

Box 1: The dynamics of the gender gap: How do countries rank in terms of making marriage and motherhood compatible with work?

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The education gap between women and men has been eliminated in many countries. However, in most countries women participate less in the labour market than men. This is in part related to women's roles in marriage and motherhood. In this box, we look at education and employment gaps and calculate marriage- and motherhood-related employment gaps for women. We also analyse how quickly these factors have changed over time and rank countries accordingly.

The gender gaps in a country are bound to evolve slowly over time as successive cohorts go through the educational system, reach working age, and make marriage, fertility and labour force participation decisions. It is therefore instructive to look at these issues in a way that is sensitive to the life cycle. Moreover, it is important not only to rank the level of gender gaps in different countries, but also to measure the speed at which different countries are closing these gender gaps over time. In this box, and in Appendix C, we use national census data to shed light on the dynamics of the gender gap by analysing changes in measures of men's and women's average levels of education and labour force participation for different cohorts of individuals. We also look at how marriage and fertility decisions have affected women's employment over time. This more detailed look at the issues with census data comes at a significant cost. First, we have been able to carry out the analysis only for a much smaller set of countries: there are 41 countries for which we have at least one census and 29 countries for which we have two (see Table C1). Using two censuses allows us to measure speed of progress by comparing the gender gaps for the same age group for a later and more recent time period. Second, this approach limits our capacity to measure gender gaps for very recent years, as censuses are typically carried out once per decade. In fact, many of the censuses to which we have access are approximately a decade old. In spite of these caveats, we believe that this analysis provides interesting insights into the magnitude and dynamics of the gender gap.

The data

Data for the analysis come from the International Integrated Public Use Microdata Series (IPUMS-International). Compiled by the Minnesota Population Center, the IPUMS data include the largest publicly available individual-level census data, and consist of decennial records of persons and households. Data for select countries from Africa, Asia, Europe and Latin America between 1960 and 2005 are used as available. Table C1 in Appendix C lists the countries and the census years used. In the framework of our analysis, two analytical samples have been constructed. The first sample includes the most recent wave of the survey for each country. It includes 41 countries from the 5 continents. We use this sample to examine the current state of the gender gaps across countries. The second

sample of data includes 29 countries for which we have the two most recent waves of the census available. Using two waves, we study trends related to the gap in labour force participation and indicators related to work and family.

The gender gap in education

Table C2 in Appendix C ranks countries according to the year of birth of the cohort in which the education gender gap reversed, where the *gender gap* is defined as the average years of education among men minus the average years of education among women born in a given year. We also include information on the size gender gap for the population aged 25 years of age at the date of the last census.

Of the 41 countries included in our sample, 27 have already closed the education gap, so that men and women on average have the same number of years of schooling. The first country to reverse the gap was Belarus for the cohort born in 1945, while the last was Romania, indicating that the closing of the gender gap was not a common feature of former Communist countries. Interestingly, several developing countries—such as Argentina, Colombia, Panama, Brazil, the Philippines, Mongolia, Venezuela, Armenia and the Kyrgyz Republic—closed their education gender gap before the United States. These cohorts are already over 50 years old at present, so these countries already have two generations in which women received at least as much education as men. The most recent countries to close the gap have been Chile, Malaysia, Ecuador, Jordan, Vietnam, South Africa and Romania; these countries have achieved this benchmark for cohorts currently in their 30s.

Of the 13 countries that have yet to close the education gap, two have a very small remaining gap: Mexico and Austria, with the cohort of those 25 years of age exhibiting gaps of 0.1 years of schooling. By contrast, other countries still have substantial gaps, such as Ghana, Uganda, Cambodia, India, Guinea, Bolivia and Iraq, in which 25-year-old men still have at least 1 year more of schooling than women on average. Rwanda, Kenya, Palestine and China show gaps in the range of 0.6 to 0.8 years of schooling.

