their sons than their daughters, (2) the marginal returns to schooling in the labor market are always higher for boys than for girls, or (3) the marginal cost of schooling is always higher for girls. In addition, it is reasonable that providing more schooling to sons than daughters can arise from parents’ preferences of valuing their sons’ more than their daughters’ human capital or of placing relatively more value on the future wealth of their sons.

Attaining an education beyond the mandatory level is believed to be mainly a result of women’s decisions influenced primarily by expected higher returns, although the decision is also constrained by factors such as culture, resources, family support or opposition, and expectations. In recent decades, women’s increased investments in education have been so dramatic that the education gender gap was reversed in Latin America as well as in many developed countries (Chioda, 2011).

Because returns to education are positive, this increase in educational attainment induced an increase in expected wages, and therefore, in the opportunity cost of not working. In other words, it is expected that these increases in educational attainment will be accompanied by increases in female labor supply. However, causality can work in both directions: women may be more likely to work because they are more highly educated or, alternatively, they may advance their education because they aspire to work in better positions or for higher pay.

Indeed, many studies have found that higher expected returns in the labor market may drive schooling decisions. Foster and Rozensweig (1996) examined the green revolution in India, which generated an increase in the returns to primary school during a period of rapid technological progress, which, in turn, induced private investment in primary schooling. Similarly, using experimental evidence, Jensen (2012) assessed an intervention, also in India, that changed employment opportunities for women. He provided three years of recruiting services in randomly selected rural Indian villages to help young women obtain jobs. Young women in villages who received the service were significantly less likely to get married or have children, choosing instead to enter the labor market, attain higher education, or attend post-degree training.³

There are many reasons, not directly related to labor force incentives, for women to be more educated than men. First, some scholars have proposed that women increase their education because they want to improve their marriage prospects (Greenwood *et al.*, 2012). Second, in a labor market that discriminates against women, women get more education precisely to avoid that discrimination because the extent of discrimination is negatively related to educational attainment (Chiappori *et al.*, 2009). Third, women may increase their educational attainment because of recent changes in identity and a weakening of traditional values and norms. That is, women invest in education because of aspirations and changes in role expectations (Akerlof and Kranton, 2000).

Have changes in educational attainment caused changes in the labor supply? Unfortunately, there is limited evidence to answer that question because labor

3 A growing literature argues that expected (perceived or subjective) returns influence schooling decisions. Kaufmann (2009) used a survey of perceived returns among high school graduates in Mexico to study the determinants of college attendance. She concluded that although expected returns and perceived risks from human capital investment were important determinants, lower returns or higher risks were insufficient to explain poor people's low rates of attendance. Using the same data, Attanasio and Kaufman (2012) investigated the relationship between subjective expectations and schooling decisions. The authors found that individuals' subjective expectations about their future incomes and employment influenced their decisions regarding higher education.

supply and education are generally considered to be a joint decision, making it difficult to separate their effects.

3.2. Marriage

Marriage can influence the labor supply by changing the relative returns of working within the home versus working outside the home. Married women with children tend to participate in the labor market less than single women because the former have an alternative source of income (which raises their reservation wage) and a higher opportunity cost of working outside the home. In fact, married women's labor supply elasticity is greater than that of married men (Blau and Kahn, 2005). In the United States, McClelland and Mok (2012) found a substantial reduction in the labor supply elasticities of married women over the past three decades, although they were still higher than the elasticities of men or unmarried women.

Who women marry may also influence differences in their labor supply at different levels of the income distribution. Studies have extensively analyzed the higher likelihood of marrying, or more generally, forming a family, with another person who has similar educational and income characteristics. This phenomenon is termed "assortative mating," and these studies often focus on women's labor patterns according to their husbands' incomes.

There are two extreme cases of mating: random mating, in which all the members of the population marry at random, and perfect sorting, in which all the members of the population marry someone from their income decile). In random mating, women's wages relative to men's are, on average, lowest for the wives of top-wage husbands. Therefore, these wives work the fewest hours, and the relationship of wives' hours worked and husbands' wages is negative. In the case of perfect sorting, with the presence of a gender wage gap that favors men, wives' wages are increasing and concave⁴ relative to the husbands' wages, as are wives' hours worked. Between these two extremes, some marry at random and some marry someone from their decile, and in this case, we can expect the observed inverse-U relationship between wives' hours worked and husbands' wages decile that was seen in the 1990s. Bredemeier and Juessen (2013) performed a quantitative analysis of this model and found that the growth in women's wages and the decline in fertility were the main drivers of the overall increase in wives' hours worked, since the 1970s. Specifically, they argued that the largest increase in wives' hours worked was among those women who were married to high-wage

4 This scenario assumes a constant gender wage gap.

men and, therefore, labor supply increases were a consequence of the positive trends observed in assortative mating since the 1970s.

Legal divorce also may provide an incentive for women to increase their labor force participation. When women are faced with the possibility of losing their source of income to divorce, they have an incentive to generate income on their own by participating in the labor market. Hence, the legalization of divorce has been observed as a natural experiment to find a causal link between the likelihood of divorce and female labor force participation. Bargain *et al.* (2012) employed the legalization of divorce in Ireland in 1996 as a natural experiment to analyze the effects of an exogenous increase in the perceived risk of marital dissolution on female labor supply. Using a control group of families with a low risk of dissolution, the authors estimated via a difference-in-difference model that the legalization of divorce significantly increased labor supply in the extensive margin, although it was not increased in the intensive margin. This finding is consistent with the notion that women want an external option when faced with the risk of divorce. Having a job, whether part-time or full-time, gives women access to social networks and a potential remarriage market while helping them to maintain human capital levels. Bargain *et al.* (2012) found that a 1% increase in the risk of marital breakdown increased labor supply by about 0.20 hours per week and female labor force participation by 0.50–0.80 percentage points.

3.3. Fertility

Having children naturally influences mothers' ability to work, at least during the period of childbirth and recovery, which can last from a couple of days to a few weeks. After recovery, babies and small children require a substantial amount of care, which influences parents' labor supply. How do parents decide how much to work when they have children compared to people who do not have children? Lundberg (1988) found that there are strong interactions in the labor supply decisions of each parent when couples have preschool-aged children. That is, the hours that the parents work are jointly determined. However, when there are no young children, the hours worked by husband and wife are apparently independently decided.⁵

Joint modeling of individuals' decisions about fertility and employment requires complicated techniques. Francesconi (2002) used data on married women in

5 For a couple with children younger than 6, an increase in the husband's earnings tends to reduce the labor supply of the wife; if the husband's monthly earnings increase by USD 100, the wife's hours fall by 6–9 hours per month.

the US to estimate fertility and labor supply decisions. The study found that women that interrupted their fulltime employment for 5 years experienced a utility loss of about 1.5% per year over a 20-year period, provided that they reentered into full time employment after the interruption. Shorter interruptions were associated with smaller losses.

The literature has tried to quantify the impact of childbearing on female labor supply. Angrist and Evans (1998) used parents' preferences for a mixed sibling-sex composition as a source of exogenous variation in fertility and found that the effect of the change from a two-child to a larger family reduced women's labor supply by about 10.4%, on average, in the US in 1980. In 1990, the change to a larger family reduced it by 8.4%, and the labor market consequences of childbearing were likely to be more severe for poor and less educated women. However, having fewer children does not necessarily mean an increase in women's labor force participation. Priebe (2010) employed the same instrument as Angrist and Evans (1998) in an Indonesian sample and found that having fewer children does not relate to an increase in labor supply because Indonesian women work primarily to cover child costs and fewer children means they need to work less.

Cruces and Galiani (2007) also built on the work of Angrist and Evans (1998) and used the preference of parents for a mixed sibling-sex composition to study two middle-income Latin American countries: Argentina and Mexico. They found a statistically significant negative effect of more than two children on the mother's labor supply. In Argentina, the reduction was about 8.1–9.6 percentage points (for married women); in Mexico, the reduction was about 6.3–8.6 percentage points (for married women). Tortarolo (2014) tested the same instrument as Angrist and Evans (1998) using a large sample of census data spanning three decades from 14 Latin American countries and the United States (1980s, 1990s, and 2000s). Using 39 censuses, they applied ordinary least squares estimations and found a statistically significant negative relationship between fertility and mothers' labor supply in each of the 14 Latin American countries.⁶

Another set of studies used fertility shocks, such as infertility and miscarriage, as exogenous sources of variation to find the causal effect of childbearing on

6 In Sweden, Angelov et al. (2013) compared women's incomes and wage trajectories to those of their male partners before and after parenthood. Focusing on the within-couple gap, the study found that 15 years after entering parenthood, the gender gap in income had increased by 18 percentage points, and the gender gap in wages had increased by 10 percentage points, compared to the pre-child levels. Parenthood influenced men and women differently, causing persistent gaps in labor market returns within households.

women's labor supply. Cristia (2008) found that when the first child was less than a year old, those mothers who had sought medical intervention to conceive had reduced employment by 26 percentage points compared to mothers who had not sought medical intervention. Agüero and Marks (2011) used self-report infertility shocks among women in 26 developing countries as a source of exogenous variation in the number of children. They found that the effect of having children on labor force participation was not significant for mothers' overall labor force participation, but it did decrease the likelihood of paid work, particularly among younger women and in relatively poorer countries. Among younger women, an additional child reduced paid employment by almost 2 percentage points, and in low-income countries, an additional child reduced women's paid employment by 2.1 percentage points.⁷

The timing of childbearing also seems to affect labor supply. Having children in the later stages of a career may make it easier for women to return to their previous employment positions. Using the exogenous variation in birth timing induced by miscarriage and other negative fertility shocks before the first birth, Miller (2011) found positive effects of delayed motherhood on earnings and wages. Specifically, there was a substantial increase in earnings of 9% for each year of delay, an increase in wages of 3%, and an increase in work hours of 6%, with college-educated women and those in professional and managerial positions reaping the largest advantage. Postponing motherhood may reduce the career costs of children because later interruptions imply that the foregone investments are accrued over a shorter time horizon.

Fitzenberger *et al.* (2013) calculated the amount of employment lost for bearing children now instead of later in Germany, a country that provides a lengthy maternity leave. They found that, in terms of cumulative employment losses measured in person-months, during the first five years after birth, an average of about two years (23 months or 38.5% of the total time) in employment is "lost" as a result of the birth of a child now instead of later. The employment loss is reduced over the first five years after childbirth, but it does not level off to zero at the end of that period.

7 They found no significant effects for middle-income countries, a finding that differs from that of Cruces and Galiani (2007), who showed that women in Mexico and Argentina with more than two children borne out of a preference for a balanced sex mix were less likely to participate in the labor force. This difference was mainly due to the differences among subpopulations.

3.4. Technology

Health Technologies. The introduction of the hormonal contraceptive (birth control) pill is a technological advancement that enabled women to control the quantity and timing of their children. Goldin and Katz (2002) argued that the direct effect of the pill was a decrease in the cost of remaining unmarried to women while they were investing in their professional careers. The pill reduced the cost of career investment for women by increasing age at first marriage. Bailey (2006) used the variation in U.S. state laws allowing women under the age of 21 to obtain oral contraception without parental consent to estimate the impact of pill access on female labor force participation. She found that, from 1970–1990, early access to the pill can account for about three of the 20 percentage point increase (14%) in labor force participation rates and 15% of the increase in annual hours worked by women aged 16–30 years.

Albanesi and Olivetti (2009) studied the effects of technological progress in health and nutrition on reductions in the cost of childbearing. They found that, in the early 1900s, women spent more than 60% of their prime childbearing years either pregnant or nursing. However, between 1920 and 1960, there were advancements in medical knowledge and obstetric practices that, together with the introduction of infant formula, reduced the time cost of raising children and led to an increase in the labor supply of young married women with children. Better maternal health decreased the adverse effects of pregnancy and childbirth on women's abilities to work, and the introduction of infant formula reduced the comparative advantage of mothers in infant feeding.

Abortion laws are another example of the availability of a health technology that allows women to decide if and when to bear children. Kalist (2004) examined whether the liberalization of U.S. state abortion laws influenced female labor force participation with several probit participation equations. The results indicated that by reducing unwanted pregnancies and thus reducing fertility rates, abortion increased female labor force participation rates, particularly among single black women. Other studies have explored the effects of fertility on female labor supply using the legalization of abortion as an instrument. Angrist and Evans (1996) studied the effects of teenage and out-of-wedlock childbearing on the schooling and employment statuses of black women using measures of exposure to the 1970s' abortion reform in U.S. states as instruments. They found that black women who were exposed to abortion reforms experienced large reductions in teenage fertility and teenage out-of-wedlock fertility that apparently increased educational attainment and employment rates; there was no statistically significant effect for white women.

Most studies on the effects of abortion focus on the United States because several laws have legalized abortion since the 1970s, providing data both before and after the laws were enacted. The situation in Latin America is somewhat different. In this region, the only country that has fully legalized abortion is Uruguay, where women have been able to legally obtain an abortion on request since 2012.⁸ For most of the remaining Latin American countries, abortion is legal only when it is necessary to protect the health of the mother. Some countries, such as Chile, El Salvador, Honduras, and Nicaragua, prohibit abortion under any condition, and persons performing the procedure are penalized.

Home Technologies. Traditionally, women are primarily responsible for household chores, which reduces their time available for working outside the home. In this context, technological progress in household production frees up women's time and could drive an increase in the female labor supply. Studies have found that the female labor supply is influenced by technological progress in the home, as well as advancements in the health and nutrition sectors. Thanks to technological progress, women are able to perform their traditional housekeeping and childcare duties in less time. Moreover, these technologies reduce women's comparative advantage for fulfilling these traditional roles.

Using household appliances reduces the time required to perform many household chores such as cooking, washing clothes, and cleaning. Greenwood *et al.* (2005) and Greenwood and Seshadri (2005) have argued that the introduction of household appliances, including the refrigerator, vacuum cleaner, washing machine, dryer, microwave oven, and dishwasher, liberated women from the home because they allowed women to spend less time in home production and this, in turn, enabled them to enter the labor market. Greenwood *et al.* (2005) found an important decrease in the time that women spend performing housework tasks, from 58 hours per week in 1900 to 18 hours per week in 1975, which helped married women with children enter the work force. The authors found that in 1900, about 5% of married women worked in the labor force. By 1980, this number had increased to about 50%, and more than half of that increase was due to the technological advancements in the household sector. Similarly, Coen-Pirani *et al.* (2010) tested the hypothesis that the diffusion of household appliances in the 1960s increased the labor force participation of married women. Using U.S. census data, they found that owning three household appliances (specifically, a washer, dryer, and freezer) increased the likelihood that married women would participate in the labor force by about 27 percentage points between 1960 and 1970. Dinkelman (2011)

8 Since the policy change is so recent there is, to the extent of our knowledge, no available study that estimates the impact of this change on demographics or economics outcomes.

found that five years after rural electrification in South Africa, female employment had increased by 9 percentage points (almost 30% from the baseline), freeing up women from activities associated with home production.

Besides the advent of household appliances, their prices may determine whether they are actually purchased, thereby influencing the female labor supply. Cavalcanti and Tavares (2008) found that decreases in the prices of home appliances significantly increased female labor force participation. A 20% decrease in the relative price of appliances (*i.e.*, the ratio of the price of the appliances to the consumer price index) increased labor force participation by 2%–3%, on average. In the case of the United Kingdom, between 1975 and 1999, the decrease in the relative price of home appliances accounted for about a 10%–15% increase in female labor force participation. Similarly, Cubas (2010) studied the differences in female labor force participation in Latin America and the United States between 1990 and 2005. The results showed that prices of household appliances and access to infrastructure were important for explaining cross-country labor supply differences.

Work Technologies. Goldin (2014) proposed that convergence between men and women in the labor force requires job flexibility; that is, changes in the labor market determine how jobs are structured to enhance temporal flexibility. The gender gap in pay would be reduced if employers did not disproportionately reward employees who work long (or specific) hours. In fact, the diffusion of work technologies could influence female labor participation because these technologies allow for “telework” (working from home via the Internet) and flexible schedules. Dettling (2014) examined the ways in which Internet use influenced the labor force participation of married women and found that high-speed Internet use increased their labor force participation by an average of 4.6 percentage points, with larger increases among women with higher educational attainment and children. The primary connection between Internet use and labor market outcomes is telework; Internet use, through telework opportunities and flexible scheduling, has particularly benefited highly educated women’s participation in the labor force.

3.5. Labor market returns: discrimination

Female labor force participation is influenced by the prospects of earnings in the labor market. A key factor that affects the relative returns of males and females is discrimination. If a woman perceives that her wage will not be high enough to compensate her for what she expects to give up to perform that job, or if she perceives that she is being paid less than a man for equivalent work, she might

decide to not participate in the labor market. In addition, because discrimination affects women's wages relative to men's, discrimination affects women's decisions about specialization in home versus work production within the household.

What are the sources of this type of discrimination? Childbearing hinders women's labor force participation, at least, during the childbirth and recovery period. When an employer considers hiring a woman or a man with equivalent qualifications, the assumption that the woman has relatively greater potential for absences from the job can be detrimental to the woman's job prospects. Similarly, if an employer must invest in workers' training and believes that women are more likely than men to terminate employment, he may prefer to hire men (Neumark *et al.*, 1996). Correll *et al.* (2007) found biases against mothers that influence the evaluations of their competence and commitment and whether they are hired, promoted, or receive a raise. These evaluative biases are mostly unjustified because, according to Correll *et al.* (2007), the majority of studies found no significant differences between mothers and non-mothers in the extent of their commitment, and the discrimination arises from perceptions.

Two main approaches are used to quantitatively assess the existence and magnitude of wage discrimination: decomposition of wage gaps (combined with regression analysis) and field experiments.

Decomposition of Wage Gaps. The most commonly used decomposition method is the Oaxaca–Blinder decomposition method, which statistically differentiates the portion of the wage gap corresponding to each observable factor (*e.g.*, education, job experience, age, or race, and so on). The portion left unexplained by these observable factors is associated with discrimination.

To study the gender wage gap around the world, Weichselbaumer and Winter-Ebmer (2005) performed a quantitative systematic review (meta-analysis) of more than 260 published papers covering 63 countries from the 1960s through the 1990s. They found that, during the study period, the raw wage differentials decreased significantly, from about 65% to about 30%, with most of the decline attributed to women's labor market endowments (higher educational attainment, training, and work attachment). The authors specified a standardized gender wage gap with the standardizing data selection and econometric method, and they found that the ratio of what women would earn if there were no discrimination relative to their actual wages decreased by approximately 0.17% annually, indicating that moderate gender equalization between wages was occurring.

Additionally, Weichselbaumer and Winter-Ebmer (2005) stressed the importance of statistically controlling for certain observable characteristics to reduce the

bias in the calculation of the discrimination component of the gap. Missing or imprecise data on human capital factors, such as work experience, on-the-job training, or job tenure with the actual employer can result in important biases in the calculation of the unexplained component. For example, the researchers found that studies that did not account for work experience had greatly overestimated the unexplained portion of the gender wage gap.

For 18 countries in Latin America,⁹ Hoyos and Ñopo (2010) calculated the gender earnings gaps between 1992 and 2007, using a different decomposition method. During that 15-year span, the overall wage gap declined from 16.32%–8.85% of average female wages, which represented a significant decrease of about 7 percentage points. The unexplained component decreased about 3–4% (a statistically significant result), depending on the characteristics for which the authors conducted the statistical adjustment. They found important heterogeneities across countries; for instance, Brazil showed the widest gap but was also closing the gap the fastest.¹⁰

Field Experiments. There are substantial differences favoring men over women in pay and promotion. Even after controlling for demographic and socioeconomic characteristics, women earn significantly less and are less likely to be promoted to top-ranking positions. One potentially important reason for these differences is that men and women may respond differently to competitive environments. Antonovics *et al.* (2004) used data from a competitive television game show to mimic some competitive aspects between men and women in the labor force and assessed whether men and women of similar skill levels perform equally well in competitive environments. They found that in situations of direct competition, men outperformed their female opponents more than 72% of the time, and ability explained no more than about 27% of this differential. Even after controlling for ability, men outperformed women in competitive settings.

9 The countries examined were: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Paraguay, El Salvador, Uruguay, and Venezuela.

10 Much of the relevant literature associates the unexplained portion of the wage gap with discrimination. However, some authors have pointed out that “residual discrimination” would only measure the extent to which the gap is caused by unobservable factors besides discrimination. Therefore, these measures of discrimination using these types of decompositions are biased because of the lack of relevant controls. The estimations of the gender gaps do not include many control variables that measure characteristics such as abilities, educational attainment, and family environments, or factors such as preferences for non-market activities, which could be a determinant unobservable factor of the female labor supply in Chile (Bravo *et al.*, 2008).

Experiments have also been used to test for the presence of gender discrimination in hiring. The most popular experiments are the audit experiments, where resumés presenting equivalent qualifications but changed genders and names are used to apply for jobs. When the names alone are changed, the results provide an unbiased estimate of discrimination at the hiring stage (Booth and Leigh, 2010). In Latin America, Bravo *et al.* (2008) implemented an experiment to determine the presence of gender discrimination in hiring. The experiment used fictitious resumés to apply for real jobs. The resumés presented equivalent qualifications and job experience, but they differed in terms of the fictitious applicant's gender. The researchers found that men and women apparently have the same probability of being called for a job interview because the callback rates in response to the resumés were 14.9% for the male names and 14.6% for the female names, and the difference was not statistically significant. The lack of a significant difference in callback rates differs from the findings of previous studies, perhaps because these findings are limited to the first step in the hiring process, the callback. Discrimination in hiring may occur at the second or third callback, or when the final hiring decision is made.

3.6. Labor market returns: macroeconomic crises

The two likely changes in the labor market during a macroeconomic crisis are an outward shift of the aggregate labor supply curve and an inward shift of the aggregate labor demand curve, which would result in a decline in real wages. However, the net effect on employment is theoretically ambiguous because it would depend on the relative size of the shifts and the elasticities of both curves.

Economic crises affect employment and labor market returns for both genders. Stotsky (2006) found evidence suggesting that women's employment is more resilient than men's during a recession in many countries. There could be many factors underlying this phenomenon. For example, male-dominated occupations, such as the construction industry, are more cyclical and more responsive to recessions. Furthermore, women are relatively more likely to work in fast-growing industries, such as the service sector, that may be relatively more resistant to recessions. Additionally, Stotsky (2006) pointed out that these differences might reflect differences in participation rates by gender, particularly if women are more likely than men to leave and re-enter the labor force as working conditions change.

What exactly is the influence of a crisis on labor force participation? Using a panel of 86 countries and data for the period 1980–2005, Signorelli, Choudhry, and Marelli (2012) found that financial crises are related to small but statistically significant reductions (0.829 percentage points) in female labor

force participation. Analysis of a sample of 10 upper-middle-income economies¹¹ that included 6 Latin American countries showed that financial crises led to a reduction of 2.5 percentage points in female labor force participation. In a sample of 20 lower-middle-income economies¹² that included 9 Latin American countries, they found no statistically significant effects of financial crises on female labor force participation.

An economic crisis causes a resulting reduction in household income. In response, households want to increase their labor force participation and hours worked despite the labor demand constraints induced by the crisis. For example, the 2002 Argentine financial crises primarily caused a considerable fall in real wages, which was accompanied by little increase in labor supply due to weak labor demands (McKenzie, 2003a). There was no statistically significant effect on female labor participation. Regarding the 1995 Mexican peso crisis, McKenzie (2003b) found that households used reductions in fertility and primary health care investments as financial coping mechanisms instead of adding workers to the labor force or increasing existing workers' hours because during this aggregate shock, there were labor demand constraints.

During a recession, if the husband is the primary earner and loses his job, the wife can enter the labor force and then later exit it when the primary earner is reemployed. This is referred to as the "added worker effect," and it can be interpreted as a household strategy against unemployment shocks during economic crises. Cerruti (2000) found evidence of the added worker effect in Argentina, where the increase in female labor force participation is not due to improvements in the conditions of the labor supply or the broadening of opportunities available to women. Instead, it is mostly a response to increasing instability and unemployment among male primary earners associated with the implementation of structural adjustment policies since 1991. Cerruti's (2000) main contention is that women decide to participate in the labor market to reduce the economic uncertainty of the household.

The 2008 global economic crisis was similarly associated with an increase in female labor force participation and a decrease in male labor force participation. This crisis induced a negative income shock to households, and labor supply had to be adjusted accordingly, with the possibility of the emergence of the added

11 The countries were: Argentina, Chile, Costa Rica, Jamaica, Malaysia, Mexico, South Africa, Turkey, Uruguay, and Venezuela.

12 The countries were: Algeria, Bolivia, Cameroon, China, Colombia, the Dominican Republic, Ecuador, Egypt, El Salvador, Guatemala, India, Indonesia, Jordan, Morocco, Nicaragua, Paraguay, Peru, the Philippines, Sri Lanka, and Thailand.

worker effect. Khitarishvili's (2013) study of a sample of 28 Central and Eastern European and former Soviet Union countries provides evidence of the added-worker effect in 2010 because married women whose husbands lost their jobs increased their labor force participation by 10.5 percentage points.

3.7. Policies: labor market regulations and taxes

When discussing the effects of labor market regulations, it is important to remember that most studies on labor laws are set in developed countries, which likely have higher enforcement powers than developing countries.

Minimum Wage. Governments mandate minimum wages, targeted at low-wage earners, to assure these workers a basic standard of living. A higher minimum wage potentially creates incentives for women to participate in the labor market because it could make working for a wage relatively more attractive than home production (Boeri *et al.*, 2008). Since women tend to populate low-earning occupations, the regulations that affect minimum wages are particularly important to women. Moreover, minimum wage laws improve women's wages relative to those of men's because there are more women at the bottom of the wage distribution (Jaumotte, 2003).

The literature on the minimum wage has focused on its effects on employment; scant attention has been paid to its impact on labor force participation (Boeri *et al.*, 2008). Another limitation in the literature is that studies rarely consider employers' possible substitution of non-cash for cash compensation as a way of avoiding the minimum wage requirements (Boeri *et al.*, 2008). Regarding the effects of minimum wage on employment, Neumark and Wascher (2007) reviewed more than 100 empirical studies. Focusing on the most methodologically robust studies (85% of the total), they found a small negative effect of minimum wage on employment level. These results suggest that the minimum wage apparently has been set at a level modest enough to not have an important influence on female employment (Jaumotte, 2003).

Parental Leave. Maternity leave is a benefit provided by all the Latin American countries in our sample. In the majority of the countries, maternity leave benefits paid to the worker are financed mostly by governmental social security. In our sample, the countries that provided the longest maternity leave were Venezuela and Chile (18 weeks), while Honduras provided the shortest leave (10 weeks). In addition, paternity leave is provided by 8 of the 15 countries in our sample. Venezuela provides the longest paternity leave (14 days). Even when parental leave is funded by general tax revenue, the asymmetry between the lengths of

paid maternity and paternity leave generates a differential cost to employers when hiring men and women. This difference arises because with respect to the birth of a child, women are absent from their jobs longer than men, which means that the cost of hiring women is higher than the cost of hiring men.

A review of empirical studies on the effects of maternity leave in Europe, the United States, and Canada found that, over time, there has been an increase in women's labor force participation before childbirth, an increase in the probability that a woman returns to the same employer after maternity leave, and some negative effects on wages (Boeri *et al.*, 2008).

Blau and Kahn (2013) found that so-called family-friendly policies in OECD countries (*e.g.*, parental leave, part-time work entitlements, and childcare policies) increase female labor force participation and reduce the gender gap in labor force participation. The expansion of these policies explained about 28% of the decrease in U.S. women's labor force participation relative to the corresponding values in other OECD countries (Blau and Kahn, 2013). However, the types of jobs at which American women work differ from women's jobs in other OECD countries. Those policies seem to incentivize women to work part time and at lower level jobs compared to women in the United States (Blau and Kahn, 2013).

Taxes. Scholars generally agree that payroll taxes reduce formal employment in developing countries. In theory, the extent to which employment is influenced depends on how much of the amount (or proportion) of payroll tax can be passed on to the workers in the form of lower wages (Kugler and Kugler, 2009). The bulk of the empirical evidence concerns the effects of taxes on employment and wages; studies about the effects on labor force participation are rare and mostly set in developed countries.

Heckman and Pagés (2003) found that payroll taxation in Latin America tended to reduce employment and increase unemployment rates. In Colombia, for instance, a 10% increase in payroll taxes in 1993 reduced formal employment by between 4% and 5% (Kugler and Kugler, 2009).

Some countries, such as the United States, offer a lower effective income tax rate to married couples (compared to single individuals), which is linked to the joint taxation of the couple. However, most countries tax individuals' incomes. Guner *et al.* (2012) found through simulation exercises with U.S. data that a reform that changes taxation from joint filing by married couples (the current system) to separate filing (individual taxation) influences the labor supply. A transition from the current system to separate filing would increase the labor force participation of married women by about 10.4%, and it would increase by 18.1% for married

women with children. In the intensive margin, the aggregate hours worked by married women would increase by about 11.4%. The authors proposed that such a big change would occur because separate filing would greatly reduce the tax burden associated with female labor force participation (Guner *et al.*, 2012).

Using U.S.-based data, Eissa (2002) found that, after the Tax Reform Act of 1986, which reduced the marginal tax rate paid by high-income married women by about 40%, the labor supply of this category of women increased by about 90 hours per year. The hours worked elasticity of high-income women with respect to the after-tax wage was estimated to range from 0.6–0.8, with almost half of the total elasticity attributed to labor force participation (Eissa, 2002).

Similarly, van Soest and Stancanelli (2010) found that a transition from joint to separate taxation for married couples would increase women's labor force participation by 0.20 percentage points and their hours worked by 3.21%.

3.8. Policies: Conditional Cash Transfer (CCT) Programs

Conditional Cash Transfers (CCTs) are intended to help children build human capital through educational enrollment, consistent school attendance, and periodic health checkups. CCT programs target the poorest households, which are geographically located mostly in rural areas. The household member who receives the cash transfer tends to be the mother of the target child because policymakers generally believe that mothers are more likely than fathers to promote children's wellbeing based on their different preferences and priorities.

Mexico's *Progresa* (now *Oportunidades*) program is one of the first CCT programs in the world. It was launched in the 1990s, and there is evidence of its success at reducing poverty and increasing children's schooling. Since then, many other Latin American countries, such as Brazil, Nicaragua, Honduras, Guatemala, the Dominican Republic, Peru, and others, have implemented CCTs as part of their poverty reduction strategies.

Economic theory does not predict an unequivocal effect of CCTs on labor force participation. On the one hand, there might be a negative effect on labor force participation, which can be explained by three reasons. First, when people receive unearned income, they have less incentive to work (due to disincentives to work through an income effect). Second, compliance with the conditionalities that require school attendance and periodic health examinations may be time-consuming, which may reduce the amount of time available for work or leisure, particularly for women. For example, Parker and Skoufias (2000) found that

many women in the *Progresa* program reported spending their time transporting children to schools and clinics. Third, there may be a price effect: CCT beneficiaries may believe (correctly or incorrectly) that to remain eligible for a means-tested CCT program they need to work less to remain poor (Fiszbein *et al.*, 2009). On the other hand, CCTs can have a positive impact on labor force participation. First, as the program conditionalities require children to attend school, time that their mothers had previously allocated to child care becomes available for work outside the home. Second, when children attend school, they cannot work as much; this decreases household income and increases the demand for income (generated by work) from adult household members. However, the strength of this relationship depends on the children's unearned income relative to total household income.

This review focuses on the adult female labor supply, but it is important to describe the ways in which CCTs influence child labor because they have implications for human capital accumulation, and thus, future labor market outcomes. The condition of the CCT mandating school attendance reduces households' costs of schooling, which tends to increase the likelihood of schooling and the reduction of child labor (Parker and Skoufias, 2000). Moreover, mandating schooling as a condition may encourage parents to assign more value to education, and hence, decrease their children's labor. The fact that the CCT increases households' incomes necessarily lessens households' dependence on children's income from work and decreases the children's labor (Fiszbein *et al.*, 2009).

Empirically, most studies have found a reduction of child labor caused by CCT payments. Edmonds and Schady (2012) found that, in Ecuador's *Bono de Desarrollo Humano* program, a cash transfer of less than 20% of the median child labor earnings significantly reduced child labor activities. The children in households that were induced to participate in the program experienced reduced paid employment by about 78% and unpaid economic activities inside their home by about 32%.

Parker and Skoufias (2000) found that Mexico's *Progresa* program reduced child labor among older children, particularly boys. Overall work participation, including household work (chores), farm activities, and market activities, among boys aged 12–17 years significantly decreased by 4 percentage points from a pre-program level of 55%. This reduction in work participation correlates with the increase in school participation, providing positive evidence of the substitution of school for work in this setting. The *Progresa* program reduced 8–17-year-old girls' labor force participation by 1.3 percentage points from a pre-treatment level of 8.6% and reduced boys' labor force participation by 3.1 percentage points from a pre-treatment level of 22.4%. The largest reduction in girls' labor activities

was in the extent of their domestic work, which was about a 10% reduction in participation, although there was no a significant reduction in the number of hours spent doing domestic work. Similarly, an evaluation of the *Progresa* program conducted by Sadoulet *et al.* (2004)¹³ found that, for children aged 12–14 years, participation in *Progresa* reduced the probability that boys worked by 7 percentage points, on average, which represents a 23% decrease. For girls, the reduction was 6 percentage points, on average, which represented a 50% decrease.

Skoufias and Parker (2001) presented interesting findings about girls' schooling: the increase in school attendance due to participation in the *Progresa* program was much greater for girls than for boys, which is similar to the findings of other studies (*e.g.*, Sadoulet *et al.*, 2004). For 8–17 year olds, the average effect of participation in the *Progresa* program on school attendance for girls was almost twice that of boys (a 4 percentage point increase for girls versus a 2.2 percentage point increase for boys). For girls aged 12–17, the *Progresa* program increased school attendance by 7 percentage points (about a 14% increase), up from the pre-program level of 51%.

3.9. Policies: subsidies to child care

Many countries around the world, including those in Latin America, have increased provisions of subsidized child care. The evidence regarding the effects of these programs on labor supply is usually positive but heterogeneous. Childcare facilities can be provided through childcare subsidies, as in Sweden (Lundin, Mörk, and Öckert, 2008) and Norway (Havnes and Mogstad, 2011); by building new childcare centers, as in Argentina (Berlinski and Galiani, 2007) and Chile (Medrano, 2009); or by providing after-school care, as in Switzerland (Felfe, Lecher, and Thielman, 2013).

Subsidized childcare services have positive effects on labor supply, but these results are difficult to generalize. Akgunduz and Plantenga (2011) argued that the elasticity of childcare prices has an inverted U-shape that depends on the initial characteristics of each country. They theorized that a reduction in childcare costs might not have significant effects in countries with low female labor force participation or in countries already having high female labor force participation rates. Countries having high rates of female labor force participation before

13 Sadoulet *et al.* (2004) pointed out that their coefficients are consistent with the findings of Skoufias and Parker (2001), although they are slightly larger. The reasons for the difference are that Sadoulet *et al.*'s (2004) analysis controlled for child fixed-effects, estimated *Progresa*'s impact in each round instead of for each year, and estimated the impact on the round in 2000 after the control group was incorporated.

implementation of a childcare program do not have much room for improvement. Lundin *et al.* (2008) found that, in Sweden, a considerable reduction in public childcare prices did not translate into an increase in female paid labor, mainly because Sweden has been a frontrunner in providing public child care since the 1960s and has had consistently high levels of mothers' labor supply. However, countries with low labor force participation may have some characteristics that prevent significant changes related to these policies. These countries tend to have traditional norms and/or rigid institutions that would prevent the program from generating a large effect. Del Boca and Vuri (2006) emphasized that, in Italy, the presence of a high-quality childcare system did not translate into a higher probability of employment. They argued that Italy's rigid labor market, with most of its employment being full-time, is incompatible with a childcare system that offers partial coverage during the day.

Childcare programs should have a greater effect in countries with relatively low labor force participation and with labor markets that are somewhat flexible. Childcare subsidies can liberate mothers to enter the labor market. The provision of less expensive child care has been found to positively influence female labor force participation in Canada (Lefebvre, Merrigan, and Verstraete 2009), France (Goux and Maurin, 2010), Argentina (Berlinski and Galiani, 2007; Berlinski, Galiani, and McEwan, 2011), and Germany (Bauernschuster and Schlotter, 2013). Childcare policies also are associated with long-term effects in countries such as Canada (Lefebvre *et al.*, 2009) and Spain (Nollemberg and Rodrigues-Planas, 2011). The reduction of time spent outside the labor force leads to better opportunities to find a job and better long-term prospects for the mother.

