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Working Women Worldwide. Age Effects in Female Labor Force Participation in 117 Countries

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Summary. — In this article, we investigate the effects of economic conditions, families, education, and gender ideologies on the labor force participation rates of women in eleven age groups in 117 countries. We find that participation rates of young and older women are partly explained by sector sizes and the level of economic development. However, to explain the labor force participation rates of women between 25 and 55 years, we need to study families and gender ideologies. We find these women are more likely to participate when paid maternity leave schemes exist, enrollment in pre-primary education is higher, and countries are less religious.

Key words — female labor force participation, motherhood, care, work, global

1. INTRODUCTION

Women are increasingly seen as the motor of sustainable human development (UNDP, 2013; World Economic Forum, 2014). Policy makers interpret women's emancipation as a proxy for equal opportunities (UNDP, 1995), micro loan projects invest in women to improve the welfare of entire families (World Bank, 2012), women's labor market integration enhances potential for economic growth (World Economic Forum, 2014), and female labor incomes help reduce poverty (Buvinic & Gupta, 1997). Women's work is thus framed as a major force in shaping countries' economic and human development. In consequence, a growing number of policies are geared toward improving women's position and participation in societies.

However, some debate exists as to the extent to which these policies are beneficial to women themselves. First of all, as the World Bank Commission on Growth and Development (2008) comments in its final report, there are vast and unexplained differences in countries' experiences. Secondly, several authors have warned that in the case of women's employment quantity and quality cannot be equated (c.f. Horton, 1999; Norris, 1992). Labor force participation is not always a free choice (Elson, 1999) and may be limited to low-paid and labor-intensive sectors and occupations (Kucera & Tejani, 2014; Çagatay & Özler, 1995). Low economic activity may also be desirable for some women, in particular when education or retirement is substituted for employment (Clark & Anker, 1993; Van Klaveren & Tijdens, 2012).

While in the third case education is clearly preferable to employment, the first two dilemmas certainly include a trade-off. Jordanian female teachers interviewed by Adely (2009) describe both how they entered paid work out of necessity and that it offers them new social networks and a legitimate space outside the domestic sphere. In a more material consideration, Sassen (1996) argues that even low-paid work increases women's autonomy and grants access to the public domain. Considerable evidence exists that paid work strengthens wives' position in the household (c.f. Anderson & Eswaran, 2009; Schultz, 1990). Gray, Kittilson, and Sandholtz (2006) point out that women's labor incomes offer an avenue for mending at least part of their general disadvantage and Iversen and Rosenbluth (2008) find it is associated with a greater presence of women in the public domain. We do not argue here that female labor force participation equals gender equality, but will advance that it can be a starting point of a long process toward emancipation.

Any beneficial effects of female labor force participation, however, require that policy effectively targets the group of prime age women that sustain families. In order to do so, we need to deepen our insights into the way in which female labor force participation differs across countries and between groups of women. Yet, our understanding of its dynamics is far from complete. In their recent overview article on female employment patterns, Steiber and Haas (2012) point out that the large majority of studies either compare different women in a single country or women in different countries, but rarely both. In addition, with a few notable exceptions (c.f. Bloom, Canning, Fink, & Finlay, 2007; Lincove, 2008), research in the last decade has been split into studies of industrialized countries on the one hand, and developing nations on the other.

In order to overcome this binary developing-industrialized divide, this article contributes to the discussion by evaluating which country characteristics can explain aggregate female labor force participation in 117 countries at very different levels of economic development. Moreover, we distinguish between age groups, arguing that women in various stages of a life course are confronted with different encouragements and impediments to labor force participation. We focus on four domains of country characteristics that have been established to affect female labor force participation rates in previous research. We firstly look at much studied indicators of overall female labor force participation, including economic conditions ruling the necessity and opportunities to work, as well as education. We then include two domains affecting mothers in particular: families, including both family composition and care demands, and gender ideologies that govern the extent to which women are encouraged or discouraged from working. We argue that previ-

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ous macro studies have underestimated the effects of those domains by looking only at the female labor force as a whole, ignoring that policies may affect women of various ages in different or even opposite ways.

In order to disentangle the respective influences of the four domains and explore their interaction, we study them separately and refrain from employing the commonly used composite indices (such as the UN Gender Empowerment Measure or the Gender Development Index). We draw on a variety of international data sources to construct a unique country-level dataset of female labor force participation rates for eleven age groups in 2010 and selected indicators that can be attributed to the four domains in 117 countries. In Section 2, we review the previous literature and Section 3 details the methodology and dataset. Section 4 reports the results and shows that models that take account of both country and age differences lead to a fuller understanding of aggregate female labor force participation. Section 5 concludes and explores avenues for further research.

2. THEORETICAL FRAMEWORK AND HYPOTHESES

We are far from the first researchers to look into the dynamics of aggregate female labor force participation. Many authors have pointed out that labor can take many different shapes, both productive and reproductive (for an overview of the debate, see Tancred, 1995 or Benería, 1992). In this article, however, we aim to shed light on women's remunerative work, because we research the conditions under which women join the labor *market*. In line with the ILO (1982), we define labor as paid, productive work, performed outside the purely familial sphere, but not necessarily in the formal labor market. [1] We thus focus on access to the labor market, rather than women's position in it.

Since the 1970s, scholars from various fields of social sciences have researched a range of formal and informal institutions to explain country differences and similarities in the extent to which women join the labor force (c.f.; Boserup, 1970; Clark & Anker, 1993; Lincove, 2008; Pampel & Tanaka, 1986; Semyonov, 1980). Their work shows us that women's attachment to paid labor is rarely, if ever, unconditional. Around the world, women divide their time between household work, child rearing, home making, family enterprises, and the formal or informal labor market (Bardasi & Gornick, 2000; Barrientos & Kabeer, 2004). Women might both work or stay at home out of sheer necessity, societal status, or beliefs (Haas, Steiber, Hartel, & Wallace, 2006).

Female labor force participation, then, is informed by the way societies facilitate or impede it (Chang, 2004). In this context, institutions, defined as "webs of interrelated rules and norms that govern social relationships" (Nee, 1998, p. 8) are essential. Various scholars have categorized countries according to their ideal-typical institutional settings or "gender regimes", describing "the key policy logics of welfare states in relation to gender" (Pascall & Lewis, 2004, p. 373). Some institutional arrangements, these scholars have convincingly argued, are more conducive to the labor force participation of women than others' equality (c.f. Chang, 2000, 2004; Korpi, 2000; Whitehouse, 1992).

In addition, we argue that these institutional constraints weigh differently on women of different ages due to their distinct position in the life course (for an overview of life course theories, see Heinz & Krüger, 2001). Education may keep school age women out of the labor market, while increasing the opportunities for graduates. Care tasks are omnipresent in the lives of mothers and grandmothers, but much less so for young women. While the timing of life courses is different in various parts of the world, we argue that, on the aggregate level, women everywhere go through stages of school-going, transitions to adulthood, motherhood with care for young children, care for older children, and grand-motherhood. In short, we view women's capabilities to work or not, as revolving around a balance of economic, educational, family, and gender ideological influences that affect women in different manners depending both on the country they live in and their position along the life course. In the remainder of this section, we study the relation between each of these four domains and the aggregate female labor force participation rate (FLPR).

(a) *Economic conditions*

Economic conditions can provide both the necessity and the opportunity to work. While in some societies labor force participation is required to make ends meet, in others families may designate a single earner (Steiber & Haas, 2012). Furthermore, the availability of suitable jobs may draw women into the labor market or keep them out. Economic conditions affect female labor force participation through economic necessity and through the sizes of its respective sectors, which determine the kind of work that is available (Pampel & Tanaka, 1986).

The relation between the *level of economic development* and aggregate female labor force participation is generally observed to be u-shaped (Haghighat, 2002; Lincove, 2008; Tam, 2011). However, as Semyonov (1980) observes, while economic development may be indicative of the opportunities women have in a labor market, the association is created by social factors. In recent years, Semyonov's argument has been confirmed in multi-country studies by Chang (2004) and Lincove (2008) who both find that there is no u-shaped relationship when countries at similar levels of development are compared or when studying countries' changes in economic development and in FLPRs concurrently.

The u-shaped relation, then, should be attributed to various social relations and labor market structures associated with higher and lower levels of economic development. Economic necessity is the first of those explanations. Increases in the welfare of workers in periods of industrialization are associated with the material possibility for wives to withdraw from paid labor as a sign of affluent family status (see Goldin (2006) for the USA, Safa (1977) for Latin American or Bhalla and Kaur (2011) for India). Elson (1999) describes this as the move from labor force participation for survival to a genuine choice for (middle class) women to work or not. In a study of Western and Eastern European countries, Haas *et al.* (2006, p. 767) too, argue that theorizing should "take account of the economic necessity for many women in less prosperous countries to work full time". Thus, where income from work is desirable in high-income countries and essential for survival in low-income countries, withdrawal from the labor market can be a luxury of sorts in middle-income countries. We expect that *the relation between a country's level of economic prosperity and the FLPR is u-shaped (H1a)*.

However, it is questionable whether the abovementioned economic conditions have the same effect throughout the life course. Looking specifically at labor force participation of older women and men in 151 countries, Clark and Anker (1993) conclude that the FLPR of older women decreases with economic development and accompanying changes in the organization of society, such as the availability of old age pensions. The same expectation can reasonably be voiced for young people, who benefit from the increased educational

opportunities that are associated with higher levels of economic development (Van Klaveren & Tijdens, 2012). School and pension aged workers are thus exempted from the economic necessity to work. We expect that *a higher level of economic prosperity is associated with a lower FLPR of women of school-going age and approaching the retirement age (H1b)*.

Broadly expecting the same result but following a different reasoning, scholars have studied the *size of different sectors of economic activity* as indicators of the opportunities for women in a labor market (Mehra & Gammage, 1999; Rendall, 2013; Schultz, 1990). In one of the first extensive works including 70 countries at various developmental levels, Pampel and Tanaka (1986) reason that women's jobs in agriculture disappear in the process of industrialization, thus leading to a decline in FLPRs. As economies grow further and a services sector develops, women are drawn back into paid work due to greater labor demand and the easier reconciliation of work and family in services compared to industry. Studying the evolution of female labor force participation rates in four middle-income countries—Brazil, Mexico, India, and Thailand—Rendall (2013) recently argued that female employment opportunities increase as the available jobs become more intellectually, as opposed to physically demanding.