The labour force participation gap

We study the gap in men's and women's labour force participation by looking at the cohort of men and women between 35 and 44 years of age, the age at which labour force participation typically peaks. The gap is defined as the share of men who are in the labour force (employed or unemployed and seeking work) minus the share of women who are in the labour force. We find that in Rwanda, women's labour force participation in this age group is higher than men's. Considering that this cohort would have been 20 to 29 years of age during the Rwandan genocide, it is interesting to consider how that circumstance might have affected relative mortality and gender roles for this cohort. Belarus again appears near the top of the ranking with essentially no participation gap. Countries with participation gaps

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below 10% include Ghana, Hungary, Mongolia, the Kyrgyz Republic and China. By contrast, the largest participation gaps—in excess of 60 percentage points—are in three Arab countries, namely Jordan, Iraq and Palestine. Countries where the gap exceeds 40% include Venezuela, Colombia, Panama, Chile, the Philippines, Ecuador, Mexico, Malaysia, India and Costa Rica.

We also explore the evolution of the participation gap over time in the decade between the two last censuses. Spain and Brazil show the fastest reduction in the participation gap, with reductions in excess of 20 percentage points, representing over 40% of the gap as measured a decade earlier. These are followed by Israel, Greece, Venezuela, Portugal, Argentina, Austria and Colombia, all with reductions of 10 percentage points or more. By contrast, Vietnam, Romania, Mexico, South Africa and the United States show rising participation gaps over the decade prior to the last census.

These dynamics are presented in Figure C1 in Appendix C as a graph relating the initial gender participation gap on the horizontal axis and the decade change in the gap on the vertical axis. Here we find that quite a few countries had a gap in excess of 40% in the previous census, while another group had gaps of less than 20%. In general, those that started with small gaps saw small declines or even some increases (e.g., Vietnam, Romania and the United States). Of the countries that started with large gaps, the subsequent behaviour is much more varied, with Brazil, Spain, Israel and Greece drastically reducing their large gaps, others reducing it much more moderately and Mexico increasing it significantly.

Work and marriage

Next, we explore the impact of marriage, whether legal or informal, on women's employment rates. We want to know to what extent family life is compatible with work in the labour market. We define the *marriage gap* as the difference in the employment rates of married and single women. We look again at the cohort in the prime of their working age, namely 35 to 44 years old. The data are presented in Figure C2 in Appendix C.

We find that there are three types of countries. In some countries, female employment is high, roughly over 60%, and differences in employment rates between married and single women are small, approximately less than 10%. In some countries—such as Mongolia, Ghana, China, Slovenia, the UK, Hungary, Rwanda, Belarus, Canada and Romania—married women work more than single women. There is a second group of countries where participation is between 40% and 60% and the difference between married and single is much larger and more heterogeneous. The largest gaps among this group of countries are in Mexico, Malaysia, Costa Rica, the Philippines, Colombia, Chile, Panama, Ecuador and Venezuela, while small gaps are seen in South Africa, Israel and Armenia. However, in this group it is clear that as female labour force participation rises there tends to be a decline in the marriage gap. A third group of countries is composed of those where female labour force participation is less

than 20%. This group is composed of four Arab countries, three of which have the largest gaps between single and married women (Iraq, Jordan and Palestine) while one has fairly moderate differences (Egypt).

Figure C3 in Appendix C shows the evolution of the marriage gap over time. It plots the marriage gap between single and married women in the previous census against the change in the gap between the last two censuses. We normalize the speed on a per decade basis. The graph shows that countries that started with small gaps had small changes; some with small increases such as the United States, Vietnam, Rwanda, Ghana, China and Kenya saw small increases in the gap, and others show small decreases (e.g., the United Kingdom, Hungary, Canada and Romania). By contrast, those that started with large gaps show a more heterogeneous picture: Argentina, Brazil and Spain and to a lesser extent Greece and Israel started with large gaps but reduced them at a very fast pace, but other countries with equally large initial gaps saw much slower reductions (Chile, Ecuador, Venezuela, India, Colombia and Panama) or actual deteriorations (Costa Rica, Malaysia and Mexico).