Scholars believe that the main driver of these positive results is the behavior of some subgroups of women, particularly women with children, who, in the absence of the program, would face much higher childcare costs. Cascio (2006) found a positive effect of public schooling on maternal labor supply among single mothers with young children but not on married mothers. In general, studies on countries like Canada (Lefebvre *et al.*, 2009) and France (Goux and Maurin, 2010) have found that the specific targets of childcare subsidies are vulnerable population groups, including single and relatively less-educated mothers.

3.10. Preferences: culture and religion

A society's prevailing values and its ideas about women's roles are influenced by culture (and sometimes by religion). These factors can shape women's preferences and aspirations, thereby influencing their decisions regarding labor force participation.

Culture. Culture can be defined as a set of preferences and beliefs. Economists have worked to rationalize the ways that culture and gender roles influence women's labor force participation. The economics of identity aim to study culture and preferences in an economic theory framework, specifically the ways that identity, or a person's sense of self, influences economic outcomes. For example, Akerlof and Kranton (2000) argued that women tend to dominate jobs that match female gender characteristics, and they avoid male professions because of male gender associations. Similarly, men tend to avoid so-called women's professions. These scholars propose that the U.S. women's movement of the 1960s and 1970s included goals to deconstruct societal notions of femininity and disengage gender from tasks, both in the home and the workplace. The social changes resulting from that movement lessened women's gains in identity from homemaking and lessened their identity loss from working at a so-called man's job, both of which increased female labor force participation and decreased occupational gender segregation. In this identity theory of gender in the workplace, the decrease in occupational gender segregation between 1970 and 199 in the United States can be interpreted as primarily having been caused by the widespread changes in social norms related to gender.

Social attitudes toward working women influence married women's labor force participation. Fernández (2013) studied the function of cultural changes generating the sharp increase in married women's labor force participation in the United States during the twentieth century. She modeled the changes in culture as emerging from a learning process, in which married women compared the benefits of increased consumption from labor earnings with the anticipated utility cost of working. Her model generated a time-based trend of married women's labor force participation that correlates with the historical path observed in the US over the past 120 years.

Studying the descendants of immigrants helps isolate the effects of other factors while examining culture's particular role in decisions about participation in the labor market. For example, second-generation Americans share economic and institutional characteristics with their fellow Americans; however, they do not necessarily share the mainstream culture because they are likely influenced by their parents' cultural preferences and beliefs from the country of origin. Fernández and Fogli (2009) exploited this idea by exploring culture's role in determining the work outcomes of second-generation American women. The authors employed the 1970 U.S. census and used the female labor force participation rates for 1950 and the total fertility rates of the parents' countries as proxy measures of cultural preferences and beliefs about women's roles. The results indicated that women whose parents were born in countries where women had relatively higher participation in the workforce tended to work more. A one standard deviation increase in labor force participation in 1950 was associated with a nearly 7.5% increase in the numbers of hours women worked per week in 1970.

A married woman's decision to work may be influenced by her husband's preferences and belies gender roles. Fernández *et al.* (2004) found that the probability that a man's wife was in the labor force was correlated with whether his mother had worked, controlling for background characteristics. They further found that the probability that a married woman was in the labor force full-time was about 24–32 percentage points higher when her husband's mother had worked for at least one year when he was a child. In addition, they found an intergenerational channel such that a one-week increase in the average female labor supply led to an increase of 1.67 weeks worked by females in the next generation. Similarly, Del Boca *et al.* (2000) found that when the husband became unemployed, the wife's employment response was mediated by her attitudes toward work, which were proxied by whether the wife's mother had worked or her mother-in-law had worked at her age. From this perspective, cultural norms present an obstacle to overcoming poverty. If the cultural beliefs that women should not work outside the home are strong and the household is poor, their effects are likely to make it difficult for the household to overcome poverty. Notwithstanding the type of economic shock that may hit a poor household, the wife would remain unlikely to enter the labor force.

Religion. Religion carries its own set of preferences and beliefs that potentially influence women's decisions about participation in the labor force. Religion is of particular interest in Latin America because it is a traditionally Catholic region where the church has an important and strong influence on daily life. Considering the 15 countries in our sample, on average, about 72% of the population of each country is reportedly Catholic. Guiso *et al.* (2003) analyzed data from 66 countries and found that religious people tended to have less favorable attitudes toward working women. In Latin America, there is a slightly negative relationship between labor force participation and the size of the practicing Catholic proportion of the population. Indeed, the highest rate of female labor force participation exists in the country with the lowest proportion of practicing Catholics.

Women's Labor Participation Differs by Faith. Studies have found that Protestants tend to work more hours, on average, than people of other religions. Pastore and Tenaglia (2013) used data from European countries and found that active Catholic women tended to work fewer hours than the average, and non-active Protestant women tend to work more hours than the average. They further found a strong negative association between the proportion of individuals belonging to the Catholic Church and the proportion of women participating in the labor force. Feldmann (2007) examined data from 80 countries to investigate whether the Protestant religion influenced labor market outcomes and found that the countries in which the majority of the population practiced Protestantism had significantly higher labor force participation rates, particularly among women. Compared to countries dominated by other religions, labor participation rates

in Protestant-dominated countries were between 11 and 12.8 percentage points higher, adjusting for other factors that influence labor market outcomes, such as labor laws, GDP growth, and so on. The Protestant virtue of hard and diligent work seems to have become part of national culture in places where Protestantism dominates (Feldman, 2007).

Ultimately, the decision to participate in the labor market is influenced by both culture and religion, among other factors in the social environment. It is challenging to disentangle the effects of one from the others because they are deeply interrelated in people's lives. The dominant religion of a country, particularly religions with historical traditions, can shape the national culture and influence even those who practice minority religions. Religious values are transmitted from generation to generation—not always in the form of deep convictions but rather as a force of habit (Guiso *et al.*, 2003).

4. An assessment of the relative importance of the determinants

To assess the relative merits of the various explanations for female labor force participation, two independent strategies were undertaken. First, portions of the literature were summarized and analyzed with measures of changes in some determinants of the labor supply. Second, household data were analyzed with policy variables to reveal correlates between the determinants of these explanatory variables.

4.1. Meta-analysis

A literature search was conducted between September 2014 and March 2015. To avoid publication bias, published and unpublished papers were searched in several databases¹⁴ using a predefined set of keywords.¹⁵ The criteria that determined study inclusion were as follows: (1) Papers that provided estimations of causal effects of a given determinant on the extensive or intensive margins of labor supply were included, and (2) the chosen studies were required to provide sufficient information to compute effect sizes. Studies were excluded when (1) they were unrelated to labor force participation and instead examined employment or unemployment

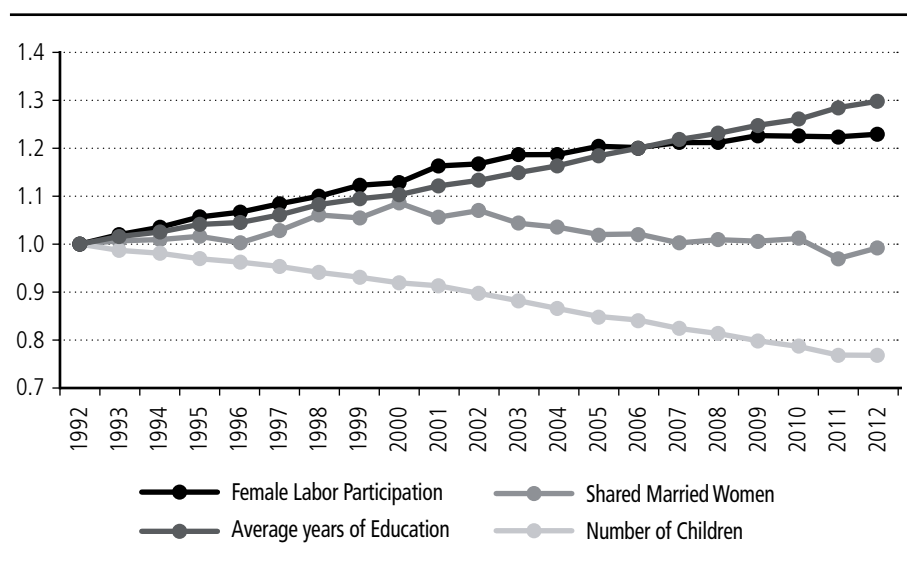
14 These included Econlit, JStor, Repec, SSRN, NBER, AEA, Google Scholar, the Inter-American Development Bank working papers series, and the World Bank databases.

15 The keywords included “female” (“labor supply,” “labor force participation,” or “hours worked”) and a set of words (listed in Figure 6.1) related to the determinants of labor supply.

status outcomes, (2) they were theoretical papers, (3) the estimation methods employed therein did not distinguish among the effects of the covariates on the outcome, (4) they were book reviews, policy recommendation reports, or strictly descriptive analyses, and (5) they were non-quantitative research reports. These restrictions meant that some topics were excluded from the meta-analysis (such as education, discrimination, and preferences), and some of the papers discussed in the previous section were excluded.¹⁶

Figure 6.6 shows the evolution of the average female labor force participation in Latin America, educational attainment (years of education), marriage rates (the proportion of women living with a spouse or partner in the total population), and fertility (total number of children), between 1992 and 2012. All the series are normalized to one in 1992. Education increased in tandem with labor force participation, marriage generally remained constant, and fertility declined. Tables 6.2a and 6.2b in the Appendix provide a set of disaggregated statistics on these possible determinants of labor force participation.

**Figure 6.6: Labor supply and joint decisions variables
Latin America, 1992-2012**



Source: own calculations based on microdata from national household surveys.

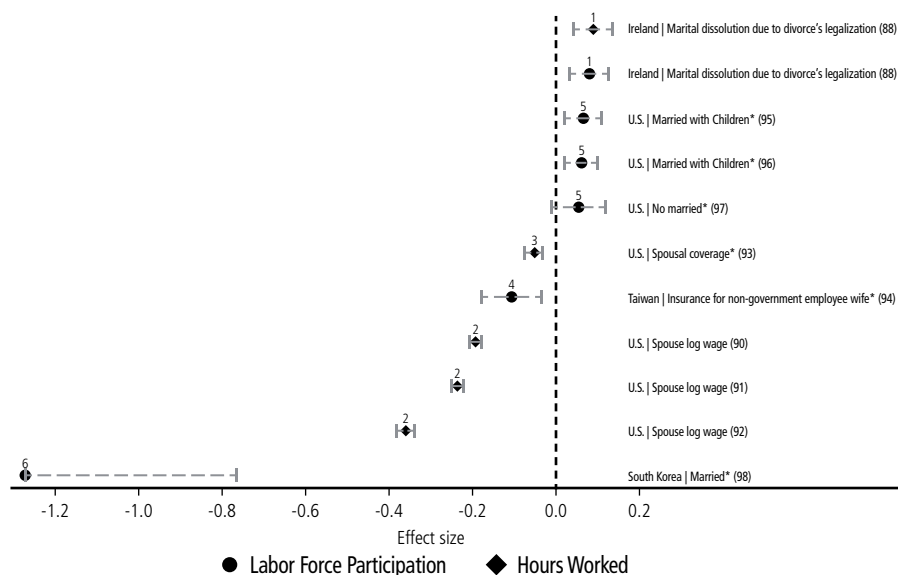
Note: All index series are normalized in terms of the first year (1992).

¹⁶ These include, for example, Aguero and Marks (2011), Berlinski and Galiani (2007), Cristia (2008), Cruces and Galiani (2007), Del Boca (2015), Dinkelman (2011), Galiani and McEwan (2013), Grogan and Sadanand (2012), Klonner and Nolen (2010), and Lehman (2014).

The analysis did not estimate causal effects of educational attainment on labor supply. However, it should be noted that, in Latin America, countries have continually and substantially expanded access to basic education since the beginning of the twentieth century. A large part of that expansion has been driven by policies related to education per se and not the female labor supply (Bassi, Busso, and Muñoz, 2015). Accordingly, it is likely that improved access to education is one of the drivers of higher rates of female labor force participation.

Figure 6.7 presents the effect sizes of the meta-analysis of the marriage-related variables on labor supply. Each data point (the diamond shapes within the figure) shows an effect size; that is, it illustrates the percentage change in labor supply divided by the percentage change in the dependent variable. Figure 6.7 shows a 95% confidence interval for each effect size. The legend on the right-hand side of the graph in Figure 6.7 provides information about the country in which the study was conducted, the identity of the independent or dependent variable that underwent a change, and a number within parentheses associated with Table 6.3 in the Appendix, indicating details of additional studies as references.

Figure 6.7: Effect sizes of marriage on female labor supply



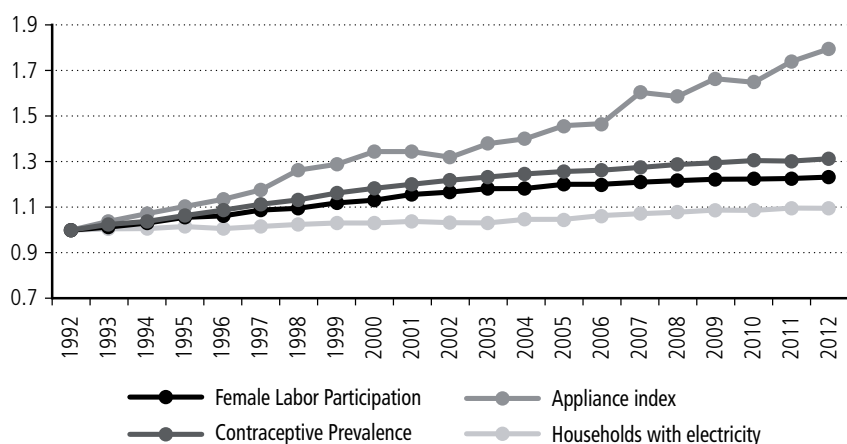
Source: own calculations based on literature analysis.

Note: * Semi-elasticity, ** Because of scale the lower IC of paper number 98 is not shown.

Spousal wages and healthcare coverage were negatively related to labor outcomes, and an increase in the risk of divorce was associated with an increase in female labor force participation. Those results are consistent with the analyses of the mechanisms described in Section 3, where we noted that the research literature tends to find small or weak effects of changes in marriage rates on female labor supply and positive associations of divorce on female labor force participation. These facts, together with the observation that marriage rates have changed little in the region, suggest that marriage-related variables cannot completely explain the long-term observed trends in female labor supply in Latin America.

Figure 6.8 presents the evolution of female labor force participation with three selected technology variables: prevalence of contraception (health technology), use of appliances in the home (home technology), and availability of electricity (home technologies). Access to health and home technologies has increased in Latin America. The reasons previous studies found a negative effect of childbearing and a positive effect of delaying childbearing on the female labor supply were discussed in the literature review (see Section 3.4). It was concluded that the studies found significant effects of health technologies on the labor supply. In particular, access to and use of contraceptive methods (*i.e.*, the pill) has likely had a positive effect; access to technologies that save time during a child's infancy (*i.e.*, formula) has likely also had a positive effect on the labor supply. Access to abortion, however, is an unlikely explanation in the Latin American context because it is illegal in most Latin American countries.

**Figure 6.8: Labor supply and technology variables
Latin America, 1992-2012**

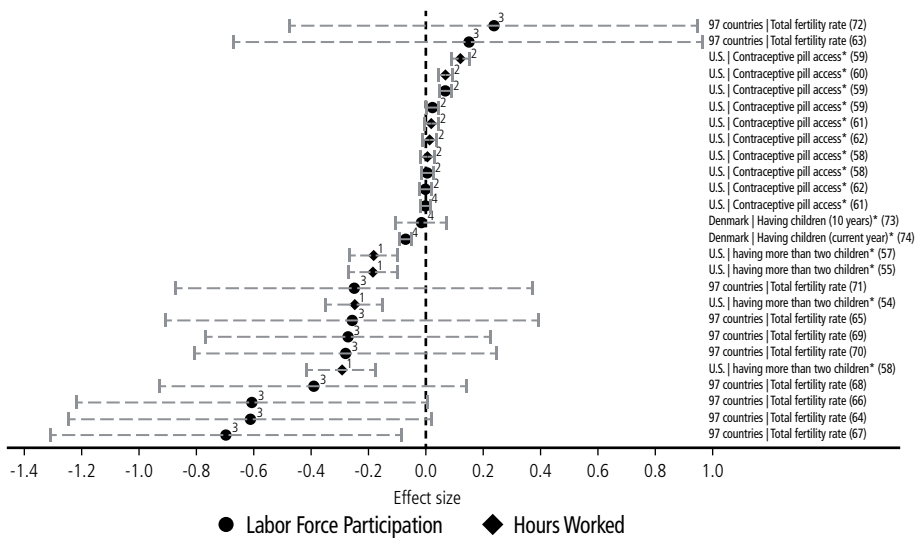


Source: own calculations based on microdata from national household surveys.

Note: All index series are normalized in terms of the first year (1992).

Figure 6.9 presents the effect sizes of changes in fertility and health technology variables on the female labor supply. The figure illustrates that, generally, there apparently is a negative relationship between the total fertility rate and the female labor supply with, sometimes, very large effect sizes. Additionally, access to health technology apparently has a positive effect on labor outcomes. These findings, together with the observations that fertility rates have declined and access to health technology has increased in Latin America, suggest that these two causal variables might explain an important part of the increase in labor supply.

Figure 6.9: Effect sizes of fertility and health technologies



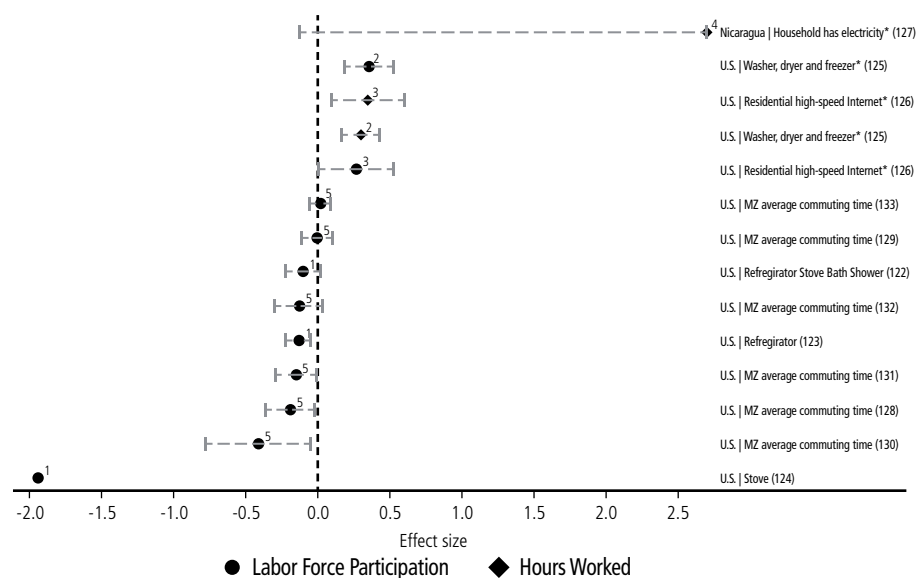
Source: own calculations based on literature analysis.

Note: * Semi-elasticity.

Figure 6.10 presents the effect sizes of changes in home and work technology variables on the female labor supply. Generally, the effects are small and vary in direction. As pointed out by Goldin (2014), work technologies that allow for flexible working hours have not yet changed significantly in developed countries, and it is very likely that they have not changed in Latin America. Thus, we give little credibility to that explanation. However, the use of home technologies has dramatically changed. Even so, the effect sizes appear to be on the lower side of the distribution. Therefore, these factors probably do not explain much of the increase in the female labor supply since 1990. Some studies have found positive changes in women's labor activities after increased access to specific time-saving home

appliances (washer, dryer, and freezer). Access to public services, such as electricity and in-home high-speed Internet, has been associated with increases in women's labor force participation. Similarly, Black, Kolesnikova, and Taylor (2007) found a negative relationship between commuting time in U.S. metropolitan areas and women's labor force participation. Despite the small effect sizes, it is reasonable that access to home technologies might explain some portion of the increases in female labor force participation before the 1990s, when most of the innovations and expansions in electricity occurred in Latin America. It might also explain why the labor supply gap between poorer and richer households shrunk: the former are usually the last to incorporate technological advancements in their households.

Figure 6.10: Effect sizes of home and work technology



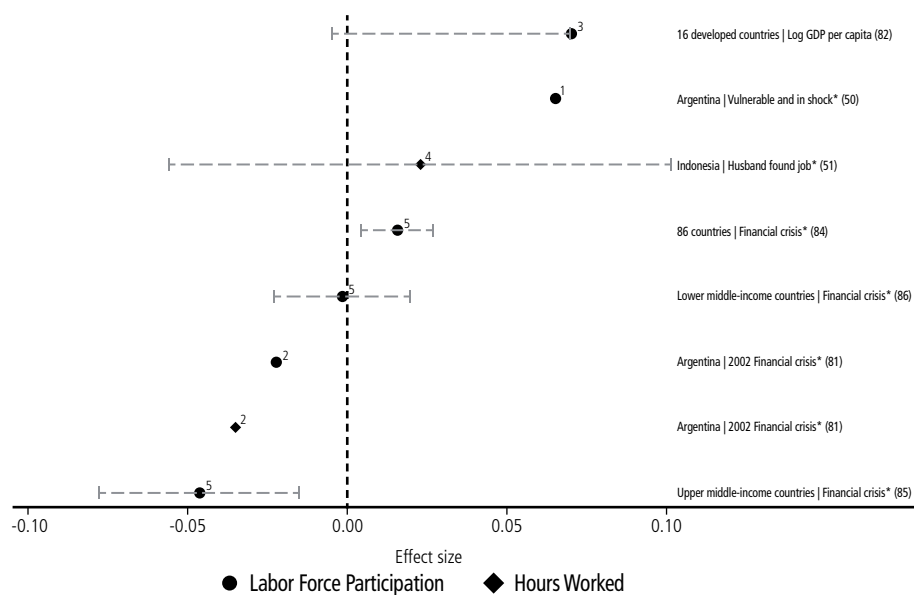
Source: own calculations based on literature analysis.

Note: * Semi-elasticity, ** Because of scale the upper IC of paper number 127 is not shown.

Figure 6.11 shows the effect sizes of changes in macroeconomic conditions on the labor supply. The effects are generally small, and as the literature review revealed, macroeconomic conditions vary in the short term and are more likely explanations of cyclical changes than of long-term trends in the female labor supply. However, macroeconomic variables are positively related with female labor force outcomes. Olivetti (2013) found a positive relationship between GDP and labor force participation. Being in a financial crisis was associated with a decrease

in women's labor force participation, and in developed countries, recovery from macroeconomic shocks was associated with an increase in female work hours.

Figure 6.11: Effect size of changes in labor returns (macroeconomic conditions)



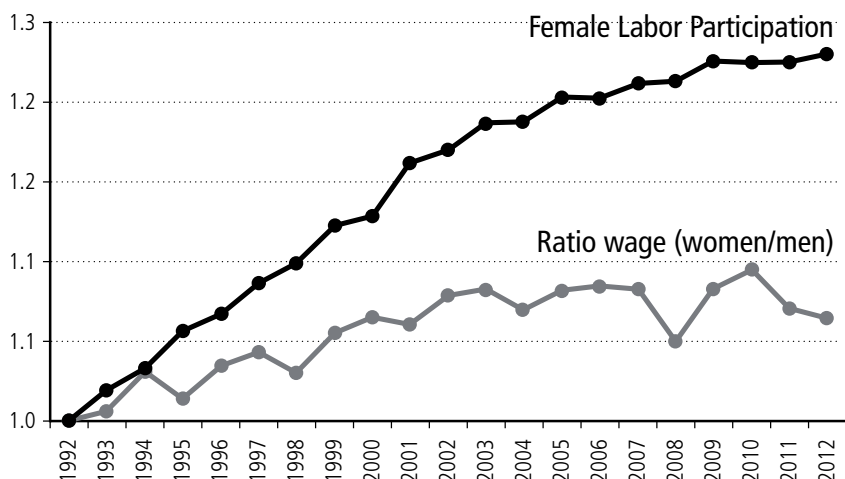
Source: own calculations based on literature analysis.

Note: * Semi-elasticity, ** Because of scale the upper IC of paper number 82 is not shown.

Figure 6.12 describes the evolution of the female labor supply compared to the ratio of female to male wages (a crude measure of labor market discrimination). During the past 20 years, this type of discrimination has decreased, although the decline has stagnated recently. There are no studies estimating the extent to which a decrease in the wage gap influences the female labor supply. As the literature review suggested, the effects of discrimination on the female labor supply operate via a number of channels. The most obvious one is that discrimination changes the comparative advantage of men and women to work outside the home. Therefore, it is expected that changes in discrimination would increase female labor force participation.

Figure 6.13 describes the evolution of the female labor supply in contrast to a set of policy variables. Preschool enrollment has dramatically increased in the region. In addition, the number of CCT beneficiaries has tripled since the early 2000s, and tax compliance has increased in the past decade.

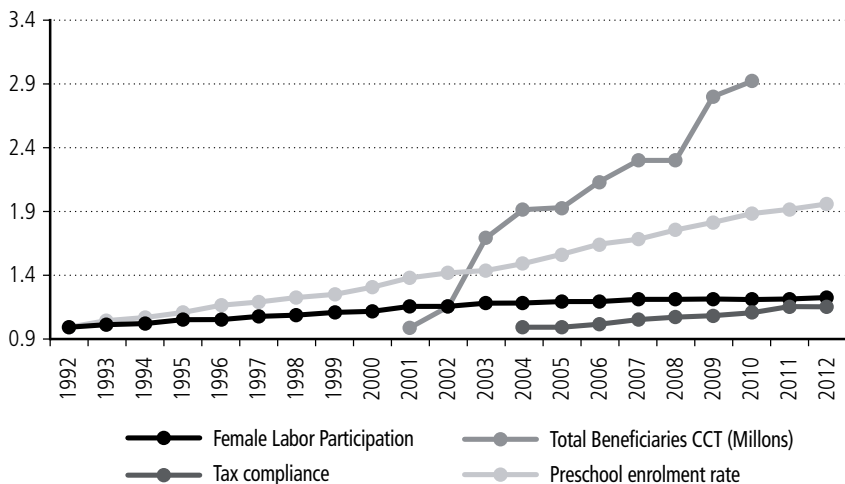
Figure 6.12: Labor supply and labor returns (discrimination)
Latin America, 1992-2012



Source: own calculations based on microdata from national household surveys.

Note: All index series are normalized in terms of the first year (1992).

Figure 6.13: Labor supply and policy variables
Latin America, 1992-2012

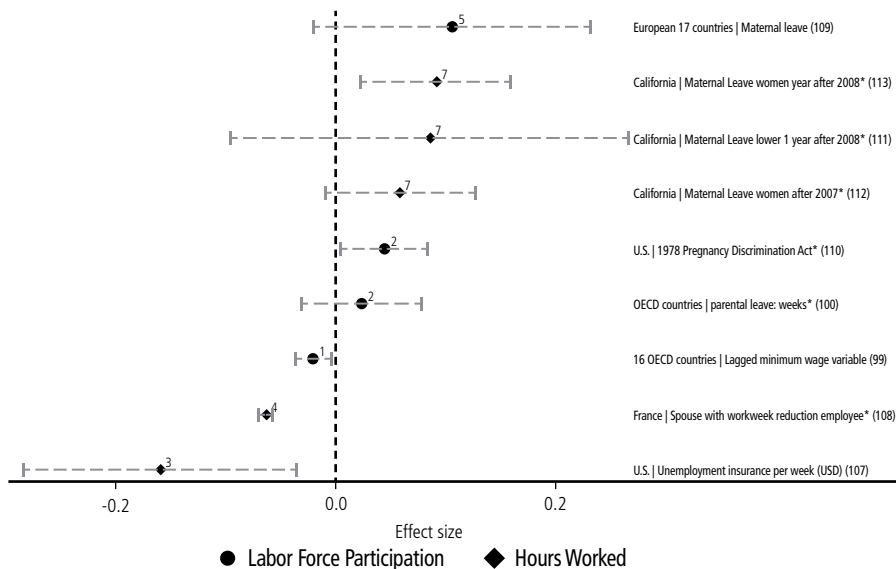


Source: own calculations based on microdata from national household surveys.

Note: All index series are normalized in terms of the first year: 1992 for Female Labor Participation and preschool enrolment rate, 2001 for CCT beneficiaries, and 2004 for tax compliance.

Figure 6.14 shows the effect sizes of changes in labor laws on the female labor supply. The results of empirical studies suggest that the effects of labor laws are mixed, with some finding that maternal leave is associated with an increase in women's labor force participation, and others finding that other policies, such as unemployment insurance or the minimum wage, are negatively associated with women's labor force participation (see Section 3.7). Regardless, the effects appear to be small.

Figure 6.14: Effect size of labor regulations on female labor supply



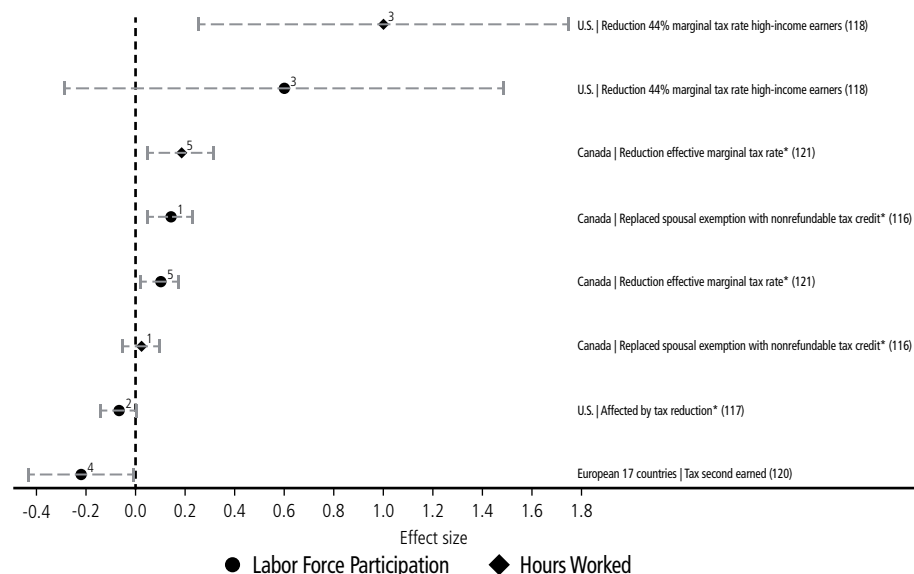
Source: own calculations based on literature analysis.

Note: * Semi-elasticity.

Figure 6.15 shows the effect sizes of changes in taxation on the female labor supply. There is a positive relationship between tax reduction and female labor supply across a wide range of studies. Countries where these changes have been implemented (*e.g.*, the United States and Canada) have experienced an increase in female labor force participation (see Section 3.7).

As Figure 6.13 illustrates, CCTs have become very popular in Latin America. Figure 6.16 summarizes the effect sizes of CCTs on the female labor supply. The analysis of the literature on the effects of the programs showed that the actual effect of CCTs on labor force participation must be empirically tested.

Figure 6.15: Effect size of taxes on female labor supply

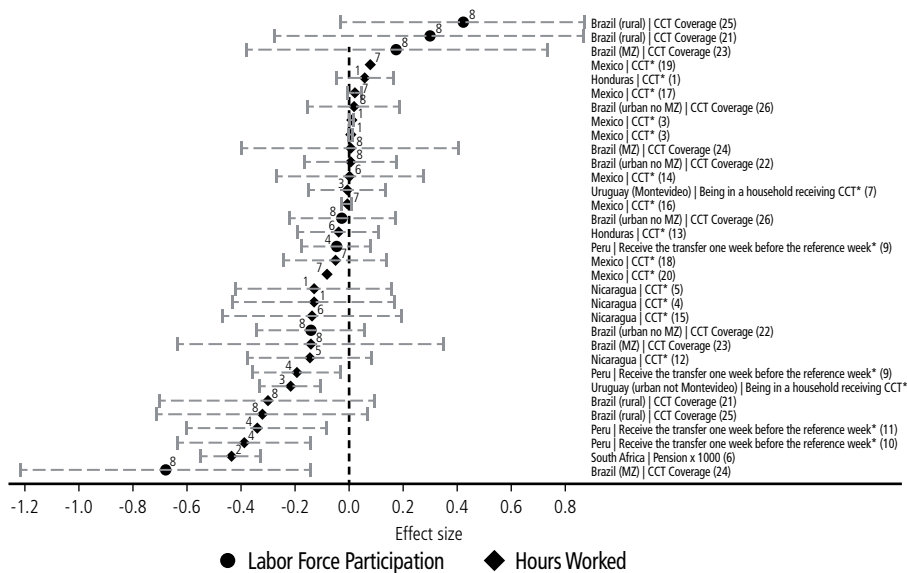


Source: own calculations based on literature analysis.

Note: * Semi-elasticity.

In the United States, the potential disincentives were the main reasons for the so-called welfare reform (Fiszbein *et al.*, 2009). In Latin America, one set of impact evaluations of CCTs on the female labor supply mostly found small and insignificant effects. Regarding Mexico's *Progres*a program, there were no statistically significant effects on women's labor force participation and hours worked (Alzúa *et al.*, 2012; Parker and Skoufias, 2000; Skoufias and di Maro, 2006). Nicaragua's CCT program, *Red de Protección Social*, also had no effect on female labor force participation or number of hours worked (Maluccio and Flores, 2005). Another set of more recent evaluations found small negative effects. In Honduras, Novella *et al.* (2012) found a very small decrease in maternal labor participation (about 3 percentage points). Fernández and Saldarriaga (2014) found a negative effect on female labor force participation in Peru. Similarly, three studies on Nicaragua found negative impacts of CCTs on the number of hours worked. A similar negative effect was found in Uruguay. Gasparini *et al.* (2015) found that an income transfer program in Argentina created a small disincentive for female labor force participation. Finally, only one study found a small positive effect on the number of weekly hours worked (about 0.5 hours) by female beneficiaries of *Progres*a in Mexico (Alzúa *et al.*, 2012).

Figure 6.16: Effect size of CCTs on female labor supply



Source: own calculations based on literature analysis.

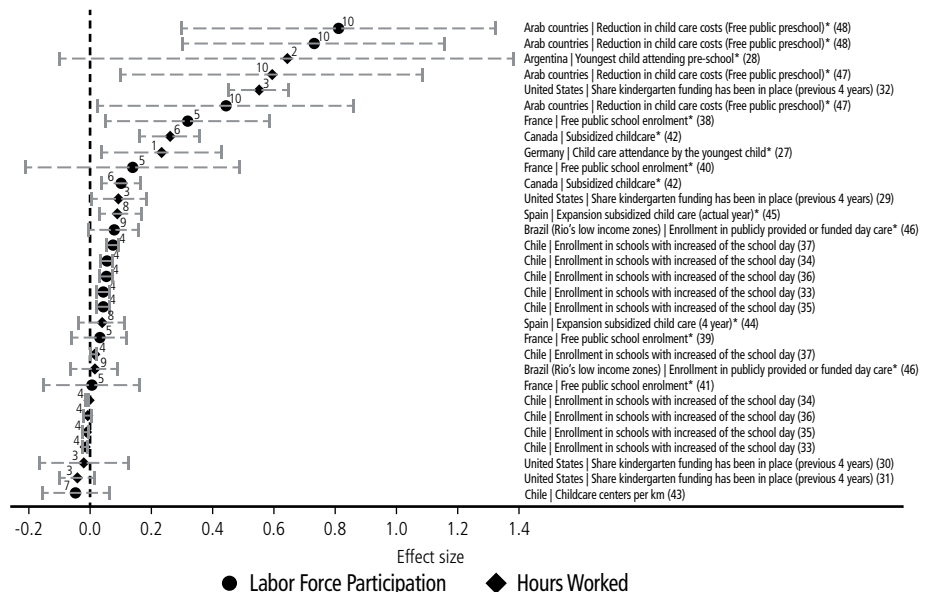
Note: * Semi-elasticity.

Most of the effect sizes reported in Figure 6.16 cannot reject an effect of zero, although most of the estimates tend to be negative. Fiszbein et al. (2009) proposed that the very small or entire lack of effects of CCTs on the adult labor supply could be attributed to the very low-income elasticity of leisure among poor households (the recipients of CCTs). Another reason could be that fulfilling the conditionalities creates costs for the household that equal or are higher than the amount of the transfer. In addition, it may be that the transfers received by the households are perceived to be so temporary that the recipients do not believe there is a reason to change their labor supply behaviors. These mechanisms should operate differently over time. As CCT programs mature, program beneficiaries become accustomed to satisfy the conditionalities, and the cost of doing so decreases over time. Similarly, they start perceiving the transfer as permanent rather than temporary, allowing the income effect to dominate. In addition, Ribas and Veras (2011) found that a differential impact of receiving the transfer depended on place of residence. Although transfers negatively influenced women's labor supply in urban areas, women's labor supply in rural areas reacted positively. CCT programs typically start in rural areas and later expand into urban areas; with time, the negative effect on labor supply should dominate. In sum, it is likely that the expansion of CCTs in the region did not

cause a decrease in labor force participation when the programs were launched; however, the expansion seems to have halted the positive trend in female labor force participation in Latin America.