Haghighat (2002) analyzing the effect of economic growth on the share of female employment in three sectors in 136 countries, notes that the effect of economic development on the female share of employment is negative in agricultural, flat for industrial and positive on services employment, thus tracing out the u-shape. Studying 67 Turkish provinces, Tansel (2001) finds a u-shaped relationship with GDP if agricultural labor is included, but not when analyzing only the nonagricultural female labor force. Lincove (2008, p. 59), similarly concludes that while "service employment increases female participation. . .industrial labor [does not reduce it]". This suggests that Rendall's results might be indicative of a process where heavy industrial labor is replaced by more service-and export-oriented industry, a process that is currently prominent in Central America and South East Asia. Studying the manufacturing sector in these regions, Kucera and Tejani (2014) find that the initially labor-intensive production methods in export-oriented manufacture are associated with a feminization of the labor force. Rendall's shift from physical to intellectual work or Haghihat's observed increase in services employment, should then be interpreted as the upward turn of the u-shaped relation between economic conditions and the FLPR. Therefore, we expect *that large agricultural and services sectors are associated with high FLPRs, whereas large manufacturing sectors are associated with low FLPRs (H2a)*.

In agriculture, a disproportionally large effect may be expected on younger and older women, since many of the jobs in the sector are associated with early entry and late exit from the labor market. In its 2010 report, the UN's Food and Agriculture Organization points out that 60% of child laborers work in agriculture.[2] Thus, while the initial negative effect of declining agriculture on labor force participation is shared by all age groups, older and younger women are expected to remain out of the labor force to a greater extent. We expect *the positive effect of large agricultural and services sectors and the negative effect of large manufacturing sectors to exist for all women but to be strongest for young and older women (H2b)*.

(b) *Education systems*

Women's opportunities to work can be further strengthened by investments in human capital. More training and education equips women for different occupations and raises their relative skill levels compared to men (c.f. Abramo & Valenzuela, 2005; Apps & Rees, 2001; Engelhardt & Prskawetz, 2004; Lincove, 2008). Some authors have also argued that a higher share of girls in schools leads to more gender egalitarian attitudes as boys and girls study together and are taught the same skills (c.f. England, Gornick, & Shafer, 2012; Spierings, Smits, & Verloo, 2010). Education, then, can both enlarge opportunities in the labor market and can make paid employment more attractive compared to home making.

Particularly in economics, the relative position of women in a labor market is considered quintessential to their decision to participate. New home economics predict that as women's wages and education go up, the opportunity cost of leaving the labor market for the sake of childbirth and care work increases (c.f. Apps & Rees, 2001; Engelhardt & Prskawetz, 2004). For a sample of 17 high- and middle-income countries, England *et al.* (2012) argue that higher educated women are more often employed than their lower educated counterparts, because the opportunity–cost effect is stronger than the income-effect. Instead of withdrawing from the labor market when a husband's salary suffices (income effect), highly educated women refuse to forego the careers that will bring additional income and the application of their gained skills (opportunity cost). Tansel (2001) finds that highly educated Turkish women are more likely to be in the labor force than their lowly educated peers, as do Bhalla and Kaur (2011) for India and Aromolaran (2004) for Nigeria.

Studying 18 Latin American countries, Abramo and Valenzuela (2005) alternatively posit that the FLPR is higher at higher educational levels and household incomes, because more highly educated women have more means to outsource their homework. In turn, these career women create informal sector jobs in their households for lower educated women, resulting in a cascading effect. More women are drawn into the labor market as the vanguard requires other women to perform domestic tasks left undone. The literature thus suggests that higher levels of education increase the FLPR. It also suggests that this effect becomes stronger as women reach higher levels of education, increasing the opportunity cost of staying at home. Thus, we expect that *higher levels of female enrollment in education are associated with higher FLPRs and that this association is stronger for higher levels of education (H3a)*. We do not expect major age effects of education, aside from inclusion in educational institutions delaying labor market entry. We hypothesize that *the effect of female enrollment in education is negative for women below 20 (H3b)*.

Several studies indicate that male levels of education do not weaken but strengthen female labor force participation (Aromolaran, 2004; England *et al.*, 2012; Ganguli, Hausmann, & Viarengo, 2013; Spierings *et al.*, 2010). Using data from the Integrated Public Use Micro Data Series (IPUMS), Ganguli *et al.* (2013) find that larger education gaps are positively associated with gender gaps in labor force participation. England *et al.* (2012) find positive effects of male education and posit that education "inculcates gender-egalitarian values". Spierings *et al.* (2010), researching female labor force participation in North Africa and the Middle East, find positive effects of a more equal share of boys and girls in education suggesting enrollment parity creates more gender egalitarian attitudes. Parity of boys and girls in the educational system both implies that women and men have approximately the same skills, as well as creates an environment in which gender egalitarian values can flourish. *We expect that more gender parity in educational enrollment is associated with higher FLPRs (H4)*.

(c) *Families*

Women's opportunities to participate in the labor force are in practice often limited by the division of care work in a society. As Barrientos and Kabeer (2004) point out, the burden of domestic and care work is an impediment for working women in countries at any level of development. Care burdens, either by the extent to which they exist or their incompatibility with paid work, have the potential to hinder female labor force participation. Therefore, it is an important factor to be considered as a source of competing time demands that women face. It can be expected that the larger the time demand is, the smaller women's capabilities will be to participate in the labor force.

The most straightforward way to proxy the care burden is through the average number of children per woman. While the relation between fertility and labor force participation has been called endogenous (c.f. Steiber & Haas, 2012), a point we will address in Section 3, fertility is one of the most researched indicators of female labor force participation (c.f. Ahn & Mira, 2002; Bloom *et al.*, 2007; Engelhardt & Prskawetz, 2004; Mishra, Nielsen, & Smyth, 2010). A number of studies have investigated whether fertility rates can effectively cause changes in FLPRs (Agüero & Marks, 2010; Cruces & Galiani, 2007; Orbeta, 2005; Angrist & Evans, 1998). Mishra *et al.* (2010) show that a one percent increase in fertility leads to a 0.4% drop in FLPRs in the G7 countries. Orbeta (2005) found that each child below school going age lowers a Philippine woman's probability of labor force participation by 7.2% while Cruces and Galiani (2007) found a 5% decline in Argentina and 3.5% in Mexico.

Inherently, the abovementioned effects are focused on mothers and grandmothers, who are caregivers in a way that younger women are not (for an overview of grandparenting in industrialized countries, see Arbor & Timonen, 2012). In one of the few studies including developing countries, Bloom *et al.* (2007) report that the effect of one additional child per woman in a country reduced the labor force participation of women between 25 and 29 years by ten to 15% and that of women between 40 and 49 by five to ten percent. Thus, we expect that *higher care burdens are associated with lower FLPRs of women of childbearing age, and not associated with FLPRs of women below 20 and above 50 (H5)*.

While the relation between the total fertility rate and the FLPR was traditionally found to be negative, since the late 1980s several studies have shown a coincidence of high fertility rates and high female labor force participation in some high-income countries and a low–low combination in others (for a historical overview, see Ahn & Mira, 2002; Engelhardt & Prskawetz, 2004). Cruces and Galiani (2007) point out that, while dropping fertility rates can be directly linked to the increase in female labor force participation in Argentina, it explains only a small share of the hike in participation rates of Mexican women. This would suggest that some societies are more successful in mitigating the incompatibility of work and motherhood than others (c.f. Engelhardt & Prskawetz, 2004; Gornick, Meyers, & Ross, 1997; Apps & Rees, 2001).

Two of the most frequently employed policies to increase opportunities for mothers to stay in the labor market are childcare and maternity leave. Studying 22 industrialized countries, Mandel and Semyonov (2006) find that the number of fully paid weeks of maternity leave and the percentage of pre-school children in publicly funded childcare are both associated with a higher FLPR. There is a large body of literature that links paid maternity leave arrangements in industrialized countries, providing continued income and guaranteeing the right to return to one's old job, to continued labor force participation of mothers (c.f. Aisenbrey, Evertsson, & Grunow, 2009; England *et al.*, 2012; Gornick *et al.*, 1997; Steiber & Haas, 2012). Several authors, however, noted that arrangements allowing extremely long periods of maternity leave reverse the positive effect and actually decrease labor force participation (Stryker, Eliason, Tranby, & Hamilton, 2011; Hummelsheim & Hischle, 2010). *We expect that the relation between the length of maternity leave and the FLPR forms an inverted u-shape, meaning that both the absence of as well as the presence of very long maternity leaves are associated with lower FLPRs of women between 25 and 44, whereas brief maternity leaves are associated with higher FLPRs of women between 25 and 44 (H6a). Furthermore, we expect that higher levels of wage replacement during maternity leave are associated with a higher FLPR of women between 25 and 44 (H6b).*

Stryker et. al. (2011) argue that widely available and affordable childcare both reduces the time incompatibility of work and motherhood, as well as "reshape[s] cognitive expectations and normative evaluations about the acceptability or desirability of childcare provided outside the home and by someone other than the mother". For a number of European countries, they find public childcare facilities increase female labor force participation. These findings are confirmed by Gornick *et al.* (1997) as well as Hummelsheim and Hirschle (2010). We expect that *higher enrollment in childcare is associated with higher FLPRs of women of 25 and above (H7a)*.

Hummelsheim and Hirschle (2010) find the effects of childcare arrangements in Belgium and Germany are largest for mothers with children under three and decrease or even disappear due to cultural attitudes at later ages. We therefore argue that care burdens begin to affect female labor force participation when women become mothers and are reduced as children grow older and less in need of constant care. We expect that *childcare and maternity leave provisions are not associated with the FLPR of women below 25 and above 44 (H7b)*.

(d) *Gender ideologies*

Next to reducing competing time demands of care tasks and investments in women's capabilities, societies may also influence female labor force participation more indirectly. As Nee (1998, p. 10) points out, "[t]he cultural heritage of a society is also important because customs, myths, and ideology matter in understanding the mental models of actors". Through formal and informal institutions, countries may express a preference, objection, or indifference to the inclusion of women in the labor market. Goldin (1995) argues that if the societal prejudice against working wives is strong, they will be much less susceptible to the economic motivations discussed in Section 2(a). Cultures can mediate the acceptability of a woman's choice to work, thus determining the popular image of appropriate female behavior (Hakim, 2000). By guaranteeing equal treatment, countries can provide women with a genuine choice to integrate into the labor force as well as convey a formal commitment to gender equality. Traditions, reflected among others in the prevalence of religious beliefs may convene the inappropriateness of working. On the other hand, the visibility of women in public life, such as in politics or public office can signal the *de facto* acceptance and respectability of such a choice.

