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Gender, Institutions, and Economic Development

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Abstract

Gender relations are a key institution governing important aspects of production and reproduction of societies. They are guided by formal institutions as well as informal norms and values. As this survey shows, there is great regional heterogeneity in gender inequality in formal and informal social institutions. The literature on long-term drivers of gender gaps suggests that those gender gaps are related to long-standing and regularly reproduced gender norms and values related to differences in women's economic opportunities and constraints. The paper also shows that these gender gaps not only affect gender equity but overall development outcomes such as economic growth and reductions in mortality. This is best documented in the case of gender gaps in education but there is also evidence for the negative effects gender of gaps in employment, political and economic empowerment, access to resources, and social institutions on development outcomes. The paper then shows that there has been a large and heterogeneous change in gender gaps. While gender gaps in education (and legal rights) have closed very rapidly, gender gaps in labor force participation, health, political participation, and time use have closed much less rapidly, and there has been virtually no progress in reducing occupational and sectoral segregation, unexplained gender pay gaps, and violence against women. The paper presents some hypotheses that might explain this differential performance and also contribute to understanding regional dynamics, before pointing towards a forward-looking research agenda on better understanding the linkages between institutions and their change, gender inequality, and economic development.

Introduction

Institutions pertaining to gender are an important element in the overall institutional landscape of a society. Such institutions include norms and expectations regarding appropriate behaviour of males and females in different age groups and social circumstances (e.g. single, married, widowed, divorced). The institutions regulating gendered behaviour can sometimes be formalized in laws that, for example, set gender-specific rules regulating gender roles in the household, the economy, and in politics. To the extent that such formalized gender-specific rules have existed, they tended to particularly constrain women's options (World Bank 2001), such as requiring permission of a senior male to travel, work, and marry, denying them the right to vote, or treating the two genders unequally in marriage and divorce, inheritance, or access to property and factors of production (Hallward-Driemeier et al. 2013a). As discussed below, in recent decades such formalized gender gaps have been reduced substantially across the world, although some gaps still exist (Hallward-Driemeier et al. 2013a).

In addition to these gender gaps in *formal* institutions, gender gaps in *informal* institutions powerfully affect the economic and social roles of males and females. These informal institutions are particularly deep-seated and durable and are often couched as central elements of the cultural and/or religious identity of a society. Since they also touch private lives and, among other things, also govern the way societies organize reproduction (and thus their long-term survival), they are quite durable and not easily changed by policy interventions. At the same time they are, of course, affected by wider economic and social trends. Similar to gender differentials in existing formal laws, most of these informal institutions have also tended to place greater constraints on female private and public activities such as restricting their economic opportunities or their involvement in public life while relegating much of reproductive and care activities to them (OECD 2015).

These gender gaps in formal and informal institutions are not only a question of equity, but can powerfully affect the economic performance and social well-being of societies in several ways. First, institutions shaping reproduction are affecting economic development through the well-known effects of demographic change on economic performance (e.g. Bloom and Williamson 1998). Second, women's economic opportunities have, as shown below, a powerful effect on overall economic performance. Lastly, women's reproductive and care activities are critical for the well-being of societies, even though this is not captured in conventional national income accounting (OECD 1995; UNDP 1995).

In recent decades, these issues of gender inequality have received a great deal of attention in international development policy. Gender advocacy groups focused particularly on equity issues, while development agencies were additionally concerned with the instrumental effects of gender gaps on economic development (e.g. World Bank 2001 and 2011, King et al. 2009). This was spurred by a literature that showed that gender gaps, particularly in education but also employment, were associated with lower economic growth (e.g. Klasen 2002, Klasen and Lamanna 2009, Esteve-Volart 2009); similarly a literature developed that showed that cash in the hands of women had greater development impacts, particularly related to spending on health and education of children, than funds in the hands of men (Thomas 1990 and 1997; Pitt and

Kandkher 1998; World Bank 2001); lastly, several studies found that women's greater political participation led to a range of positive development outcomes including greater public goods and less corruption (e.g. Chattopadhyay and Duflo 2004, Branisa et al. 2013). This literature will be briefly reviewed below.