On the other hand, preschool expansion is likely to have increased women's participation in the labor force. Figure 6.17 summarizes the effect sizes of access to child care on the female labor supply.

Figure 6.17: Effect sizes of child care on female labor supply



Source: own calculations based on literature analysis.

Note: * Semi-elasticity.

The empirical studies tend to find a positive and relatively large effect on labor force participation or the number of weekly hours worked.¹⁷ Considering these results together with the expansion of the childcare provision in Latin America, it is reasonable to conclude that the expansion of these services has encouraged women to enter the labor force.

17 However, there are some exceptions. Contreras et al. (2010) found that extending the length of the school day reduced the number of hours worked by women in Chile. Using data for the United States, Cascio (2006) found that public preschools for 5–6 year old children did not affect the labor supply of mothers with eligible children. The only effect is on more vulnerable populations.

4.2. Correlates of female labor supply

Examining correlations in the data is an alternative method for studying the relative importance of the determinants of female labor supply. To do so, a panel dataset of 15 countries was built for the period 1990–2010 and correlations were estimated using Ordinary Least Squares in the following model:

$$\Delta Y_{ct} = \theta \Delta Z_{ct} + \beta X_{ct} + \eta_c + \varepsilon_{ct}$$

where ΔY_{ct} is the annual change in the outcome Y_{ct} of country c in year t , ΔZ_{ct} is the change in a plausible determinant of the female labor supply, X_{ct} is a vector that includes indicator variables for extrapolation and methodological changes in the surveys, and ε_{ct} is the error term. Two outcomes of Y_{ct} were examined: female labor force participation and average total numbers of hours worked by women. In addition, these measures were disaggregated by different characteristics (income, education, children in the household, and household structure).

The vector Z_{ct} includes: (1) the log of the average number of years of education, (2) the proportion of married women (or women living with a partner) aged between 18 and 55 years, (3) the log of the women's average number of children, (4) the log of fulltime wages, (5) the ratio of female to male wages, (6) the average age of children in the household, (7) the percentage of women responsible for an elderly person, (8) an index of children attending school,¹⁸ (9) an index of appliances in the household,¹⁹ (10) the percentage of married women that use contraception, (11) the percentage of non-practicing Catholics in the country, (12) GDP growth, and (13) an indicator variable of the presence of any CCT program in the country. Table 6.4 of the Appendix provides complete detail on the loading factors of the variables that were built using factor models. The standard errors were clustered at the country level. Table 6.5 shows the results.

Education is positively related to female labor force participation, particularly for women in higher income households, single women, and women with young children. Marriage is not significantly correlated with participation. An increase in fertility tends to reduce participation, on average. This negative effect is present in all groups of women, except those in the first quintile of the income

18 This index is based on a factor model that included the percentage of households with children enrolled at school, the net enrollment rates at preprimary and primary schools, and the gross enrollment rate at secondary schools. Table 6.4 of the Appendix provides details on the estimations and properties of these indices.

19 This index was created using a factor model that includes the percentage of households with various appliances (e.g., washing machine, car, motorcycle, and electricity).

Table 6.5: Correlates of the change in female labor force participation
Panel dataset: 15 Latin American countries, 1990 -2010. Women aged 18-55.

Covariates	LFP by Income			LFP by Women Education			LFP by Women with children			LFP by Household structure		
	Labor Force Participation	Quintil 1	Quintil 5	Less than complete secondary	Secondary complete	Tertiary Complete	At least 1 child age 0	At least 1 child age 0 to CFA	No children or children older than CFA	Nuclear Household	Single headed Household	Total Worked Hours
Education												
Ln (Years of Education)	12.597* (12.127)	-7.149 (12.890)	21.333* (11.826)	--	--	--	16.104* (9.273)	8.554 (7.285)	5.978 (7.853)	8.994 (7.547)	15.865** (7.775)	-1.886 (8.769)
Marriage & Fertility												
Shared married women 18-55	-0.011 (0.015)	0.010 (0.035)	-0.038 (0.028)	0.006 (0.018)	-0.017 (0.020)	0.024 (0.025)	-0.041* (0.024)	-0.012 (0.020)	0.008 (0.020)	-0.018 (0.017)	0.024 (0.016)	0.035 (0.038)
Ln (Number of children)	-20.599*** (6.523)	25.513* (14.703)	-37.742*** (9.751)	-9.834 (8.445)	-13.370 (8.551)	-6.938 (7.951)	-21.159** (9.662)	-16.530** (8.098)	-21.637*** (7.364)	-15.178** (7.507)	-21.512*** (7.104)	7.046 (6.993)
Labor Market Returns												
Ln (Wages full time)	1.568 (1.875)	-2.381 (3.618)	7.299*** (2.596)	-0.617 (2.369)	0.661 (2.330)	3.021 (2.813)	1.453 (2.755)	0.473 (2.441)	2.320 (1.899)	1.315 (2.194)	1.306 (1.663)	-2.942 (2.431)
Ratio wage women/men	2.608 (2.942)	5.983 (4.258)	4.722 (4.034)	2.264 (3.336)	-0.218 (3.678)	4.494 (3.900)	6.538* (3.498)	3.780 (3.276)	3.493 (3.254)	2.649 (2.887)	1.209 (3.050)	-2.833 (2.839)
Home Returns												
Children in the school (Factor)	1.149 (0.785)	2.441 (1.573)	1.374 (1.050)	1.436 (0.938)	0.765 (0.977)	0.402 (1.168)	1.884* (1.074)	1.597* (0.935)	1.122 (0.909)	1.322 (0.837)	0.041 (0.860)	0.242 (1.147)
% women in charge of old person	-0.272 (0.194)	-0.217 (0.326)	-0.332 (0.278)	-0.388* (0.231)	-0.267 (0.207)	-0.226 (0.257)	-0.279 (0.261)	-0.393** (0.187)	-0.488** (0.190)	-0.228 (0.209)	-0.418** (0.193)	-0.076 (0.300)
Average age children at households	2.502* (1.369)	-3.364 (2.583)	4.798** (2.068)	1.316 (1.687)	4.324** (1.703)	0.526 (1.438)	2.303 (1.651)	1.953 (1.387)	2.522* (1.488)	1.457 (1.495)	2.416** (1.172)	-0.615 (1.444)
Household Technology												
Appliances in the household (Factor)	1.294* (0.751)	-0.969 (1.175)	2.873 (1.869)	0.378 (0.736)	0.909 (0.999)	0.938 (1.396)	1.703 (1.115)	0.922 (0.815)	0.641 (0.932)	1.220* (0.720)	0.293 (1.144)	1.546 (0.965)
Health Technologies												
% women married/union using modern contraceptive methods	0.382** (0.162)	1.007** (0.402)	-0.073 (0.310)	0.488** (0.201)	0.320 (0.231)	0.086 (0.246)	0.369 (0.246)	0.618*** (0.195)	0.508*** (0.186)	0.474** (0.186)	0.064 (0.215)	0.283 (0.186)
Culture												
Percent non-practising catholic	0.029 (0.028)	0.066 (0.054)	0.012 (0.043)	0.035 (0.033)	0.062** (0.029)	-0.004 (0.028)	0.036 (0.038)	0.028 (0.031)	0.044 (0.032)	0.024 (0.030)	0.047 (0.029)	-0.001 (0.037)
Macro												
GDP growth (annual %)	-0.033* (0.019)	-0.128*** (0.044)	0.022 (0.039)	-0.043* (0.024)	-0.012 (0.022)	-0.034 (0.023)	-0.064** (0.027)	-0.024 (0.024)	-0.021 (0.022)	-0.044** (0.021)	0.008 (0.026)	0.007 (0.022)
Policy												
=1 with CCT program	-0.609 (0.553)	0.094 (0.967)	-0.420 (0.819)	-0.353 (0.665)	-0.834 (0.557)	-0.223 (0.568)	-0.726 (0.836)	-0.571 (0.763)	-0.494 (0.546)	-0.496 (0.592)	-0.864 (0.642)	-1.562 (1.479)

Source: own calculations based on microdata from national household surveys.

Notes: Each entry shows an estimate of the regression coefficient of a model of the annual change in female labor participation on each individual covariate. The table presents three main female participation measures: rate of women's labor participation, average total worked hours by women and percent women in part-time jobs. The table shows disaggregation of rate of female participation in population groups, such as: quintile of income, education, number of children, and household structure. Differences model includes fixed effects by country. CSA refers to children's legal starting school age and CFA refers to legal children's finishing school age, for more details see Bassi, Busso, and Muñoz (2015). Robust standard errors clustered by country are reported in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

distribution. An increase in wages and a reduction in discrimination apparently induce women to be in the labor force, although the effects are not statistically significant. When children attend school, women tend to work more than when children are not attending school, suggesting that the expansion of preschools and schools in Latin America may have played an important part in the increase of the female labor supply. Moreover, a higher prevalence of home appliances in the household is associated with higher participation rates. Similarly, a higher prevalence of modern contraceptive methods is positively correlated with the female labor supply. Neither culture nor the presence of a CCT program in the country is correlated with the labor supply. Finally, the effect of GDP is particularly important given how high GDP growth has been in the region since 2003. There is an overall negative and significant correlation between GDP growth and female labor force participation. Moreover, this negative correlation is much stronger for women in the lower quintile of the income distribution (of their husbands) and for less educated women. It is, thus, very likely that the recent stagnation in the increase of female labor force participation in Latin America and the slower convergence between the participation of women in different groups can be partly explained by the higher rates of economic growth experienced in the region.

5. Discussion and conclusion

Four major stylized facts of female labor supply were examined in this chapter. First, there has been a long-term positive trend in female labor force participation. Second, there was virtually no change in the intensive margin (hours worked). Third, the region recently experienced stagnation in female labor force participation, and fourth, there has been some convergence between the disadvantaged (poor, less educated, and rural) and the advantaged (rich, more educated, and urban) groups within countries. However, this convergence also seems to have stopped in recent years.

Using a general conceptual framework, a set of determinants was extracted that might influence female labor force participation, and the mechanisms that might explain those effects were analyzed. Some of these determinants are individual behaviors that are jointly determined (by the individuals) with labor supply, such as education, marriage, and fertility choices. Other determinants are outside the control of the individual, such as returns to work at home, returns to work outside the home for a wage, technologies (health, home, and work), preferences, and decision-making structures. Considering this framework, a meta-analysis and cross-country regression analysis were performed to assess each determinant's relative importance to explaining the factors.

Table 6.6 summarizes the results. The positive long-term trends that began in the 1950s were likely driven by the expansion of health and home technologies and by cultural changes that operate over a long period. These two social changes, together with policies that expanded educational opportunities, increased educational attainment and reduced fertility, which had a positive feedback effect on female labor force participation.

Table 6.6: Summary of importance of determinants

Determinants	Change in Latin America between 1990 and 2010	Contributor to long-term (1950-2010) female labor supply increase	Contributor to long-term (1990-2010) female labor supply increase	Contributor to convergence between advantage and disadvantaged group	Contributor to recent stagnation
Education	Increased	Likely	Likely	Likely	Unlikely
Marriage	Stable	Unlikely	Unlikely	Unlikely	Unlikely
Fertility	Decrease	Likely	Likely	Likely	Unlikely
Technology					
Health (Contraceptives, Formula)	Increase	Likely	Likely	Unknown	Unlikely
Home (Appliances, electricity)	Increase	Likely	Unlikely	Likely	Unlikely
Work (telework)	Probably stable	Unlikely	Unlikely	Unlikely	Unlikely
Labor Returns					
Gender Discrimination	Slight decrease, stagnated in 2000s	Unlikely	Likely	Likely	Likely
Macroeconomic conditions	--	Unlikely	Unlikely	Unlikely	Likely
Policies					
Labor Regulations	Stable	Unlikely	Unlikely	Unlikely	Unlikely
Taxation	Stable (slight improvement in 2000s)	Unlikely	Unlikely	Unlikely	Unlikely
CCTs	Large increase since mid-1990s	Unlikely	Unlikely	Unlikely	Likely
Child care	Large increase	Likely	Likely	Likely	Unlikely
Culture	Better for women	Likely	Likely	Likely	Unlikely

Source: own calculations based on microdata from national household surveys and literature analysis.

Generally, these long-term trends continued through the 1990s. However, over the past three decades, there have been significant increases in the provision of subsidized child care, which likely explain the increase in female labor force participation over that period and the convergence between the female labor supply of poor and/or rural households with that of richer and/or urban households. The recent stagnation is likely caused in part by the higher rates of economic growth experienced in the region, the expansion of CCT programs and continuing gender discrimination in the region.

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Appendix

Table 6.1: Female labor force participation statistics

	Labor Force Participation	LFP by Husband's Income		LFP by Education			LFP by Fertility			LFP by Household structure		Total Worked Hours
		2nd Decile	9th Decile	Less than complete secondary	Secondary complete	Tertiary Complete	At least 1 child age 0	At least 1 child age CSA to CFA	No children or children older than CFA	Nuclear Household	Single headed Household	
Early 1990s												
Argentina	57.52	44.86	55.95	48.25	60.08	83.01	42.09	49.81	58.97	51.72	80.70	18.42
Bolivia	66.53	76.48	49.54	65.71	55.96	85.91	63.55	65.07	64.68	62.92	88.80	40.75
Brazil	61.65	57.57	52.78	57.14	72.34	86.04	56.93	60.60	59.79	57.73	76.69	20.94
Chile	45.29	24.99	44.14	35.72	50.64	76.23	32.08	37.24	41.76	39.74	70.88	46.00
Costa Rica	40.80	21.13	39.95	32.06	55.95	74.86	30.38	35.53	36.94	33.92	68.58	40.69
Ecuador	59.39	40.82	60.79	53.22	65.51	87.29	56.56	57.55	55.45	55.72	78.96	40.44
El Salvador	53.12	32.19	55.20	48.70	77.07	89.02	42.67	49.42	50.40	46.86	69.89	24.01
Honduras	41.08	27.24	40.92	34.75	67.76	78.79	33.60	36.72	39.71	35.01	61.26	45.78
Mexico	42.61	31.65	38.18	36.72	58.09	76.81	34.50	37.63	39.47	36.96	68.78	37.86
Nicaragua	55.71	32.85	51.06	51.93	73.09	89.98	48.54	51.80	54.02	48.59	78.58	48.12
Panama	49.54	26.46	55.31	34.87	65.89	87.42	38.96	44.46	47.52	43.22	70.70	40.44
Paraguay	58.06	36.16	57.22	52.73	70.84	87.61	49.96	53.49	54.30	53.05	79.25	25.00
Peru	71.42	66.33	67.58	69.70	67.77	84.47	67.40	70.61	70.56	68.91	88.22	41.21
Uruguay	68.20	57.07	63.91	62.43	79.85	94.28	61.73	64.18	64.31	64.83	86.15	39.67
Venezuela	52.61	33.65	50.33	43.85	65.88	87.12	43.50	47.35	47.93	45.86	73.77	39.08
LAC Average	54.90	40.63	52.19	48.52	65.78	84.59	46.83	50.76	52.39	49.67	76.08	36.56

	Labor Force Participation	LFP by Husband's Income		LFP by Education			LFP by Fertility			LFP by Household structure		Total Worked Hours
		2nd Decile	9th Decile	Less than complete secondary	Secondary complete	Tertiary Complete	At least 1 child age 0	At least 1 child age CSA to CFA	No children or children older than CFA	Nuclear Household	Single headed Household	
Early 2010s												
Argentina	68.10	50.98	70.07	55.17	67.54	88.85	57.26	62.00	70.56	62.88	85.97	21.73
Bolivia	74.73	73.27	63.71	74.29	68.61	86.29	66.59	73.51	77.21	70.65	90.22	45.03
Brazil	70.12	59.68	69.31	61.24	76.57	86.80	65.30	69.41	68.82	67.25	79.24	24.18
Chile	60.54	45.09	55.54	47.24	62.39	84.02	51.60	56.01	57.78	54.31	80.72	40.94
Costa Rica	58.61	39.68	58.34	48.14	68.32	86.78	47.30	52.25	56.43	51.92	77.24	40.00
Ecuador	63.01	47.57	57.22	55.30	65.74	88.20	54.14	59.41	60.90	57.18	85.26	39.35
El Salvador	60.94	41.14	57.70	54.99	72.33	88.73	48.86	58.48	60.47	55.17	74.95	43.01
Honduras	52.17	33.72	52.32	46.61	67.86	88.02	42.17	48.90	51.49	46.39	68.58	38.16
Mexico	55.67	41.72	49.63	49.43	62.14	79.22	42.97	50.92	54.63	50.33	76.68	39.87
Nicaragua	57.46	47.42	48.48	50.82	69.36	86.41	51.50	55.26	58.45	51.32	78.54	44.47
Panama	63.08	41.79	66.54	49.30	69.61	89.46	53.38	57.92	62.97	57.27	79.40	38.86
Paraguay	66.37	57.56	62.22	59.41	73.19	91.86	58.16	63.66	64.98	63.28	77.40	28.02
Peru	77.11	80.99	69.65	76.55	72.95	83.75	71.37	77.83	78.77	74.98	88.72	41.30
Uruguay	78.44	68.30	79.06	71.98	86.70	95.57	72.51	75.70	79.54	75.04	90.35	37.82
Venezuela	67.49	54.14	63.56	56.69	66.25	88.87	58.59	65.02	66.03	62.54	81.64	37.88
LAC Average	64.92	52.20	61.56	57.14	69.97	87.52	56.11	61.75	64.60	60.03	80.99	37.38

Source: own calculations based on microdata from national household surveys.

Notes: CSA refers to children's legal starting school age and CFA refers to legal children's finishing school age, for more details see Bassi, Busso, and Muñoz (2015).

Table 6.2.a: Possible determinants

	Average years of Education	Number of Children	Shared Married Women	Contraceptive Prevalence	Households with electricity	Ratio wage (women/men)	Preschool enrolment rate	Catholic non-practicing
Early 1990s								
Argentina	10.70	1.89	93.08	52.06	99.61	0.99	48.82	57.66
Bolivia	6.60	2.91	73.25	19.30	71.86	0.78	34.23	56.52
Brazil	5.93	2.22	--	67.48	92.13	0.77	54.61	47.35
Chile	9.40	2.05	63.54	51.82	96.17	0.77	89.75	49.62
Costa Rica	7.65	2.48	57.13	66.94	96.97	0.97	33.59	49.80
Ecuador	7.63	2.90	64.30	46.30	91.03	0.80	47.36	38.10
El Salvador	5.24	2.66	34.30	48.36	76.75	0.76	26.06	43.15
Honduras	5.45	3.19	57.40	38.78	70.09	0.91	13.75	37.33
Mexico	6.70	2.81	74.77	56.76	95.85	0.80	65.15	13.17
Nicaragua	4.96	3.31	60.35	50.26	76.21	0.86	16.45	34.02
Panama	9.36	2.33	39.22	52.44	--	0.91	63.15	35.00
Paraguay	7.67	2.71	72.53	40.38	92.74	0.79	14.33	56.23
Peru	7.11	2.85	49.41	37.92	73.66	0.81	33.74	52.02
Uruguay	8.93	1.93	64.89	74.12	98.58	0.80	42.32	38.82
Venezuela	8.11	2.66	63.89	56.26	99.04	0.86	42.15	42.95
LAC Average	7.43	2.59	62.00	50.61	87.91	0.84	41.70	43.45

	Average years of Education	Number of Children	Shared Married Women	Contraceptive Prevalence	Households with electricity	Ratio wage (women/men)	Preschool enrolment rate	Catholic non-practicing
Early 2010s								
Argentina	11.64	1.84	60.78	63.28	99.67	0.99	73.85	54.69
Bolivia	8.79	2.45	68.61	36.08	90.27	0.82	48.62	46.68
Brazil	8.63	1.54	78.62	75.78	99.35	0.84	64.01	36.90
Chile	11.19	1.77	52.69	60.52	99.76	0.81	99.34	42.35
Costa Rica	9.01	1.91	52.41	77.04	99.53	0.99	71.69	33.66
Ecuador	9.45	2.13	64.16	59.88	97.87	0.89	128.95	41.36
El Salvador	7.37	2.11	58.61	63.88	93.65	0.97	61.33	17.42
Honduras	6.44	2.59	55.72	61.70	82.07	0.87	42.35	25.62
Mexico	8.89	2.09	66.36	67.12	99.44	0.89	99.22	47.63
Nicaragua	6.66	2.50	57.95	74.12	79.76	0.90	54.97	26.61
Panama	10.75	1.98	66.83	50.02	--	1.02	63.62	38.55
Paraguay	8.73	2.36	64.48	67.90	98.49	0.83	35.02	40.63
Peru	9.22	2.27	63.21	50.64	90.63	0.76	76.54	47.35
Uruguay	10.21	1.62	63.21	73.96	99.50	0.87	88.08	33.19
Venezuela	10.61	2.04	61.50	63.34	99.64	0.91	73.04	50.01
LAC Average	9.17	2.08	61.43	63.02	94.97	0.89	72.04	38.84

Source: own calculations based on microdata from national household surveys.

Notes: Interpolated variables. Appliances index includes data of washing machine, car, motorcycle, and electricity.

Table 6.2.b: Possible determinants

	Maximum permitted work hours per week	Paternity leave (days)	Maternity leave (weeks)	Abortion law	Minimum percent overtime remuneration	Index hiring and wage regulations	CCT beneficiaries (Millions)
Year 2012							
Argentina	52	2	13	To protect mother's life, health & others	50	3.90	11.79
Bolivia	60	0	9	To protect mother's life, health & others	100	2.23	5.69
Brazil	46	5	17	Just to save mother's life	50	2.23	52.39
Chile	57	5	18	Not permitted	50	6.67	1.30
Costa Rica	72	0	17	To protect mother's life, health & others	50	2.23	0.19
Ecuador	52	10	12	To protect mother's life, health & others	50	5.57	6.13
El Salvador	No universal national limit	0	12	Not permitted	100	6.67	0.57
Honduras	60	0	10	Not permitted	25	0.00	1.07
Mexico	57	0	12	Just to save mother's life	100	6.67	27.25
Nicaragua	57	0	12	Not permitted	100	6.67	--
Panama	57	0	14	Just to save mother's life	25	2.23	0.36
Paraguay	57	2	12	Just to save mother's life	50	5.57	0.55
Peru	No universal national limit	4	13	To protect mother's life, health & others	25	3.90	2.59
Uruguay	56	3	12	To protect mother's life, health & others	100	6.67	0.76
Venezuela	46	14	18	Just to save mother's life	50	3.33	--

Source: own calculations based on microdata from national household surveys.

Notes: CCT beneficiaries for 2010.

Table 6.3: Literature review (in meta-analysis)

ID	Topic	Subtopic	Period	Authors	Sample
1	CCT	Programa de Asignación Familiar (PRAF)	2000-2002	Alzúa, Cruces and Ripani (2012)	Females (adult)
2	CCT	PROGRESA	1997-1999	Alzúa, Cruces and Ripani (2012)	Females (adult). Rural. Round: 1998
3	CCT	PROGRESA	1997-1999	Alzúa, Cruces and Ripani (2012)	Females (adult). Rural. Round: 1999
4	CCT	Red de Protección Social (RPS)	2000-2002	Alzúa, Cruces and Ripani (2012)	Females (adult). Rural. Round: 2001
5	CCT	Red de Protección Social (RPS)	2000-2002	Alzúa, Cruces and Ripani (2012)	Females (adult). Rural. Round: 2002
6	CCT	Elderly transfers	1993	Bertrand et al (2003)	Females relatives in three generation households with elderly 16-50 years old
7	CCT	Ingreso Ciudadano	2006-2007	Borraz and Gonzales (2009)	Females (22-55) w/children aged 6-14
8	CCT	Ingreso Ciudadano	2006-2007	Borraz and Gonzales (2009)	Females (22-55) w/children aged 6-14
9	CCT	Juntos	2009	Fernandez and Saldarriaga (2014)	All Females recipient of CCT
10	CCT	Juntos	2009	Fernandez and Saldarriaga (2014)	Married females recipient of CCT
11	CCT	Juntos	2009	Fernandez and Saldarriaga (2014)	Mothers recipient of CCT with children aged <5
12	CCT	Red de Protección Social (RPS)	2000-2002	Maluccio and Flores (2005)	Females (15+)
13	CCT	Programa de Asignación Familiar (PRAF)	2000-2002	Novella, Ripani, Cruces and Alzúa (2012)	Mother's in intact households
14	CCT	PROGRESA	1997-1999	Novella, Ripani, Cruces and Alzúa (2012)	Mother's in intact households. Rural
15	CCT	Red de Protección Social	2000-2001	Novella, Ripani, Cruces and Alzúa (2012)	Mother's in intact households. Rural
16	CCT	PROGRESA	1997-1999	Parker and Skoufias (2000)	Females (18-24)
17	CCT	PROGRESA	1997-1999	Parker and Skoufias (2000)	Females (25-34)
18	CCT	PROGRESA	1997-1999	Parker and Skoufias (2000)	Females (35-44)
19	CCT	PROGRESA	1997-1999	Parker and Skoufias (2000)	Females (45-54)
20	CCT	PROGRESA	1997-1999	Parker and Skoufias (2000)	Females (55+)
21	CCT	Bolsa Familia	2001-2006	Ribas and Veras (2011)	Females. Round=2004
22	CCT	Bolsa Familia	2001-2006	Ribas and Veras (2011)	Females. Round=2004
23	CCT	Bolsa Familia	2001-2006	Ribas and Veras (2011)	Females. Round=2004
24	CCT	Bolsa Familia	2001-2006	Ribas and Veras (2011)	Females. Round=2006
25	CCT	Bolsa Familia	2001-2006	Ribas and Veras (2011)	Females. Round=2006
26	CCT	Bolsa Familia	2001-2006	Ribas and Veras (2011)	Females. Round=2006
27	Child care	Public child care provision	1991-2005	Bauernschuster and Schlotter (2013)	Mothers, youngest child born 1992-2000
28	Child care	Preschool entrance age	1995-2001	Berlinski, Galiani and McEwan (2011)	Mothers
29	Child care	Public Preschool	1950-1990	Cascio (2006)	Single mother 5 or 6 years old, no younger children
30	Child care	Public Preschool	1950-1990	Cascio (2006)	Single mother 5 or 6 years old, old and younger children
31	Child care	Public Preschool	1950-1990	Cascio (2006)	married mother 5 or 6 years old, no younger children

ID	Topic	Subtopic	Period	Authors	Sample
32	Child care	Public Preschool	1950-1990	Cascio (2006)	married mother 5 or 6 years old, old and younger children
33	Child care	longer school day	1990-2006	Contreras, Sepúlveda and Cabrera (2010)	Females (20-29)
34	Child care	longer school day	1990-2006	Contreras, Sepúlveda and Cabrera (2010)	Females (20-65)
35	Child care	longer school day	1990-2006	Contreras, Sepúlveda and Cabrera (2010)	Females (30-39)
36	Child care	longer school day	1990-2006	Contreras, Sepúlveda and Cabrera (2010)	Females (40-49)
37	Child care	longer school day	1990-2006	Contreras, Sepúlveda and Cabrera (2010)	Females (50-65)
38	Child care	Preschool enrolment	1999	Gaux and Maurin (2010)	Mother youngest child born Dec95-Jan96 (Single mother families)
39	Child care	Preschool enrolment	1999	Gaux and Maurin (2010)	Mother youngest child born Dec95-Jan96 (two -parent families)
40	Child care	Preschool enrolment	1999	Gaux and Maurin (2010)	Mother youngest child born or Dec96-Jan97 (Single mother families)
41	Child care	Preschool enrolment	1999	Gaux and Maurin (2010)	Mother youngest child born or Dec96-Jan97 (two -parent families)
42	Child care	subsidized childcare	1997–2004	Lefebvre, Merrigan and Verstraete (2009)	Mothers with at least one child 6–11 and no children < 6
43	Child care	public day care supply	2003-2008	Medrano (2009)	Poor females (15-45) with children at most two years old
44	Child care	free publicly provided child care	1987-1997	Nollenberger and Rodriguez-Planas (2011)	Mothers between 18 and 45 years. Excluded Pais Vasco and Navarra
45	Child care	free publicly provided child care	1987-1997	Nollenberger and Rodriguez-Planas (2011)	Mothers between 18 and 45 years. Excluded Pais Vasco and Navarra
46	Child care	free publicly provided child care	2007-2008	Paes de Barros, Olinto, Lunde and Carvalho (2011)	Mothers with children 0-3
47	Child care	Public Preschool	1998-2003	Schlosser (2011)	Mothers of children aged 2-4
48	Child care	Public Preschool	1998-2003	Schlosser (2011)	Mothers whose youngest child is aged 2-4
ID	Topic	Subtopic	Period	Authors	Sample
50	Crisis	Added worker effect	1998-2002	Martinoty (2013)	Married women on working age
51	Crisis	Added worker effect	1993, 1997, 2000-2007	Posadas and Sinha (2010)	Female spouse, both couple members below 95 years of age. No split 1997-2007. Women working because husband lost his job
52	Culture	Second-generation Americans	1970	Fernandez (2006)	Second-generation married females, 30-40 years old
53	Culture	Second-generation Americans	1970	Fernández and Fogli (2009)	Married females, ages 30–40
54	Fertility	More than 2 children	1990	Angrist and Evans (1998)	All mothers (21-35) with at least 2 children
55	Fertility	More than 2 children	1980	Angrist and Evans (1998)	All mothers (21-35) with at least 2 children
56	Fertility	More than 2 children	1980	Angrist and Evans (1998)	Married mothers (21-35) with at least 2 children
57	Fertility	More than 2 children	1990	Angrist and Evans (1998)	Married mothers (21-35) with at least 2 children
58	Fertility	Early access to the pill	1970-1990	Bailey (2006)	Females (21-25)
59	Fertility	Early access to the pill	1970-1990	Bailey (2006)	Females (26-30)
60	Fertility	Early access to the pill	1970-1990	Bailey (2006)	Females (31-35)
61	Fertility	Early access to the pill	1970-1990	Bailey (2006)	Females (36-40)

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ID	Topic	Subtopic	Period	Authors	Sample
62	Fertility	Early access to the pill	1970-1990	Bailey (2006)	Females (41-44)
63	Fertility	Abortion laws	1960-2000 (5 Years)	Bloom, Canning, Fink and Finlay (2007)	Females (15-19)
64	Fertility	Abortion laws	1960-2000 (5 Years)	Bloom, Canning, Fink and Finlay (2007)	Females (20-24)
65	Fertility	Abortion laws	1960-2000 (5 Years)	Bloom, Canning, Fink and Finlay (2007)	Females (25-29)
66	Fertility	Abortion laws	1960-2000 (5 Years)	Bloom, Canning, Fink and Finlay (2007)	Females (30-34)
67	Fertility	Abortion laws	1960-2000 (5 Years)	Bloom, Canning, Fink and Finlay (2007)	Females (35-39)
68	Fertility	Abortion laws	1960-2000 (5 Years)	Bloom, Canning, Fink and Finlay (2007)	Females (40-44)
69	Fertility	Abortion laws	1960-2000 (5 Years)	Bloom, Canning, Fink and Finlay (2007)	Females (45-49)
70	Fertility	Abortion laws	1960-2000 (5 Years)	Bloom, Canning, Fink and Finlay (2007)	Females (50-54)
71	Fertility	Abortion laws	1960-2000 (5 Years)	Bloom, Canning, Fink and Finlay (2007)	Females (55-59)
72	Fertility	Abortion laws	1960-2000 (5 Years)	Bloom, Canning, Fink and Finlay (2007)	Females (60-64)
73	Fertility	In vitro fertilization (IVF) treatment	1994-2005	Lundborg, Plug and Würtz Rasmussen (2014)	All Females who received at least one IVF treatment
74	Fertility	In vitro fertilization (IVF) treatment	1994-2005	Lundborg, Plug and Würtz Rasmussen (2014)	All Females who received at least one IVF treatment
81	Macro	Financial crisis	2001-2002	McKenzie (2003a)	Female (25-60) Participation Female (25-55) Hours
82	Macro	Development/GDP	1890-2005	Olivety (2013)	Female
84	Macro	Financial crisis	1980–2005	Signorelli, Choudhry and Marelli (2012)	Female
85	Macro	Financial crisis	1980–2005	Signorelli, Choudhry and Marelli (2012)	Female
86	Macro	Financial crisis	1980–2005	Signorelli, Choudhry and Marelli (2012)	Female
88	Marriage	Divorce laws	1994-2001	Bargain (2012)	Married females
90	Marriage	Added worker effect	1979-1981	Blau and Kahn (2004)	Married females age 24-54 with spouse with age 24 - 54
91	Marriage	Added worker effect	1999-2001	Blau and Kahn (2004)	Married females age 24-54 with spouse with age 24 - 54
92	Marriage	Added worker effect	1989-1991	Blau and Kahn (2004)	Married females age 24-54 with spouse with age 24 - 54
93	Marriage	Spouse health coverage	1989-2000	Cebi (2013)	Married women with intact marriage 1989-2000 her age and her husband age 25-64, health insurance info available not covered public health insurance
94	Marriage	Health Insurance	1979-1985	Chou and Staiger (2001)	Married women ages 20-65 whose husbands are paid employees
95	Marriage	Increase demand women work	1950	Goldin and Olivetti (2013)	White women 25-34 with 12 or more years education, in their first marriage, no farming
96	Marriage	Increase demand women work	1950	Goldin and Olivetti (2013)	White women 25-34 with 12 or more years education, in their first marriage, no farming
97	Marriage	Increase demand women work	1950	Goldin and Olivetti (2013)	White women 25-34 with 12 or more years education, in their first marriage, no farming

ID	Topic	Subtopic	Period	Authors	Sample
98	Marriage		1998-2002	Lee (2008)	Women between 19 and 32
99	Policies	minimum wage regulation	1970-2008	Addisson and Ozturk (2012)	Females (25-54)
100	Policies	Parental leave	1990-2010	Blau and Kahn (2013)	Females (25-54)
107	Policies	Unemployment insurance during husband's unemployment spell	1984-1992	Cullen and Gruber (2000)	Married females with unemployed husbands
108	Policies	Added worker effect	1994-2009	Gaux (2014)	Married or cohabiting individual aged 18-65, spouse wage earner
109	Policies	Maternal Leave	1985-1999	Jaumotte (2003)	Women 25-54 years
110	Policies	Tax reduction	1985-1999	Jaumotte (2003)	Women 25-54 years
111	Policies	Anti-discrimination law	1968-1979	Mukhopadhyay (2012)	Pregnant women
112	Policies	Maternal Leave	1999-2010	Rossin-Slater et al (2011)	Women with a youngest children in the households
113	Policies	Maternal Leave	1999-2010	Rossin-Slater et al (2011)	Women with a youngest children in the households
ID	Topic	Subtopic	Period	Authors	Sample
114	Policies	Maternal Leave	1999-2010	Rossin-Slater et al (2011)	Women with a youngest children in the households
117	Taxes	Reform replaced a spousal tax exemption with a nonrefundable tax credit	1986-1991	Crossley and Jeon (2006)	Females married to higher income husbands
118	Taxes	Tax reduction / Transfer	1985-1997	Eissa & Hoynes (2004)	Married wives couples residing in the same household 25-54 years old
119	Taxes	Tax reduction	1984-1992	Eissa (2002)	Married females, high-income
121	Taxes	reduction in effective marginal tax rate	1986-1991	Jeon (2004)	Females married to higher income husbands
122	Technology and Infrastructure	household appliances	1940-1950	Cardia (2010)	Females
123	Technology and Infrastructure	household appliances	1940-1950	Cardia (2010)	Females
124	Technology and Infrastructure	household appliances	1940-1950	Cardia (2010)	Females
125	Technology and Infrastructure	household appliances	1960-1970	Coen-Priani et al (2010)	Married females (18-55), white
126	Technology and Infrastructure	Internet	2000-2009	Dettling (2014)	Married females (18-59)
127	Technology and Infrastructure	rural electrification	1998-2005	Grogan and Sadanand (2012)	Female (20-55)
128	Technology and Infrastructure	Commuting time	1980-1990-2000	Kalesnikova (2007)	White married women with children none under 5 H School
129	Technology and Infrastructure	Commuting time	1980-1990-2000	Kalesnikova (2007)	White married women with children none under 5 H collage
130	Technology and Infrastructure	Commuting time	1980-1990-2000	Kalesnikova (2007)	White married women with children under 5 High School
131	Technology and Infrastructure	Commuting time	1980-1990-2000	Kalesnikova (2007)	White married women with children under 5 High collage
132	Technology and Infrastructure	Commuting time	1980-1990-2000	Kalesnikova (2007)	White married women, No children High School
133	Technology and Infrastructure	Commuting time	1980-1990-2000	Kalesnikova (2007)	White married women, No children collage

Source: own calculations based on literature analysis.