In a sample of 13 high-income countries, Whitehouse (1992) finds no relation between the adoption of equality legislation and female labor force participation. However, taking a more global sample, Chang (2000, 2004) reports that countries that ratified the ILO gender conventions had higher FLPRs. While one may argue that such treaties can be implemented in a

variety of ways and that they may be adopted both in countries with a long tradition of nondiscrimination legislation as well as in those that make a policy shift at the moment of ratification, the results are encouraging. The mere presence of equality legislation may be the first token of a gender equality commitment and is at present the most suitable measure that is available for a large number of countries. We expect that *the existence of anti-discrimination laws is associated with a higher FLPR of women of all ages (H8)*.

Quite a few studies have looked into the effect of religion on female labor force participation (c.f. Clark, Ramsbey, & Stier Adler, 1991; Haghighat, 2002; Hummelsheim & Hirschle, 2010; Lincove, 2008). Contrary to studies into the effect of the intensity of religious views or practices (c.f. Amin & Alam, 2008; Chadwick & Garrett, 1995; Heineck, 2004; Lehrer, 2004), we treat religion rather as a proxy for the *mores* in a society as a result of the historical imprint that a denomination has left on a culture. The prominence of religious beliefs has been associated with lower FLPRs (c.f. Psacharopoulos & Tzannatos, 1989). Clark *et al.* (1991), for instance, explore the labor force participation of women in Islamic, African, Asian, Marxist, Western, and Latin American world regions. They report that, in comparison to Western countries, women in Islamic and Latin American countries are less likely to join the labor force. Studying data from the World Values Survey from up to 97 countries, Seguino (2011) links religious institutions not only to more traditional beliefs with regard to gender roles, but also to more unequal labor market outcomes.

Islam in particular is often found to be associated with lower female labor force participation as women are more explicitly restricted to the private sphere (Clark & Anker, 1993; Haghighat, 2005; Lincove, 2008). We argue that all major religions have attributed different roles to women and men. This applies particularly for mothers, as women's role in religious thinking is often associated with motherhood. However, we argue that the extent to which their teachings have left an imprint on society and influence behavior will be dependent on their pervasiveness or dominance in a country. A religion to which the large majority of a country's population is affiliated, will thus have a stronger influence on behavior than a smaller religious community. We expect that *the pervasiveness of religions in general and Islam in particular, is negatively associated with the FLPR and that this association is strongest for women between 25 and 44 (H9)*.

Juxtaposed to the influence of tradition on women's roles in a society, is their visibility in public life today. The equal presence or near absence of women in institutions, politics and media is related to the self-evidence of a woman's choice to work (Chafez, 1990). Haghighat (2005) has argued that the political empowerment of women can moderate the effect of religion. Iversen and Rosenbluth (2008, p. 481), too, interpret the presence of women in politics as a signal that a society has loosened "its attitudes towards appropriate levels of gender specialization and traditional gender roles". Studying 23 OECD countries, Iversen and Rosenbluth (2008, p. 481) find that countries with higher FLPRs have a higher representation of women in Parliaments, as do Stockemer and Byrne (2012) for a sample of 120 countries. Following this line of reasoning, we argue that the political rights and participation of women reflect the extent to which the presence of women in the public domain is accepted in a country. We expect that *a greater presence of women in the politics is associated with higher FLPRs of women of all ages (H10)*.

3. DATA AND METHODOLOGY

(a) *Data*

For the study of aggregate female labor force participation, the most comprehensive dataset currently available is the 6th edition of the ILO Estimates and Projections of the Economically Active Population (EAPEP). The dataset aggregates and harmonizes data from selected national labor force and household surveys that are comparable for different age groups and include both urban and rural areas. EAPEP is a cross-sectional time series containing estimates of countries' population sizes, economically active populations, and labor participation rates for women and men. Data for 191 countries for the time period during 1990–2010 are reported for 11 age categories. Due to the linear interpolation method used to construct the dataset, we do not perform any longitudinal analyses and include only the last available year, 2010 (for a detailed description of the imputation procedure: see International Labor Organization, 2011). For reasons of reliability 23 countries, mainly African nations and dictatorships, for which no actual observations are available, were removed from the sample. [3] Secondly, to avoid statistical complications, 32 countries whose labor force is below one million were left out of the analysis. [4]

To complete the Global Dataset on Women and Work, described in Appendix II, data for the four explanatory domains—economic conditions, education, families, and gender ideologies—were gathered from a range of publicly available international sources. Variables were selected on the basis of their availability for both industrialized and developing countries. Because we aimed to maximize the number of countries in the analysis, we were occasionally forced to leave out variables that are undeniably important for a woman's decision to work or not, but are not easily measured in some parts of the world. We perform the analyses on the final sample of 117 countries for which data on FLPRs as well as the four domains are available.

(b) *Operationalization*

The dependent variable is the female labor force participation rate, which measures the share of economically active women to all women in the relevant age group in a country. The variable is broken down into ten five-year age categories and one age group for women of 65 years and above, creating 11 observations per country.

To measure the effect of economic conditions, we specified *the level of economic development* and the *relative size of economic sectors*. For economic wealth, we use per capita GDP in 2010. [5] To test the hypothesized u-shaped relationship, we standardize the variable with a mean of zero and a standard deviation of one, and calculate a square term. [6] In the absence of data on the size of sectors relative to total employment, we measure sector sizes by their value added as a share of GDP. [7] We include predictors for agriculture, manufacturing and services, which are three broad but nonoverlapping sectors.

In the domain of education, we use variables for *female enrollment levels* and *gender parity in education*. We take data from 2010, except in a few cases where this year is not available and we select the previous or following year. [8] We introduce two variables for the gross female enrollment rate in primary and secondary education, measuring the share of girls in education as a percentage of all girls in the relevant age category. Secondly, we introduce two variables for gender parity

in education, reflecting the share of female-to-male enrollment in primary and secondary education. Due to nonavailability of data for many developing countries, we exclude measures for tertiary education.

For the families domain we formulated expectations regarding the *care burden*, *maternity leave*, and *childcare*. As noted in Section 2(c), several authors have argued that the choices to have children and to work are made together rather than independently of each other, bringing up questions regarding the direction of causality as well as whether the two processes may simultaneously be caused by other exogenous factors (Browning, 1992; Steiber & Haas, 2012). If such an endogenous relationship exists, only part of the variation captured by the fertility rate can be attributed to a direct effect of having children and we overestimate the effect. Therefore, we test the effect of care burdens both by introducing the total fertility rate as well as constructing a measure that attempts to address the alleged endogeneity. We create a scale containing four items affecting the mean care burden and measuring the consequences of past fertility decisions, rather than the concurrent fertility and FLPRs. We use the share of the population below 15 to represent dependent family members and the share of the population above 65 years for the number of adults as a measure of people without small children with whom both work and care tasks could be shared. We also introduce the average age of first marriage of women and the average life expectancy of women to accommodate country differences with regard to the relative share of a life span spent nursing children.[9] The share of the population above 65, age of first marriage and life expectancy are reverse coded in order for a higher score on the scale to represent a higher care burden. The scale (Cronbach's alpha .79) yields near identical coefficients to a fertility variable in a bivariate regression, but halves the effect sizes of fertility in the multivariate regressions. We interpret this as an indication of endogeneity and use the scale instead of the total fertility rate. We measure both the length in days and wage replacement levels of maternity leave. As we assume an inverted u-shaped relation between the FLPR and the length of maternity leave, we also calculate a squared term. Worldwide data on the enrollment of small children in childcare is not available. Therefore, we use pre-primary enrollment of both boys and girls as a proxy for childcare.[10]

To measure gender ideologies, we look at the existence of *anti-discrimination legislation*, the *religious background* of a country, as well as the *presence of women in politics*. For the existence of legislation protecting women from discrimination in the labor market, we look at ratification of the ILO treaties on maternity, nondiscrimination, and equal pay. We create a scale by adding the three items (Cronbach's alpha .68). To measure religious backgrounds, we use data collected by the Pew Research Center Forum on Religion and Public Life, containing data on adherence to various streams of Christianity, Judaism, and Islam, as well as Buddhism, Hinduism, Confucianism, a multitude of smaller Asian, syncretic and animist religions and the share of nonadherents. We construct a measure of "religious dominance", reflecting the size of the biggest religion in a country as a proxy for the cultural imprint of religion in general. Secondly, we construct a variable measuring the influence of Islam. To create the variable we divide the share of the population adhering to Islam by the size of the largest religious group, or by the share of nonaffiliated people if this is the largest group, creating a scale that runs from 0 (no influence) to 1 (Islam is the largest religion). Finally, to measure women's current level of representation in the public domain, we use a variable measuring women's right to vote, run in elections, hold government office, join political parties and to petition officials. The variable is a four-point scale running from 0 (no rights) to 3 (rights are guaranteed both by law and in practice).

(c) *Analytical strategy*

Taking into account that observations of different groups of women in a country are not independent from each other, we model the effects of the specified four domains on the FLPR of eleven age groups in 117 countries, using two-level hierarchical models (c.f. De Leeuw & Meijer, 2008; Hox, 2010). We specify a model with a random intercept for the countries as well as a random slope for the age variables, where $FLPR_{ij}$ is the FLPR by country and age group.

$$\begin{aligned} FLPR_{ij} = {} & \gamma_{00} + \gamma_{10}Age_{ij} + \gamma_{20}Age_{ij}^2 + \gamma_{01}X_j + \gamma_{02}(X_j * Age_{ij}) \\ & + \gamma_{03}(X_j * Age_{ij}^2) + \gamma_{04}MLPR_{ij} + \delta_{0j} \\ & + \delta_{1j}Age_{ij} + \delta_{2j}Age_{ij}^2 + \varepsilon_{ij} \end{aligned}$$

We introduce a random intercept, which consists of the grand mean intercept for all countries (γ_{00}) and a level 2 error term (δ_{0j}) that contains the deviation from the mean intercept for each country. In the null model (model 1) we introduce only the dependent variable. Model 1 shows that 33% of the differences in participation levels are differences between countries (level 2 variance), whereas 67% are found within countries (level 1 variance). The within-country unexplained variance is vastly reduced when we include a second-order orthogonal polynomial term for age (model 2), which introduces a contrast coded first and second-order centralized variable for the 11 age categories.