As a result of concerns for gender equity and the impact of women on overall economic development, many initiatives to address gender gaps were launched. They included rights-based approaches to development, most notably CEDAW (the Convention on the Elimination of Discrimination against Women) which has been signed and ratified by nearly all countries of the world (though many countries expressed reservations with respect to certain articles, see Cho 2014). In addition, many national and international policy initiatives focused on reducing specific gender gaps, with particular emphasis on reducing gender gaps in education. While some initiatives were directly targeting gender gaps (e.g. Bangladesh's secondary school stipend program that is only available to girls), other combined addressing gender gaps with other policy objectives. For example, Mexico's Progresa/Oportunidades Program gave a larger conditional cash transfer for the education of girls than boys (e.g. Behrmann et al. 2008). Other initiatives targeted women to simultaneously address gender gaps and ensure other desirable outcomes. Again, Progresa/Oportunidades transferred money to mothers in the belief that the money would be better spent than in the hands of fathers, and many microcredit programs target women for the same reason (see Pitt and Kandkher 1998, King et al. 2009). Lastly, girls and women benefited disproportionately from particular policy initiatives not directly related to gender. For example, a push towards universal schooling automatically benefited girls more than boys if there were existing gender gaps in schooling before. Or particular types of growth strategies benefited women more as they relied heavily on labour-intensive exports in typically female-dominated sectors such as textiles, garments, toys, electronics, or other light manufacturing (Seguino 2000).

As I will demonstrate below, there has indeed been remarkable progress in reducing some gender gaps, most notably in education and in rights in recent decades, with some regional heterogeneity in the pace of progress. At the same time, there is great heterogeneity by region and dimension in other types of gender gaps. For example, gender gaps in labour force participation have closed much more slowly in general, with little progress at all in some regions (Gaddis and Klasen 2014; Klasen and Pieters 2015). Occupational and sectoral segregation by gender remains as large as ever, and gender gaps in time use have been falling very slowly and unevenly. Gender gaps in mortality have fallen but remained large in some parts (most notably China and India), and rates of female genital mutilation (FGM) and domestic violence seem to have changed very little (World Bank 2014).

This leads to a range of open research and policy issues that deserve greater attention as the links between gender, institutions, and economic development are being investigated. First, what explains the differential rate of progress by dimension and by region? Is this a result of policy, initial conditions, or other developments? As part of this larger question, it is important to understand why the huge progress in reducing gender gaps in schooling has not translated (yet?) in commensurate reductions in gaps in other dimensions of gender inequality, especially women's economic participation, pay gaps, time use, and gendered norms. Similarly, are there

(targeted or general) policy interventions or secular changes that can affect more deep-rooted gender norms? Second, while there has been relatively little regress in the reduction of gender gaps in most places, there appears to be mounting resistance and backlash in some regions against the closing of gender gaps in rights, economic participation, and even education. It is not clear whether these are isolated incidents or more general trends.

This pathfinding paper is addressing these issues in turn. The paper is organized as follows: the next section clarifies the nature of gender relations as a key social institution and examines gender gaps in social institutions across the world. The third section then reviews the theoretical and empirical literature on the impact of gender gaps on economic performance. The fourth section examines trends in gender gaps over time, while section five then speculates about various factors that might have caused this heterogeneous performance. The last section then concludes with open research and policy issues.

Gender inequality in social institution and women's economic roles

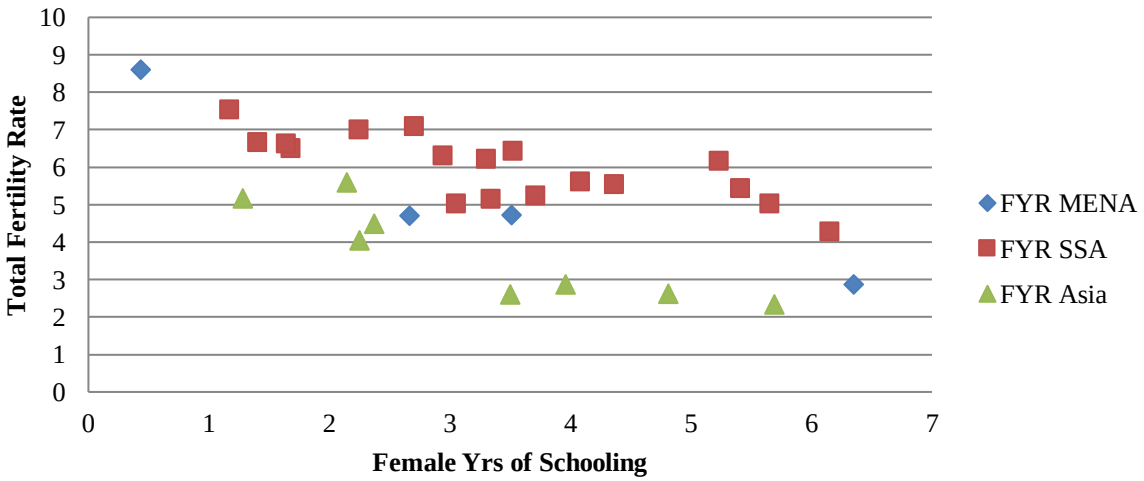
Since the household is the basic economic and social institution organizing production, employment and reproduction, gender relations within the household clearly are a central social institution governing these production and reproduction issues. And since the way production and reproduction is organized is affecting the long-term development of societies, it is critical to understand how gender roles are affecting the way production and reproduction is organized. To be sure, while women's care work and household production are critical for the long-term survival of societies, it is not included in conventional measures of economic performance, including gross national income (which does not include non-marketed services by households, e.g. UNDP 1995, OECD 1995, Waring 1988). Its impact is felt only indirectly but this can still have powerful effects on (conventionally measured) economic performance.