Table 6.4: Factor analysis

Variable	Component	Factor Loadings
Appliances in the household Eigenvalue: 2.91390 Alpha: 0.7954	% women households with washing machine	0.891
	% women households with car	0.978
	% women households with motorcycle	0.650
	% women households with electricity	0.861
Children in the school Eigenvalue: 3.28206 Alpha: 0.6576	% household children enrolled at school	0.934
	Net enrolment rate. Pre-primary. Total	0.828
	Net enrolment rate. Primary. Total	0.880
	Gross enrolment ratio. Secondary. Total	0.974
Constraints open business (Factor) Eigenvalue: 2.81410 Alpha: 0.7206	Administrative requirements	0.832
	Starting a business	0.785
	Licensing restrictions	0.733
	Business regulations	0.984

Source: own calculations based on microdata from national household surveys.

Chapter 7

Implications of female labor force participation

Leonardo Gasparini and
Mariana Marchionni

1. Introduction

In the previous chapters we have documented and explored the changing patterns of female labor force participation in Latin America. These changes are bound to have profound economic and social consequences. In principle, when a woman finds a paid job, a significant change in household income takes place that may affect the poverty status of the family. In fact, the entry of women into the labor market could be a relevant driver of the whole income distribution.

The implications of increasing female labor participation (and its deceleration over the last several years) go beyond the income dimension. A host of adjustments in family behavior may take place as a consequence of women's transition from inactivity to employment. Women's empowerment, childcare, family violence, education, and fertility are just a few examples of areas in which female labor force participation may have a significant impact.

This chapter is aimed at assessing some of the implications of the increasing pattern in female LFP experienced in Latin America and its recent deceleration. The first sections of the chapter focus on the income dimension. Was the increase in female employment a significant factor for the recent reduction in income poverty and inequality in the region? What are the prospects for the future, given the recent deceleration of this process? Section 2 tackles the first question. By applying microeconomic decompositions, we provide estimates of the implications in terms of income poverty and inequality of the observed changes in female labor force participation over the last two decades. The section concludes that, although not the main factor, increasing female LFP was a significant contributor to the fall in income poverty and inequality in Latin America.

Section 3 looks at the future by projecting rates of female LFP based on the observed patterns in the past, and assessing the impact on income poverty and inequality through microsimulations. If the deceleration in female LFP continues over the next decade, the contribution of this factor to the reduction in poverty and inequality will be meager in most countries. Instead, if the growth rates in female LFP revert to the values of the 1990s, a more sizeable impact is expected. The section provides estimates for income poverty and inequality under these alternative scenarios.

Section 4 discusses other implications of female labor supply with an emphasis on female economic empowerment, control over household resources, investment on children, demand for childcare, and domestic violence.

The chapter closes in section 5 with an examination of the potential distributive impact of fertility changes, a phenomenon closely linked to female labor force participation. After exploring the evidence for Latin America, we conclude that the unbalanced fall in fertility rates across socioeconomic groups had relevant implications on poverty and inequality in the past and are likely to remain relevant in the near future. To be sure, this demographic channel is not among the main explanations of the distributive developments of the last decades, but it is far from being negligible.

2. Distributive implications of changing female employment¹

The changing role of women in the labor market can have relevant implications in terms of household income, poverty and inequality. If a woman decides to participate in the labor market and finds a job, her household income will rise, reducing the vulnerability to poverty. The increase in female employment is also bound to affect inequality, since these changes are typically not uniform across the income distribution.² Assessing the causal impact of changing female employment on poverty and inequality is a very challenging task that requires special circumstances that allow genuine exogenous sources of identification. In

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- 1 This section was written by Leonardo Gasparini, Cecilia Parada and Mariana Marchionni.
 - 2 Notice that in this section we focus on female employment and not labor force participation. The transition from labor inactivity to unemployment does not have any effect in the income distribution, since in both cases earnings are zero. It is the transition from inactivity or unemployment to employment that causes a change in earnings and, hence, an impact on poverty and inequality.

this chapter we take a less ambitious but more practical path, and measure the impact of changing female employment on the income distribution by keeping all else constant. In particular, we take the observed changes in the labor market in each Latin American country as given, and compute the impact on income poverty and inequality that would have occurred after those changes, assuming no other adjustment in behavior takes place. Of course, this is not a very realistic assumption, but it is necessary to have a first approximation of the likely impact of changing female employment on the income distribution.

We apply the decomposition methodology of Bourguignon *et al.* (2004) and Gasparini *et al.* (2004). Specifically, we take data from two years, t_1 and t_2 , and carry out two microsimulations. In the first, we pretend that the only change that took place between t_1 and t_2 was the observed change in the female employment situation (employed or not), *i.e.* the *extensive margin* of the labor supply. By computing the change in poverty and inequality in this controlled setting we get a first-order approximation of the distributive impact of changes in female employment. If the only factor that changed between t_1 and t_2 had been the employment situation of women, by how much would poverty and inequality have changed? That is the question that this first microsimulation tries to answer.

Alternatively, in the second microsimulation we assume that the only change that took place between t_1 and t_2 was the observed change in hours of work by employed women. What would have been the impact on poverty and inequality in this artificial setting with changes only in the *intensive margin* of the female labor supply?

The simulations are somewhat more complex than simply copying the employment status (or hours of work) of a woman in time t_1 into the dataset of t_2 (or vice versa), as panel data is not available and, moreover, the characteristics of a woman change over time, altering her probability of becoming employed. Instead, we predict the employment status of a woman in t_2 by considering her observable characteristics at that date and the parameters of a labor market model in t_1 . For many women, the prediction is similar to the observed employment outcome in year t_2 so that the simulation is inconsequential. Instead, for some women the simulation implies a change in status. In particular, those women who move from inactivity (or unemployment) to employment in the simulation are assigned a labor income that corresponds to the prediction of a typical Mincerian wage equation. The counterfactual earnings are then used to recompute household incomes, which are in turn used to simulate poverty and inequality. Appendix 1 and a companion paper (Parada, 2014) provide technical details on this methodology.

The microsimulations have an obvious caveat that originates from the fact that they are not derived from a general equilibrium model. When simulating the impact of changes in employment, we keep all other elements constant in their values for the base year. Naturally, some of these factors may covariate with employment. For instance, the structure of wages may respond to changes in female labor supply. By ignoring this channel we may be biasing our estimate of the distributive impact of the changes in employment. Additionally, changes in female labor force participation and employment may not have been autonomous, but induced for instance by income changes, in which case the microsimulation only captures a round of effects (from female employment to incomes) of a more complicated process.

Unfortunately, it is very hard to compute a credible general equilibrium model capable of tracing all of these effects, and therefore, the microsimulations may be viewed as a second-best methodological option. The results of these techniques provide rigorously-derived estimates of the direct distributional impact of a given change, keeping all other things constant.

The results of the impact of changes in female employment on poverty (measured with the headcount ratio with the US\$ 4 line) are shown in Table 7.1.³ Take the case of Chile to illustrate the interpretation of the figures in the table. Poverty in the urban areas of that country fell 28.3 points between 1990 and 2011. This successful poverty reduction was the result of multiple complex factors that are very difficult to disentangle. The increase in women's employment was surely one of these factors. While 42% of adult women (between 25 and 54 years old) in Chile were employed in 1990, that share climbed to 59% in 2011. Column (ii) in the table tells us that if the only change between those years had been the observed change in the employment state of women (employed or not), keeping all other factors constant, then poverty would have been reduced by 0.5 points. Instead, if employment had remained fixed and only women's hours of work had changed, poverty would have fallen 1 point. The overall female employment effect contributed with 1.5 points to the fall in the poverty headcount ratio in Chile.

Some interesting results emerge from the table. First, all of the estimates are negative: changes in female employment and hours of work contributed to the fall in income poverty in the region. The impact of these factors appears to be rather small, although far from negligible. While the poverty headcount ratio

3 Results are restricted to urban areas, since modeling rural employment is more difficult with the typical available variables.

fell more than 14 points on average in our sample over the two last decades, the estimated contribution of changes in female employment and hours of work was a bit more than 1 point. In some countries, such as Uruguay and El Salvador, the impact was larger in proportionate terms.

Table 7.1: Impact of changes in female employment on poverty
Changes in the poverty headcount ratio (US\$ 4 line)

Country	Period	Observed change	Effects		Total
			Employment Extensive margin	Hours Intensive margin	
		(i)	(ii)	(iii)	(iv)
Argentina	1992-2012	-10.9	-0.4	-0.7	-0.8
Brazil	1990-2012	-27.3	-0.1	-0.4	-0.5
Chile	1990-2011	-28.3	-0.5	-1.0	-1.5
El Salvador	1991-2012	-14.3	-1.8	-1.6	-3.6
Mexico	1992-2012	-3.8	-0.1	-0.2	-0.3
Uruguay	1991-2012	-2.5	-0.4	-0.8	-1.0

Source: own calculations based on microdata from national household surveys.

Note: The values of each effect are averages that result from taking alternatively each year in the comparison as the base year. The sample includes only households in urban areas.

According to Table 7.2 changes in female employment were also inequality-reducing over the whole period under analysis. However, again, the effect was not large: on average about half a Gini point in the last two decades, which represents around 10% of the observed overall reduction in the Gini coefficient.

Table 7.2: Impact of changes in female employment on inequality
Changes in the Gini coefficient

Country	Period	Observed change	Effects		Total
			Employment Extensive margin	Hours Intensive margin	
		(i)	(ii)	(iii)	(iv)
Argentina	1992-2012	-3.3	-0.2	-0.3	-0.4
Brazil	1990-2012	-6.9	0.0	-0.3	-0.3
Chile	1990-2011	-5.1	-0.2	-0.1	-0.4
El Salvador	1991-2012	-8.5	-0.6	-0.4	-1.1
Mexico	1992-2012	-3.6	0.0	-0.5	-0.5
Uruguay	1991-2012	0.1	-0.1	-0.4	-0.5

Source: own calculations based on microdata from national household surveys.

Note: The values of each effect are averages that result from taking alternatively each year in the comparison as the base year. The sample includes only households in urban areas.

In summary, the evidence suggests that changes experienced by Latin American women in terms of employment over the last two decades contributed to the observed fall in income poverty and inequality. The stronger insertion of vulnerable women in the labor market allowed some families to escape income poverty and reduced the income gaps with more affluent households. To be sure, this is not the main reason for the recent decline in poverty and inequality in Latin America, but its contribution to that pattern appears to be non-negligible.⁴

Given the positive distributive implications of the increased female employment, there exists a natural concern regarding the social consequences of the recent deceleration in female labor force participation. The next section explores this issue.

3. Projections⁵

The previous section provided estimates of the impact of the observed changes in female employment on poverty and inequality over the last two decades. In this section, we explore the likely distributive effects of the projected trends in female LFP for the next two decades. Naturally, the exercise is highly speculative, since a complex social phenomenon like labor supply is very difficult to predict. However, although imperfect, the estimates may be useful, as they provide us with some order of magnitude of the likely effect that the changes in female participation could have on poverty and inequality in the near future.

The simulations require forecasts for changes in female labor force participation. We consider two scenarios. In the first one, LFP follows the growth rates observed in the 1990s; in the second one, the growth rates observed in the 2000s continue into the following decade. For most countries, the former represents the high-growth scenario of LFP that prevailed for much of the 20th century, while the latter is a low-growth scenario, like the one prevalent in the last decade. In previous chapters we have identified several factors that account for the fall in the growth rate of female LFP in Latin America in the 2000s, including economic growth and labor and social policies. The likelihood of the low-growth over the

4 Other researchers have found significant poverty-reducing impacts of the increased female labor force participation. For instance, the World Bank (2012) reports that holding all else constant in the labor market, if female income had remained the same during the 2000s, extreme poverty in Latin America and the Caribbean would have been 30 percent higher in 2010. The gains in female income reflect increased labor earnings, expanded access to pensions and increased labor force participation.

5 This section was written by Javier Alejo and Leonardo Gasparini.

high-growth scenario depends on how these and other factors evolve and interact with female LFP, which is difficult to predict.

We carry out the simulations for each country starting in the year 2012, dividing the adult female population into six groups based on education (low, middle and high) and marital status (single, married). For each group we project the level of female LFP for each year in the period 2012-2032, according to the growth rates prevailing between 1992 and 2002 (scenario 1), and alternatively in the period 2002-2012 (scenario 2). These projections imply a given forecasted female LFP rate for each group in each country/year.

We assume that no other change occurs in the economy, apart from changes in labor supply. Therefore, we take the microdata of the 2012 household survey,⁶ and simulate the forecasted female LFP by randomly moving inactive women in a given group to the active status. Since we keep all other things constant, including the unemployment rate, some of these women will be unemployed. The change from inactivity to unemployment has no effect on monetary poverty and inequality, since in both cases earnings are zero. Instead, changes from inactivity to employment will have an impact on the income distribution. Women who experience that transition in our simulations are assigned a wage and hours of work according to their observable characteristics, based on the coefficients of a typical Mincer and hours of work equations, and their household per capita incomes are recomputed based on their new earnings, always keeping fixed the rest of the incomes in the household and the family composition. The household per capita income simulated through this process is used to forecast poverty and inequality in each country/year.

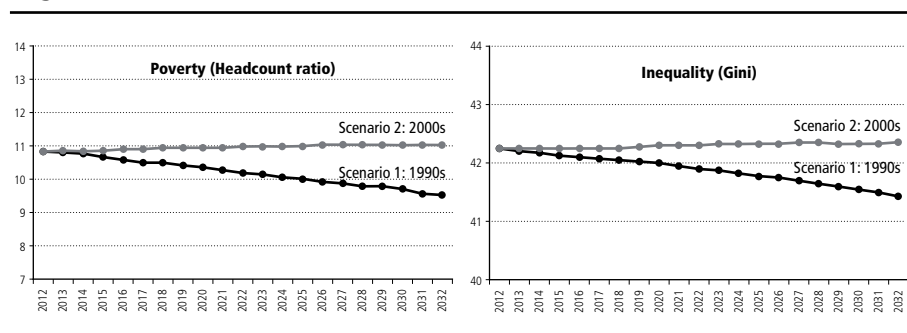
Of course, this is a simple exercise that captures just the first-round impact of the increase in female labor force participation on the income distribution. However, we consider it useful as an approximation, especially as compared to the formidable challenges of the alternative approach of estimating a general equilibrium model.

An illustration of the results is presented in Figure 7.1 for the case of Argentina. The poverty headcount ratio with the line of US\$4 was 10.8% in 2012. Under the scenario in which the growth rate of female LFP returns to the high value of the 1990s, the poverty rate would fall to 10.2% in ten years (2022) and to 9.5% in two decades (2032). This reduction in poverty would vanish if the pattern for female LFP in the future were the one experienced in the 2000s in Argentina,

6 We take a year close to 2012, if 2012 is not available.

when the increase in female labor supply came to a halt. In fact, poverty would increase slightly since scenario 2 implies that the small reduction in labor supply for the group of single women with low education that took place in the 2000s would continue in the following decade.

Figure 7.1: Poverty and inequality based on projections of female LFP Argentina, 2012-2032



Source: own calculations based on EPH (INDEC).

Note: poverty is measured with the headcount ratio with a line fixed at USD 4 a day adjusted for PPP; inequality is measured with the Gini coefficient for household per capita income.

The impact on income inequality is similar. In the first scenario the Gini coefficient in Argentina would fall from 42.3 to 41.4 in two decades. Although this is not a substantial fall over a twenty-year period, one Gini point is not a negligible effect coming from a single driving factor.

The inequality-decreasing effect disappears in scenario 2, a fact that is mainly explained by the factor mentioned above and which has been discussed in previous sections: the larger contraction in female labor force participation in the low-education group. However, this effect is insignificant: the Gini would only increase from 42.3 to 42.4 in two decades.

Figures 7.2 and 7.3 (see Appendix 3) show the results for the rest of the Latin American economies, whereas Table 7.3 summarizes the results by showing the projected change in poverty and inequality in each country between 2012 and 2032 under the two scenarios.

For nearly all countries poverty would fall in the next two decades under scenario 1 (the only exception is Peru). The reductions range from 4.9 percentage points in Venezuela to 0.5 percentage points in Brazil and Uruguay. In most

countries poverty would also fall under the low-growth scenario, although in all cases the reduction would be smaller. In fact, as commented above for the case of Argentina, in some countries we project a small increase in poverty driven by a reduction in female labor force participation. On average, while the poverty headcount ratio would fall 1.6 percentage points in scenario 1, it would fall just 0.3 points in scenario 2.

Table 7.3: Changes in poverty and inequality based on projections of female LFP
Latin American countries, 2012-2032

	Change in poverty		Change in inequality	
	Scenario 1	Scenario 2	Scenario 1	Scenario 2
ARG	-1.3	0.2	-0.8	0.1
BOL	-2.5	-0.3	-0.8	-0.1
BRA	-0.5	-0.1	-0.2	0.0
CHL	-1.6	-0.4	-0.8	-0.2
CRI	-2.8	-1.1	-1.7	-0.6
ECU	-1.8	-0.6	-0.6	-0.1
HND	-3.5	-0.4	-1.5	-0.3
MEX	-0.6	-0.1	-0.2	-0.1
NIC	-1.1	0.0	-0.2	0.2
PAN	-0.7	-1.2	-0.4	-0.4
PER	0.3	-0.3	0.0	-0.1
PRY	-1.7	0.4	-0.7	0.1
SLV	-1.0	-0.5	-0.3	0.1
URY	-0.5	-0.4	-0.4	-0.4
VEN	-4.9	0.0	-1.1	0.0
Latin America	-1.6	-0.3	-0.6	-0.1

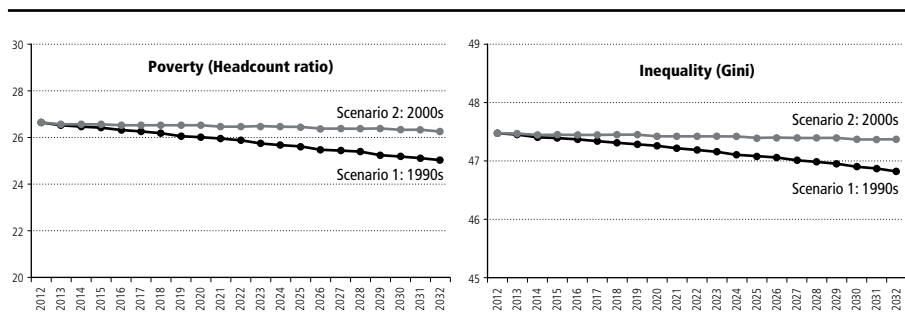
Source: own calculations based on national household surveys.

Note: poverty is measured with the headcount ratio with a line fixed at USD 4 a day adjusted for PPP; inequality is measured with the Gini coefficient for household per capita income. Latin America: unweighted means.

Figure 7.4 shows the projected pattern in poverty for the whole period. Driven by changes in female labor force participation, poverty in Latin America would be cut by 3% in one decade and by 6% in two decades in scenario 1, but remain almost unchanged in scenario 2. In summary, if the observed deceleration of female labor force participation in the 2000s is not a transient phenomenon, and instead it is the beginning of a stage of low or even null growth in female labor

supply, then the contribution of female LFP to poverty reduction in the region would be negligible. This almost null effect contrasts with a significant, although not very large, poverty-reduction effect that would occur if the growth in female LFP observed in the 1990s and in most of the 20th century resumed.

Figure 7.4: Poverty and inequality based on projections of female LFP Latin America, 2012-2032



Source: own calculations based on national household surveys.

Note: poverty is measured with the headcount ratio with a line fixed at USD 4 a day adjusted for PPP; inequality is measured with the Gini coefficient for household per capita income. Unweighted means.

The results are similar for inequality. In most countries the deceleration in labor force participation in the 2000s was greater among women with low education. This implies a deceleration of the inequality-reducing impact of the patterns in female LFP. In almost all Latin American countries, the projected reduction in the Gini is smaller in scenario 2 than in scenario 1; in some countries it even becomes unequalizing. On average for the region, the Gini coefficient falls 0.6 points in scenario 1 and 0.1 in scenario 2.

4. Other implications

Many of the transformations documented in previous chapters—falling fertility rates, rising female education, and labor participation—are associated with a higher degree of women’s empowerment. Along with education, female LFP is a primary path to women’s empowerment, at least in the economic dimension. Paid work has the potential to transform women’s lives, increasing their capacity to exercise choice and control in key areas. In turn, economic empowerment fosters female LFP while facilitating other forms of empowerment.

In this section we discuss implications of higher female participation in the labor market other than the distributive changes analyzed in the first part of this chapter. We review the literature and present evidence relating female LFP to female economic empowerment, control over household resources, investment on children, demand for childcare, and domestic violence.

Female LFP and women's economic empowerment

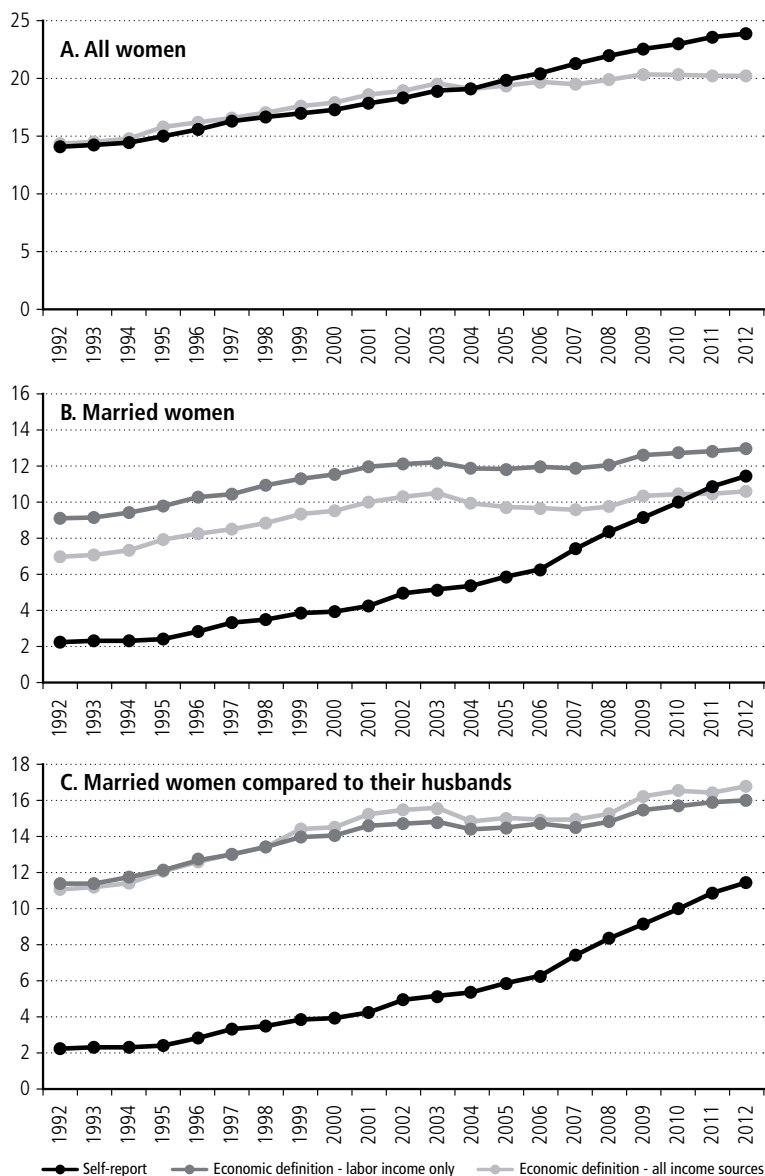
The share of family income earned by women and the share of family resources potentially under women's control have grown over time along with the expansion of female LFP in Latin America. Panel A in Figure 7.5 shows that the share of prime-age women earning more than half of the total family income, *i.e.* the incidence of female economic headship (World Bank, 2012), grew from 14% to 20% over the last two decades in Latin America. The pace of change mimics that of female LFP: rapid growth in the 1990s followed by a deceleration in the 2000s. This pattern is robust to other definitions of economic headship, as we will see later.

The fact that women's contribution to the family budget has increased does not necessarily imply that women now control a larger share of that budget or that they have a greater say in family decisions. Although this is potentially the case, household survey data does not provide enough information to answer this question, at least not in a direct fashion.

However, the self-report assessments on household headship coming from household surveys are likely to capture the perceptions of respondents on the roles and the division of tasks among household members. According to these reports on family roles, the proportion of female-headed households increased in tandem with the expansion of economic female headship (Panel A in Figure 7.5) over the 1990s and early 2000s, suggesting that economic headship is related to some sort of female empowerment process, at least within the family. It is interesting to note that in the 2000s, the share of self-reported female heads continues its rapid growth despite the female economic headship phenomenon decelerates, which could be taken as a sign of female empowerment beyond the economic dimension.

Of course, these results could be driven by many factors that are not strictly related to women's empowerment, such as changes in family structure or even the income measure used to define economic headship. Concerning family structure, and as shown in chapter 2, the period is characterized by a sharp increase in the share of single female household heads, *i.e.* women living with

Figure 7.5: Percentage of female heads of household Latin America, 1992-2012. Women aged 25-54.



Source: own calculations based on microdata from national household surveys.

Note: Self-report: self-report assessments on household headship. Economic definitions of household headship in panels A and B are based on a woman's income compared to her family's income. In panel C, economic definition compares a woman's income to her husband's income. Married women: either in formal or consensual unions. Unweighted means.

no formal spouse or partner. This alone can be the reason why self-reported female headship is increasing. But panel B in Figure 7.5 shows the same patterns when we focus only on married women—either in formal or consensual unions. Female headship was rare in two-parent households in the early 1990s, but it has become increasingly common over time. Based on the self-report assessment, the percentage of prime-age married women who were heads of household grew from 2% in 1992 to 5% in 2002, and then sped up to reach 11% by 2012.

Among married women, self-reported headship is less common than economic headship, but the gap between the two definitions has shrunk markedly over time, and even disappeared over the last years due to the above mentioned acceleration in the rate of increase of the former, together with a deceleration of the latter.

These conclusions are robust to other definitions of economic headship. For instance, we use labor income as an alternative to total family income (panel B in Figure 7.5), and also compare women's income to their husbands' to determine the economic head of household (panel C in Figure 7.5).⁷

Although with different nuances, we find similar trends in most Latin American countries. The rapid increase in self-reported female headship after the mid-2000s is particularly marked in Uruguay, Chile, and Brazil. At the other end of the spectrum is Peru, where the proportion of self-reported female household heads has changed very little since 1992, reaching only 15 percent in 2012, the lowest in the region. Table 7.4 (see Appendix 3) presents the statistics for each country.

In summary, although female labor participation contributes to the empowerment of women, at least in the economic sense, the evidence presented so far suggests a growing trend of female empowerment (as measured by self-assessment of female headship) that manifests even when LFP stagnates. It is likely that this inertial behavior is due to cultural changes that influence empowerment beyond the strictly economic dimensions.

Female economic empowerment, investment in children, and economic development

The evidence that money in the hands of mothers, as opposed to their husbands, increases the share of expenditures on children (clothing, food, education)

7 Economic definitions based on total or labor income differ mostly due to the presence of transfers. Women earn relatively less non-labor income than other household members, especially the elderly, but relatively more than their husbands.

provides a link between women's empowerment and economic development to the extent that increased spending on children contributes to human capital accumulation (Doepke and Tertilt, 2011 and 2014).

In traditional models, families are considered as single decision units, where intra-family behavior is ignored. In such settings, outcomes (consumption, labor participation, fertility, etc.) depend on the global pooling of resources within the household, *i.e.* the income pooling hypothesis (Becker, 1991). However, there is strong evidence against the income pooling hypothesis, as surveyed in Haddad, Hoddinott, and Alderman (1997) and Doepke and Tertilt (2011). Expenditure patterns differ significantly depending on whether the husband or the wife controls family resources. Therefore, the growing importance of women's income that accompanies the expansion of female LFP may result in changes in household decisions, in particular an increase in children's expenditures, such as food and clothing or on a child's outcomes, such as health and education.

Some early studies for Latin American countries found better nutrition outcomes (height for age, weight for age, and weight for height) in families with larger female income shares (Engle 1993 for the case of Guatemala, and Thomas 1990 and 1994 for the case of Brazil). While these results could be driven by unobserved heterogeneity, *i.e.* unobserved factors causing both better nutrition and higher female income shares, more recent studies have managed to isolate the causal effect of female income shares. For instance, the emergence and expansion of conditional cash transfer (CCT) programs in the region since the late 1990s opened the opportunity for evaluating the causal effect of changes in female income shares on child expenditures. In most of these programs, payments are made to a child's mother, following the widespread belief, based on the above mentioned evidence, that mothers make better use of resources (Fiszbein and Schady, 2009).⁸

Data from the Mexican *Oportunidades* program (formerly *PROGRESA*) are the basis for several studies aimed at measuring the effect of paying the transfers to mothers. Hoddinott and Skoufias (2004) and Angelucci and Attanasio (2009) find that households receiving transfers increased their food expenditures and caloric acquisition compared to eligible households not receiving these benefits. Attanasio and Lechene (2002), Rubalcava, Teruel and Thomas (2009), and

8 Identification of the causal effect is based on the random assignment of the program, but since it is always the woman who receives the payments, the results could be driven by an increase in the female budget share or just in total family income. Different strategies are used to deal with this shortcoming, but usually households receiving transfers are compared to other eligible households with similar income or consumption that do not receive transfers.

Bobonis (2009) also find positive effects of Mexico's *Oportunidades* on the expenditure share of children's clothing.

Similar results are found for other Latin American CCT programs targeted to women: Attanasio, Battistin and Mesnard (2012) study Colombia's *Familias en Acción*; Schady and Rosero (2008) analyze Ecuador's *Bono de Desarrollo Humano*; Maluccio (2010), and Gitter and Barham (2008) study Nicaragua's *Red de Protección Social*, and Macours, Schady, and Vakis (2012) focus on *Atención a Crisis*, another Nicaraguan program.

Decision-making within the household is influenced not only by income but also by other variables such as labor participation and education. For instance, Thomas (1994) uses mother's education relative to father's as a proxy for bargaining power. Using data from Brazil, he finds that mother's education has a greater effect on girls' nutritional status while father's education has a bigger effect on boys' nutrition. Another example is Atkin (2009), who, exploiting geographic variation in the opening of new factories in Mexico, finds improvements in child's health (height for age) for mothers who enter the labor market.

Usually, differences in preferences are seen as the key determinants of differences in the observed expenditure patterns. According to this hypothesis, unlike men, women prioritize investments in children's human capital because of their preferences. Croson and Gneezy (2009) review the experimental literature on gender differences on preferences and conclude that even though there are fundamental differences between men and women, it is not possible to tell whether women are more other-regarding than men based on this evidence alone. In particular, it is not clear whether the difference in preferences between men and women affects their behavior towards their children.

Also, as Doepke and Tertilt (2011, 2014) show, the observed expenditure patterns can emerge for reasons other than differences in the preferences of wives and husbands. For example, they present models in which differences in expenditure patterns by gender are endogenous and could disappear if other gender differences such as labor market discrimination were removed. Also, the authors draw attention to the importance of considering other children outputs beyond expenditures. An increase in current spending may come at the expense of other important public goods or may be accompanied by a fall in household savings, reducing future consumption possibilities.

In this sense, there is also evidence of a positive association between female income shares and children's education. World Bank (2012) shows that in Latin America, higher rates of household dependency on female income are associated with higher

rates of school enrollment. This is particularly true at the pre-school and upper secondary levels, since primary and lower secondary education are compulsory in most countries in the region. Children in households highly dependent on female labor income are more likely to be enrolled in preschool and secondary school than children in households more dependent on male labor income or transfers. For instance, estimates of the marginal effects for the case of Brazil are 7 and 14 percent for preschool (3 to 5 year-olds) and secondary school enrolment (16 to 19 year-olds), respectively, after controlling for per capita income, the share of pensions and transfers in household income, household size, and single parenthood.

The link between empowerment and development also goes in the other direction, *i.e.* development can contribute to empowerment. Gender inequality is often greater among the poor, thus, when development reduces poverty levels, the situation of women might improve, both in absolute terms (everybody is better off), and relative to men. Duflo (2012) reviews the evidence on both sides of the empowerment-development link, and concludes that the relationship between the two are probably too weak to be self-sustaining, and that political commitment is required to reach equity between women and men.

In summary, the evidence suggests that female LFP and the consequent female economic empowerment can increase investment in children's human capital. However, it is not clear to what extent these conclusions would hold in other contexts with less gender inequality, nor is it obvious that economic development by itself would lead to more gender equality.

Female LFP, demand for childcare and childcare quality

Care responsibilities that are traditionally assigned to women severely limit their chances of entering the labor market. As discussed earlier in this book, this is particularly the case for young mothers, who find it hard to reconcile the requirements of full-time formal jobs and the demands of caring for their children. Given this reality, many policies aimed at promoting women's work have focused on providing childcare and early education services. In fact, causal evidence for Latin American countries shows that when childcare facilities are available, female participation in the labor market increases (Berlinski and Galiani, 2007; Contreras, Puentes and Bravo, 2012). Chapter 8 elaborates on these policies. In this section, we focus on the reverse channel, *i.e.* the implications of LFP of mothers on the demand for childcare.

Public childcare services for children under 4 years old are far from universal in Latin America. The existing supply is fragmented and heterogeneous, affecting

care arrangements in households differently depending on geographic location, occupational status and socio-economic position. Private, usually expensive, childcare institutions typically satisfy the childcare demands of better-off households. There is also an employment-based supply of childcare services (workplace crèches) available for some formal workers, such as teachers and public employees. Of course, these benefits are beyond the reach of women from less advantaged households or those who work in the informal sector. For these women, families and communities continue to have a dominant role in childcare provision.

Faur (2011) points out that the fragmentation of childcare services in Argentina translates to a high level of privatization for better-off households, and a high level of familiarization for less advantaged households, which widens the gap between women from different socio-economic groups. Moreover, community-based childcare usually means less professionalized and cheaper services, lower staff/child ratios, and fewer facilities and materials, therefore poor children access to lower-quality childcare services than do children from higher-income groups (Razavi, 2012).⁹

There is ample evidence on the effects of early childhood interventions on child development and subsequent success throughout life (Currie and Thomas 2001; Case and Paxson, 2008; Grantham-McGregor et al., 2007). If childcare quality translates into child development, children from low-income households would only gain access to low-quality care services, aggravating the already high levels of inequality of opportunity between children from different socioeconomic groups (Staab and Gerhard, 2010).

In summary, the increase in female LFP generates demands for childcare that are only partially met by the public sector, allowing a heterogeneous supply to bridge the gap. While children from high-income households can access high-quality private institutions, children from poorer households only have access to lower-quality services. This means fewer opportunities for the less advantaged. The situation worsens as labor participation of women from worse-off households (or in more precarious jobs) increases.

Female LFP, private schools and segregation

Extended school hours also help to accommodate mothers' full-time formal job responsibilities with the demands of childcare. Unfortunately, full-day schooling

9 Also, some authors draw attention to the precarious working conditions of those running these community services, usually unpaid or poorly paid women (Staab and Gerhard, 2010; Faur, 2011).

is not common in the public sector, and is more frequently found among private educational institutions. This situation “forces” many couples to choose a full-day private school for their children in order to allow a full-time job for the mother. In turn, earnings from that job can be used to pay for the higher costs of private education.

According to our estimates based on household surveys, the share of children in primary private schools in Latin America (unweighted mean of 10 countries) grew at a similar pace over the last two decades (14.3% in 1990, 17.2% in 2000, and 20.6% in 2010). The rate of growth was also fast in the case of secondary education in the 1990s but much slower in the 2000s (19.6% in 1990, 23.7% in 2000, and 25.1% in 2010), a fact that is consistent with the deceleration in female labor force participation, but that could also be the consequence of various other phenomena.