The 117 countries in our sample differ vastly in terms of the timing of life events like childbirth, the end of full-time education and retirement. Therefore, in model 3 (Table 1) we allow the age effects to vary between countries and add a randomized age slope to account for the differences in the timing of different stages of women's life cycle across the countries. Thus, we include a grand mean effect of age ($\gamma_{10}Age_{ij}$) and age squared ($\gamma_{20}Age_{ij}^2$), as well as two level 2 error terms ($\delta_{1j}Age_{ij}, \delta_{2j}Age_{ij}^2$). In our models, we restrict the level 1 errors assuming homoscedasticity; identical models allowing for heteroskedastic errors (not shown) were run and yield similar results.

To measure the effects of the four domains, we use the *runmlwin* package in stata. Firstly, we introduce a vector of country-level explanatory variables ($\gamma_{01}X_j$). We interact those variables with the randomized age and age square variables creating two cross-level interaction terms ($\gamma_{02}(X_j * Age_{ij})$, $\gamma_{03}(X_j * Age_{ij}^2)$) in order to estimate the heterogeneous effects by age groups. In order to test the effects of the different domains, we follow a three-stage approach and examine if the results hold in all models. For each of the four domains, we firstly test each hypothesis in one model and then run a model combining all indicators of the respective domain. Finally, we run a complete model including all four domains. We seek to measure only those effects that are specific to women. By controlling for the male labor force participation rate ($\gamma_{04}MLPR_{ij}$), we both isolate those effects that specifically apply to women, as well as filter out the nongender biased measurement differences in the national data that the ILO uses as sources of the EAPEP dataset. We standardize all variables so as to make coefficients comparable in the multivariate models. To allow for a more intuitive understanding of the age effects than afforded by the relatively complicated interaction

Table 1. *Female labor force participation—null models*

	Model 1	Model 2	Model 3
Constant	55.349*** (1.564)	55.349*** (1.564)	55.349*** (1.564)
Age		−4.673*** (0.310)	−4.673*** (0.449)
Age squared		−17.529*** (0.310)	−17.529*** (0.665)
Level 1 variance	485.826*** (20.086)	123.792*** (5.118)	51.256*** (2.369)
Level 2 variance (cons)	242.061*** (37.467)	274.973*** (37.425)	281.568*** (37.423)
var(age)			18.890*** (3.087)
var(age^2)			47.051*** (6.764)
Log Likelihood	−5916.0957	−5116.2534	−4819.6890
AIC	11838.19	10242.51	9685.997
BIC	11853.67	10268.31	9722.118

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Source: Global Dataset on Women and Work, sample contains 1,287 age groups in 117 countries, Standard errors in parentheses.

terms with the orthogonal polynomials in the regression models, we use predicted values to plot the differential effects on the eleven age groups. In order to test the robustness of the results, we run the same models on split samples along country income groups and discuss the results in Section 4(f).

4. RESULTS

At first glance, the same dominant pattern can be observed in all countries (Figure 1): the FLPR is lowest at the extremes of the horizontal axis, at young and old age, and higher in between. On average, 55% of women are in the labor force. Yet fewer than two in ten women above 65 and less than three in ten women below 19 are, compared to seven in ten women between 30 and 49 years. However, both the level of participation across the life cycle as well as the exact location of the peak and the rate of decline differ vastly across countries. Among the 117 countries are those whose FLPR at no point falls below 50% as well as states where it never reaches that mark.

When we plot the FLPRs per age group in nine selected countries we find diverse patterns (Figure 1). For instance, while low-income Sub-Saharan African countries like Burundi have high levels of participation across age groups, many Middle Eastern and North African countries, like Algeria, show comparable patterns but on a much lower level of participation. Contrastingly, most Asian, Latin American, and European countries reveal large differences in levels of participation of the different age groups. Some countries, like the Czech Republic and, to a lesser extent the USA, show a double peak, indicative of mothers withdrawing from the labor market for a couple of years when children are young.

(a) *Economic conditions*

We hypothesized that the relationship between countries' level of economic prosperity and the FLPR was u-shaped, as well as that female labor force participation is higher in countries with large agricultural and services sectors and lower where manufacturing sectors are big.

The relation between per capita GDP and female labor force participation takes the expected u-shaped form (Table 2), but

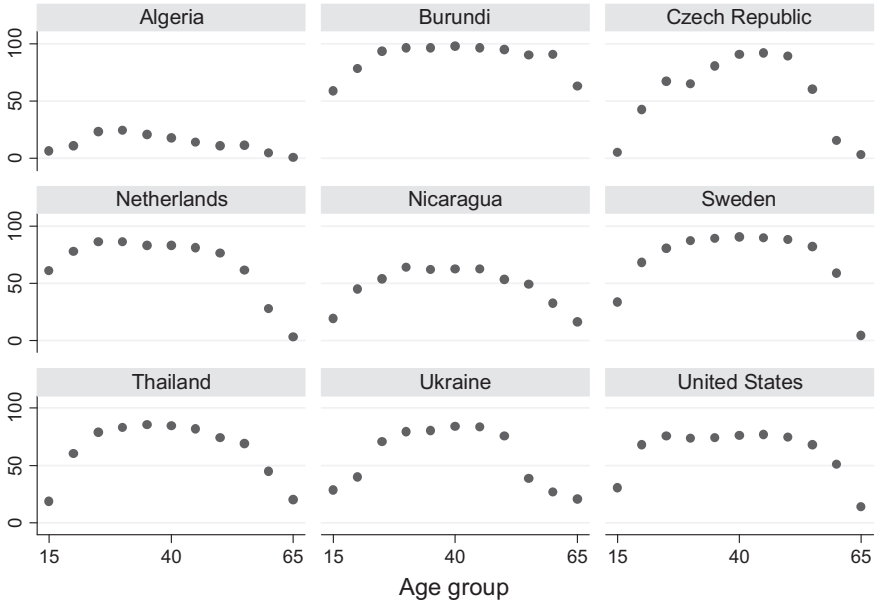

Figure 1. *Female labor force participation rate by age for selected countries.*

is nonsignificant and thus cannot confirm the hypothesis. The linear term in model 4 shows the association is initially negative (−1.222), forming the downward half of the u-shape and indicating that a higher per capita GDP is initially associated with a lower FLPR The positive square term (2.233) models the point at which the association turns positive, forming the upward half of the u-shape where GDP and the FLPR rise together In model 5, agriculture has a strong positive effect (6.230), as does the services sector (5.437), implying that countries with larger agricultural and services sectors do indeed have higher overall FLPRs. We then control for both per capita GDP and sector sizes (model 6), so as to be able to measure the impact of sector size on the dependent variable for counties with the same level of per capita GDP and vice versa. The effects of agriculture become stronger and those of services weaker, but remain significant. The main effect of manufacturing is not significant in any model and the effect of per capita GDP remains nonsignificant but becomes positive.

The significant interaction between age and per capita GDP confirms that there are differences in the way age groups are affected. The negative coefficients of the interaction effects between age and GDP (−2.530) and the positive effects of the interaction with GDP squared (0.730), indicate that the u-shape is more pronounced for younger and older women. Figure 2 visualizes the u-shaped relation for each of the age groups, showing the FLPR at the vertical axis and the standardized GDP variable on the horizontal axis. Most age groups experience only a small dip in FLPRs between the lowest values for per capita GDP toward the mean, and then show a steady positive effect. The initial negative effect of GDP is larger for women below 20 and above 60, but the recovery is also quicker. Figure 2 also shows that the participation rates of women of different ages are most similar in countries with very low or high per capita GDP, where the regression lines for the age groups almost touch. The participation rates of young and older women diverge most from the middle-age categories in countries with mid-level per capita GDP, as is shown by the large distance between the age groups on the vertical axis. Thus, contrary to expectations, the relation between per capita GDP and the FLPR shows the most pronounced u-shape in the case of school age and older women.

The effects of sector sizes are also different for women of different ages, as shown by the significant interaction terms and the diverging regression lines for these age groups (Figure 2). The largest age effects exist in countries with small agricultural sectors, large manufacturing sectors, and large services sectors. Larger agricultural sectors are associated with higher overall FLPRs, but Figure 2 shows that the effect is much larger for women below 20 and above 60 years. Manufacturing has hardly any effects on most age groups, but negative effects on women under 25 and of 55 and older. Service sectors have a positive effect on most age groups, but a negative effect on the labor force participation of women under 20 and above 60.

We thus find significant main effects of sectors sizes, but not of GDP; we find significant age effects for both. The younger or the older women are, the more u-shaped is the relationship between their labor force participation rate and per capita GDP. This would suggest that the association between the level of economic prosperity and female labor force participation runs primarily through shifts in the timing of entry into and exit out of the labor market. Women are more likely to work in countries with larger agricultural and services sectors, while the predicted negative effect of manufacturing is found only for younger and older women. When controlling for sector sizes, the nonsignificant effect of per capita GDP becomes positive, except for younger and older women.

Table 2. *Effects of economic conditions on female labor force participation rates*

	Model 4	Model 5	Model 6
Constant	51.798*** (1.985)	53.967*** (1.358)	54.052*** (2.012)
Age	−4.067*** (0.434)	−3.538*** (0.315)	−4.298*** (0.446)
Age squared	−3.466*** (0.923)	−2.827*** (0.712)	−3.224*** (0.934)
Per capita GDP	−1.224 (2.856)		5.089 (3.614)
Per capita GDP squared	2.233 (1.416)		−0.053 (1.531)
Age * GDP	−1.636*** (0.583)		−2.530*** (0.752)
Age * GDP^2	0.467 (0.285)		0.730** (0.319)
Age^2 * GDP	−1.541 (1.066)		−0.852 (1.372)
Age^2 * GDP^2	0.399 (0.527)		0.246 (0.581)
Agriculture		6.230*** (1.826)	8.042*** (1.999)
Age * Agriculture		0.416 (0.393)	−0.277 (0.419)
Age^2 * Agriculture		−1.091 (0.672)	−1.304* (0.761)
Manufacturing		0.152 (1.419)	0.405 (1.368)
Age * Manufacturing		0.083 (0.300)	0.050 (0.284)
Age^2 * Manufacturing		−0.941* (0.519)	−0.954* (0.519)
Services		5.437*** (1.747)	3.802*** (1.772)
Age * Services		0.113 (0.369)	0.525 (0.368)
Age^2 * Services		−1.989*** (0.638)	−1.848*** (0.672)
Level 1 variance	24.123*** (1.115)	24.122*** (1.115)	24.119*** (1.115)
Level 2 variance (cons)	219.771*** (29.020)	206.982*** (27.348)	191.303*** (25.298)
var(age)	6.405*** (1.129)	7.120*** (1.222)	6.131*** (1.093)
var(age^2)	28.142*** (3.967)	25.726*** (3.651)	25.622*** (3.638)
Log likelihood	−4378.2505	−4374.5806	−4363.1885
AIC	8788.501	8787.161	8776.377
BIC	8871.062	8885.202	8905.379

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Global Dataset on Women and Work, sample contains 1,287 age groups in 117 countries, Standard errors in parentheses, controlled for male labor force participation rate.