Motherhood and employment

Here we study to what extent motherhood is compatible with employment. We compare the difference in the employment rate of women working within the ages of 35 and 44 by comparing those with three children to those with no children, which we will call the *motherhood gap*. We find (Figure C4 in Appendix C) that countries differ quite significantly in this dimension. In quite a few countries, women with three children show a higher employment rate than women with no children. This occurs in countries with moderate employment rates among women with no children (e.g., Rwanda, Kenya, Ghana, Vietnam, Uganda, China, Belarus, Israel, Guinea, South Africa, the Kyrgyz Republic and Cambodia) but also in countries with very low female employment rates such as Iraq and Palestine.

By contrast, the country with the largest motherhood gap is Chile, where women with three children are 43% less likely to work than women with no children. Other countries with big gaps include Argentina, Mexico, Colombia, Ecuador, Austria, Hungary and the Philippines.

Countries also differ significantly in the rate at which they have been reducing the motherhood gap (Figure C5 in Appendix C). Austria, Brazil, Greece and Bolivia top the ranking with reductions in the motherhood gap of 9 to 11 percentage points. By contrast, Hungary moved in the opposite direction with a gap that widened by 11 percentage points, followed by Romania and Costa Rica with 6 percentage points.

Conclusion

Our analysis of national census data reveals that there are differences in both the magnitudes of gender gaps around the world

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and the speed at which countries are closing gender gaps over time. Although this detailed analysis of census data has been limited to a smaller set of countries, it has been sensitive to changes in decisions individuals make about education, employment, marriage and fertility across cohorts. First, we see that over half of the countries in our sample have closed the gender education gap. Interestingly, several developing countries closed the education gap for cohorts currently in their 50s, some of them even before the education gap was closed in the United States. Second, we see that a gap in men's and women's labour force participation exists in many countries, with the smallest gap in Rwanda and the largest gaps in the Arab countries in our sample. Some of those that started with large gaps over a decade ago—notably Spain, Brazil, Greece and Israel—have narrowed their gaps remarkably quickly. By contrast, Mexico, which started in a similar position, has seen a widening gap. For countries that began with small initial labour force participation gaps, the declines in the gap over time are small or even increasing, as in the United States.

Whether women participate in the labour market depends on how compatible marriage and motherhood are with employment. We find that in countries where female labour force participation is high, married women work almost as much, if not more, than single women. By contrast, Arab and Latin American countries show large marriage gaps. Progress in closing this marriage gap has been fastest in the same four countries: Brazil, Spain, Greece and Israel, together with Argentina. In some countries, the employment gap has been rising, with the biggest rise found in the United States.

Motherhood has not been a universal obstacle for female labour force participation. In almost half the countries we studied, women with three children work at least as much as women with no children. However, in other countries, especially in Latin America, the motherhood gap is very large, with Chile exhibiting the largest gap. But there is good news: the motherhood gap has been falling in almost two-thirds of the countries, with the biggest reductions shown again by Brazil and Greece, accompanied by Austria and Bolivia.

In synthesis, while the education gap has been reversed in quite a few countries, the employment gap has not. This gap is related to the compatibility of marriage and motherhood with a lifestyle where women can work. Some countries have made enormous progress in this area. We should learn more from them.

reveals that although the education gap has been reversed in quite a few countries, the employment gap has not—this gap is related to the compatibility of marriage and motherhood with a lifestyle where women can work. Some countries—for example, Brazil, Spain, Greece and Israel—have made enormous progress in this area.

Third, the Index points to potential role models by revealing those countries that—within their region or their income group—are leaders in having divided resources equitably between women and men, regardless of the overall level of resources available. In Europe, the Nordic countries come out on top; in North America, Canada now leads the way; in Latin America and the Caribbean, Trinidad and Tobago is the best performer; in the Middle East and North Africa, Israel holds the top position; in Asia, the Philippines; and in sub-Saharan Africa, South Africa holds the highest ranking. Among income groups, in the high-income group, the Nordic countries lead the way; in the upper-middle-income group, South Africa and Latvia rank highest; in the lower-middle-income group, the Philippines comes out on top; and in the lower-income group, Mozambique is the strongest performer. The detailed Country Profiles allow users to understand not only how close each country lies relative to the equality benchmark in each of the four critical areas, but also provide a snapshot of the legal and social framework within which these outcomes are produced.