Gasparini *et al.* (2015) link the growing migration of less economically disadvantaged groups from public to private schools to a sizeable increase in all measures of school segregation in Latin America. For instance, the mean dissimilarity index of segregation between public and private schools between the poor and the non-poor increased from 0.151 in 1992 to 0.162 in 2002 and 0.167 in 2011. This pattern should be of public concern since a more inclusive and integrated education system that encourages the coexistence of students from different socioeconomic and cultural groups in the same classrooms is key to stimulate social cohesion.

In sum, higher female LFP may be associated with greater school segregation if the women who enter the labor market come from better-off households (or if they access better-paid jobs) and possess the means to choose private schools, unlike their poorer counterparts. The situation worsens when the entry into the labor market is weaker in the latter group, which has been the case in the last decade in Latin America, as documented in previous chapters. Even though the previous argument is just speculative and more evidence is needed to better understand the dynamics at play, the implications are sufficiently relevant to be alert on this potential link between female labor force participation and segregation.

Female LFP and domestic violence

Violence against women is increasingly recognized as an important social, health, and human rights problem (WHO, 2005). Domestic violence, *i.e.* violence by an intimate partner, is one of the most common forms of gender-based violence.

Domestic violence is widespread in Latin American societies. Peru is one of the countries with the highest prevalence of domestic violence in the world: 69 percent of Peruvian women between 15 to 49 years old report they have suffered from physical or emotional violence from their male partners (García-Moreno *et al.*, 2006). In Colombia, according to the 2005 Demographic and Health Survey (DHS), almost 40 percent of women between 13 and 49 years old report having suffered from physical violence, around 66 percent report that they have been emotionally abused, and 20 percent report that they have experienced both emotional and physical violence (Friedemann-Sánchez and Lovatón, 2012).

While there are many positive implications of increased female LFP, as discussed earlier in this chapter, some theoretical models and empirical evidence suggest that working can increase a woman's risk of suffering from domestic violence.

Some studies in the region find a positive association between women's empowerment and domestic violence. In particular, women with greater say in their households tend to suffer more violence from their partners. Flake and Forste (2006) use data from Demographic and Health Surveys (DHSs) for Colombia, the Dominican Republic, Haiti, Nicaragua, and Peru to explore the link between domestic violence and family characteristics. They find that female-dominant decision-making is positively associated with domestic violence. Friedemann-Sánchez and Lovatón (2012) also find that decision-making dominated by women is associated with a higher probability of intimate partner violence based on 2005 DHS for Colombia. Also, working for pay seems to put women at greater risk (as is the case of Ladina women in Guatemala according to Menjívar, 2011, and Mexican women according to Castro and Casique, 2009).¹⁰

However, other studies find opposite results. For instance, in Friedemann-Sánchez (2006), employment appears as a protective factor against intimate partner violence among formally employed agro-industrial workers in Colombia. Also, Villarreal (2007) finds that employed women in Mexico are less likely to suffer domestic violence. Despite these results, what all these studies have in common is that they only measure the association between empowerment and domestic violence; they do not determine a causal effect. Female LFP, women's wages, or any other proxy of female empowerment, are endogenous in the sense that they depend on factors that also affect domestic violence.

10 This negative side of empowerment is the typical prediction of socio-cultural models of "male backlash", in which as women's empowerment increases, men feel their traditional gender role threatened, reacting with violence against their female partners (Macmillan and Gartner, 1999).

Causal evidence for Latin American countries is very scarce due to unavailable data and to the difficulty of controlling for endogeneity of woman's wage or labor status.¹¹ Hidrobo and Fernald (2013) explore how an exogenous increase in a woman's income affects domestic violence by exploiting the randomized rollout of a cash transfer program in Ecuador. They find that the effect depends on a woman's education and on her education relative to her partner's. For women with more than primary education, a cash transfer reduces violence; but for other women, receiving a cash transfer increases violence if their educational level exceeds their male partners'. In a background paper for the case of Peru, Mendoza-Calderón (2014) finds that working women are more likely to suffer domestic violence as compared to non-working women. Clearly, further research is needed to better understand the ways in which women's LFP impacts the risk of suffering from domestic violence, and whether the effect varies with other characteristics, such as education.

5. Distributive implications of fertility changes¹²

Although this book is mainly concerned with female labor force participation, we have also documented other changes that affect women's lives and that may have sizeable implications on their incomes and standards of living. In this final section, we focus on changes in fertility patterns. Fertility rates began their downward trend in Latin America in the mid-1960s, implying a clear convergence towards the levels of the most advanced regions of the world. In particular, as documented in chapter 2, the number of children per household (the proxy for fertility that can be implemented with household survey microdata) has been falling over the last two decades: in 1992, there were 2.3 children under 16 per household (for households with a woman aged 25-45) in a typical Latin American country; that figure fell to 1.8 over the next two decades.

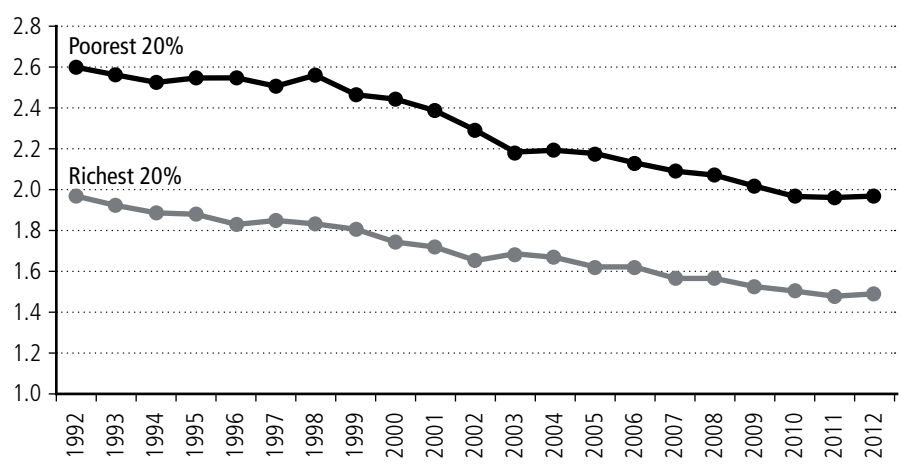
The average number of children decreased in households from all population groups, but the gap between the most and the least vulnerable groups shrank,

11 Aizer (2010) was the first to estimate the negative causal effect of female bargaining power on domestic violence based on data for the United States. She exploited changes in the demand for labor in female-dominated industries relative to male-dominated ones to define an exogenous measure of women's bargaining power. She found a causal negative effect of women's bargaining power on domestic violence. Moreover, the entire decline in domestic violence caused by the decrease of men's wages relative to women's occurs during non-working hours, which rules out explanations based on exposure reduction.

12 The section was written by Nicolás Badaracco, Mariana Marchionni and Leonardo Gasparini.

owing to a sharper decline in the number of children living in poor households. Figure 7.6 takes a sample of seven Latin American countries to show the average number of children under 16 per household in the poorest 20% and richest 20% of the prime-age parents.¹³ In both groups, fertility went down over the two decades; the fall is somewhat more pronounced among the poorest couples. The gap in the number of children per household shrank from 0.67 in 1992 to 0.47 in 2012.

**Figure 7.6: Number of children under 16 per household
Bottom and top quintiles of parental income distribution, 1992-2012.**



Source: own calculations based on microdata from national household surveys.

Note: Average of seven Latin American countries: Argentina, Brazil, Chile, El Salvador, Mexico, Peru, and Uruguay. Households with head aged 25-45. Unweighted means.

The distributive impact of these demographic changes could be sizeable. *Ceteris paribus*, a decrease in the number of children in poor households and in those marginally above the poverty line, lowers income poverty. Moreover, differential changes in family size across income strata, as in those mentioned above, could decrease inequality.

In this section we assess the extent to which changes in fertility in Latin America contributed to the observed reduction in income poverty and inequality during the 1990s and 2000s. To this aim, we simulate the household per capita income

13 The sample includes countries in which we implement the microsimulations that follow in this section.

distribution that would emerge if fertility outcomes in a given year would have been determined as in another different year.¹⁴

Of course, changes in these outcomes are driven by various factors, including some of those affecting female labor force participation. Estimating a general equilibrium model or complex structural equations that take into account all the interactions is not feasible, even less when considering this task for many Latin American economies. Instead, in this section we compute the first-round partial-equilibrium impact on the income distribution of changes in fertility, which could be taken as a useful approximation of the magnitude that these changes may have on poverty and inequality.

We follow the methodology proposed in Marchionni and Gasparini (2007).¹⁵ The main inputs to carry out the microsimulations are the estimates of the parameters that govern fertility decisions/outcomes¹⁶ and the response of labor market participation to changes in family size. We assume that the number of children in a household follows a Poisson process, and that its parameters can be consistently estimated using a Poisson regression model. Hourly wages and hours of work are assumed to be simultaneously determined in an equilibrium model of the labor market.

After estimating the parameters, we carry out the simulations. Poverty and inequality indicators are computed over the counterfactual income distribution that arises in a given base year by assuming that the population in that year takes fertility decisions according to the parameters estimated for a different year. The resulting poverty and inequality measures are compared to those actually observed in the base year. The difference between the simulated value of an indicator of poverty or inequality and its actual value is interpreted as a measure of the direct impact of the change in fertility behavior.

Some equations may clarify the methodology. The non-technical reader can skip them and go directly to the results. We measure poverty and inequality over the distribution of household per capita income, defined as

14 The term *fertility* is used as a shortcut for the number of children in the household, which in most cases changes as the consequence of fertility decisions.

15 The explanation of the methodology is taken from Marchionni and Gasparini (2007) and Badaracco (2014). See Appendix 2 for more details.

16 For simplicity we refer to fertility *decisions*, although fertility outcomes could be the result of free conscious choices, but also the consequence of various other circumstances.

$$(1) \quad y_{ht} = \frac{Y_{ht}^L + Y_{ht}^{NL}}{N_{ht}} \quad \forall i \in h \text{ at time } t$$

where i indexes individuals, h households and t time periods (years). Y_{ht}^L denotes total labor income of household h at time t , Y_{ht}^{NL} labels non-labor income, and N_{ht} is the family size, which is the sum of the number of children H_{ht} and the rest of the household members R_{ht} .

$$(2) \quad N_{ht} = H_{ht} + R_{ht}$$

Labor incomes are determined in a model similar to the one discussed in Appendix 1. Non-labor incomes are determined by

$$(3) \quad Y_{ht}^{NL} = m_{ht} + g(H_{ht})$$

where m_{ht} is exogenous and $g(H_{ht})$ represents the part of non-labor incomes that depends on the number of children. Typically, the cash transfer in poverty-alleviation programs vary with the number of children in the family.

We label the parameters of the fertility decisions at time t as η_t , and those at time t' as $\eta_{t'}$. A key step in the methodology is to estimate the counterfactual number of children in a given year t if fertility outcomes were determined as in an alternative year t' . Once this term, labeled as $H_{ht}(\eta_{t'})$, is estimated, three microsimulation exercises are carried out by replacing this estimate in the household per capita income equation.

The first exercise implies replacing the simulated number of children into the denominator of the equation for household per capita income (1).

$$(4) \quad Y_{ht}^D = \frac{Y_{ht}^L + Y_{ht}^{NL}}{N_{ht}(\eta_{t'})}$$

where $N_{ht}(\eta_{t'}) = R_{ht} + H_{ht}(\eta_{t'})$. The change in the income distribution resulting as a consequence of this exercise is labeled as the *direct-size effect*. It is interpreted as the contribution of the change in fertility parameters η to the actual change in the income distribution through the direct channel – *i. e.* a change in the number of household members among whom total household income should be distributed.

The second exercise involves using the simulated number of children $H_{ht}(\eta_{t'})$ to re-compute the individual hours of work using equation (1).

$$(5) \quad Y_{bt}^H = \frac{Y_{bt}^L(\eta_t) + Y_{bt}^{NL}}{N_{bt}}$$

With a different number of children in the household, some individuals may decide to work more or less hours, and that, in turn, will alter individual labor incomes, and thus total household income. The change in the income distribution as a consequence of this second exercise is named the *hours-size effect*. It is interpreted as the contribution of the change in fertility parameters η to the actual change in the income distribution through the indirect channel of affecting the hours of work decisions.

We carry out a third exercise by simulating the counterfactual distribution arising from a change in non-labor income driven by changes in fertility decisions.

$$(6) \quad Y_{bt}^{NL} = \frac{Y_{bt}^L + Y_{bt}^{NL}(\eta_{t'})}{N_{bt}}$$

The distributional impact of changes through this channel is labeled as the *non-labor income effect*.

The total effect adds the impact of changes in the fertility parameters through the three channels

$$(7) \quad Y_{bt}^T = \frac{Y_{bt}^L(\eta_t) + Y_{bt}^{NL}(\eta_{t'})}{N_{bt}(\eta_t)}$$

So far, we have assumed that year t is the base year from which we “import” the parameters of another year t' . Of course, we could instead have taken t' as the base year and “imported” year t parameters. As is well established in the microsimulation literature, the decompositions are path-dependent: the results are not exactly the same when taking alternatively year t or year t' as the base year. We perform both exercises and report the average value for each of the effects discussed above.

The methodology requires keeping all other things constant when simulating the impact of changes in fertility decisions. Naturally, as was stressed in previous sections, some of these factors may covariate with fertility. For instance, the structure of wages may respond to changes in the labor supply triggered by a change in fertility. Additionally, changes in reproductive behavior may have been

induced by income changes, in which case the microsimulation only captures a single round of effects, from fertility to incomes, of a more complicated process.

If we observe that family size declines for the poor more than for the rich, it is rather obvious that poverty and inequality measured over the distribution of household current income per capita will also decline. This section makes two contributions to this intuition. First, it provides estimates of the magnitude of the direct distributive impact of the changes in fertility; that is the extent to which the actual declines in poverty and inequality can be accounted for by only the change in the reproductive behavior. Second, the methodology allows tracing and measuring some not-so-obvious effects. The fall in the number of children in the bottom strata of the distribution may induce some low-income women to enter the labor market or to work more hours. In that case, the decline in poverty and inequality might be larger than expected if one only considers the direct impact of the decline in family size.

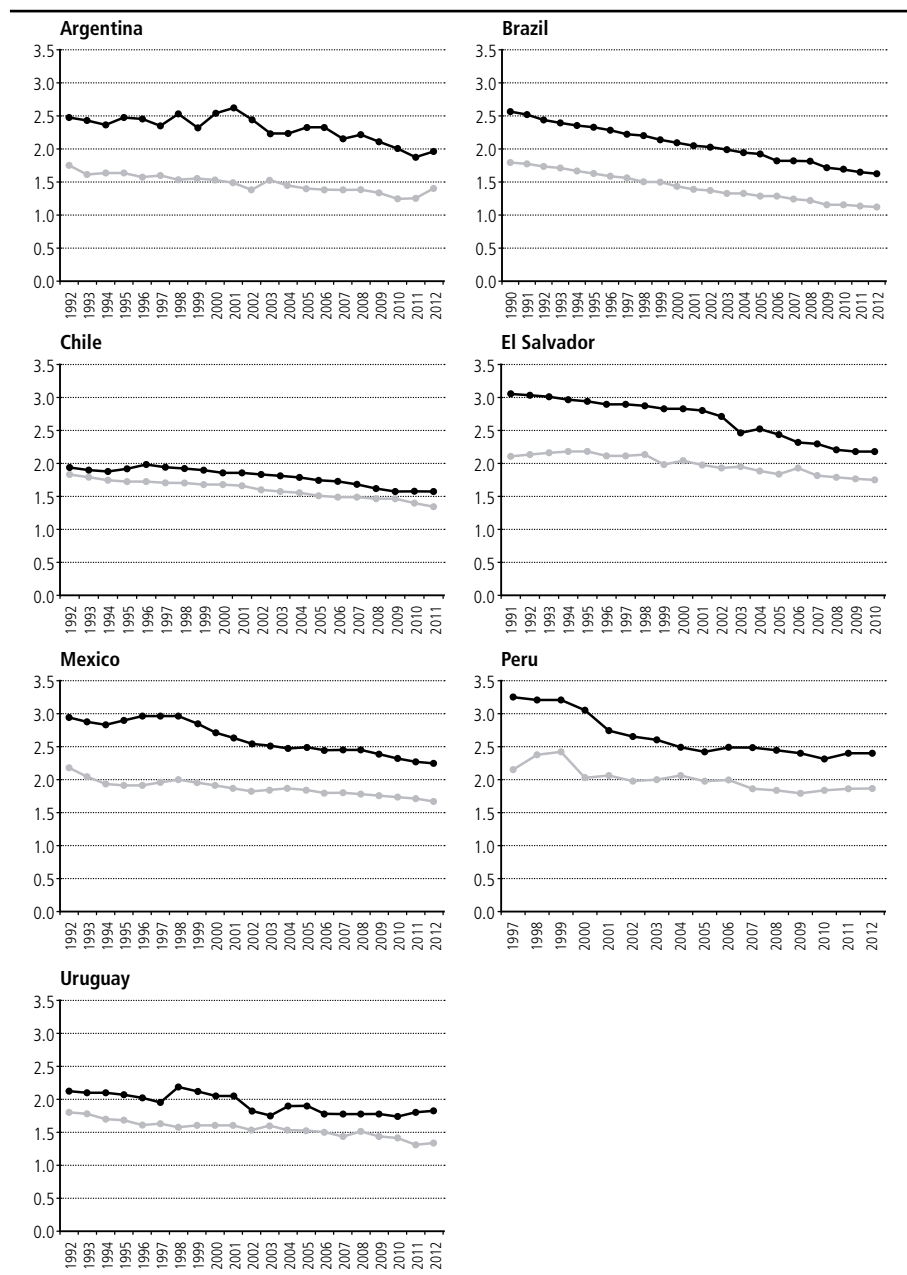
Results

The estimations of the fertility equations are carried out for a sample of households in which the family head is between 25 and 45 years old. Figure 7.7 illustrates the number of children under 16 years old per household for the bottom and top quintiles of the parental income distribution in seven Latin American countries. In all cases, the number of children falls over time for both income groups. In Argentina, Brazil, El Salvador, Mexico, and Peru, the reduction is more marked for the bottom quintile, implying a shrinking fertility gap with the top quintile. In Chile, by contrast, the gap remains rather constant, while there are some signs of a widening gap in Uruguay.

The results of the microsimulations regarding poverty are presented in Table 7.5. Column (i) displays the observed change in the headcount ratio, while the rest of the columns present the impact of the changes in fertility. Column (v) shows the sum of all effects explored (equation (7)). In order to better understand the information in the table, take the case of Brazil. Column (i) informs that between 1990 and 2012 the poverty headcount ratio in that country (using the line of US\$ 4 a day) fell 25 points.¹⁷ The value in the last column has the following interpretation: if fertility had been the only factor that changed during that period, then the poverty headcount ratio in Brazil would have fallen 3.92 points.

17 The values in this column do not coincide with the corresponding ones in Table 7.1, since here we are restricting the sample to households in which the head is between 25 and 45 years old. In addition, the analysis in Table 7.1 is limited to urban areas.

**Figure 7.7: Number of children under 16 per household
Bottom and top quintiles of parental income distribution.**



Source: own calculations based on microdata from national household surveys.

Note: Households with mother aged 25-45. Black line: bottom income quintile (poorest 20%). Grey line: top income quintile (richest 20%).

This change is statistically significant, although not very big compared to the actual fall in poverty in that period. The overall effect is the result of a significant *direct* effect (-3.74), and two smaller effects that go in different directions. On the one hand, the differential reduction in fertility implied a greater increase in hours of work among more disadvantaged households, which in turn contributed, although very slightly, to a further reduction in income poverty. On the other hand, the falling patterns in fertility among the poor ameliorated the poverty-decreasing impact of the conditional cash transfer programs that are mainly targeted to families with children (mainly the *Bolsa Familia* in the 2000s). However, this effect was quantitatively almost insignificant.

Changes in fertility patterns over the last two decades in Latin America have implied a reduction in income poverty. The impact is statistically significant and in some cases economically large. For instance, the estimated poverty-reduction effect was more than 4 points in Mexico and El Salvador. Most of the effect comes through the *direct* effect: a reduction in fertility rates among the most disadvantaged groups reduced family size and increased per capita income. The *hours-of-work* effect is in most cases poverty reducing and the *non-labor-income* effect is poverty increasing, but in both cases the estimated sizes are small.

Table 7.5: Impact of fertility changes on poverty
Changes in the poverty headcount ratio (US\$ 4 line)

Country	Period	Observed change (i)	Effects			
			Direct (ii)	Hours (iii)	NLI (iv)	Total (v)
Argentina	1992-2012	-11.22 (0.08)	-1.39 (0.02)	0.04 (0.01)	0.39 (0.01)	-0.80 (0.02)
Brazil	1990-2012	-25.16 (0.03)	-3.74 (0.01)	-0.17 (0.00)	0.14 (0.00)	-3.92 (0.01)
Chile	1990-2011	-33.24 (0.05)	-1.56 (0.01)	0.18 (0.00)	- -	-1.43 (0.01)
El Salvador	1991-2010	-14.12 (0.06)	-4.98 (0.04)	-0.34 (0.01)	- -	-5.31 (0.05)
Mexico	1992-2012	-3.50 (0.10)	-4.35 (0.04)	-0.30 (0.02)	0.25 (0.01)	-4.43 (0.04)
Peru	1997-2012	-23.20 (0.09)	-3.83 (0.03)	-0.19 (0.01)	- -	-3.94 (0.03)
Uruguay	1995-2012	-1.56 (0.03)	-0.08 (0.02)	0.00 (0.00)	0.02 (0.00)	-0.05 (0.02)

Source: own calculations based on microdata from national household surveys.

Note: All effects are significant at the 1% level. The standard errors were calculated using bootstrap with 200 replications. The values of each effect are averages that result from taking alternatively each year in the comparison as the base year. The sample includes only households in which the head is between 25 and 45 years old. NLI=non-labor income.

Table 7.6 shows the results of the simulations on income inequality, measured by the Gini coefficient. Inequality in Brazil, as measured by the Gini coefficient, fell 7.18 points between 1990 and 2012. If fertility had been the only factor that changed in that period, then the Gini coefficient would have fallen 1.32 points (column v). This change is statistically significant, representing around 18% of the actual reduction in inequality during that period. The differential reduction in fertility across socioeconomic groups in Brazil contributed to the observed decline in inequality in the last two decades, although it was not a decisive factor. The overall effect of -1.32 points in column (v) is the result of a significant *direct* effect (-1.30), and two smaller effects going in different directions.

Some interesting general results emerge from Table 7.6. First, changes in fertility have implied a decline in income inequality. The differential pattern in fertility across groups experienced in most Latin American countries over the last decades translated into an equalizing impact on the income distribution. Second, this effect is small, although not negligible. To be sure, demographic changes are not the central reason behind changes in income inequality but they are not irrelevant. In principle, most of them are statistically significant. On average, fertility changes account for a fall of around a point in the Gini coefficient. In Peru the impact was almost two Gini points.

Third, most of the effect comes from the *direct* effect. The differential fall in fertility rates among socioeconomic groups had a larger impact on the family size of poorer families, implying a proportionally larger increasing effect on their per capita incomes.

Fourth, the effect of fertility changes on hours of work and, in turn, on incomes, is smaller and has different signs across countries. It is important to notice that a more intense reduction in fertility among the poor may be consistent with a positive sign (inequality-increasing) for this effect. This could happen if the elasticity of hours of work with respect to the number of children is higher among the non-poor, and if the extra-hours worked triggered by the fall in fertility imply a household income increase proportionally larger for the non-poor. Anyway, with one exception the hours-of-work effect has a negative sign, implying that the asymmetric reduction in fertility contributed to a reduction in income inequality by fostering a higher participation in the labor market among the more disadvantaged parents (mostly mothers).

Finally, the effect through non-labor incomes is always inequality-increasing but small. The fall in fertility among the poor implied a lower inequality-reducing impact of the conditional cash transfer programs that spread in the region, mainly during the 2000s. The effect, however, is in most cases very small.

Table 7.6: Impact of fertility changes on inequality
Changes in the Gini coefficient

Country	Period	Observed change (i)	Effects			
			Direct (ii)	Hours (iii)	NLI (iv)	Total (v)
Argentina	1992-2012	-5.44 (0.10)	-1.04 (0.01)	-0.01 (0.00)	0.13 (0.00)	-0.95 (0.02)
Brazil	1990-2012	-7.18 (0.04)	-1.30 (0.00)	-0.06 (0.00)	0.06 (0.00)	-1.32 (0.00)
Chile	1990-2011	-1.78 (0.08)	-0.75 (0.01)	0.04 (0.00)	- (0.00)	-0.73 (0.01)
El Salvador	1991-2010	-7.68 (0.06)	-1.30 (0.02)	-0.07 (0.00)	- (0.00)	-1.40 (0.02)
Mexico	1992-2012	-0.86 (0.19)	-1.68 (0.02)	-0.11 (0.00)	0.12 (0.00)	-1.69 (0.02)
Peru	1997-2012	-7.32 (0.13)	-1.92 (0.01)	-0.06 (0.00)	- (0.00)	-1.99 (0.01)
Uruguay	1995-2012	-2.03 (0.04)	-0.12 (0.01)	-0.01 (0.00)	0.02 (0.00)	-0.13 (0.01)

Source: own calculations based on microdata from national household surveys.

Note: All effects are significant at the 1% level. The standard errors were calculated using bootstrap with 200 replications. The values of each effect are averages that result from taking alternatively each year in the comparison as the base year. The sample includes only households in which the head is between 25 and 45 years old. NLI=non-labor income.

In summary, we find that the changes in fertility decisions that took place over the last decades contributed to reductions in income inequality and poverty in all countries. The fall in fertility among the income-deprived contributed to the reduction in poverty, and as it was larger than the decline among the non-poor, it contributed to the fall in inequality, as well. The main channel was simple: lower fertility rates implied smaller families and, thus, larger per capita incomes that reduced the probability of falling into income poverty. Lower fertility also fostered labor force participation, especially among women, which contributed to a reduction of poverty in several countries and a reduction in inequality in most economies, although the size of this effect was generally small.

Given the magnitude of the effects found, we conclude that demographic changes in general, and fertility outcomes in particular, do not seem to be trivial determinants of the income distribution, and deserve careful consideration. This section has focused on some simple yet central channels, and ignored some factors that could also be relevant. For instance, a reduction in the number of children per family could imply higher inheritances and higher family spending on education and health per child, and hence, better income perspectives. Also,

smaller families may be better positioned to take advantage of labor market opportunities, for instance, through migration. Moreover, lower fertility rates may be associated with a reduction in the relative supply of unskilled labor and hence, an increase in its relative wage.

Although in the short and medium-run, lower fertility in more disadvantaged households may contribute to reducing poverty and inequality, in the long run the implications are more nuanced. When children become adults they may contribute to their parents' incomes:¹⁸ a fall in fertility may reduce incomes for the elderly, especially in countries where the pension system is weak, and ultimately contribute to higher poverty through that intertemporal channel.

18 The contribution to household income may start earlier in life. Child labor is still an issue in most Latin American countries.

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Appendix 1

In this appendix we describe the microeconomic decomposition methodology outlined in section 2 and discuss the estimation strategy. Total household income (Y_{ht}) is the sum of individual labor incomes (Y_{jt}^L) and non-labor incomes (Y_{jt}^{NL}) over all household members.

$$(A1.1) \quad Y_{ht} = \sum_{j \in b} (Y_{jt}^L + Y_{jt}^{NL})$$

It is assumed that non-labor incomes are exogenously determined. Individual i 's labor income is the product of the hourly wage rate (w_{it}) and the number of hours of work (L_{it}).

$$(A1.2) \quad Y_{it}^L = w_{it} L_{it}$$

We follow Gasparini, Marchionni and Sosa Escudero (2004) in assuming that both wages and hours are determined in a reduced-form model of the labor market equilibrium:

$$(A1.3) \quad \ln w_{it}^* = X'_{1it} \beta_t + \varepsilon_{it}^W$$

$$(A1.4) \quad L_{it}^* = X'_{2it} \gamma_t + \varepsilon_{it}^L$$

with $w_{it} = w_{it}^*$ and $L_{it} = L_{it}^*$ if $L_{it}^* > 0$

$w_{it} = 0$ and $L_{it} = 0$ if $L_{it}^* \leq 0$

$$(\varepsilon_{it}^W, \varepsilon_{it}^L) \sim N(0, 0, \sigma_{Wt}^2, \sigma_{Lt}^2, \rho_t)$$

where w_{it}^* and L_{it}^* are latent variables, unobservable by the analyst. The column vectors X_{1it} and X_{2it} include all observable factors affecting hourly wages and hours of work, respectively. β_t and γ_t (vectors), are the parameters to be estimated in the model, along with $\sigma_{w_t}^2, \sigma_{L_t}^2$ and ρ_t .

The specification of equations (A1.3) and (A1.4) corresponds to the *Tobit Type III* model in Amemiya's (1985) classification. It is possible to consistently estimate the parameters of this model by:¹⁹ (i) estimating equation (A1.3) by Heckman's maximum likelihood method, using a censored version of (A1.4) as a selection equation, where instead of hours of work a binary indicator that captures whether the individual works or not is used, and (ii) estimating equation (A1.4) using a Tobit model. We estimate this model for three groups: household heads, spouses, and others.

In the framework of this model we carry out two simulations that arise from changing the parameter γ . In the first simulation, we consider only women that change their employment status and assign them a wage according to equation (A1.3), and an error term drawn from the bivariate distribution implicit in the model. In the second simulation, we consider only changes in hours of work among those women who were employed before the simulation.

19 This estimation strategy is consistent though not fully efficient. Gasparini *et al.* (2004) argue that (i) this alternative has certain computational advantages over a full information procedure, and that (ii) the efficiency loss is not necessarily significant for a given sample size.

Appendix 2

The methodology for the microsimulations of section 4 is similar to that described in Appendix 1. Instead of simulating changes in female labor force participation, in this section we simulate changes in fertility outcomes. This appendix reports some of the methodological issues regarding this point.²⁰

According to economic theory, fertility outcomes are the result of a process affected by characteristics of each spouse and on household characteristics, among other factors. Fertility decisions can be represented by the following equation:

$$(A2.1) \quad H_{ht} = H(Z_{ht}, e_{ht}; \eta_t)$$

where H_{ht} is the number of children in household h at time t , Z_{ht} is a column vector of household observable characteristics and e_{ht} includes all unobservable characteristics that influence family reproductive behavior. For the estimation of this model, it is assumed that the number of children follows a Poisson process with parameter μ_{ht} . Formally,

$$(A2.2) \quad H_{ht} \sim \text{Poisson}(\mu_{ht}) \quad \text{with} \quad \mu_{ht} = E(H_{ht} | Z_{ht}) = \exp(Z'_{ht} \eta_t)$$

Then,

$$(A2.3) \quad \text{Prob}(H_{ht} = H_o) = \frac{\exp(-\mu_{ht})(\mu_{ht})^{H_o}}{H_o!} \quad \text{with } H_o = 0, 1, 2, \dots$$

This is the Poisson regression model, from which it is possible to consistently estimate parameters η_t by the maximum likelihood procedure. It can be shown

20 The section is taken from Marchionni and Gasparini (2007) and Badaracco (2014).

that consistency holds for the maximum likelihood estimators of η_t as long as the real distribution is any of the linear exponential family (to which the Poisson distribution belongs), provided that the conditional mean in (A2.2) is correctly specified. The estimators of η (which for simplicity are also denoted by η) are used to perform the microsimulations.

The simulated number of children in household h at year t , using the estimated fertility parameters for year t' , is given by:

$$(A2.4) \quad H_{ht}(\eta_{t'}) = F_{\eta_{t'}|Z_{ht}}^{-1} \circ F_{\eta_{t'}|Z_{ht}}(H_{ht})$$

where $F_{\eta_{t'}|Z_{ht}}(.)$ is the function that gives the relative ranking of its argument in year t distribution conditional to the observable characteristics Z_{ht} . In this particular case, $F_{\eta_{t'}|Z_{ht}}(.)$ is the cumulative probability function of a random variable that follows a Poisson distribution with $\exp(Z_{ht}'\eta_{t'})$ parameter.

The advantage of simulating the number of children through equation (A2.4) instead of predicting the expected number of children from the estimated model becomes evident when unobservable factors affecting fertility decisions are taken into account. Two households with the same observable characteristics Z_{ht} but a different number of children clearly differ in their unobservable characteristics e_{ht} , although the prediction of the expected number of children for both households would be the same and equal to $\exp(Z_{ht}'\eta_{t'})$. Since the objective is to simulate changes in the number of children as a consequence of changes only in the parameters η , it is necessary to keep unobservable factors fixed. Therefore, each household is characterized by the quantile it occupies in the distribution of children of year t . Let q_{ht} be the quantile for household h at time t , that is, $F_{\eta_{t'}|Z_{ht}}(H_{ht})=q_{ht}$. The simulated number of children in household h will be the one that places it in the q_{ht} quantile of the distribution of children with the relevant parameters of time t' ($\eta_{t'}$) conditional to the observable characteristics Z_{ht} .

Appendix 3

Figure 7.2: Poverty based on projections of female LFP
Latin American countries, 2012-2032.

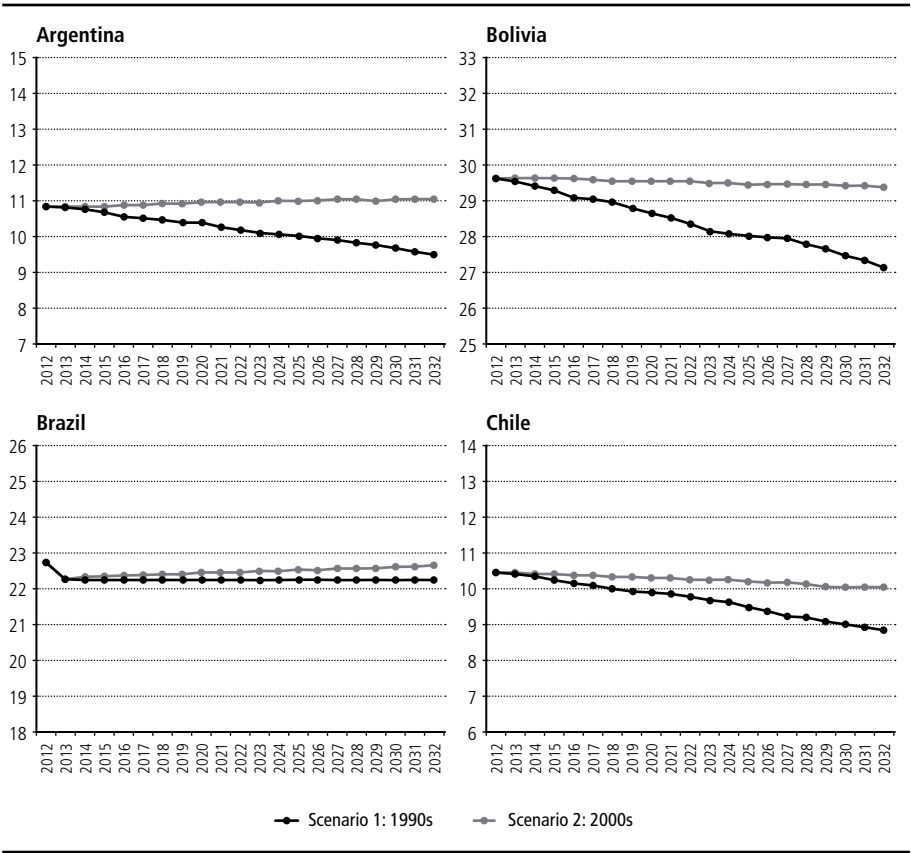


Figure 7.2: Poverty based on projections of female LFP (cont.)