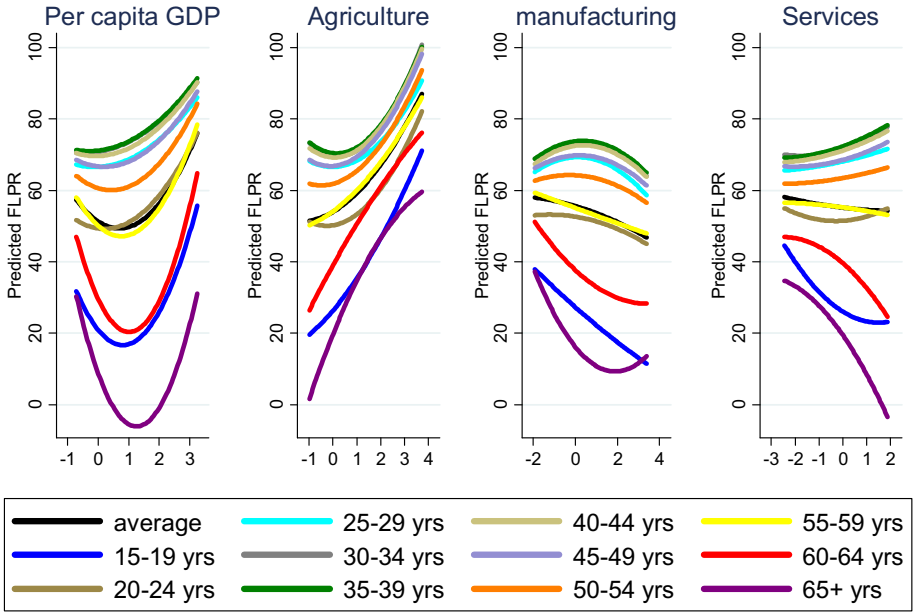

Figure 2. *Age effects of economic conditions.*

(b) *Education systems*

We hypothesized that both enrollment and gender parity in primary and secondary education are positively associated with the FLPR. In our models (Table 3), we confirm that higher enrollment and parity in primary education have positive effects (3.206 and 3.392). One standard deviation increase in girls' enrollment in primary education or gender parity in primary education is associated with a three percent increase in the FLPR. Contrary to expectations, however, gender parity in secondary education has a negative effect (−4.365) and female enrollment in secondary education is nonsignificant. Thus, while higher levels of completed education may effectively improve women's human capital and their individual position in the labor market, we cannot confirm here that continued enrollment in education also improves aggregate female labor force participation.

We find relatively few significant age effects of education on female labor force participation. The only significant age effects are found in the interaction term with girls' enrollment in secondary education in model 7, indicating that effects are more strongly negative for younger and older women. However, these effects disappear when gender parity in secondary education is introduced in model 9. We thus confirm the positive effects of primary education and gender parity in primary education. However, we reject the hypothesis that these effects would be stronger for secondary education, where we effectively find a negative relationship.

(c) *Families*

We hypothesized that FLPRs will be lower in countries where the care burden for young dependents is larger. We also expect that labor force participation will be higher where brief maternity leave arrangements and higher wage replacement levels exist, and a larger share of children are enrolled in pre-primary education.

To measure the care burden, we use the dependency scale described in Section 3(b). Its main effect is not significant (Table 4). We find no significant effect of pre-primary enrollment and wage replacement during maternity leave, but the length of maternity leave shows the predicted inverted u-shape. The strongly positive untransformed term (7.350) shows that women are more likely to work as they are entitled to longer periods of maternity leave. The negative squared term (−1.759) indicates that this effect wears off as the length becomes more extended and women are effectively less likely to work when maternity leave periods are very long. When tested together in one model (model 13), the effects are unchanged.

However, while the grand mean effects do not reveal much effect of families on FLPRs, the picture changes when we distinguish between age groups. All indicators, with the exception of wage replacement during maternity leave, have significant age effects. The largest age effects are found in countries with low care burdens, moderately long maternity leave periods and high enrollment in pre-primary education. As shown in Figure 3, the effect of a higher care burden is especially negative for women between 30 and 54, the group most likely to have small children at home. However, for women under 20 and above 55 the effect is positive, which could indicate that they substitute mothers in the labor force. Especially women of 60 and above, whose labor force participation rate is relatively high in countries with a higher care burden, are much less active in societies with lower care burdens.

We also find significant age effects of the length of maternity leave. As Figure 3 shows, the effect on some age groups is actually opposite to the grand mean effect. The length of maternity leave has the hypothesized inverted u-shaped relationship to the labor force participation of women between 20 and 59. However, it has u-shaped effects on women of 60 and above or below 20. Variation in participation across age groups grows as pre-primary enrollment levels increase. For women between 20 and 59, the effect of pre-primary enrollment is positive, whereas it is decidedly negative for women under 20, as well as those of 60 years and older.

We thus confirm the hypothesized negative effect of higher care burdens on the labor force participation of women between 30 and 54, but also find positive effects for both younger and older women that hint at possible substitution

Table 3. *Effects of education on female labor force participation rates*

	Model 7	Model 8	Model 9
Constant	54.038*** (1.391)	53.947*** (1.383)	54.029*** (1.357)
Age	−3.613*** (0.313)	−3.510*** (0.312)	−3.606*** (0.313)
Age squared	−3.133*** (0.724)	−2.741*** (0.707)	−3.107*** (0.722)
Girls' enrollment in primary education	3.691*** (1.373)		3.206** (1.501)
Age * Primary	0.272 (0.281)		0.283 (0.315)
Age^2 * Primary	−0.279 (0.501)		0.025 (0.558)
Girls' enrollment in secondary education	−1.058 (1.378)		−0.194 (1.824)
Age * Secondary	−0.534* (0.299)		−0.446 (0.396)
Age^2 * Secondary	−1.344*** (0.510)		−0.955 (0.684)
Gender parity in primary education		4.802*** (1.766)	3.392* (1.957)
Age * Parity Primary		0.084 (0.366)	0.054 (0.409)
Age^2 * Parity Primary		−1.099* (0.651)	−0.882 (0.728)
Gender parity in secondary education		−4.676*** (1.765)	−4.365** (1.910)
Age * Parity Secondary		−0.382 (0.367)	−0.182 (0.399)
Age^2 * Parity Secondary		−0.275 (0.650)	0.145 (0.711)
Level 1 variance	24.123*** (1.115)	24.124*** (1.115)	24.122*** (1.115)
Level 2 variance (cons)	217.554*** (28.731)	215.045*** (28.401)	206.750*** (27.319)
var(age)	6.938*** (1.198)	7.110*** (1.220)	6.923*** (1.196)
var(age^2)	27.101*** (3.831)	27.240*** (3.849)	26.722*** (3.782)
Log likelihood	−4379.1489	−4379.8647	−4375.3242
AIC	8790.298	8791.729	8794.648
BIC	8872.859	8874.291	8908.17

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Source: Global Dataset on Women and Work, sample contains 1,287 age groups in 117 countries, Standard errors in parentheses, controlled for male labor force participation rate.

Table 4. *Effects of families on female labor force participation rates*

	Model 10	Model 11	Model 12	Model 13
Constant	54.015*** (1.432)	55.653*** (1.542)	53.952*** (1.428)	55.881*** (1.555)
Age	−3.606*** (0.314)	−3.301*** (0.350)	−3.528*** (0.314)	−3.329*** (0.343)
Age squared	−3.120*** (0.716)	−3.738*** (0.722)	−2.826*** (0.698)	−4.105*** (0.722)
Dependency scale	−1.019 (1.606)			3.339 (2.654)
Age * Dependency	0.589* (0.340)			1.363** (0.551)
Age^2 * Dependency	2.059*** (0.565)			−0.793 (0.853)
Wage replacement maternity leave		−0.549 (1.362)		−0.886 (1.394)
Age * Maternity pay		−0.250 (0.281)		−0.342 (0.281)
Age^2 * Maternity pay		−0.435 (0.449)		−0.210 (0.444)
Length maternity leave		7.350*** (2.473)		8.528*** (2.796)
Length maternity leave squared		−1.759** (0.690)		−1.880*** (0.726)
Age * Length maternity		0.574 (0.522)		1.203** (0.564)
Age^2 * Length maternity		−4.913*** (0.820)		−4.722*** (0.890)
Age * Length Maternity^2		−0.183 (0.143)		−0.278* (0.146)
Age^2 * Length maternity^2		1.057*** (0.228)		0.946*** (0.231)
Enrollment in pre-primary education			1.219 (1.411)	2.168 (2.157)
Age * Pre-primary			−0.214 (0.289)	0.488 (0.436)
Age^2 * Pre-primary			−1.859*** (0.491)	−1.723** (0.687)
Level 1 variance	24.121*** (1.115)	24.124*** (1.115)	24.120*** (1.115)	24.121*** (1.115)
Level 2 variance (cons)	231.140*** (30.505)	214.522*** (28.321)	230.056*** (30.364)	212.949*** (28.116)
var(age)	7.015*** (1.208)	7.026*** (1.209)	7.190*** (1.231)	6.537*** (1.146)
var(age^2)	25.726*** (3.652)	21.339*** (3.080)	25.482*** (3.620)	19.616*** (2.856)
Log Likelihood	−4380.2988	−4366.0933	−4380.5874	−4357.9712
AIC	8786.598	8770.187	8787.175	8765.942
BIC	8853.679	8868.228	8854.256	8894.944

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Source: Global Dataset on Women and Work, sample contains 1,287 age groups in 117 countries, Standard errors in parentheses, controlled for male labor force participation rate.