Fourth, the Index continues to track the strong correlation between the gender gap and national competitiveness and sends a clear message to policy-makers to incorporate gender equality into their national priorities. The most important determinant of a country's competitiveness is its human talent—the skills, education and productivity of its workforce—and women account for one-half of the potential talent base throughout the world. Over time, therefore, a nation's competitiveness depends significantly on whether and how it educates and utilizes its female talent. To maximize its competitiveness and development potential, each country should strive for gender equality—that is, to give women the same rights, responsibilities and opportunities as men. In the context of the current economic crisis, it is more vital than ever that women's economic participation does not shrink, but is in fact seen as an opportunity to make headway. The minds and talents of both women and men will be vital to making a rapid recovery.

Addressing both the challenges and opportunities associated with the gender gaps will require concerted efforts by governments, businesses and civil society organizations across the world. In addition to these specific efforts, best practice exchange, partnerships and collective problem-solving among these groups will be crucial. Future research will be needed to develop a clearer understanding of the policies that are successful and those that are not. We are hopeful that this *Report*, by providing a transparent

and comprehensible framework for assessing and tracking global gender gaps, will serve as a catalyst for greater awareness, future research and targeted action by policy-makers, employers and civil society.

Notes

- 1 See Greig et al. "The Gender Gap Index 2006: A New Framework for Measuring Equality", *Global Gender Gap Report 2006*. Geneva: World Economic Forum.
- 2 This ratio is based on what is considered to be a "normal" sex ratio at birth, 1.06 males for every female born. See Klasen and Wink, "Missing Women: Revisiting the Debate".
- 3 This ratio is based on the standards used in the UN's Gender-Related Development Index, which uses 87.5 years as the maximum age for women and 82.5 years as the maximum age for men.
- 4 A first attempt to calculate the gender gap was made by the World Economic Forum in 2005; see Lopez-Claros and Zahidi, *Women's Empowerment: Measuring the Global Gender Gap*. The 2005 Index, which was attempting to capture women's empowerment, used a "feminist" scale that rewarded women's supremacy over men (highest score is assigned to the country with the biggest gap in favour of women).
- 5 The weights derived for the 2006 Index were used again this year and will be used in future years to allow for comparisons over time.
- 6 This is not strictly true in the case of the health variable, where the highest possible value a country can achieve is 0.9796. However, for purposes of simplicity we will refer to this value as 1 throughout the chapter and in all tables, figures and country profiles.
- 7 Because of the special equality benchmark value of 0.9796 for the health and survival subindex, it is not strictly true that the equality benchmark for the overall index score is 1. This value is in fact $(1 + 1 + 1 + 0.9796) / 4 = 0.9949$. However, for purposes of simplicity, we will refer to the overall equality benchmark as 1 throughout this chapter.
- 8 Since the variables in the subindexes are weighted by the standard deviations, the final scores for the subindexes and the overall Index are not a pure measure of the gap vis-à-vis the equality benchmark and therefore cannot be strictly interpreted as percentage values measuring the closure of the gender gap. However, for ease of interpretation and intuitive appeal, we will be using the percentage concept as a rough interpretation of the final scores.
- 9 A population-weighted average of all scores within each region was taken to produce these charts.
- 10 For details of the regional classifications, please refer to Appendix B of this chapter.
- 11 Sen, "Missing Women", *British Medical Journal* and Klasen and Wink, "Missing Women: Revisiting the Debate".
- 12 On the impact of female education on labour force participation and the educational attainment of the next generation, see Hausmann and Székely, "Inequality and the Family in Latin America". On educational investment in children, see Summers, "The Most Influential Investment," *Scientific American*, August 1992, 132.
- 13 See Daly, "Gender Inequality, Growth and Global Ageing".
- 14 Catalyst, "The Bottom Line: Connecting Corporate Performance and Gender Diversity", 2004. Available at <http://www.catalyst.org>.
- 15 Centre for Work Life Policy.
- 16 Goldman Sachs Global Markets Institute. "The Power of the Purse: Gender Equality and Middle-Class Spending". 5 August 2009.

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