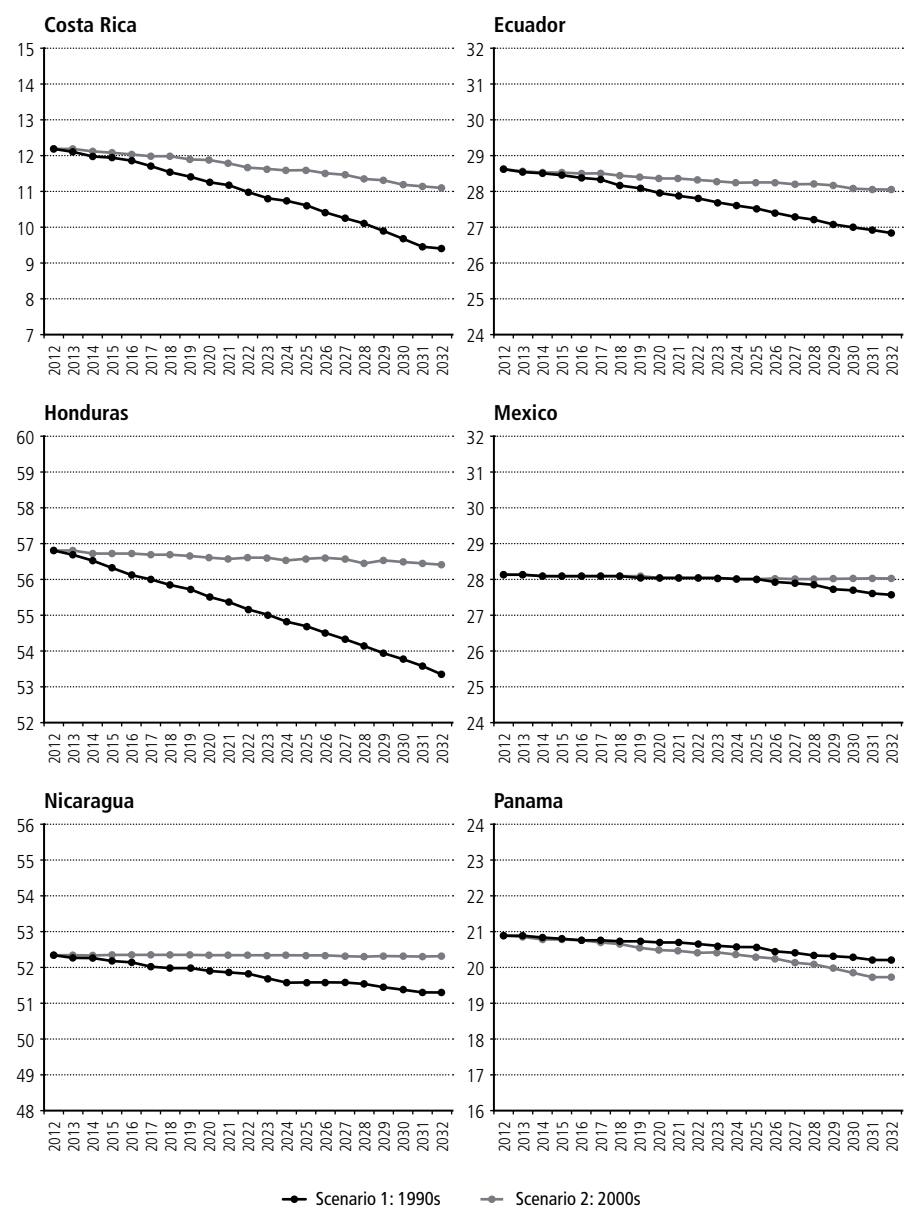
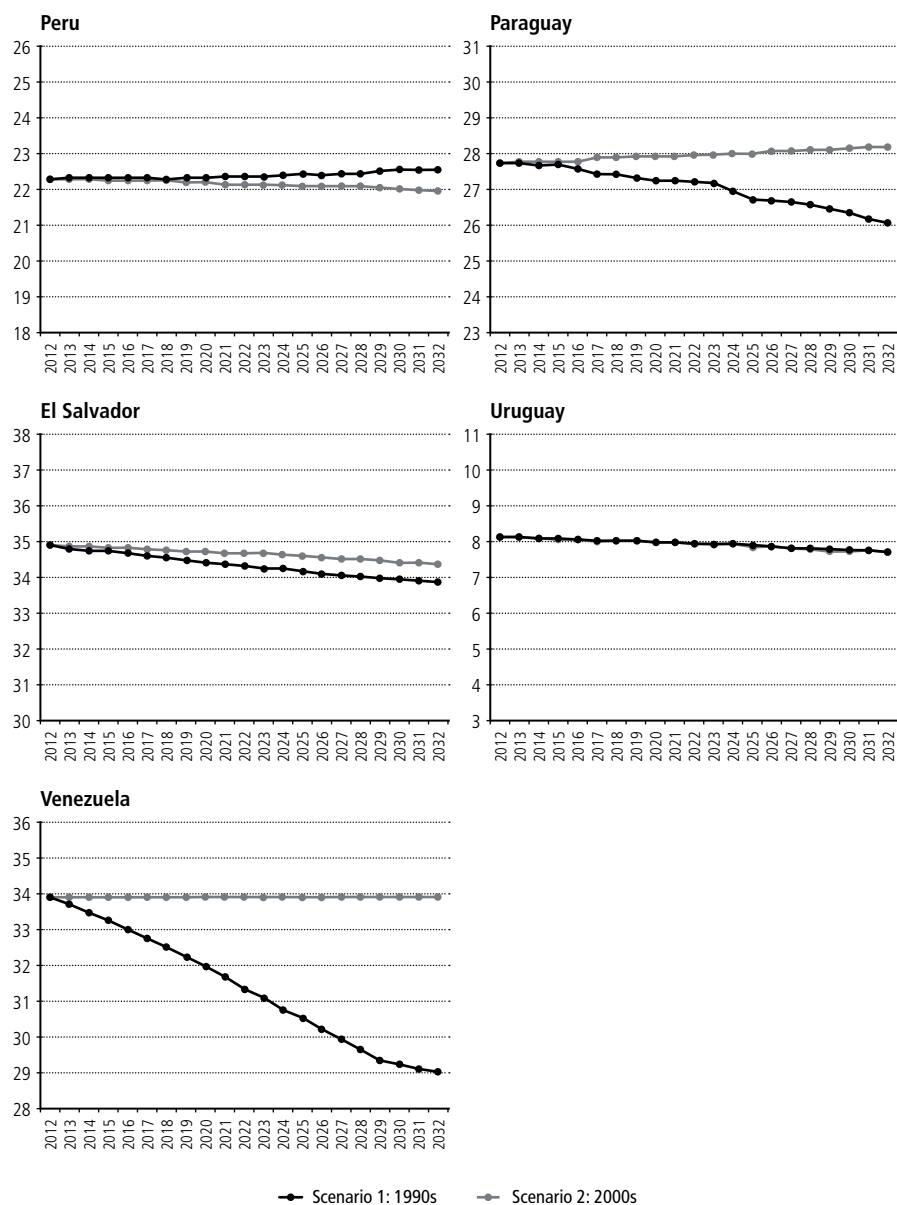


Figure 7.2: Poverty based on projections of female LFP (cont.)



Source: own calculations based on national household surveys.

Note: poverty is measured with the headcount ratio with a line fixed at USD 4 a day adjusted for PPP.

Figure 7.3: Inequality based on projections of female LFP Latin American countries, 2012-2032

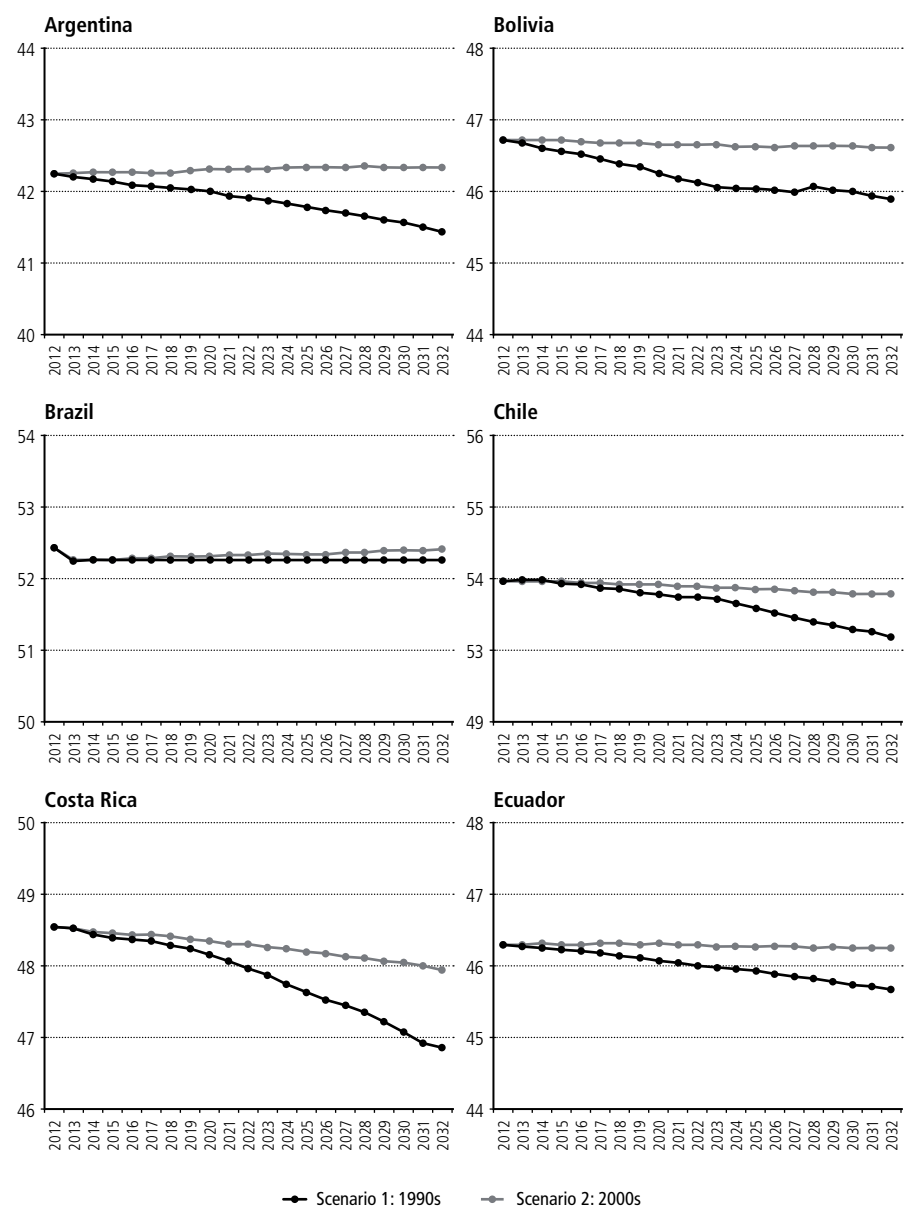


Figure 7.3: Inequality based on projections of female LFP (cont.)

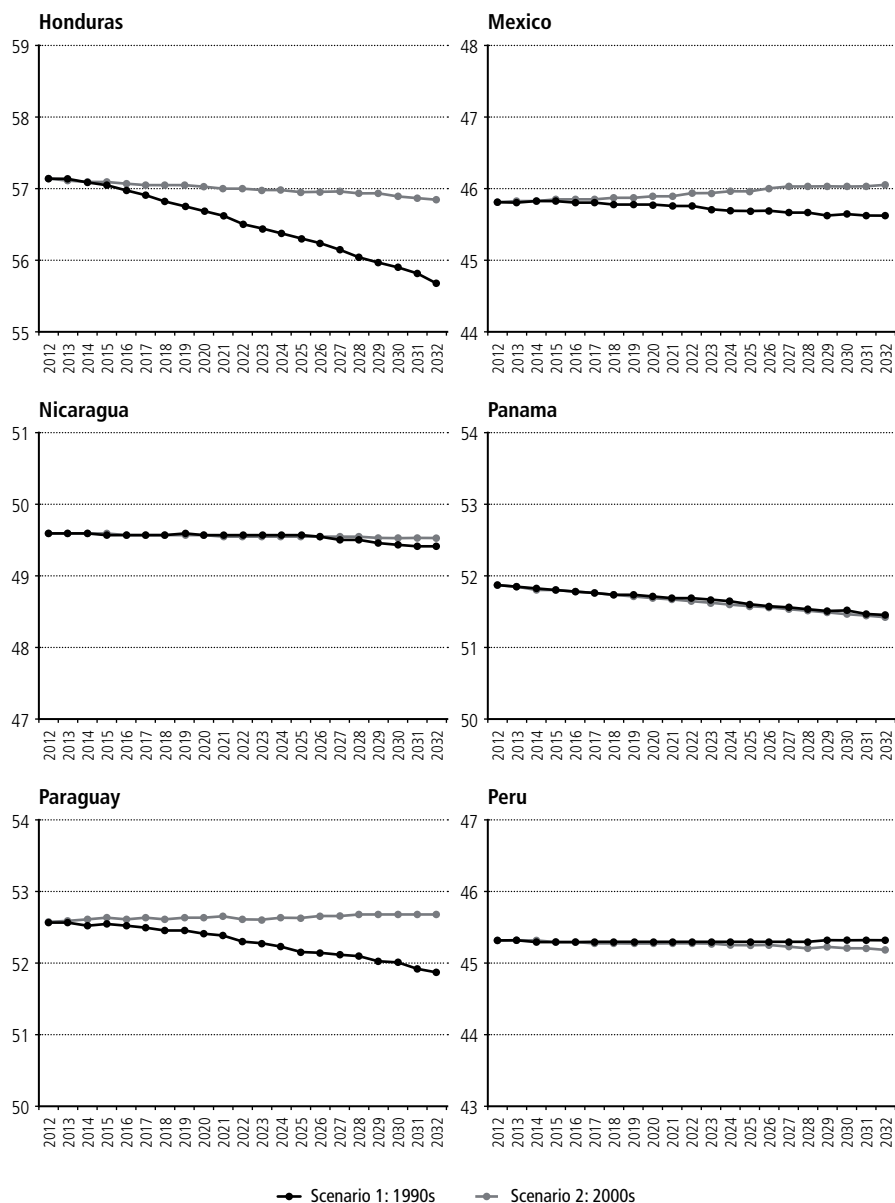
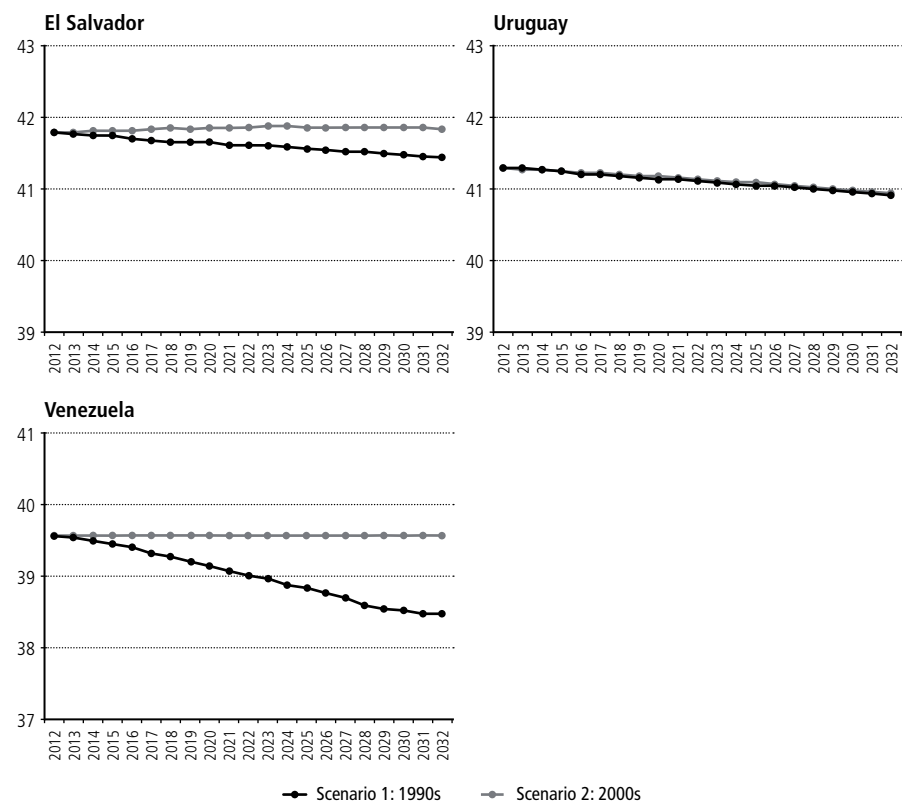


Figure 7.3: Inequality based on projections of female LFP (cont.)



Source: own calculations based on national household surveys.

Note: Inequality is measured with the Gini coefficient for household per capita income.

**Table 7.4: Percentage of female heads of household
Latin American countries, 1992-2012. Women aged 25-54.**

A. All women

	Share of female household heads based on self-report assesment				Gap between self-report and economic definitions of female household headship*		
	1992 (in %)	change 2002-1992	change 2012-2002	change 2012-1992	1992	2002	2012
Argentina	12.7	5.3	7.4	12.7	-4.2	-6.5	2.7
Bolivia	9.5	4.8	4.7	9.5	-2.1	-3.6	-0.9
Brazil	15.7	6.1	9.6	15.7	-1.0	0.8	8.9
Chile	16.8	4.2	12.6	16.8	0.0	0.0	5.7
Costa Rica	12.1	5.8	6.3	12.1	0.1	3.0	6.9
Ecuador	4.9	3.5	1.4	4.9	1.5	-2.4	-3.5
Honduras	3.9	1.2	2.7	3.9	2.9	0.4	2.5
Mexico	7.7	3.9	3.8	7.7	-0.7	-1.7	0.4
Nicaragua	2.7	-1.3	4.0	2.7	1.1	2.0	3.7
Panama	7.4	1.3	6.1	7.4	0.4	1.8	7.1
Peru	2.9	0.8	2.2	2.9	-1.9	-2.5	-0.1
Paraguay	11.1	8.1	3.0	11.1	-2.2	1.7	6.4
El Salvador	6.1	4.9	1.3	6.1	-0.4	-2.5	-0.8
Uruguay	22.3	7.8	14.5	22.3	0.6	-0.8	8.7
Venezuela	10.4	7.1	3.3	10.4	1.6	0.9	6.4
Latin America	9.8	4.2	5.5	9.8	-0.3	-0.6	3.6

B. Married women

	Share of female household heads based on self-report assesment				Gap between self-report and economic definition of female household headship**					
	1992 (in %)	change 2002-1992	change 2012-2002	change 2012-1992	Total income			Labor income		
					1992	2002	2012	1992	2002	2012
Argentina	2.3	1.9	9.8	11.7	-10.6	-18.0	-5.4	-12.7	-10.8	-3.3
Bolivia	0.5	1.2	3.5	4.7	-7.5	-11.1	-7.5	-7.9	-10.7	-7.6
Brazil	1.2	3.8	14.8	18.6	-9.3	-8.6	1.3	-9.7	-8.0	5.1
Chile	1.1	4.3	10.9	15.3	-6.3	-6.6	1.5	-6.4	-5.8	2.3
Costa Rica	1.5	2.8	7.5	10.3	-7.9	-7.6	-4.3	-7.7	-7.5	-3.6
Ecuador	2.5	0.3	0.3	0.6	-6.8	-12.1	-12.0	-6.3	-8.8	-9.7
Honduras	3.9	-0.7	6.1	5.4	-6.7	-8.7	-7.5	-6.7	-9.5	-4.9
Mexico	0.4	1.1	3.1	4.2	-5.4	-10.0	-12.1	-5.8	-8.8	-9.5
Nicaragua	7.4	-1.0	6.0	5.0	-9.5	-8.4	-7.1	-9.7	-10.4	-7.6
Panama	3.1	1.9	4.6	6.5	-11.2	-11.9	-6.2	-10.8	-10.8	-5.7
Peru	1.4	0.4	2.6	3.0	-11.5	-11.2	-6.6	-13.6	-13.9	-11.6
Paraguay	1.3	7.0	5.6	12.6	-7.9	-8.1	-1.7	-8.2	-7.4	-1.1
El Salvador	2.0	6.0	1.2	7.3	-11.0	-15.3	-12.2	-11.0	-13.1	-11.5
Uruguay	4.5	3.1	14.4	17.5	-10.3	-11.6	1.6	-10.1	-11.3	1.9
Venezuela	0.2	7.6	7.1	14.8	-9.6	-10.0	-1.7	-9.6	-9.7	-1.7
Latin America	2.2	2.6	6.5	9.2	-8.8	-10.6	-5.3	-9.1	-9.8	-4.6

Source: own calculations based on national household surveys.

Note: *Economic definition based on total family income: share of prime age women earning more than half of total family income. **Economic definition based on both a woman and her husband's income: share of prime age married women earning more than her husband. Married women: either in formal or consensual unions. Latin America: unweighted means.

Chapter 8

Policies toward female labor force participation

Evelyn Vezza

1. Introduction

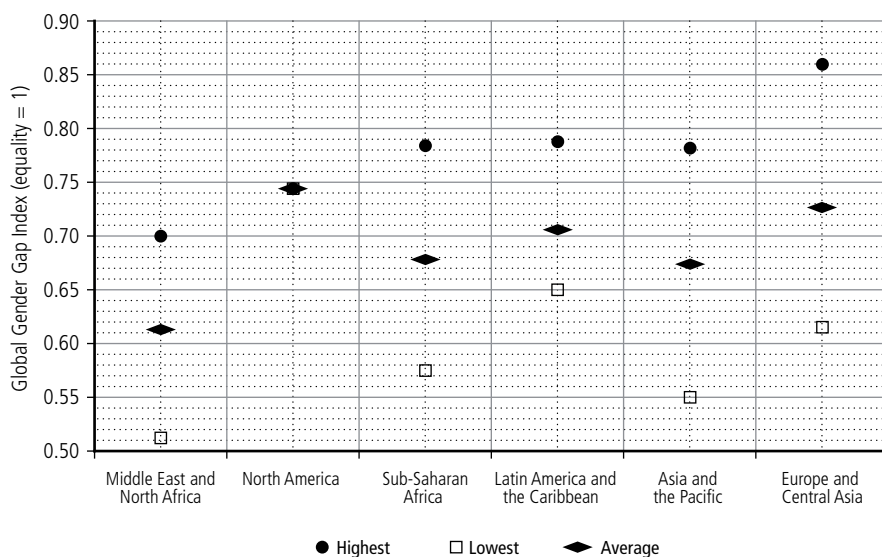
A long process of economic and cultural change has generated progress in gender equality. Institutions have been restituting women rights and changing social attitudes have improved the gender components included in policy (Doeptke, Terlilt and Voena, 2012). However, evidence reveals that translating development into gender equality has been difficult; recent policies directed at women's empowerment intend to close these gaps (Kabeer, 2012; Revenga and Shetty, 2012; Duflo, 2012; and World Bank, 2011).

The current picture reveals that reaching gender equality is a challenge worldwide. Figure 8.1 illustrates regional rankings according to the Global Gender Gap Index¹, which measures countries' performance in terms of gender equality. It shows the highest, lowest and average figures reached by the countries in the six regions, according to their index score. No country has been able to fully close the gender gap, not even Nordic countries like Iceland, where the gap has been closed up to 85%. North America, and Europe and Central Asia have obtained average indexes that are the closest to gender equality, despite significant dispersion among countries in the latter region. Latin America and the Caribbean ranks third, with lower intra-group dispersion. While the two regions, North America, and Europe and Central

1 Introduced by the World Economic Forum in 2006, the Global Gender Gap Index measures gaps in gender equality based on a set of outcome variables for four categories or subindexes – health and survival, educational attainment, economic participation and opportunity, and political empowerment. See Hausman *et al.* in World Economic Forum (2014) for methodological details.

Asia, have closed nearly 75% and 73% of their gender gap, Latin America and the Caribbean has closed around 71%.

**Figure 8.1: Global Gender Gap Index
Regions of the world, 2014.**

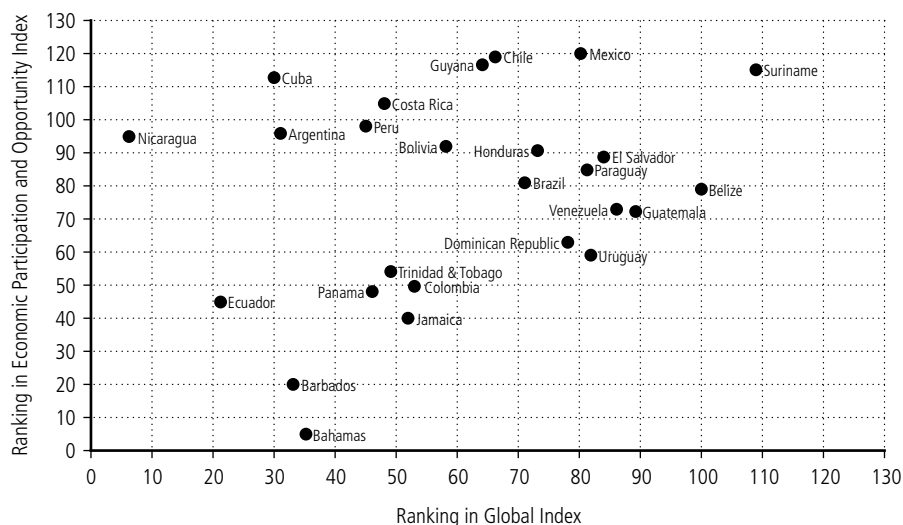


Source: The Global Gender Gap Report 2014 – World Economic Forum.

Note: Index based on data for 142 countries (the Latin America and the Caribbean region includes 26 countries).

Latin American and Caribbean countries have substantially reduced gender gaps in education attainment, but they have performed poorly in guaranteeing equality in the Economic Participation and Opportunity dimension. This latter sub index captures the gender gap in labor force participation rates, earned incomes, employment in top positions, and professional and technical workers. Figure 8.2 compares countries' performance according to the Global Gender Gap Index and the Economic Participation and Opportunity sub index. While 10 out of 26 countries pertain to the top fifty positions in the Global Index, only 6 out of 26 are also ranked among the top fifty of the Economic Participation and Opportunity Sub index.

Figure 8.2: Global versus Economic Participation and Opportunity Gender Gap Indexes Ranking Latin American and Caribbean countries, 2014.



Source: The Global Gender Gap Report 2014 – World Development Forum.

At the same time, labor market analysis in the region highlights that women persistently obtain poorer outcomes than men. As has been extensively documented in previous chapters, on average, prime-age women remain at the margins of the labor market: while around 65% of women aged 25-54 join the labor force, labor force participation is over 95% for men in the same age group. Women in the labor force are 1.5 times more likely to be unemployed than men. The figures are discouraging even when women are employed: most employed women perform precarious jobs without access to social security benefits², and the wage gap indicates that women earn 10% less than men (Nopo, 2012). Moreover, current deprivations not only have a direct impact on women, but also on their dependents. The situation is expected to worsen as women age, as current labor conditions increase women's barriers to social security entitlements (Barrientos, 2002).

Gender inequalities also prevent women from making economic decisions freely and increase barriers to other forms of empowerment. Hence, economic empowerment could be considered an entry point to other dimensions of empowerment (Kabeer, 2009).

2 See chapter 4 for detailed statistics on women's employment profile.

The main aim of this chapter is to identify and analyze policies in the region that address the hindrances that women face when exercising power in the economic dimension, particularly when making labor market choices. Thus, the chapter reviews major interventions that took place in the region that were aimed at improving women's labor market and economic participation, especially those that target prime-age women. It takes into consideration interventions that rule the outcomes themselves as well as those that affect the incentives that unlock women empowerment.

The chapter is organized as follows. Section 2 describes the main features of policies that aim to empower women in the economic arena, proposes a taxonomy, and briefly depicts leading countries' approaches. Section 3 describes the policy profile across countries in the region in terms of design and performance. Section 4 discusses some of the challenges and pitfalls that these policies need to overcome and Section 5 provides some final comments.

2. What can be done to empower women in the economic dimension?

With ambiguous achievements in terms of the transition from wellbeing to empowerment, policies in diverse settings have enabled women to make their own decisions, and they have generated some visible results. Fostering empowerment in the economic arena requires policies that promote access to basic services, resources, employment, and social protections (Kabeer, 2012; World Bank, 2011).

Labor market decisions are the result of a joint decision making process at the household level in which women may take different positions according to their bargaining power (Chioda, 2011). Inter-member relations at the household level result in allocations of paid and unpaid work for members that may affect women's agency (Malhotra, 2003). Roles tied to gender, such as housework and caregiving, imply greater restrictions on female labor market participation; they also lower the threshold (in terms of wages and labor conditions) that women are willing to accept to reconcile work with home responsibilities.

Thus, economic empowerment policies seek to correct the imbalances that prevent women from making their own choices. These policies, which intervene during different stages of a woman's lifespan, relax constraints and enhance her ability to decide about her own future. Deprivation of these sources of empowerment keeps women from obtaining desired outcomes and distances their achievements from those of men.

Policy designs adopt two approaches to correct these imbalances. On the one hand, they alter incentives by providing benefits or reducing costs. On the other hand, they set mandatory outcomes like gender quotas in occupations or positions.

This chapter focuses on the set of economic empowerment policies that take place during a woman's active age. These policies are more closely related to labor market and economic sustainability than to formal education, which takes place during earlier stages of the lifecycle. Policies targeting women during their active age include: initiatives aimed at freeing up women's time, supporting women's participation and productivity in the workplace through Active Labor Market Policies (ALMPs) and labor regulations, social protection with a gender perspective, and efforts to eliminate institutional biases against women's economic participation and entitlements.

The following subsection proposes a taxonomy of policies that classifies them according to their main objectives and the imbalances they intend to correct. Then, it briefly discusses good practices employed in leading countries.

2.1. A taxonomy

Multiple interventions are necessary to achieve women's economic empowerment. Policy strategies can be classified according to three main objectives: relaxing the constraints on women's time, improving women's agency, and generating fair labor markets (Table 8.1). These objectives are connected to particular groups of women and depend on the hindrances they have to overcome. Although women appear to be a unique target population, they represent a heterogeneous set of needs.

A key restriction to women's economic empowerment is the time burden attached to their family responsibilities. Significant decisions concerning education, work, and fertility overlap during women's active age. As a result, family decisions may crowd out human capital accumulation as well as labor market insertion for mothers and wives. The intrinsic gender roles related to maternity increase the costs of women's entry into the labor market, and these costs are often reinforced by other caregiving and home-production responsibilities that usually fall to women.

As a response, *co-responsibility and care policies* seek to alter the households' cost-benefit equation by engaging women in paid work. Parenthood policies can counterbalance the incentives that an employer could have for hiring males instead

of females because of maternity breaks, balancing the support in child-related post-birth leave between working parents. The possibility to share parental care after childbearing ameliorates the gender-biased effects of child-breaks on career prospects, *i.e.* progress and earnings. Another way to increase the incentives for women's employment is to diminish or neutralize the tax burden for the second-earner in the household. When taxes on the second earner are higher than on the first (or single) earner, the forgone increases in disposable income at the household level may prevent women from participating in the labor market.

Table 8.1: A taxonomy of economic empowerment policies

Objective	Issue	Policy	Tool
Relaxing constraints on women's time	Competing roles at the household level	Co-responsibility at home	Parental leave Family leave Taxation on second earner
		Care support	Child and adult care services
Improving women agency	Unequal access to economic resources	Social protection	Conditional cash transfers (CCTs) targeting women Motherhood compensation in social entitlements Social benefits
		Regulatory environment	Property rights
Getting fair labor markets for women	Barriers to labor market entry, discrimination, asymmetry of information, segmented labor markets	Active labor market policies (ALMPs)	Training Employment services Temporary employment Entrepreneurship
		Labor laws	Protective legislation Part-time work arrangements Reduced-hours schemes in full time jobs Minimum wages
		Advocacy	Representation in organizations Campaigns and awareness activities

Source: own elaboration.

International evidence suggests that parental leave has positive effects on women's labor market participation. Ruhm (1998) identified a positive effect of short parental leave on employment for women of childbearing age based on data for OECD countries. In contrast, the author found that lengthy parental leave (more than 6 months) is associated with lower wages. Waldfogel, Higuchi and Abe (1998) found that family leave policies increase women's attachment to the labor market after childbirth, based on panel data for Japan, Great Britain, and the United States. Schönberg and Ludsteck (2007) analyzed the case of Germany, where several parental leave expansions took place, and found a positive and small impact on female labor supply in the long-run and a delay in women's return to work in the short-run. More recently, Thévenon and Solaz (2013) have pointed out that expansions in the leave period have had positive, though modest, impacts on female employment in OECD countries, provided that break periods are shorter than two years.

Provision of care services also provides an incentive for mothers to engage in paid work. Supply of high-quality care services for children, such as early childhood education and daycare or nurseries, relaxes time-demands on mothers, allowing them to reconcile working hours and safe care for their children. Public or community care services represent a particularly important need for vulnerable women, whose potential labor earnings would not be enough to cover the high costs of private childcare services. Care for the elderly and the disabled is also a task traditionally assigned to women, who usually drop out of the labor market when circumstances require them to take on these responsibilities.

Childcare subsidies have also shown to have a positive effect on women's labor participation. For instance, Bettendorf *et al.* (2012) measured the childcare subsidy increase that took place in the Netherlands during 2005–09 and found that there was a moderate sized impact on female labor supply, and Lefebvre *et al.* (2009) found that a sub-national and universal subsidy in Canada that facilitates childcare also generated positive effects on female labor supply in the long run.

The second objective in Table 8.1 relates to improving women's agency. Women's agency refers to a woman's ability to exercise control over resources, something often denied by norms or as a result of economic-based gender inequality. *Social protection and regulatory environment policies* aim to correct unequal access to economic resource, seek to provide autonomy and self-worth to women, and empower them to participate on equal instead of subordinated terms.

Conditional cash transfer programs (CCTs) usually direct payments to women, although they either target children in the household or the entire household. This potentially gives women control over resources as well as the responsibility to

comply with certain conditions, such as school enrollment and children's health check-ups, which could increase their bargaining power within the household (Fizbein *et al.*, 2009).

The impact of CCTs on female labor supply appears to be uncertain. Although CCT impact evaluations mainly consider those variables related to childhood development—which figure as the primary goal of this type of program—some evaluations measure the program's effects on labor supply. Most of these studies do not find that cash transfers have significant short-term effects on female labor force participation, although there are exceptions. Their long-run impact remains uncertain.³

Another role assumes motherhood compensation in social protection entitlements as pensions and unemployment insurance. Maternity leave can limit a woman's ability to accrue sufficient social security contributions, resulting in lower social benefits, like pensions. Compensation for motherhood or housework during active age contribution years serves as a means to reconstitute women's control over economic resources at the time of retirement and facilitate economic autonomy.

Additionally, general regulations on property rights guarantee women the ability to exercise decisions over economic resources in equitable conditions. When a woman's property rights are recognized, she obtains greater control over economic decisions, including productive uses, financial choices, and well-being. Assuring women's control over resources can be guaranteed through legislation. Laws can reconstitute agency by granting women social identity to manage properties and inheritances; laws should avoid discriminatory clauses that deny women's access to land or housing titling, inheritance, and marital assets based on gender fundamentals.

The third objective of many economic empowerment policies is to ease women's access, permanence, and success in the labor market. Segregation by occupational type—in economic sectors and position levels—limits women's mobility to better-paid and hierarchical positions, and to a stable employment trajectory. *ALMPs, labor laws, and advocacy* address the underlying factors that underpin labor market segmentation.

3 See Gasparini, Garganta and Marchionni (2015), Alzúa *et al.* (2010), Martorano and Sanfilippo (2012), Ferro and Nicollela (2007), MDS (2007), Foguel and Paes de Barros (2010), and Borraz and Gonzalez (2009) as examples of a growing literature. See also the discussions and the empirical evidence in the previous chapters of this volume.

Most countries design ALMPs to include specific components for women, particularly the most vulnerable groups of women, to encourage their involvement in the labor market. ALMPs include a broad set of interventions such as training, employment services, incentives for small business development, and direct employment generation through public employment programs. They seek to overcome poor endowments in education, employment tenure, social networks and productive assets, in order to facilitate women's transition from inactivity, unemployment, or precarious employment, to formal jobs and stable incomes.

Card *et al.* (2010) reviewed studies that evaluate the impact of ALMPs for the period 1995-2007 and underlined that no gender differences were found in this type of program. In-classroom and on-the-job training show positive effects, particularly in the medium term. Subsidies for jobs in the public sector yielded poorer outcomes than other ALMPs. Cho and Honorati (2013) reviewed entrepreneurship programs in developing countries, finding positive effects on women's labor outcomes. They found that interventions that provided financing instead of training generated significant impacts. This suggests that credit constraints matter most among women in self-employment activities. Training programs appear to only affect women's attitudes.

Labor laws aimed at empowering women are subject to a lively debate concerning their actual effects. Some protective norms may create incentives that could make their aims inoperative or could even obtain adverse outcomes. Legislation that restricts women's working hours and their participation in industries or certain types of jobs may deter incentives to hire women. Although they promote women's participation in the labor market, part-time job schemes or reduced working hours for women could also favor precarious employment relationships in segmented markets. Other protective legislations like anti-discrimination regulations, guarantee equal treatment across genders (World Bank, 2012a). For instance, minimum salary policies may exert a substantive role on women's earnings and the gender wage gap, as women are overrepresented among workers earning the minimum wage (Betcherman, 2012).