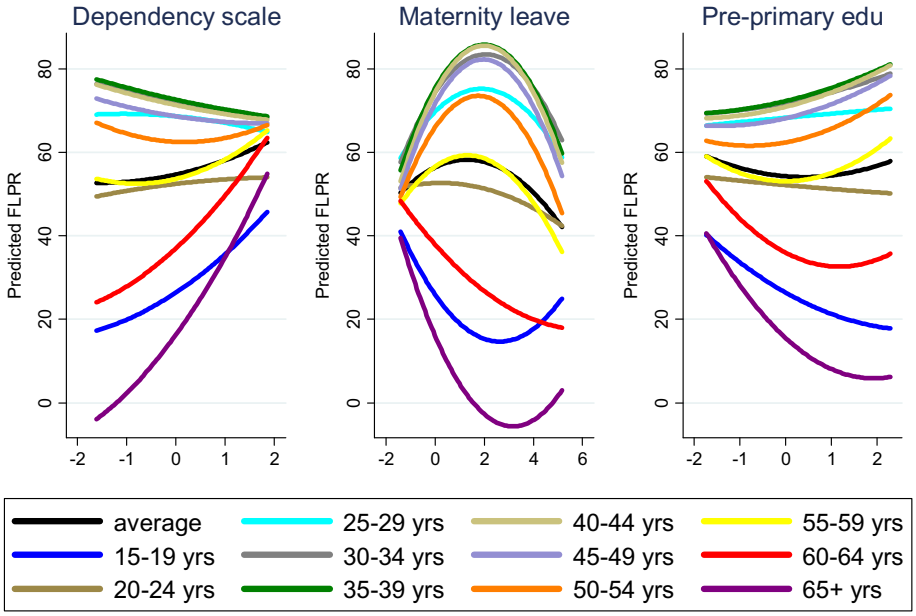

Figure 3. *Age effects of families.*

effects. We also find opposite effects across age groups for the length of maternity leave. The FLPRs of women between 20 and 59 are lowest in the absence of maternity leave and where leaves are longest, with higher participation at the values in between. We observe reversed effects for younger and older women, whose FLPRs are the mirror image of the prime age groups.

(d) *Gender ideologies*

We expected a positive effect of nondiscrimination legislation and women's rights on female labor force participation, as well as a negative effect of religion in general, and Islam in particular. We do not find significant grand mean effects of anti-discrimination legislation (Table 5). We do find significant positive effects of women's political rights. FLPRs are lower in countries where women hold few political rights and higher where they are guaranteed. They are also lower in countries where the biggest religion is larger and where Islam is dominant. The effect of political rights is weaker when controlling for all indicators together (model 17), but it remains significant and positive.

While the main effect of anti-discrimination legislation is never significant, the interaction terms with age are. The negative interaction with age squared (−1.439) indicates that the existence of anti-discrimination legislation is associated with lower labor force participation of younger and older women. Figure 4 shows the negative effect on women under 25 and of 60 and over, as well as the nearly flat lines of the nonsignificant positive effect on women between 25 and 54 years. While some age effects exist for political rights in model 15, there are no significant age effects when controlling for the other indicators (model 17). Both religion in general and the dominance of Islam, however, do interact significantly and positively with age, indicating the negative main effect is smaller for younger and older women. This implies that, in line with expectations, the reduction in labor force participation accounted for by religion is focused on women of childbearing age and mothers. We thus confirm the positive effect of political rights on women of all ages and the negative effect of religion on all women, but especially on mothers.

(e) *Full model*

We run a full model, combining the models of economic conditions, education, families, and gender ideologies to examine which effects remain significant predictors of the FLPR (Table 6). Of the economic variables, the negative effect of manufacturing is now significant. There are also significant age effects of GDP, indicating the u-shaped relationship with the labor force participation of younger and older women remains relevant. Gender parity in primary education continues to have a positive effect on the FLPR, whereas parity in secondary education has a reduced negative effect. The educational variables now include significant age effects, which are most notable for gender parity in education. Both parity indicators now show that while younger and older women are among the most likely to work in countries with low scores on gender parity, they are least likely to work in countries with high parity.

While the effect of the dependency scale is nonsignificant, care arrangements retain their effects. The effect of the length of maternity leave is fully replicated in the total model. Enrollment in pre-primary education now has a negative effect and a higher wage replacement during maternity leave has a negative effect on younger and older women. Anti-discrimination legislation continues to be associated with a lower participation of young and older women, whereas political rights have a positive effect across the board. The results of religion and Islam are replicated as they were in the gender ideologies model. Thus, also controlling for economic development, families and education, gender ideologies continue to affect FLPRs.

(f) *Robustness checks*

As indicated in Section 3(c), to ascertain the validity of the reported results for all levels of development, we repeat all analyses on a split sample of low and lower middle, upper middle and high-income countries (findings are not reported

Table 5. *Effects of gender ideologies on female labor force participation rates*

	Model 14	Model 15	Model 16	Model 17
Constant	53.923*** (1.432)	53.937*** (1.315)	53.926*** (1.154)	53.960*** (1.106)
Age	−3.489*** (0.314)	−3.478*** (0.312)	−3.466*** (0.306)	−3.504*** (0.307)
Age squared	−2.658*** (0.699)	−2.606*** (0.699)	−2.541*** (0.624)	−2.729*** (0.613)
Nondiscrimination law	0.445 (1.414)			0.182 (1.103)
Age * nondiscrimination	−0.012 (0.287)			−0.111 (0.285)
Age^2 * nondiscrimination	−1.621*** (0.495)			−1.439*** (0.386)
Women's political rights		6.126*** (1.295)		3.770*** (1.144)
Age * Political rights		−0.154 (0.283)		−0.122 (0.293)
Age^2 * Political rights		−1.397*** (0.499)		−0.303 (0.399)
Size biggest religion			−4.146*** (1.133)	−4.065*** (1.097)
Age * Religion			0.656** (0.277)	0.668** (0.281)
Age^2 * Religion			0.872** (0.401)	1.085*** (0.383)
Dominance of Islam			−7.916*** (1.133)	−6.685*** (1.151)
Age * Islam			0.040 (0.277)	−0.010 (0.295)
Age^2 * Islam			3.342*** (0.401)	3.079*** (0.402)
Level 1 variance	24.127*** (1.115)	24.134*** (1.116)	24.139*** (1.116)	24.126*** (1.115)
Level 2 variance (cons)	231.129*** (30.504)	193.735*** (25.615)	147.184*** (19.527)	134.672*** (17.893)
var(age)	7.213*** (1.234)	7.180*** (1.229)	6.760*** (1.175)	6.760*** (1.175)
var(age^2)	26.263*** (3.722)	26.904*** (3.804)	16.544*** (2.452)	14.489*** (2.183)
Log likelihood	−4382.7754	−4373.7813	−4329.5908	−4317.4199
AIC	8791.551	8773.563	8691.182	8678.84
BIC	8858.632	8840.643	8773.743	8792.361

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Source: Global Dataset on Women and Work, sample contains 1,287 age groups in 117 countries, Standard errors in parentheses, controlled for male labor force participation rate.

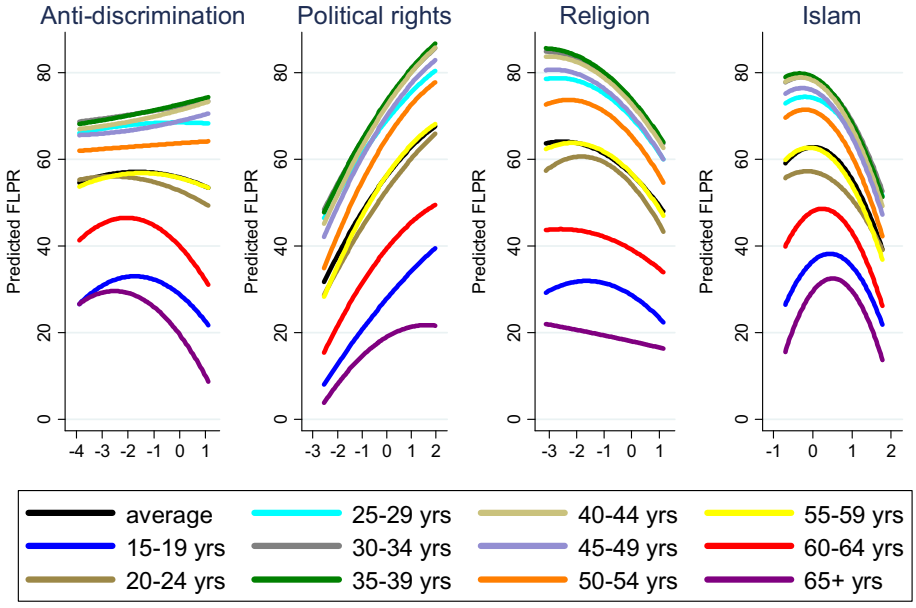

Figure 4. *Age effects of gender ideologies.*

here but are available on request). The findings show, that analyses per income level replicate the u-shaped relationship with GDP, indicating that GDP starts having a positive effect already in lower middle-income countries. The effects of sector sizes hold when performing the analysis on the income groups separately. The results indicate that agriculture is the most important driver of FLPRs in developing countries, while service sectors pull women of childbearing age and with small children into the labor force in industrialized countries. In upper middle-income countries, the positive effect of agriculture exists exclusively for young and older women, while manufacturing has a negative effect on those same age groups. We also find that in high-income countries the effects of education are the opposite of the findings reported in Section 4(d), which is likely the effect of a lack of variation on these variables.