Finally, *policy advocacy* pursues changes in social attitudes regarding discriminatory practices and female stereotypes, raising awareness of the importance of gender equality in the economy. Policy advocacy includes initiatives to disseminate information about public policies that could be imitated, promote transparency in recruitment and promotion practices, and encourage gender balance in top-level boards, seniority positions, and political decision-making.

2.2. The experience of leading countries

Nordic countries serve as examples of achievement in gender equality. They are ranked in the top five positions of the Global Gender Gap Index 2014 (Iceland, Finland, Norway, Sweden and Denmark rank from 1st to 5th) and their successful policies on the subject are also widely acknowledged. Even though the Latin American context is very different in terms of socioeconomic and demographic variables, the region could learn some lessons from these countries' experiences.

The premise of the Nordic system is to promote equal conditions and opportunities to individuals no matter their gender condition, with the aim that such a policy would extend the freedom of choice on an individual basis. Since 1987, the Nordic Council of Ministers for Gender Equality has led regional government cooperation in the area of gender equality. This council prioritizes gender equality in the labor market, and intends to become a model for gender policy innovations for other countries.

Initiatives like parental leave schemes and formal childcare are aimed at reducing the burden of care activities. They have a long tradition. Maternity leave schemes were first put in place in the 1950s, and paternity and parental leave began a bit later, during the 1970s and 1980s. While maternity and paternity leave are linked to the biological requirements of childbirth, parental leave benefits are allocated to parents to help with childcare. Maternity leave for the period before/after birth are the longest in Finland and Denmark, with 18 and 17.5 weeks respectively; in Finland, maternity leave may be transferred to fathers for health reasons. Paid paternity leave periods are shorter, with 2 weeks in Denmark, Norway, and Sweden; and 3 weeks in Finland. These lengths contrast with those observed for Latin American countries, as the following section shows.

In addition, fathers and mothers in these Nordic countries are permitted to take more weeks off using paid parental leave schemes. Evidence shows that men are in charge of around 40% of unpaid work at home, and there is a tendency towards equal shares of parental leave between marital partners (Gíslason and Eydal, 2011). "Father quotas" for parental leave—*i.e.* the required take-up rate of parental leave for men—were first implemented at the end of the 20th century to encourage co-responsibility. In Iceland, the father quota is 12 weeks and in Norway it is 10. There are also "mother quotas" in Iceland, Norway, and Sweden. These countries have legal instruments similar to maternity leave that provide leave from 9 to 11 weeks in duration.

Countries also offer different models for entitlements to leave compensation. In Finland, paid leave is linked to living arrangements. Mothers should reside in

the country for at least 180 days before the estimated delivery date and fathers should live with the child's mother. In Denmark, Norway, Sweden, and Iceland, however, leave compensation is connected to employment. Thus, the parent must meet some eligibility requirements to receive the benefit, including minimum working hours and duration of employment.

Another distinguishing feature of the Nordic system relates to childcare, which is universal, services-oriented, and closely tied to education. Indeed, coverage of formal childcare services in Nordic countries is among the highest in the world (European Commission, 2013). The childcare system, which began in the 1960s and 1970s, was initiated as a complement to family-friendly policies and was intended to encompass parents' increasing labor market participation. In contrast to other European countries, where national governments are in charge of providing childcare services, these national policies are decentralized at the municipal level.

Daycare centers, family daycare, and schools offer support in the form of non-parental care. Following parental leave, all children are entitled to public daycare, though in practice there are some supply constraints. Daycare can also be provided in the form of family daycare, where care services are delivered at the child's home. The cost of care is directly related to family income, allowing the most vulnerable families to have access to high-quality services.

Finland and Norway—and Denmark and Sweden, more recently—provide cash grants for care to promote equality and freedom of choice. These subsidies are targeted to children under the age of three. While access to these programs is universal in Finland and Norway, there are requirements based on parent's income in Denmark and Sweden.

There are additional incentives for women's employment. In Nordic countries, taxing on second earners is lower than on single earners, and it has been decreasing over time (OECD, 2006). Flexible working hours is common in Sweden and Finland. In Finland, there are pension credits for women who interrupt their careers to raise children; these contributions are paid for by the State. Iceland offers a basic pension through the social assistance pillar of the social security system (OECD, 2012). Gender-balance in political decision-making appears stronger in Sweden, Finland, and Denmark, where at least 40% of each gender was represented in the national parliament in 2012 (European Commission, 2013).

Nevertheless, there is some debate regarding the actual effects of this policy framework on gender equality. Some family-oriented policies that try to combine

familial and labor market responsibilities are suspected of encouraging gender role segregation at home and in the labor market. For example, extended maternity leave and child allowances may strengthen gender roles as they presume that women will be the primary caregivers and they detach women from the labor market for longer periods, which can erode their seniority and human capital accumulation. Moreover, part-time employment may reinforce women's attachment to traditionally "female" occupations. Conversely, policies that offer all household members incentives to engage in care activities are subject to another fairness debate centered on financing and targeting.

3. Policies in place

In Latin America, policies to promote women's economic empowerment seem to lag behind increased female participation in the labor market. Some studies argue that policies in the region are built on a paradigm that centers on the whole household and do not weigh the gender-equality effects. These policies thus stand in contrast to the individual empowerment and gender-equality approach adopted by Nordic countries (ILO *et al.*, 2013; Rossel, 2013; Arriagada, 2007).

3.1. Relaxing constraints on women's time

The growing trend in female labor force participation has not been accompanied by greater involvement of men in housework, causing an increasing burden on women (ILO *et al.*, 2013; CEPAL, 2010; Arriagada, 2007).

A remarkable feature of the initiatives in place is their close connection with employment. In fact, most tools to alleviate the burden of care activities carried out by women—like birth and post-birth leave—are attached to jobs in the formal sector, *i.e.* jobs with access to social security benefits. In addition, other public childcare services are scarce, while private options are expensive. As this type of intervention is offered to (or affordable for) women with high-quality employment, the lack of universal policies deepens the negative empowerment effects experienced by vulnerable women.

Co-responsibility at home

For women, maternity leave is an extended intervention among family-friendly policies to reconcile home and work in Latin America and the Caribbean. Paternity leave has been implemented several decades after maternity leave in some countries in the region; parental leave is far less frequent—it is only offered

in three countries. Maternity leave includes a mandatory break before and after birth (duration differs across countries), in which entitled women receive full salary. When the term ends, women in many countries also have the right to reduced and paid working hours for breastfeeding.

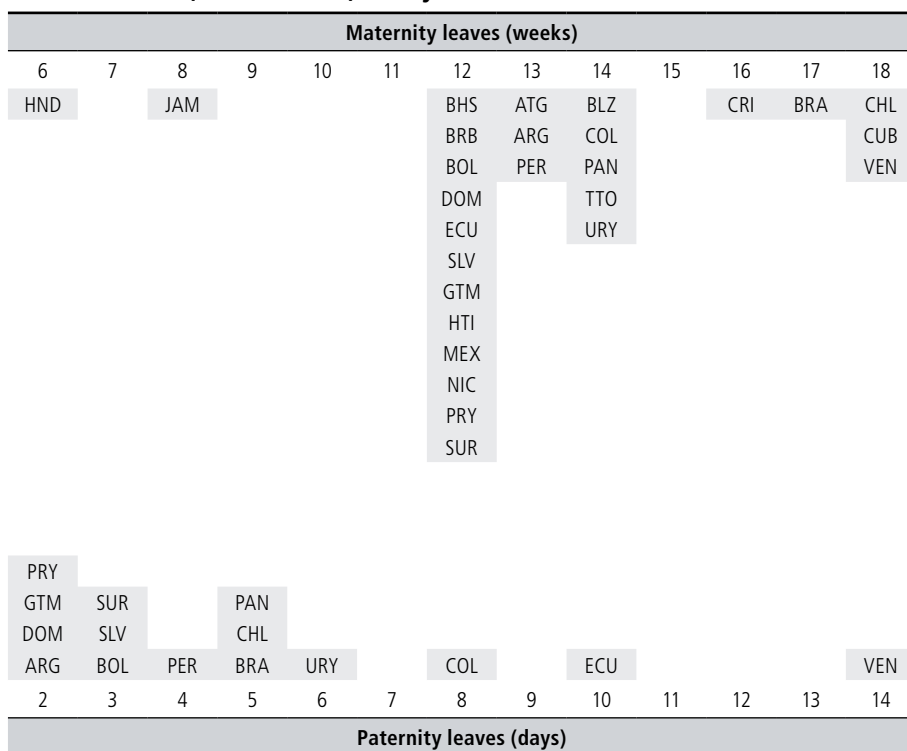
Figure 8.3 reports the duration of maternity and paternity leave with 100% income replacement for 27 Latin American and Caribbean countries in 2014. All of these countries offer paid maternity leave, and the most frequent duration is about 12 weeks, which takes place for women with formal jobs in the Bahamas, Barbados, Bolivia, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Mexico, Nicaragua, Paraguay, and Suriname. The longest paid leave (18 weeks) corresponds to working mothers in Chile, Cuba, and Venezuela, while the lowest one (6 weeks) takes place in Honduras.

Conversely, only 15 out of 27 countries offer full pay paternity leave and in most cases (12 countries) it is less than a week. Indeed, Paraguay, Guatemala, Dominican Republic, and Argentina offer only 2 days of paternity leave and Suriname, El Salvador, and Bolivia offer 3 days of paternity leave. Venezuela has the longest paternity leave (2 weeks), followed by Ecuador and Colombia (10 and 8 days, respectively).

Recently, many countries in the region have pushed to reform their birth leave schemes. Reforms have largely aimed to extend the duration of leave. In 2011, Chile increased the length of maternity leave from 12 to 18 weeks and Colombia increased its maternity leave from 12 to 14 weeks. Uruguay added two weeks (from 12 to 14) to its maternity leave program in late 2013. Establishing or extending paternity leave is another recent phenomenon. As a new measure, Peru and Bolivia implemented paternity leave in 2010 and 2012, respectively. Meanwhile, Colombia extended its existing leave period for fathers from 4 to 8 days in 2010, and Uruguay established a progressive increase in its duration from 3 to 6 days by 2015 and 10 days by 2016 for its reform, which took place in 2013.

One significant difference between maternal and paternal leave is the method of financing. While maternity leave is financed through a social security system in which employers, workers, and the public sector make contributions, paternity leave relies mainly on employer financing. This is the case in Argentina, Brazil, Dominican Republic, and Guatemala. In Uruguay, before the new reform, employers paid benefits for 3 days of paternity leave. Law No. 19.161, passed in 2013, charged the Treasury with the responsibility of financing 7 additional days; the reform will likely be implemented in the near future. By contrast, in Colombia and Venezuela, paternity leave is completely financed by the social security system.

Figure 8.3: Maternity and paternity leave with 100% income replacement Latin America (27 countries), early 2015.



Source: own elaboration based on ILO Working Conditions Laws Database, ILO Geneva, available at: <http://www.ilo.org/dyn/travail>; and countries' legislations.

Notes: data reflects the most general labor law and does not include special cases, *i.e.* it ignores leave schemes for employment in specific economic sectors (*e.g.* public sector employment usually provides a more generous leave).

Some policies place constraints on the number of leave periods that an individual may take. Trinidad & Tobago and the Bahamas both established a limited number of leave terms for employed women—once every two years in Trinidad & Tobago and once every three years in the Bahamas. Both countries have also instated a tenure requirement to access these benefits.

Three countries have emerged as exceptions by connecting parental leave to childcare rather than childbirth. Cuba, Chile, and Uruguay allow shared parental leave for childcare after birth leave. In Cuba, working mothers or fathers are able to request parental leave to care for children during the period between the end of the maternity leave until the child turns one. Additional

unpaid leave (for justifiable reasons) is also available for parents when children reach the age of one. In Chile, working mothers may request parental leave for childcare after their maternity leave ends. The period of leave is up to 12 weeks for full-time employment or 18 weeks for part-time. In addition, based on the reform that took place in Chile in 2011, mothers are entitled to transfer up to 6 weeks of maternity leave to fathers. In Uruguay, mothers or fathers—parents are entitled to choose—have the right to parental leave for children aged up to five-months-old in 2015 and six-months-old by 2016.

For almost all countries shown in Figure 8.3, mothers and fathers employed in the formal sector are eligible for maternity or paternity leave. Given the high rates of informal employment in the region, these policies are less likely to affect the distribution of childcare responsibilities between mothers and fathers.⁴

Brazil, Nicaragua and Peru offer a maternity leave entitlement for unemployed women. Women under the unemployment insurance regime are entitled to full paid childcare leave. However, these schemes are also biased to participants in formal labor markets. Indeed, women qualify for unemployment insurance if they are able to demonstrate a formal labor history—*i.e.* past social security contributions.

The only study examining of the effects of maternity leave on women's labor outcomes in the region was conducted for Costa Rica. Gindling and Crummett (1995) studied how three maternity leave laws, initiated during the 1980s and 1990s, affected labor outcomes for women. In 1980, leave duration increased from 2 to 4 months in the public sector, and then the same increase took place in the private sector in 1986. Later, in 1990, the law sanctioned mechanisms to enforce mandatory maternity leave. While the increase in the length of leave in the 1980s did not have any effect on female employment and wages, the law sanctioned in 1990 had a negative effect on women's wages in the private sector and no effects in the public sector and self-employment, which were not addressed in the law.

Care services

Public policies on care services are less relevant to the global set of women's economic empowerment policies (Arriagada, 2007). Existing public supply may be grouped into two categories: those initiatives related to enrolling children in

4 This is particularly relevant for some stereotyped female occupations like domestic service, and some job types like self-employment, which have the highest informality rates and reduced social protection schemes. Recently, some countries in the region set new legislation for domestic workers in order to formalize this activity (Argentina, Brazil, Chile, Costa Rica and Uruguay).

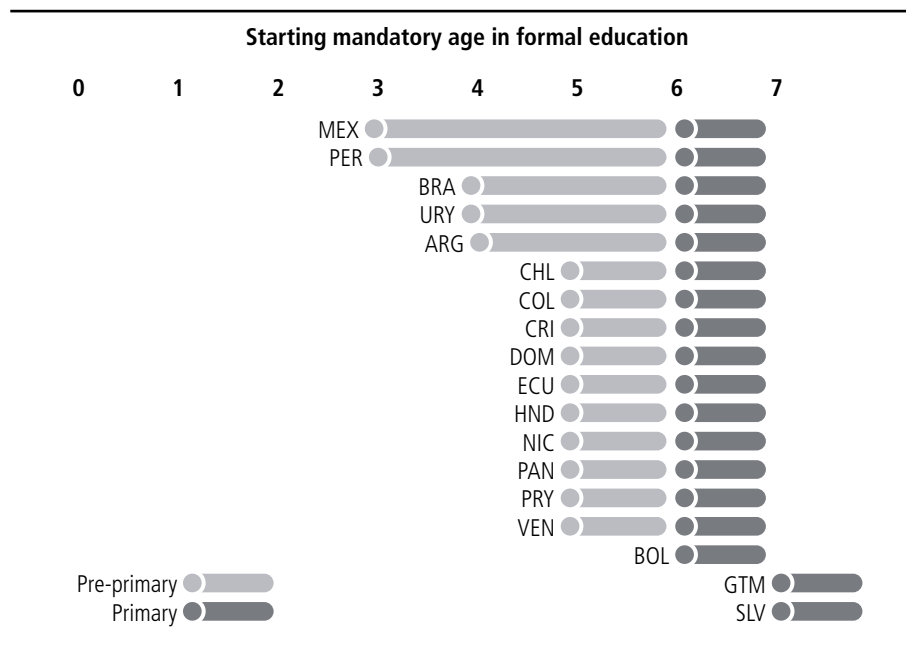
formal education, and those covering children in vulnerable households through social assistance programs (ILO & UNDP, 2009). The public provision of care services that cover mothers with children under the mandatory education age is scarce and heterogeneous. Even though initiatives regarding the elderly and people with disabilities have a longer tradition in the region, the degree of coverage varies across countries.

In most of Latin America, pre-school education is not mandatory at early ages. Only one year of pre-primary education is mandatory in the majority of countries, mostly for 5 year olds. Figure 8.4 summarizes the age at which mandatory education begins in 18 Latin American countries in 2014. Pre-primary education is mandatory earlier in Mexico and Peru, where the law requires three years of mandatory education (beginning at 3 years old) before children enter primary school. Argentina, Brazil and Uruguay begin schooling at 4 years old. At the other extreme, El Salvador and Guatemala have the highest mandatory schooling entry age, 7 years old, and do not require compulsory pre-primary school education.

In the 2010s, some countries in Figure 8.4 extended the years of compulsory education to include pre-primary education. Honduras made one year of pre-primary education mandatory in 2012. Brazil established that 2 years of pre-primary education would be mandatory in 2013 and determined that the Federal States and local governments should include children aged 4-5 in this education level by 2016. Similarly, Chile established one year of mandatory pre-primary education in 2013. Most recently, Ecuador passed a law to require one mandatory year for pre-primary education and Argentina and Uruguay lowered the mandatory requirement to children aged 4 years old.

Although increasing the mandatory years of education at the primary or basic education levels tends to close attendance gaps, it does not guarantee universality. Coverage indicators reveal that enrollment reached wide coverage for children aged 5 years old in most countries, mainly through public providers (Figure 8.5). Average gross enrollment rate for the region (15 countries in the 2010s) is 77.4% among 5 year-old children. In Mexico, Uruguay, and Argentina, coverage is close to universal, with rates above 95%. In the case of Chile, the enrollment rate is around 94% despite enrollment not being mandatory at the time of the survey (2011). Among the countries with the lowest records are those where enrollment is not mandatory for this age group –Guatemala registers the lowest rate 47.3%. In Nicaragua and Paraguay, education is mandatory at age 5 and enrollment rates are below 70%. In all countries, most children are enrolled in the public system.

**Figure 8.4: Age for starting compulsory education
Latin America (18 countries), early 2015.**

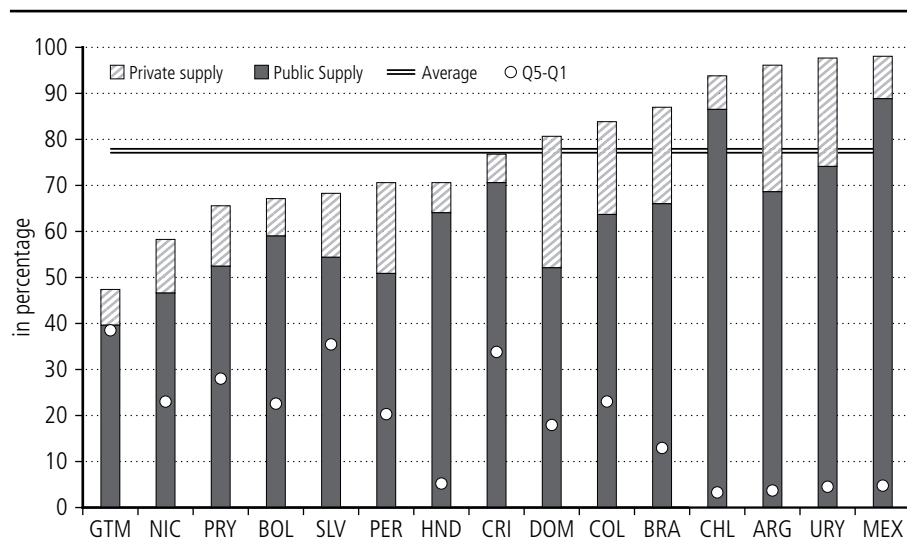


Source: SITEAL and countries legislations.

Countries with lower enrollment rates for children aged 5 years old also show higher coverage gaps between the richest and poorest quintiles. Thus, the poorest women face economic barriers to addressing care demands in countries where enrollment rates for pre-primary school remain low. While the enrollment gap remains below 10 percentage points in countries where more than 90% of the children are attending school, the gap reaches up to 39 percentage points in Guatemala, 36 percentage points in El Salvador, and 34 percentage points in Costa Rica.

For younger children who are not subject to the mandatory education requirement, enrollment rates are substantially lower, and therefore care demands become higher. Figure 8.6 illustrates gross enrollment rates for different age groups by country and the corresponding enrollment gap between children in the richest and poorest income quintiles. Although enrollment rates differ widely across countries, achievements remain significantly below the levels obtained for children aged 5 years old in all cases. For instance, despite showing rates above 90% for children aged 5 years old, Mexico exhibits an enrollment rate slightly above 60% for children aged 3-4 even when enrollment is mandatory for this

Figure 8.5: Gross enrollment rates for children aged 5 years old Latin America (15 countries), circa 2012.



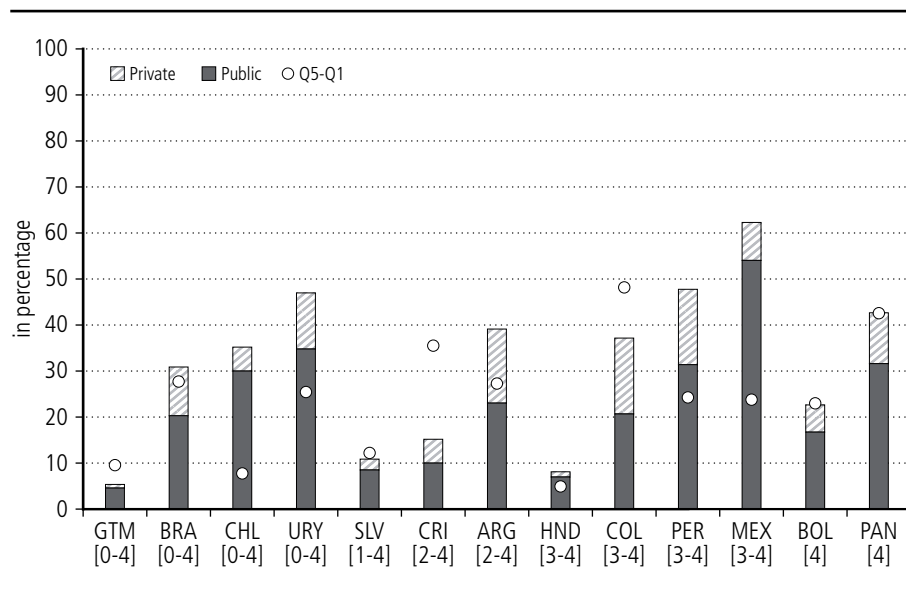
Source: Own calculations based on microdata from national household surveys.
Note: Household surveys correspond to 2012 in most countries with the exception of Nicaragua (2009), Chile, Guatemala, Honduras and Paraguay (2011).

age group. Argentina, another country where coverage is almost universal for primary school, covers less than 40% of children aged 2-4. Finally, enrollment for children aged 0-4 reaches the maximum level in Uruguay⁵, 47%, and the minimum in Guatemala, 5.5%.

The enrollment gap by economic condition is significant, no matter the age group considered. The coverage rate in the richest quintile duplicates the level of the poorest ones in Argentina, Brazil, and Panama; it triplicates in the case of Colombia and El Salvador; it quadruples in Honduras and is 7 times as great in Costa Rica. Regarding the type of supply, enrollment of children below 5 years old also takes place mainly in public institutions, though with a lower share than for children aged 5 years old, in all countries.

5 Nollenberger and Perazzo (2014) estimate the effect of rising vacancies for pre-primary school (non mandatory) on women's employment in Uruguay during the 1990s. In the context of a low take-up rate, authors did not identify general effects on women's supply, with the exception of significant and positive effects on women with intermediate level of education.

**Figure 8.6: Gross enrollment rates for children under 5 years old
Latin America (13 countries), circa 2012.**



Source: Own calculations based on microdata from national household surveys.

Note: Household surveys correspond to 2012 in most countries with the exception of Chile, Guatemala and Honduras (2011). Different age groups by country.

The high shares of children outside the formal education system increases the demand of care services at the household level, raising the costs for mothers to participate in the labor market. In addition, even when these services exist, they provide an incomplete solution. In general, early childhood school hours are shorter than the typical workday, and thus they do not completely solve women's challenges of work-family balance.

In many countries, the gap in the early childhood care services provision is complemented with public programs and community involvement. The main objective of these types of initiatives is to provide assistance to families in poverty during early childhood. Table 8.2 summarizes the main initiatives already in place, by country. For example, *Crece contigo* in Chile, *Hogares Comunitarios de Bienestar* in Colombia, *Hogares Comunitarios* in Guatemala, *Estancias Infantiles de apoyo a madres trabajadoras* in Mexico, *Cuna más* in Peru, and *Hogares de Atención Integral para Niños y Niñas* in Venezuela, target populations in need as a way to break the poverty cycle.

The level of coverage and quality of the care services provided by these programs varies across countries and programs. They also focus on the family instead of the individuals, and assign caring roles mainly to women, deepening gender stereotypes (CEPAL, 2013a).

Table 8.2: Public initiatives for care services during childhood
Selected initiatives in place, 2014.

Country	Program	Description
Chile	<i>Crece Contigo</i>	Gives support to vulnerable families with children under 4 years old and includes assessment on care services.
Colombia	<i>Hogares Comunitarios de Bienestar</i>	Targets children under 5 years old living in poverty. Provides support for childcare and child development. Care providers are the parents.
Costa Rica	<i>Red Nacional de Cuido</i>	National network that includes centers for childcare for children under 7 years old, in two formats: (i) extended time –10 or more hours/day; (ii) reduced time –4 hours/day; Also includes incentives to promote the private supply of care services. It sets goals for childcare coverage on a yearly basis.
Cuba	<i>Educa a tu hijo</i>	Targets children up to 6 years old, with different interventions for the 0-2 and 2-6 age groups. Provides care and education outside of formal institutions. It is based in communities and performed by the families themselves.
Guatemala	<i>Hogares Comunitarios</i>	Targets children of working mothers in poverty under 7 years old providing community-based care services.
Mexico	<i>Estancias Infantiles para Apoyar Madres Trabajadoras</i>	Subsidizes the full cost of daycare for poor mothers in the labor force, with children aged 1- 4 years old. In the case of children with disabilities, the age of eligibility increases up to 6 years old.
Nicaragua	<i>Centros de Desarrollo Infantil</i>	Early childhood support for children up to 6 years old, in rural and poor areas. It trains parents on children care.
Peru	<i>Cuna más</i>	Targets children up to 3 years old in poverty and extreme poverty, providing cognitive, social and health support. The centers offer two care models: (i) daily care –integral care for children aged 6 months to 3 years old; and (ii) encompassing families –advise on childcare and early childhood development by performing home visits and training in the centers.
Trinidad & Tobago	<i>Early Childhood and Education</i>	Set of interventions that enhance children's development prior to mandatory school level. Targets children aged 3-5.
Venezuela	<i>Hogares de Atención Integral para Niños y Niñas</i>	Targets children aged 0-6 in poor families where mothers are care providers. It has two care models: based in families or based in communities.

Source: SIPI – SITEAL, and official agencies.

The initiatives offer a set of services beyond childcare that are related to children's nutrition, health, and early stimulation. The programs in Chile, Colombia, Nicaragua, Trinidad & Tobago, and Venezuela provide integral services to

children. In addition, some day nurseries offer extended schedules to allow mothers to engage in employment, such as *Red Nacional de Cuido* in Costa Rica, *Hogares Comunitarios de Bienestar* in Colombia, and *Crece contigo* in Chile.

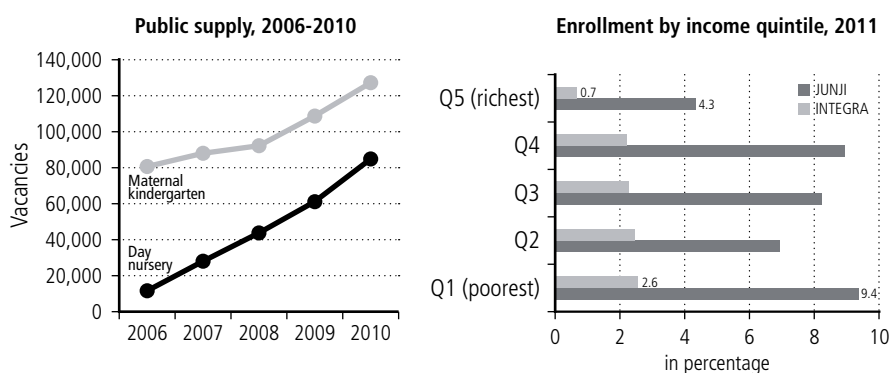
The programs also differ in their connections to the formal education system. Most programs are based in the home or in community centers and are not regulated by an education agency. In these cases, social development agencies lead the initiatives. They provide care services to children at an early age and to mothers, in some cases. Mothers become potential caregivers in home or community childcare schemes. *Hogares Comunitarios de Bienestar* in Colombia, *Educa a tu hijo* in Cuba, *Cuna más* in Peru, *Hogares Comunitarios* in Guatemala, and *Hogares de Atención Integral para Niños y Niñas* in Venezuela adopt this scheme. A smaller set of programs is more connected to the education system. For instance, the Ministry of Family and Social Welfare has implemented the *Red Nacional de Cuido* program in Costa Rica since 2010, which integrates children aged 4 and above into a pre-primary education level. Chile's *Crece contigo* includes a formal education component in the services network, assuring vacancies for children in day nurseries and kindergartens, which are regulated by the Ministry of Education.

Chile's *Crece Contigo* is a social protection program targeting children 0-4 years old in vulnerable socioeconomic conditions. Although the program primarily focuses on health services, including early stimulation during the growth stage and integral development, it also provides free access to high quality care services such as day nurseries (*salas cuna*) for children under 2 years old, and maternal kindergarten (*jardín maternal*) for children aged 2-4. To qualify for these care schemes, the mother or the legal tutor should be in vulnerable economic conditions.

A network of centers formed by National Council of Kindergarten (*Junta Nacional de Jardines Infantiles* - JUNJI) and *Integra* Foundation provide these care services. Reyes and Urzúa (2012) found that labor participation of mothers increases the likelihood of children being enrolled in the JUNJI and Integra day nurseries and maternal kindergartens. These centers adapt their schedules and models to the population in need, offering part time or full time schedules (until 8 pm), opening kindergartens during January and February to cover the needs of seasonal workers, and implementing kindergartens 'on wheels' (*sobre ruedas*) to reach rural and isolated areas. The program was launched in 2006 and it has continuously expanded. Figure 8.7 (left panel) shows that between 2006 and 2010 day nursery vacancies increased by six times and maternal kindergarten vacancies increased by nearly fifty percent. These centers have become the main providers of childcare for children at an early age. By 2011, around 17% of the

children 0-2 years old were attending a care center (right panel), where almost 10 percentage points corresponds to JUNJI and INTEGRA centers –8 and 2 percentage points respectively. Child attendance at these centers is biased to the poorer income quintiles (right panel). While 9.4% of children in the poorest quintile were attending a JUNJI center and 2.6% an INTEGRA center, only 4.3% and 0.7% of the children in the richest quintile were attending those centers, respectively.

Figure 8.7: Chile. Public supply of early childcare in *Crece Contigo* and enrollment of children under 2 years old by center type

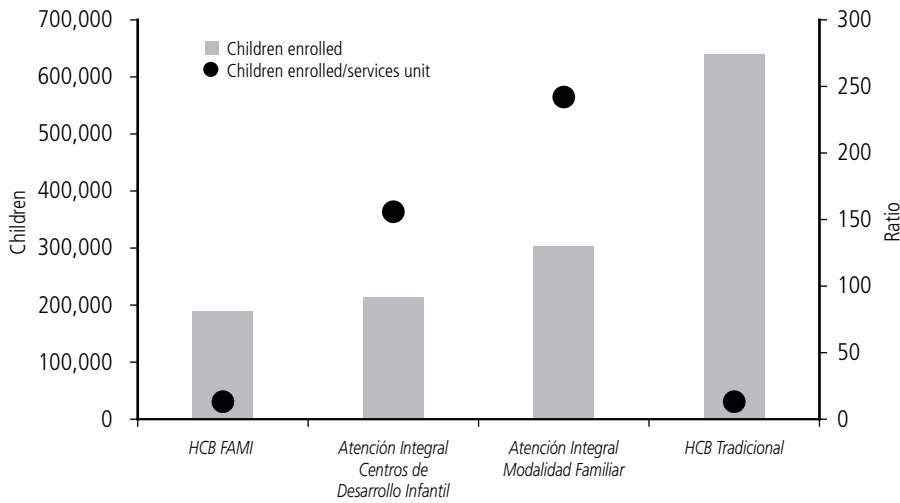


Source: Crece Contigo Memoria 2006-10 (left panel), and own calculations based on CASEN (right panel).

Colombia has a long tradition implementing childcare programs for vulnerable households. The Colombian Institute of Family Welfare (*Instituto Colombiano de Bienestar Familiar* – ICBF) has been running the program *Hogares Comunitarios de Bienestar* since 1987. This program achieved a wide coverage in comparison to similar initiatives in the region, reaching 13% of the target population (González Ramírez and Durán, 2012). The supply includes different types of childcare. Figure 8.8 depicts the scale adopted by the referred types. It organizes care services mainly through a network of community mothers who receive children at their own homes on a daily workday basis, during 4-8 hours per day (*HCB Tradicional*). Other types of childcare services support the family through community centers where pregnant women, breastfeeding women, and mothers with children under 2 years old participate (*HCB FAMI*). A community educational agent trains families on childbearing issues like nutrition and childcare. Both *HCB Tradicional* and *HCB FAMI* provide more personalized care services, attending 13 children per unit in 2013. In contrast, the remaining childcare types, *Atención Integral Centros de Desarrollo Infantil* and *Atención*

Integral Modalidad Familiar, offer similar services, but the groups are larger, joining community mothers or educational agents in local centers.

Figure 8.8: Colombia, 2013. Public supply of early childcare in *Hogares Comunitarios de Bienestar*



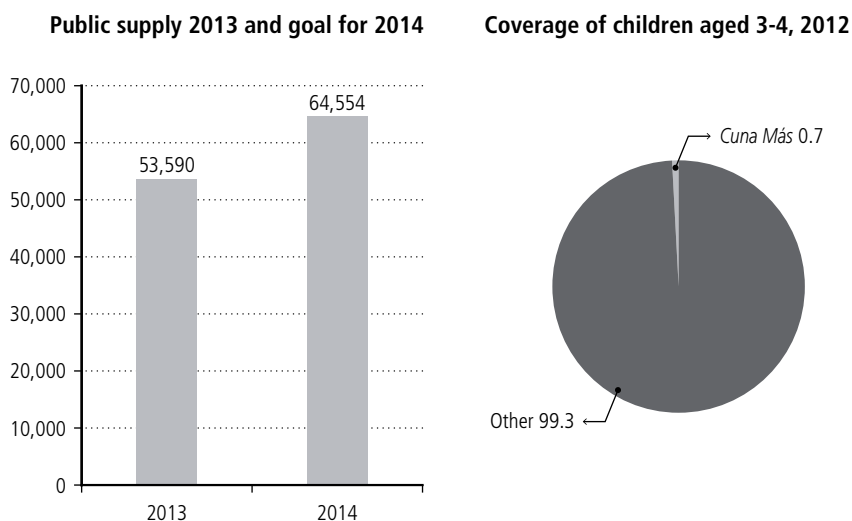
Source: ICBF Memoria 2013.

Following a similar scheme, Peru launched a pilot national program, *Cuna más*, in 2012. This program is based on a former initiative, the *Wawa Wasi* program, which worked through homes and community centers to support working mothers and provide integral services (daily care, education, nutrition, identity documentation) to children under 4 years old in vulnerable conditions. *Cuna más* implements a progressive plan that expands daycare coverage to the whole country, while also providing support to children's families. Enrollment is expected to be 20% higher in 2014 than in 2013, reaching approximately 65,000 children (Figure 8.9, left panel). Targeting is based on poverty condition and support focuses on family care in rural areas and day nurseries in urban centers. In 2012 the pilot program covered only 0.7% of children aged 3-4 (Figure 8.9, right panel).

Evidence coming from the region indicates that childcare services have positive effects on women's labor outcomes. Paes de Barros *et al.* (2011) examined a program in Rio de Janeiro that expands free childcare in poorer neighborhoods and found considerable positive effects on mother's employment. CIEE (2012) measured positive effects on women's employment for the program *Estancias*

Infantiles para Apoyar Madres Trabajadoras (PEI) in Mexico, which subsidizes childcare to mothers and single fathers employed or searching for a job and in low socioeconomic condition. Berlinski and Galiani (2007) identified that the positive impacts of free childcare centers on mother's employment ranged from 7 to 14 percentage points in Argentina. Katzkowicz and Egas (2014) microsimulated the potential effects of extending pre-primary education to children aged 3 years old in Argentina and found that, ex ante, this universal policy would increase female labor participation, particularly for married women. Effects would appear lower for women in the poorest 30% of the population.

Figure 8.9: Peru. Public supply of early childcare in *Cuna Más* and early childhood enrollment



Source: Programa Nacional *Cuna Más* (left panel), and own calculations based on ENAHO (right panel).

Uruguay is planning to implement *Sistema Nacional Integrado de Cuidados*, aimed at addressing the care needs of children, dependent elderly persons, and people with disabilities. It would focus on the vulnerable population, with the aim of universalizing access to care services. In the case of children, it would target those aged 0-3. The project fundamentals emphasize the need to formalize the care services and promote co-responsibility between households and the State, as well as between women and men.

In some countries, legislation has assigned an active role to employers in employees' care services provision; these are usually gender biased. These norms set a mandatory supply of nurseries and care services for those firms above the medium staff size (Rodríguez, 2010; Pautassi & Rico, 2011). In Chile, the Labor Code states that an employer who hires 20 or more women should offer day nursery services (either within the firm or via outside contracting) for employed women with children under 2 years old. Legislation in Venezuela does not discriminate by gender; employers with more than 20 employees must offer childcare services. In Colombia, employers must offer day nurseries for breastfeeding workers. In Bolivia and Ecuador, the regulation requires that firms with more than 50 employees offer childcare services. In Bolivia, employers must arrange for an in-house nursery for children under 1, while in Ecuador, legislation also allows employers to contract these services outside if an onsite child-care center is not available (Navarro 2008).

In addition, some firms offer childcare to employees as part of their corporate social responsibility policy or their human resources strategy. These initiatives are common among big or multinational firms, and public sector agencies. They often offer flexible or reduced working hours arrangements to working parents with young children.

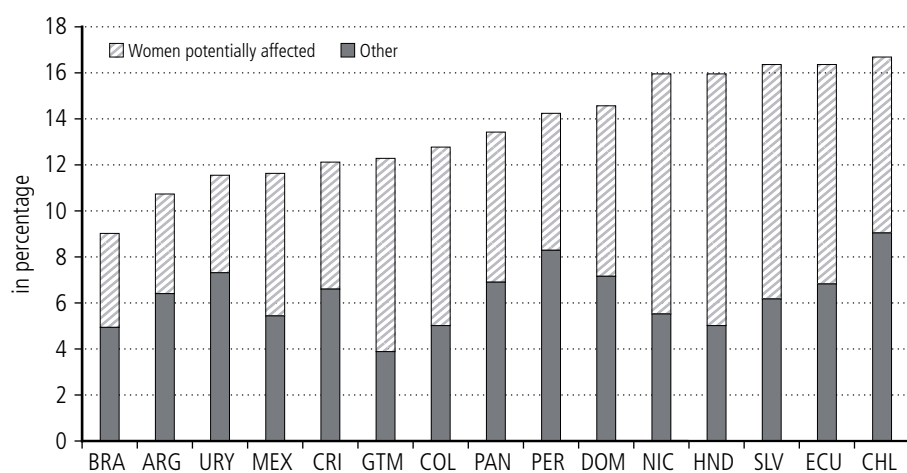
The supply of care services for elderly and people with disabilities also faces constraints. The presence of household members with illnesses, disabilities or old age, increases women's attachment to housework, given that care supply to cover these particular needs is scarce. Even when these care services exist, they rely on the social security system available for people in formal employment (actual or former formal employees). The problem is expected to deepen over the following years, as the rising life expectancy will add new pressures on the existing care systems.

In a study based on time use surveys for Latin America conducted in the 2000s, Batthyány (2010) showed that women were the main party responsible for care services at the household level, particularly among households in poverty. Batthyány *et al.* (2012) used a care survey to analyze the National Care System in Uruguay in 2010, and found that women were more willing than men to reduce their working hours in order to care for family members over 70. While 65% of working women answered that they would be able to reduce workday time, only 58% of working men answered that they would be able to do so. Figures reveal two additional facts according to socioeconomic condition. First, the gender gap is wider for people in better socioeconomic conditions, where 63% of working women and 51% of working men showed a willingness to reduce their working hours; meanwhile, the shares were 66% and 61% for those in lower socioeconomic conditions. Second, the willingness to reduce working hours to take care of the elderly—for both men and women—was negatively associated with socioeconomic status. When employed

people were asked whether they would drop their jobs to care for their mothers or fathers when they were elderly, women appeared more willing to do so than men, and the gap became particularly higher for people in better socioeconomic conditions.

Figures suggest that the share of women potentially affected by caring for elderly household members could be significant. Figure 8.10 illustrates the share of people aged 18-50 not studying nor working as salaried workers in households with at least one member older than 64 years old. The share of people in that condition ranges from 9.1% in Brazil to 16.7% in Chile. Women represent a higher share in Honduras and Guatemala (almost 69%) and a lower share in Uruguay (37%) and Argentina (40%).

Figure 8.10: Women potentially affected by tasks at home related to elderly care
Latin America (15 countries), circa 2010.



Source: Own calculations based on microdata from national household surveys.

3.2. Improving women's agency

Interventions based in the social protection arena dominate these policies, in contrast to those interventions related to the regulatory environment. While some countries in the region demonstrate advances in women's rights in regards to economic resources, others are still lagging behind. CCTs are common initiatives within social protection programs, and even though women's agency is not a key objective of these programs, they nevertheless made an impact.

Social protection

CCTs are tools for attacking poverty that are widespread across the region⁶ and have given more attention to women (CEPAL, 2013b). First, these programs assign a significant role to women in their households. The majority of CCTs entitle women to receive the subsidy—only a few do not state a preferred gender for entitlement—which usually translates into better compliance with the conditionalities of the program. Second, women are overrepresented among beneficiaries for two reasons. On the one hand, there are more women than men in poor households, and on the other hand, some programs define female quotas for targeting to guarantee a higher share of women among total CCT beneficiaries.

The decision to select women for CCT entitlement is based on evidence that women are better resource allocators than men (Fizbein *et al.*, 2009). This capability for managing home resources does not necessarily translate into a higher productive role. In fact, most programs treat women as responsible for care tasks within the household, and do not promote their entrance into the labor market through training, employment services or microcredit for small businesses. Moreover, even in cases where men could receive transfers, the household decision is to entitle women. Thus, CCTs can be functional to social attitudes regarding women's responsibilities in the household. Table 8.3 summarizes main CCTs programs in the region, identifying the member of the household entitled (preferred) and the role attached.

Most CCT programs entitle mothers to receive the transfer with compliances linked to the maternity role. In fact, mothers must assure conditionality compliance in children's school attendance and health checks in order to receive the benefit. For instance, the CCT *Avancemos* in Costa Rica incentivizes young people in poor households to go back to school; the tutor becomes responsible for student's attendance. The CCT *Bono de Desarrollo Humano* in Ecuador requires compliance with school attendance and health checks for children under 16 years old. Some social protection initiatives, such as the programs in place in Argentina, Bolivia, Chile, Guatemala, Honduras, Jamaica, Paraguay, and Peru, also establish conditionalities for pregnant women as a method of reducing maternal and infant mortality. The program *Comunidades Solidarias* in El Salvador offers a health bonus for pregnant women and children under 5 years old, and an education bonus for children aged 6-15.

6 The initiatives launched shared similar features related to eligibility—vulnerable households with children—and conditionalities—certification of children's health controls and school enrollment (Fizbein *et al.*, 2009).

These programs less frequently focus on the enhancement of women's capabilities outside the household –like ALMPs. As exceptions, *Chile Solidario* in Chile, *Bolsa Família* in Brazil and *Red de Protección Social* in Nicaragua provide access to labor-oriented programs. For instance, employers who hire beneficiaries of *Chile Solidario* receive a wage subsidy equal to 50% of the minimum wage and training financing. Women are entitled to a specific component called the *Asignación Social*, which provides a subsidy to those beneficiaries who get a formal job. *Bolsa Família* beneficiaries may attend training courses via the program *Próximo Passo*. There is a participation quota of 30% for women, as a minimum, in order to preserve their vacancies. Besides the transfer and health and education services to families and their children, *Red de Protección Social* in Nicaragua contemplates an occupational training bonus to young people aged 14-25 with basic mandatory level of education.

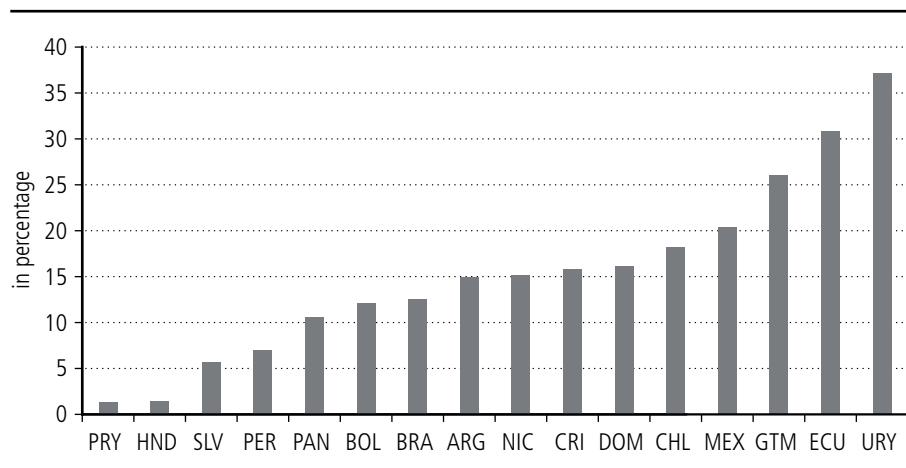
Table 8.3: CCTs entitlement and responsibilities
Selected Latin American and Caribbean programs.

Country	CCT	Transfer receiver			
		Household member	Responsible for conditionalities on		Attends training
			children	mother	
ARG	<i>Asignación Universal por Hijo</i>	mother	x	x	no
BOL	<i>Bono Juana Azurduy</i>	mother	x	x	no
BRA	<i>Bolsa Família</i>	mother	x	no	x
CHL	<i>Chile Solidario</i>	mother	x	x	x
COL	<i>Familias en Acción</i>	mother	x	no	no
CRI	<i>Avancemos</i>	tutor	x	no	no
DOM	<i>Programa Solidaridad</i>	tutor	x	no	no
ECU	<i>Bono de Desarrollo Humano</i>	mother	x	no	no
SLV	<i>Bonos comunidades solidarias</i>	mother	x	x	no
GTM	<i>Mi Familia Progresa</i>	tutor	x	x	no
HND	<i>Programa de Asignaciones Familiares</i>	mother	x	x	no
JAM	<i>Programa de Avance mediante salud y educación</i>	mother	x	x	no
MEX	<i>Oportunidades</i>	mother	x	no	no
NIC	<i>Red de Protección Social</i>	mother	x	no	x
PAN	<i>Red de Oportunidades</i>	mother	no	no	no
PRY	<i>Programa Tekopora</i>	mother	x	x	no
PER	<i>Programa Juntos</i>	tutor	x	x	no
TTO	<i>Programa de Transferencias monetarias condicionadas focalizadas</i>	tutor	no	no	no
URY	<i>Programa de Asignaciones Familiares</i>	mother	x	no	no

Source: ECLAC – database of non-contributory social programs, and official agencies.

In some countries, these programs cover a significant share of women. According to Figure 8.11, the highest share is found in Uruguay, where *Programa de Asignaciones Familiares* covers nearly 37% of women; *Bono de Desarrollo Social* in Ecuador, which covers approximately 31% of women, ranks second. Both programs prefer to entitle the woman of a household.

Figure 8.11: Women covered by CCTs
Latin American countries (16 countries), circa 2010.



Source: Own calculations based on microdata from national household surveys.

The significant share of women in poverty who are beneficiaries of CCTs raises questions regarding the type of women's agency that these programs promote. Some argue that CCTs reinforce gender-role stereotypes, with negative effects for economic empowerment. Moulyneux (2009) notes that evidence suggests that CCTs have weak effects on economic empowerment, and reinforce a "maternal model of care," since they do not promote cooperation within the household. Based on evidence from evaluations of the Mexican *Progresar/Oportunidades* program, the author highlights that women's economic autonomy is mainly centered on consumption and mostly measured by beneficiaries' perception, like becoming more "creditworthy," which does not necessarily translate into empowerment. In their literature review, Cecchini and Madariaga (2011) propose that women's empowerment depends on resource management and that some CCT designs reinforce a maternal role. In almost all CCTs, barriers seem to deepen in the absence of care co-responsibility components. *Chile Solidario* and *Oportunidades* are exceptions, as they provide their beneficiaries preferred access to the program *Chile Crece Contigo* and *Programa de Estancias Infantiles para Madres*, respectively, to reconcile childcare with employment responsibilities.

Conversely, CCT evaluations reveal improvements in self-esteem tied to a feeling of being a “good mother” that depend on compliance with time-consuming conditionalities. As these types of programs strengthen the gendered division of household responsibilities (women are tasked with care instead of men), women may face disadvantages toward assigning their time in paid-work activities, and thus may remain outside the labor force. Indeed, women are rewarded for contributing to program goals, which are centered on child development.

Existing evaluations do not reveal a clear picture about the impact of CCT programs on women’s labor outcomes in the region. Most studies do not find that these poverty-alleviation programs have a significant effect on female labor supply (Alzúa *et al.*, 2010 for Nicaragua, Mexico and Honduras; Foguel and Paes de Barros, 2010, for Brazil; Martorano and Sanfilippo, 2012, for Chile; Adato *et al.* (2000) for México’s *Progres*a). However, some studies do find some disincentives for female labor force participation (*e.g.* Gasparini *et al.*, 2015, for vulnerable women in Argentina; MDS, 2007, Teixeira, 2010, and Ferro and Nicollela, 2007, for rural women in Brazil; Borraz and Gonzalez, 2009, for some areas in Uruguay).

Besides CCTs that seek women’s economic autonomy, other social protection entitlements contemplate women’s agency in the economic arena. This is the case of compensations to social security contribution records that seek to avoid interruptions during the maternity break. Chile has offered universal contribution credits for maternity, known as “bonus per child,” since 2009. Mothers up to 65 years old are entitled to this benefit (Rofman *et al.*, 2013) no matter their contribution history in the pension system. This bonus increases the pension benefit by 10% of 18 minimum wages at the moment of childbirth.

Regulatory environment

Latin America has made progress in its efforts to enable women’s more equitable control of assets. Particularly, housing, land, and business assets are more equally distributed by gender than what would be expected given numbers on the gender of the head of household (Deere, Alvarado, and Twyman, 2009). Inheritances and property rights do not discriminate between women and men, though land ownership is concentrated on men, in contrast to housing (Deere and Leon, 2003).

Peru is one of the countries in the region that reformed land ownership to improve gender equality (Malhotra *et al.*, 2009). The country established mandatory joint land titling for married couples. Nicaragua also implemented a joint land titling reform to correct gender imbalances in assets possession (Box 1).

Box 1: Land titling programs with gender approach in Latin America

Proyecto Especial Titulación de Tierras y Catastro Rural (PETT) in Peru

The program was established in 1992 to address the formalization of property rights through land titling in rural communities. In the first phase, registration did not promote gender equality within couples, recognizing mainly men's rights over land. Taking into account these outcomes, a second phase that began in 2000 considered spouses or cohabitants –i.e. joint titling– in recognizing the property over land. PETT was merged with the Commission of Formalization of Informal Property (COFOPRI) to include the formalization of urban properties in 2007.

Proyecto de Ordenamiento de la Propiedad (PRODEP) in Nicaragua

Implemented in 2002, it addressed the registration of land to indigenous communities. Later, it adopted a gender strategy in 2007 to guarantee equitable access to property for both women and men and accomplished its goals. Women represented 51% of the beneficiaries in PRODEP during the 2003-2012 period.

Source: Ministerio de Agricultura y Riego in Perú; Instituto Nicaraguense de Estudios Territoriales in Nicaragua; and The World Bank.

Wiig (2012) evaluated the effect of land property rights on women's empowerment based on the Peruvian *Proyecto Especial Titulación de Tierras y Catastro Rural* (PETT, see Box 1), finding that the land property program had increased women's involvement in household decisions at a higher level than men, particularly in the realm of agriculture. An impact evaluation of the Nicaraguan *Proyecto de Ordenamiento de la Propiedad* (PRODEP, see Box 1) will be carried out in the near future.

3.3. Getting fair labor markets for women

Promoting women's participation in employment also enhances their voice within the household. A woman's empowerment through employment changes both her set of choices and the way her household spends money and invests in their children. This policy grouping comprehends a dynamic set of public interventions that are subject to redesign and permanent readjustment.

The core interventions can be categorized as the “promoting opportunities” type rather than the “guaranteeing outcomes” type. Thus, they mainly provide incentives

and are less concerned about establishing quotas. ALMPs with a specific focus on women are common tools used to empower women's participation in the labor market and to alleviate negative employment shocks. Labor laws also represent a significant avenue for female empowerment policy, as they can guarantee a desired gender-equilibrium result or prevent and punish discriminatory practices in labor relations. Finally, public sector advocacy has an important place in women's empowerment agenda, providing assessments and incentives, as well as demonstrative practices, to be imitated by the stakeholders in the labor market.

ALMPs

The interventions in this set of employment policies are oriented to populations with difficulties in finding a job, particularly among the vulnerable population, including women, youth, indigenous and rural populations, people with disabilities, and people with socioeconomic deprivations. Although women make up a substantive portion of participants in general programs, some countries develop initiatives specifically targeting women in order to increase their chances of employment. However, these kinds of initiatives do not represent the majority of the interventions in place under ALMPs.

Initiatives that aim to foster the female labor supply include training programs that increase employability. They are mainly centered on women outside the labor force who face vulnerable conditions (Table 8.4). The training is often vocational, with some modules focusing on soft-skills development. In Trinidad & Tobago, the *Non-traditional Skills Training Program* offers poor women, aged 18–50 with low or no qualifications, vocational training. In Chile, the *Mujer Trabajadora y Jefa de Hogar* program offers women vocational training to increase their chances of getting a job. The program focuses on women in the poorest quintiles. They receive a stipend for transport costs. Evaluation studies show positive effects on women's training but not on labor insertion for the 2007 cohort; they also show that the program had positive effects on the likelihood of being employed and labor market activation for the 2008 cohort (SERNAM, 2010). In Uruguay, *Proimujer* provides in-classroom and on-the-job training for unemployed women, with the aim of enhancing employability conditions. Evaluation analysis did not identify effects on employability and employment quality—*i.e.* formalization (DINAE, 2008).

**Table 8.4: ALMPs to enhance women's employment
Selected countries and programs ongoing during 2014.**

Country	Program	Type	Target group	Benefit	Length
CHL	<i>Mujer Trabajadora y Jefa de Hogar</i>	Training	Women aged 18-65, economically active, in charge of household members, in vulnerable conditions	Ad-hoc to women's needs, including training and labor intermediation, formal education, entrepreneurship support	1–2 years
	<i>Bono al trabajo de la mujer</i>	Subsidies to employment	Women aged 25-59, with pensions contributions up to date, in the poorest 35%	Monetary benefit to the employer and worker - according to earnings level	2 years for employers, 4 years for workers
COL	<i>Ley de Formalización y Generación de Empleo</i>	Subsidies to employment	Women below 28 or above 40 years old, without a formal contract in the last year	Fiscal incentives to employers for new jobs oriented to women	2 years
	<i>Mujer Rural</i>	Support to own business	Women head of household in rural areas and associations where at least 80% of members are women in vulnerable conditions	Training, technical support and access to productive networks and financing	-
SLV	<i>Programa de Apoyo Temporal al Ingreso</i>	Temporal employment	Head of households -women preferred- and young people aged 16-24 without formal employment	Monetary transfer and training for working in community projects	6 months
MEX	<i>Impulso Productivo de la Mujer</i>	Support to own business	Social firms or associations formed by women exclusively	Training and support to project development through technical assistance and micro-financing	-
TTO	<i>Non-traditional skills training</i>	Training	Women aged 18-50 who are unskilled, unemployed, or earn low income	"Specialized training (construction; woodwork-furniture; automotive; technology; industrial maintenance) and life skills development; remedial literacy and numeracy training"	6 months
	<i>Craft training program for women</i>	Support to own business	Women aged 25-50 who are single, unskilled, and unemployed	Training and marketing support to establish home-based craft business	-
URY	<i>Proimujer</i>	Training or support to own business	Unemployed women aged 25-55	Vocational training and soft-skills development	up to 6 months

Source: own elaboration based on information from official agencies.

Another set of ALMPs promotes labor market insertion by concentrating on the labor demand side. Benefits for women's hiring, also known as "protected employment," have been developed in some countries. *Bono al Trabajo de la Mujer* in Chile targets poor women aged 29-59 who become employed. The program provides a bonus (this benefit depends on current incomes) to employed woman for 4 years as a way of compensating her effort, and to her employer for 2 years, to incentivize women's hiring. The law *Ley de Formalización y Generación del Empleo N° 1429* in Colombia gave employers fiscal incentives to hire women under 28 or over 40 years of age, to support their transition toward formal employment. The wage subsidies program *Objetivo Empleo* in Uruguay has a specific component for women aged 45-65 who have experienced a long period of unemployment and who are living in conditions of vulnerability. The program offers employers a high subsidy for hiring women, which reaches 80% of two minimum salaries during 18 months; for hiring men, the subsidy reaches 60%. In Chile, *Bono al Trabajo de la Mujer* offers an economic incentive to women aged 25-59 who are among the 35% poorest beneficiaries and who find employment. The bonus serves as a method of encouraging employment outside the program.

Generating direct employment is another strategy used to support women through public programs. *Programa de Apoyo Temporal al Ingreso (PATT)* in El Salvador offers public temporary employment to women, combining income support and training. The program focuses on women, particularly heads of households, and youth aged 16-24. An impact evaluation estimated a positive effect on women's expectations and prospects of labor market insertion in the short run, but this effect vanished in the long run. Regarding labor outcomes, the program had positive effects on labor participation (around 9 percentage points) as well as on employment (8 percentage points) (Beneke de Sanfeliú, 2014).

The promotion of small businesses in the region has also reached women as a target group. One out of four working women in the region is self-employed, and her participation in micro-business seems to be related to low-productivity and informal activities, compatible with familial responsibilities (Heller, 2010). Recognizing the barriers that women in poverty must overcome in order to develop their own business, current initiatives rely on micro-financing schemes and organization through cooperatives. In Mexico, the program *Impulso Productivo de la Mujer* supports social enterprises formed exclusively by women—with the financing of the *Fondo Nacional de Apoyo a las Empresas de Solidaridad*. In Colombia, the program *Mujer Rural* also supports women's cooperatives and small business in vulnerable rural areas. The programs aid businesses and cooperatives in which women represent 80% of membership and aim to improve their living conditions of rural women and boost businesses productivity as well. In Trinidad & Tobago the *Craft training program for women* collaborates to

develop home-based craft businesses. Currently, there are no rigorous evaluations that evaluate these programs' impact on labor outcomes.

A weakness in employment programs centers on the need to reconcile women's participation with motherhood responsibilities. The lack of care services induces dropout and "cream skimming effects." Employment programs, particularly those without cash-transfers, usually face low participation rates among women because mothers cannot afford childcare services. Considering this fact, the program *Cuna Más* in Peru celebrated a partnership with the Ministry of Labor in order to offer childcare services to women attending the one-stop window for employment. The *School Crossing Guard Programme* in Trinidad & Tobago also connects participants with childcare centers. In Chile, beneficiaries of social programs like *Programa Mujer Trabajadora y Jefa de Hogar* also have preferred access to childcare services. Another innovative initiative is *Subsidio al Empleo Joven* in Chile, which targets youth without gender distinction, but allows an extension of the participation period for young mothers. The program targets people aged 18-25, and offers a wage subsidy for both employers and the workers themselves. Workers should earn low wages and pertain to the poorest 40% of the population to qualify for the subsidy. Female participants who become mothers may extend their participation in the program until they are 27 years old.

Labor laws

Anti-discriminatory clauses, as well as women's participation quotas in employment, are enforced through labor legislation across the region. Laws protect workers from discrimination based on pregnancy or motherhood.

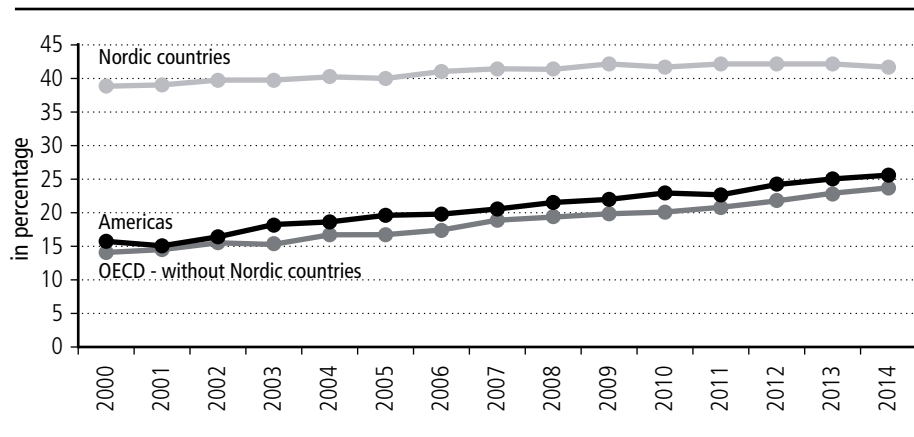
Labor laws forbid pregnancy tests during the selection process, unless a pregnant woman cannot perform the type of task described in the vacancy. This is the case of Brazil, Chile, El Salvador, Honduras, and Venezuela. Pregnancy anti-discrimination is explicitly stated in the labor laws of Colombia, Guatemala, Haiti, Jamaica, and Uruguay.

Labor laws often include penalties for dismissal during pregnancy or initial motherhood. There is also protective legislation that regulates the type of work and occupation women can take while pregnant to preserve their former salary level. In Argentina, legislation considers that a woman has been unjustifiably dismissed if dismissal takes place during the seven and half months following childbirth. In Bolivia and Venezuela, laws protect women against dismissal for a year after childbirth; Chile and Panama extend this guarantee through the year after maternity leave. Mexico is an exception: there, women can be dismissed after maternity leave.

Some protective norms may bias labor outcomes against women. The General Labor Law in Bolivia regulates both youth (workers under 18) and women's work. For example, working days for both types of workers cannot exceed 40 hours per week and the workday should take place during daylight hours—night work is forbidden. Beyond this, other clauses within the law reinforce gender stereotypes. There is a female work quota of 45% by firm—though there is no control on its compliance—unless “job characteristics” require more women workers (Article no. 3). These protective norms assume women's weaknesses or lack of capabilities and may reinforce discriminatory practices (Marco Navarro, 2014).

During the 1990s and 2000s, some Latin American countries set gender quotas for the legislature, enhancing gender equality at the policy-making level. As a result, the share of women in National Parliament has increased 11 percentage points between 2000 and 2014, surpassing the figures for OECD countries (Figure 8.12) (excluding Nordic countries). In Argentina, legislation requires a minimum percentage (30%) of female candidates on party lists in legislative elections. Similarly, Brazil sets a minimum percentage of female candidates (30%) in elections for the Chamber of Deputies. In Bolivia, a law sanctioned in

Figure 8.12: Share of women in National Parliaments
Regions of the world, 2000-2014.



Source: Inter-Parliamentary Union.

Notes: shares correspond to Senate and Lower Houses combined. Averages correspond to December for 2000-2013, and to October for 2014.

2010 established that there should be equal numbers of men and women in the candidates list for Parliament elections. This was implemented for the first time during the 2014 elections. Some countries also established gender-quotas for

candidates for elected offices. For example, Colombia requires 30% of candidates to be women, and Costa Rica sets the requirement at 50%.

Recently, unions have also begun to use gender quotas. Most organizations in the region adopted quotas for women at around 30-40%. Indeed, 17 of 32 unions now have a set gender quota. However, employers' organizations and unions do not include regulations on women's participation in the social dialogue. Only 13% of women in Central American countries and 29% in Southern Cone countries are directly engaged in social dialogue. This illustrates a barrier to include a gender component in tools like collective agreements, which rule outcomes in labor market such as salaries, labor conditions, and labor benefits (ILO *et al.*, 2013).

Advocacy

Experiences pushing the gender agenda into private institutions have taken the form of advocacy. The most common strategy aims to incentivize them to develop their own gender-equality policies or to disseminate good practices and promote peer effect.

In some countries, the State certifies a firm's gender policies. This is the case of *Sello Iguala—Conciliación vida laboral, familiar y personal* in Chile. The public sector, NGOs, and the private sector are able to obtain this certification by demonstrating good labor practices that seek to close the gender gaps at the workplace. The *Sistema de Certificación Laboral con Sello de Equidad de Género* in Costa Rica constitutes the pioneer certification program in the region. Private and public sectors must obtain this acknowledgement (which has to be renewed in the third year) to fulfill the minimum requirements of gender equality practices. The *Modelo de Equidad de Género* in Mexico advises and supports organizations as they adapt human resources policies that reinforce gender equality for certification. The *Modelo de Certificación del Sello de Calidad con Equidad de Género* in Uruguay encourages gender equality in human resource policies, particularly in regards to application requirements for positions and training opportunities.

Regarding assessment of gender issues, the *Social Entrepreneurship Service*⁷ and the *State of Parana Project* in Brazil advises employers on how to create gender-equal corporate policies. It seeks to remove anti-discriminatory practices and generate more balanced work-family responsibilities among workers.

7 This entity represents industry in the country.

4. Challenges

Despite these policies' intentions, they may not result in women's economic empowerment. Even mechanisms to protect women may weaken their economic participation and lessen the likelihood that they become equal participants in society. Difficulties in establishing causal links between gender policies and labor outcomes, based on the scarce evidence and the proper complexities to perform this type of analysis, lead us to believe that some policy effects remain unclear.

Evidence for other regions (based on cross-country data) suggests that the policies that intend to relax constraints on women's time and ease a balance between work and family responsibilities have had positive effects on female participation in the labor market. Blau and Kahn (2013) studied the role of some work-family policies in explaining the decrease in female labor force participation in the United States as compared with OECD countries. Authors found that parental leave had a positive impact on labor market participation for men and women, with a larger coefficient for women. Adema, Ali and Thévenon (2014) studied the relationship between family policies and outcomes like female employment in OECD countries. Their findings revealed childcare and pre-school enrollment rates had a small but significant effect (greater than the effects of leave policies) on female employment. In addition, tax incentives for part-time work were also positively associated with female employment.

Furthermore, findings suggest that the association between policies and female labor participation becomes complex and desired labor market outcomes are hard to obtain. As evidence still has not disentangled the hidden mechanisms between policies and outcomes in achieving intended results, additional challenges in policy design arise.

First, the expansion of programs that provide transfers in the pursuit of anti-poverty goals raises questions about whether child-oriented cash transfers might be used for other purposes, like encouraging female labor participation. As has been shown, evidence on the second round effects of CCTs on labor supply behavior is not clear.

Whether or not cash transfers for childcare, or even in-kind transfers for kindergartens or daycare nurseries, can increase women's employment, still remains a subject of debate in developed countries. Indeed, while some studies showed positive and moderate sized effects on female labor participation, others obtained modest or null effects. Findings suggest that elements of the program's design and starting labor market conditions may be important factors. The Dutch

reform that raised childcare subsidies during the 2005-09 period increased mother's participation by a modest 2.3% (Bettendorf *et al.*, 2012). Other studies indicate that mothers' characteristics may be relevant to distinguish results. The cash-for-care program in Norway has implied a small decrease on mother's employment (Havnes and Mogstad, 2011), with an exception for mothers with higher levels of education (Rønsen, 2000). A study on childcare subsidies in Cook County, Illinois, reveals that access to subsidies has not generated employment effects for non-poor families (OPRE 2011).

Evidence on the effect of extending childcare services is still limited. For instance, free access to childcare in the municipality of Rio de Janeiro in Brazil implied a considerable rise in mother's employment and a crowding-out effect on private childcare supply, even in low socioeconomic neighborhoods (Paes de Barros *et al.*, 2011). The expansion of free pre-primary school centers in Argentina also increased mother's employment (Berlinski and Galiani, 2007).

Moreover, there is also no consensus on the effect of maternity and paternity leave on labor participation. Thus, discussions and analysis of policy design will be important to avoid unintended effects. Despite legal work protection during childbearing, access to employment might be discouraged by the unequal gendered parental leave schemes. There is a growing trend in Latin America towards extending the lengths of maternity leave schemes over the ILO standard of 14 weeks. Child development and maternity form the basis of arguments in favor of this reform. However, there has been little discussion or evidence to evaluate the effects of the reforms on female labor participation. In fact, longer periods of leave may affect women's ties to the labor market (Cerise *et al.*, 2013). Moreover, effects may not only apply to mothers. For example, Puhani and Sonderhof (2008) have shown that increased maternity has negatively affected job-related training for young women (mothers or not) in West Germany.

Moreover, the near absence of paternity leave could make it difficult for women to return to work, particularly given the mother's cost-benefit equation. Even in places where a paternity leave scheme exists, men were not able to take advantage of leave, because earners with higher wages face higher costs of staying at home. Mechanisms like leave-quotas discourage these effects. However, a mandatory paternal leave may also impact future earnings. For instance, the paternity-leave quota of four weeks established in Norway in 1993 reduced fathers' future earnings. This effect lasted for years (Rege and Solli, 2013). Additionally, enforcement issues regain particular relevance in terms of financing. There is a pending discussion on how to finance paternity leave in the region, and whether employers should bear the costs instead of the social security system. Hence, there

are potential disincentives to discriminating against workers in their childbearing age that need to be accounted for. Promising policy designs have underlined the importance of guaranteeing universal coverage, non-transferable paternity leave, protection against a “parent tax”, flexible scheduling, and collective financing (Ray, Gornick and Smith 2009).

Third, enforcing specific employment results to strengthen women’s role in the labor market is not a common practice in the region. Consequently, there is no evidence on its impact. Quotas serve as one way to counteract gender imbalances in decision-making spaces, and these have become progressively widespread in politics, particularly in Parliament, across the region. In Europe, some countries have made steps toward correcting gender inequality in corporate management. The direct (participation, wages and career prospects) and indirect (workers displacement or substitution, incentives to training accumulation) effects of quotas like these should be carefully assessed. For instance, Norway established a 40% female quota for the boards of public limited liability companies. However, while gains were obtained for qualified women at these top positions, there was no effect for women with similar qualifications beyond these positions (Bertrand *et al.*, 2014).

Finally, we still do not know how to make ALMPs compatible with social protection policies. ALMPs and cash transfer programs usually share a target population. As programs are incompatible with one another, eligible participants must choose which one they will participate in. In addition, “one-stop shops” are uncommon and employment programs and CCTs are offered through different “institutional windows” (World Bank 2012a). As a result, a participant’s access to a program emerges mainly as a matter of chance, rather than via a proper information assessment. Thus, once a woman graduates from a social protection program, she may find herself in the same trap of low-productivity or subsistence work, lacking the benefits and social coverage associated with a formal job.

5. Final comments

Women’s economic empowerment and women’s performance in the labor market are relevant issues in Latin America and the Caribbean. Despite reducing disparities between men and women’s educational outcomes in recent years, the region still ranks low in terms of Economic Participation and Opportunity.

Nevertheless, countries have developed public policies that aim to close these gaps. Existing initiatives in Latin America have been designed from a family approach; they have attempted to free-up women’s time, protect women’s

employment, ease access to social protection and entitlements, and support participation and productivity in the workplace.

The region has benefited from policies that help women reconcile home and work responsibilities, but more efforts are needed. Maternity leave is one of the most common initiatives to this end; paternity leave and childcare services for children under 5 years old are less common. Informal labor markets pose an additional challenge to efforts towards universalizing leave policies. In addition, supply of early-age childcare services is insufficient and access to high quality childcare is not easy to come by. Small-scale public programs function as remedial alternatives as they offer subsidies for women in vulnerable conditions.

Most of the active policies that address women's agency have taken the form of CCTs. The primary objective of these initiatives was to alleviate poverty, but the programs may have also reinforced maternal roles for women. Although the effects of these policies on female labor supply might not be substantial, CCTs have been prioritized over employment-oriented interventions, gaining more attention in the policy agenda and more resources. Indeed, ALMPs compete with CCTs for beneficiaries and vulnerable women usually enroll in CCTs because those programs underscore that women are the most suitable candidates.

A lack of sufficient empirical evidence prevents us from examining the quantifiable effects of these policies on female labor participation. The existing evidence is not sufficient to assess the causal links between policies and outcomes, but they do highlight some of the potential problems that should be taken into account when designing public initiatives.

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