Table 6. *Effects of economic conditions, families, education, and gender ideologies on female labor force participation rates*

Constant	53.772*** (1.518)	Age^2 * Length maternity^2	0.705*** (0.189)
Age	−4.065*** (0.453)	Enrollment in pre-primary education	−2.626* (1.524)
Age squared	−3.234*** (0.780)	Age * Pre-primary	0.804* (0.434)
Per capita GDP	−0.791 (3.019)	Age^2 * Pre-primary	0.110 (0.568)
Per capita GDP squared	1.270 (1.122)	Girls' enrollment in primary education	−0.074 (1.131)
Age * GDP	−2.981*** (0.857)	Age * Primary	0.371 (0.321)
Age * GDP^2	0.697** (0.319)	Age^2 * Primary	1.150*** (0.422)
Age^2 * GDP	0.993 (1.125)	Girls' enrollment in secondary education	−3.694 (2.406)
Age^2 * GDP^2	−0.580 (0.418)	Age * Secondary	−0.255 (0.684)
Agriculture	1.818 (1.807)	Age^2 * Secondary	0.949 (0.896)
Age * Agriculture	−0.312 (0.513)	Gender parity in primary education	3.442** (1.377)
Age^2 * Agriculture	−0.420 (0.675)	Age * Parity Primary	0.037 (0.391)
Manufacturing	−2.166** (1.072)	Age^2 * Parity Primary	−0.861* (0.513)
Age * Manufacturing	0.097 (0.304)	Gender parity in secondary education	−2.234 (1.523)
Age^2 * Manufacturing	0.066 (0.399)	Age * Parity Secondary	−0.757* (0.433)
Services	−1.183 (1.371)	Age^2 * Parity Secondary	−0.377 (0.568)
Age * Services	0.444 (0.390)	Anti-discrimination legislation	0.651 (1.151)
Age^2 * Services	0.218 (0.511)	Age * Anti-discrimination	−0.312 (0.327)
Dependency scale	−2.185 (3.259)	Age^2 * Anti-discrimination	−0.957** (0.429)
Age * Dependency	−0.372 (0.930)	Women's political rights	3.297*** (1.016)
Age^2 * Dependency	0.329 (1.219)	Age * Political rights	0.215 (0.289)
Wage replacement maternity leave	−0.117 (1.054)	Age^2 * Political rights	−0.372 (0.379)
Age * Maternity pay	−0.622** (0.299)	Size biggest religion	−3.565*** (0.967)
Age^2 * Maternity pay	−0.348 (0.393)	Age * Religion	0.695** (0.275)
Length maternity leave	5.509*** (2.097)	Age^2 * Religion	0.749** (0.360)
Length maternity leave squared	−1.015** (0.506)	Dominance of Islam	−9.026*** (1.281)
Age * Length maternity	0.832 (0.596)	Age * Islam	0.211 (0.366)
Age^2 * Length maternity	−3.427*** (0.782)	Age^2 * Islam	3.336*** (0.478)
Age * Length Maternity^2	−0.220 (0.144)		
Level 1 variance	24.120*** (1.115)		
Level 2 variance (cons)	85.404*** (11.453)		
var(age)	4.874*** (0.929)		
var(age^2)	9.973*** (1.594)		
Log likelihood	−4258.8716		
AIC	8645.743		
BIC	8975.988		

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Global Dataset on Women and Work, sample contains 1,287 age groups in 117 countries, Standard errors in parentheses, controlled for male labor force participation rate.

The effect of care burdens is not the same across income groups. In low and lower middle-income countries, higher care burdens are associated with higher FLPRs, whereas the negative effect in the whole sample is replicated in upper middle and high-income countries. The effects of gender ideologies are reproduced in all income groups, except for a nonsignificant effect of the variable for religious dominance in high-income countries (the effect of Islam is still significant), which confirms the fading impact of religion on individual actions in those countries. The effect of political rights is considerably larger in low and lower middle-income countries than in upper middle and high-income countries.

5. CONCLUSION AND DISCUSSION

In this article, we have studied the country-level effects of economic conditions, education, families, and gender ideologies on FLPRs in 117 countries. We paid particular attention to the inclusion of developing countries in the sample and the distinctive effects of the predictors on women of different ages. Our study showed that the FLPR in all 117 countries firstly increases as women mature and then start decreasing until retirement. These patterns differ between countries as to their exact timing, but they occur universally. We see that in most instances, women below 20 and above 60 cluster together and behave markedly different from the rest of the population. Women between 20 and 24 and between 55 and 59 often form a second group that alternately behaves like younger and older women or like the prime age group. Some effects we found applied exclusively to one cluster of age groups or indeed had opposite effects on various age groups. Such findings, we believe, signal the value of disaggregating the female population into age groups in macro-level studies.

While we do not confirm a significant u-shaped relationship between the level of economic development and the FLPR for all women, we find that a u-shaped relationship does exist for young and older women, even when we control for educational expansion in the final model. Thus, our hypothesis that economic prosperity would drive youth and older women out of the labor market can only be confirmed for the lower levels of GDP, with the opposite effect taking place at higher levels of development. The effects of sector sizes too, which are confirmed as hypothesized, appear to be driven by the

youngest and oldest age groups. We conclude that economic conditions do affect the timing of initial labor market entry and eventual exit, but do little to explain the level of participation of women between 25 and 55 years of age.

We find a positive association between girls' enrollment and gender parity in primary education, but cannot confirm the hypothesized positive effects for secondary education. Based on human capital theory, we had expected effects of higher levels of education to be stronger than those for lower levels. Yet, contrary to micro-level studies we find quite the opposite. It may be that mechanisms that distinguish between women on the micro level, do not directly translate to the macro level—that is to say, education may serve as a stratifying factor for women inside countries rather than between them. It may also be that our indicator of total enrollment and parity fails to capture the extent to which educational institutions are horizontally segregated along gender lines. Future research based on micro data from low- and middle-income countries or at least disaggregated by educational field, may be able to answer this question.

As regards the labor force participation rates of mothers, we suggest the effects of families and gender ideologies are most promising. In particular, we find evidence of substitution effects in maternity and care arrangements. While we observe women of childbearing age being more likely to remain in the labor force as the length of paid maternity leave increases and to start to drop out again as the leave period is extended more, we see an opposite movement for women under 25 and above 55. Similarly, while women between 25 and 59 have higher FLPRs at higher levels of enrollment in pre-primary education, women above and below that age are less likely to work.

While we find few significant effects of anti-discrimination legislation and positive effects of political rights for women of all ages, the effects of religion are largest for women of prime age. We find that a greater religious heritage in a country is associated with lower FLPRs of women between 20 and 59 years of age, but much less so with the participation of women who are younger or older than that. These results suggest that the gender stereotypes encapsulated in religious practices affect female labor force participation primarily through strong beliefs regarding the role of mothers.

As Barrientos and Kabeer (2004) have pointed out, care tasks are gendered in places around the world. While policies on care may differ greatly between low-income and high-income countries, the issues are universal. We believe that researchers who are particularly interested in the labor force participation of women of prime age, may do well to focus on families and gender ideologies. What is more, our research shows that for this age group predictors regarding families and gender ideologies have greater explanatory power than economic conditions or education do. Policy makers calling for job creation in female-dominated sectors to help women increase family incomes (e.g., World Bank, 2011), therefore, should consider they will primarily be drawing young and older women into the labor force, unless their efforts are accompanied by investments in care arrangements and reducing the stigma on work.

NOTES

1. We interpret informal labor is more than a legalistic distinction between declared and undeclared work. It makes up a substantial part of labor markets in developing countries, including many own-account workers, subsistence or family workers, homeworkers and industrial outworkers, and casual wage workers. Informal work exists in parts of the economy that have not yet been integrated in the global economy, in family-owned businesses, in trade and commerce to provide cheaper products for working-class families (street vendors), in registered businesses seeking to avoid taxes, in subcontract production of global value chains, and so on (c.f. Chen, 2001).

2. FOA also stresses that disaggregated statistics of participation in agricultural activities are only very sparsely available and require further research.

3. Countries without actual observations are Afghanistan, Angola, Central African Republic, Channel Islands, Comoros, Equatorial Guinea, Eritrea, Gambia, Guam, Guinea, Guinea-Bissau, Democratic People's Republic of Korea, Libyan Arab Jamahiriya, Mauritania, Myanmar, Senegal, Solomon Islands, Somalia, Swaziland, Turkmenistan, United States Virgin Islands, Uzbekistan, and Western Sahara.

4. Countries with less than one million inhabitants over 15 years old are: Bahamas, Bahrain, Barbados, Belize, Bhutan, Brunei Darussalam, Cape Verde, Cyprus, Djibouti, East Timor, Fiji, French Guiana, French Polynesia, Gabon, Guyana, Iceland, Luxembourg, Macau, Maldives, Malta, Martinique, Netherlands Antilles, New Caledonia, Qatar, Réunion, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Suriname, Tonga, and Vanuatu.

5. Data on per capita GDP for Iran were taken from 2009.

6. The process of standardization does change the distribution of the variable and as such affects the second order polynomial, however, when the regression output is converted to predicted values this change is undone, so that results are unbiased.

7. In cases where data for sector sizes in 2010 was not available, data were taken from adjacent years. Other years that were included were: 2006 (New Zealand, Nigeria), 2007 (Cameroon, Iran), 2008 (Canada, Chad, Greece), 2009 (Algeria, Belgium, France, Ireland, Lithuania, Madagascar, Mali, Spain).

8. Primary and secondary enrollment and gender parity for different years than 2010 are included. For 2005 (Brazil, Malaysia); for 2006 (United Arab Emirates); for 2007 (Iraq, Namibia, Togo); for 2008 (Bolivia, Botswana, Georgia, Kuwait, Trinidad and Tobago); for 2009 (Canada, Ghana, Madagascar, Oman, Philippines, Russia, South Africa, Sudan (pre-cession), Thailand); for 2011 (Benin, Ivory Coast, Liberia) Data from Albania, Ivory Coast, Mauritius were taken from the World Economic Forum Global Gender Gap report 2011.

9. Marriage data for different years than 2010 are included. For 2005 (Congo, Georgia, Honduras, Republic of Korea, Kuwait, Lao, Moldova, United Arab Emirates); for 2006 (Australia, Benin, Canada, Haiti, Hong Kong, Lesotho, Mali, Namibia, New Zealand, Niger, Papua New Guinea); for 2007 (Democratic Republic of the Congo, Dominican Republic, El Salvador, Iraq, Lebanon, Mozambique, Nicaragua, Pakistan, Peru, Philippines, Saudi Arabia, Sri Lanka, Ukraine, West Bank & Gaza, Zambia); for 2008 (Bolivia, Egypt, Ghana, Kenya, Liberia, Madagascar, Nigeria, Sierra Leone, Sudan, Turkey); for 2009 (Azerbaijan, Belarus, Belgium, France, Israel, Jordan, Kazakhstan, Kyrgyzstan, Switzerland, United Kingdom, USA, Vietnam); for 2011 (Albania, Austria, Bangladesh, Bulgaria, Cameroon, Chile, Costa Rica, Czech

Republic, Denmark, Ethiopia, Germany, Iran, Ireland, Latvia, Lithuania, Nepal, Netherlands, Romania, Slovenia, South Africa, Uganda and Uruguay).

10. Pre-primary enrollment for different years than 2010 are included. For 2005 (Brazil, Malaysia, Pakistan); for 2006 (Namibia, United Arab Emirates, Nepal); for 2007 (Hong Kong, Iraq, Trinidad and Tobago); for 2008 (Bolivia, Botswana, Georgia, Kuwait, Liberia); for 2009 (Canada, Ghana, Madagascar, Oman, Philippines, Russia, South Africa, Sudan (pre-secession), Thailand, Ivory Coast); for 2011 (Benin, Kazakhstan, Liberia). Data from Mozambique are retrieved from the ministry of education. Data from Malawi are for 2009 and retrieved from the Ministry for Gender, Children and Community Development. Data from Tunisia are for 2009 from the Observatory for Information, Training, Documentation and Studies on the Rights of the Child.

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APPENDIX I. LIST OF COUNTRIES

Table 7. *Countries in the analysis by world region and income level*

Europe and Central Asia	
Albania	Lower Middle-Income Country
Armenia	Lower Middle-Income Country
Austria	High-Income Country
Azerbaijan	Higher Middle-Income Country
Belarus	Higher Middle-Income Country
Belgium	High-Income Country
Bosnia and Herzegovina	Higher Middle-Income Country
Bulgaria	Higher Middle-Income Country
Croatia	High-Income Country
Czech Republic	High-Income Country
Denmark	High-Income Country
Estonia	High-Income Country
Finland	High-Income Country
France	High-Income Country
Georgia	Lower Middle-Income Country
Germany	High-Income Country
Greece	High-Income Country
Hungary	High-Income Country
Ireland	High-Income Country
Italy	High-Income Country
Kazakhstan	Higher Middle-Income Country
Kyrgyzstan	Low-Income Country
Latvia	Higher Middle-Income Country
Lithuania	Higher Middle-Income Country
Netherlands	High-Income Country
Norway	High-Income Country
Poland	High-Income Country
Portugal	High-Income Country
Republic of Moldova	Lower Middle-Income Country
Romania	Higher Middle-Income Country
Russian Federation	Higher Middle-Income Country
Slovakia	High-Income Country
Slovenia	High-Income Country
Spain	High-Income Country
Sweden	High-Income Country
Switzerland	High-Income Country
Tajikistan	Low Income Country
FYRO Macedonia	Higher Middle-Income Country
Turkey	Higher Middle-Income Country
Ukraine	Lower Middle-Income Country
United Kingdom	High-Income Country
North America	
Canada	High-Income Country
United States	High-Income Country
Latin America and Caribbean	
Argentina	Higher Middle-Income Country
Bolivia	Lower Middle-Income Country
Brazil	Higher Middle-Income Country
Chile	Higher Middle-Income Country
Colombia	Higher Middle-Income Country
Costa Rica	Higher Middle-Income Country
Cuba	Higher Middle-Income Country
Dominican Republic	Higher Middle-Income Country
Ecuador	Higher Middle-Income Country
El Salvador	Lower Middle-Income Country
Guatemala	Lower Middle-Income Country
Honduras	Lower Middle-Income Country
Jamaica	Higher Middle-Income Country
Mexico	Higher Middle-Income Country
Nicaragua	Lower Middle-Income Country
Panama	Higher Middle-Income Country
Paraguay	Lower Middle-Income Country
Peru	Higher Middle-Income Country
Trinidad and Tobago	High-Income Country
Uruguay	Higher Middle-Income Country
Venezuela	Higher Middle-Income Country
Algeria	Higher Middle-Income Country
Egypt	Lower Middle-Income Country
Iran, Islamic Republic of	Higher Middle-Income Country
Jordan	Higher Middle-Income Country
Lebanon	Higher Middle-Income Country
Morocco	Lower Middle-Income Country
Saudi Arabia	High-Income Country
Tunisia	Higher Middle-Income Country
United Arab Emirates	High-Income Country
Yemen	Lower Middle-Income Country
South East Asia	
Australia	High-Income Country
Bangladesh	Low-Income Country
Cambodia	Low-Income Country
China	Higher Middle-Income Country
India	Lower Middle-Income Country
Indonesia	Lower Middle-Income Country
Japan	High-Income Country
Korea, Republic of	High-Income Country
Lao People's Democratic Republic	Lower Middle-Income Country
Malaysia	Higher Middle-Income Country
Mongolia	Lower Middle-Income Country
Nepal	Low-Income Country
New Zealand	High-Income Country
Pakistan	Lower Middle-Income Country
Philippines	Lower Middle-Income Country
Sri Lanka	Lower Middle-Income Country
Thailand	Higher Middle-Income Country
Viet Nam	Lower Middle-Income Country
Sub-Saharan Africa	
Benin	Low-Income Country
Botswana	Higher Middle-Income Country
Burkina Faso	Low-Income Country
Burundi	Low-Income Country
Cameroon	Lower Middle-Income Country
Chad	Low-Income Country
Côte d'Ivoire	Lower Middle-Income Country
Ethiopia	Low-Income Country
Ghana	Lower Middle-Income Country
Kenya	Low-Income Country
Lesotho	Lower Middle-Income Country
Liberia	Low-Income Country
Madagascar	Low-Income Country
Malawi	Low-Income Country
Mali	Low-Income Country
Mauritius	Higher Middle-Income Country
Mozambique	Low-Income Country
Namibia	Higher Middle-Income Country
Nigeria	Lower Middle-Income Country
Rwanda	Low-Income Country
South Africa	Higher Middle-Income Country
Sudan	Lower Middle-Income Country
Tanzania, United Republic of	Low-Income Country
Togo	Low-Income Country
Uganda	Low-Income Country

APPENDIX II. DESCRIPTION OF GLOBAL DATASET ON WOMEN AND WORK

Table 8. *Global Dataset on Women and Work, description of dataset.*

Variable name	Variable label	Measurement	Source
Country	Country	For a list of countries, see Appendix I	EAPEP 6th edition
Age_group	Age group	Ten five year age intervals (15–19, . . ., 60–64) and one age group for 65 years and above	EAPEP 6th edition
INCOMEGRP	Income group	Countries classified according to four income groups	World Bank
CULT_REGION	World region	Countries classified according to six geographical regions	World Bank
MPR	Male labor force participation rate	Economically active men as a share of all men (Ø75.9, σ24.5)	EAPEP 6th edition
FPR	Female labor force participation rate	Economically active women as a share of all women (Ø55.1, σ26.2)	EAPEP 6th edition
MFPR	Total labor force participation rate	Economically active population as a share of all women and men (Ø65.5, σ23.9)	EAPEP 6th edition
LPRGAP	Gender participation gap	Male activity rate minus female activity rate (Ø20.8, σ17.7)	EAPEP 6th edition, own calculation
Economic structure			
ECON_GDPPC	Per capita GDP	Per capita GDP in constant 2000 US Dollars (Ø7300, σ10,060)	World Bank Development Indicators
ECON_AGRI	Size agricultural sector	Agriculture, value added as a share of GDP (Ø12.5, σ12)	World Bank Development Indicators
ECON_MANU	Size manufacturing sector	Manufacturing, value added as a share of GDP (Ø14.5, σ6.2)	World Bank Development Indicators
ECON_INDU	Size industrial sector	Industry, value added as a share of GDP (Ø30.1, σ10.1)	World Bank Development Indicators
ECON_SERV	Size services sector	Services, value added as a share of GDP (Ø57.6, σ12.7)	World Bank Development Indicators
Families			
POP_FERTILITY	Fertility rate	Mean number of births per woman (Ø2.6, σ1.3)	World Bank Development Indicators
POP_OLD	Elderly as a share of the population	Share of the population aged 65 or over (Ø13.3, σ8)	EAPEP 6th edition
POP_YOUNG	Children as a share of the population	Share of the population aged 15 or under (Ø43.7, σ21.5)	EAPEP 6th edition
POP_MARRIAGE	Mean age of marriage	Mean age of first marriage for women (Ø24.9, σ3.7)	UN World Marriage Dataset
POP_LIFEEXP	Mean life expectancy	Mean life expectancy for women in years (Ø73, σ10)	World Bank Development Indicators
SOC_MATERNITY_LENGTH	Length of maternity leave	Length of statutory maternity leave period in days (Ø111, σ58)	ILO TRAVAIL

SOC_MATERNITY_PAY	Wage replacement during maternity leave	Level of wage replacement (%) during maternity leave (Ø89.3, σ19.8)	ILO TRAVAIL
SOC_PREPRIMARY	Enrollment rate pre-primary education	Gross enrollment rate (%) in pre-primary education (Ø60.8, σ34.4)	UNESCO Institute for Statistics
Education			
EDU_FEM1	Girls' enrollment in primary education	Gross female enrollment rate (%) in primary education (Ø103.4, σ14.6)	UNESCO Institute for Statistics
EDU_FEM2	Girls' enrollment in secondary education	Gross female enrollment rate (%) in secondary education (Ø79.3, σ28)	UNESCO Institute for Statistics
EDU_PAR1	Gender parity in primary education	Ratio of female to male primary enrollment (Ø0.79, σ0.05)	UNESCO Institute for Statistics
EDU_PAR2	Gender parity in secondary education	Ratio of female to male secondary enrollment (Ø0.97, σ0.13)	UNESCO Institute for Statistics
Gender ideologies			
SOC_EQUALPAY_LEX	Existence of equal pay legislation	Dummy for the ratification of ILO convention C100	ILO
SOC_NONDISCR_LEX	Existence of nondiscrimination legislation	Dummy for the ratification of ILO conventions 3, 103 or 183	ILO
SOC_MATERNITY_LEX	Existence of maternity legislation	Dummy for the ratification of ILO convention C111	ILO
CULT_POLRIGHTS	Women's political rights	Four-point scale 0 (no rights)...3 (full rights by law and in practice) (Ø2, σ0.44)	CIRI Human Rights Database
RELI_BIG	Size of the largest religious group	Ratio of the largest religious affiliation to the total population (Ø0.78, σ0.18)	Pew Research Center Forum on Religion and Public Life
RELI_CHRD	Christian heritage	Ratio of Christians to the largest (non)religious affiliation (Ø0.72, σ0.41)	Pew Research Center Forum on Religion and Public Life
RELI_MUSD	Muslim heritage	Ratio of Muslims relative to the largest (non)religious affiliation (Ø0.28, σ0.4)	Pew Research Center Forum on Religion and Public Life