Now consider the way gender issues affect the way reproduction is organized and the implications this has for economic development. A key element here is the drivers of the quantity and 'quality' of children. This will depend, for example, on norms governing marriage ages, the existence of polygamy, patrilocality and associated son preference, the acceptance of divorce and independent living for single and divorced women, the locus of control over fertility decisions, and the amount of time invested by mothers and fathers in raising their children. There have been large regional differences in these norms governing fertility behaviour that have persisted over long periods of time (e.g. Jones 1984; Hajnal 1982); for example, most Western and Northern European countries have long been characterized by late and not universal marriage, setting up of a new household by the couple, and the economic and social acceptance of single women and men (usually living with their married siblings or in service); in contrast, marriage ages have been very low, marriage universal, and women's control over marriage and reproductive decisions very limited in many South Asian, Middle Eastern, and some African settings, although great difference existed in the precise organization of marriages and organization of reproduction (see also Guirkinger and Platteau 2016). These latter regimes were more favourable to high fertility rates and a strong emphasis of women to focus on reproduction. This fertility dynamics has had an important effect on the long-term economic

performance of countries, particularly by affecting the timing of the demographic transition (e.g. Galor and Weil 2000). The gender dynamics underlying this has been found to be a key driver of this economic performance (e.g. Lagerlöf 2003). And, of course, the stability and strength of these social institutions governing families and fertility will then play a role in how policy can affect, for example, fertility and early marriage.[1]

The norms and institutions governing women's reproductive roles (as well as other care and home production activities), circumscribe the opportunities women have to be involved in production (i.e. the part picked up by GNI, such as producing goods or services for/in the market or producing goods for self-consumption in the household). Mainly this is mediated via the time constraint. If women are burdened with care and home production, related also to high fertility, their ability to be involved in production is seriously constrained to activities that can be combined with these domestic responsibilities such as self-employment in agriculture (as is common in Sub-Saharan Africa). Of course, the time constraint is not the only constraint to women's productive activities; in addition, social norms governing the acceptability of women's involvement in productive activities as well as their access to education and to means of production can be further powerful constraints (e.g. World Bank 2011, Klasen and Pieters 2015, OECD 2015). For example, there is a strong, robust, and well-documented linkage between female education and fertility with better-educated women having fewer children (e.g. Summers 1994, Murthi et al. 1995). At the same time, other economic and social institutions can affect also this relationship between female education and fertility. As shown in Figure 1 below, the linkage it stronger in South Asia and the Middle East than in Sub-Saharan Africa (particularly West and East Africa) where fertility levels are higher and are less affected by female education.

FIGURE 1. FEMALE YEARS OF SCHOOLING AND THE TOTAL FERTILITY RATE



Source: Barro-Lee 2013 and World Development Indicators.

Note: The Figure plots total years of schooling of women aged 15+ and the total fertility rate in 15 countries in sub-Saharan Africa, the Middle East and North Africa and South and South-Eastern Asia in 1990 and 2010.

1 The recently concluded SDGs have, for example, called for the elimination of child marriage which of course is closely related to these social institutions.

In turn, women's involvement in production will, as discussed in detail below, have a direct and important impact on economic performance (e.g. Klasen and Lamanna 2009, Teignier and Cuberes 2015), so that the social institutions circumscribing women's productive activities are a first-order issue of how institutions can affect economic performance.

At the same time, one needs to recognize that, from a normative point of view, the welfare consequences or different arrangements governing production and reproduction are not necessarily obvious. It may be the case that a certain social arrangement that strongly limits women's productive roles is detrimental for economic performance and for gender equity, but may be consistent with expressed gendered preferences and existing norms accepted by men and women (see Klasen 2016). The case for institutional change to promote gender equity and economic performance may then be not as straightforward. One argument could be Sen's distinction between well-being and agency, suggesting that there would be a case for institutional change if it furthers 'objectively' measured well-being, even if women as agents are not in favour of such changes (Sen 1990). A second can be the politicization and public discussion of such unequal gendered institutions as a prelude to promoting institutional change; in many countries, such discussions are taking place. Third, it can often be the case that women view existing institutional arrangements as excessively constraining, even if they do not question unequal gender roles overall. Lastly, norms and values governing gender roles do change over time and may thus change the normative assessment of unequal gender institutions. For example, the acceptability of domestic violence is receding over time in developing countries (see World Bank 2014), and so are stated preferences for males to get preference in education or the labour market when jobs are scarce (World Bank 2011).

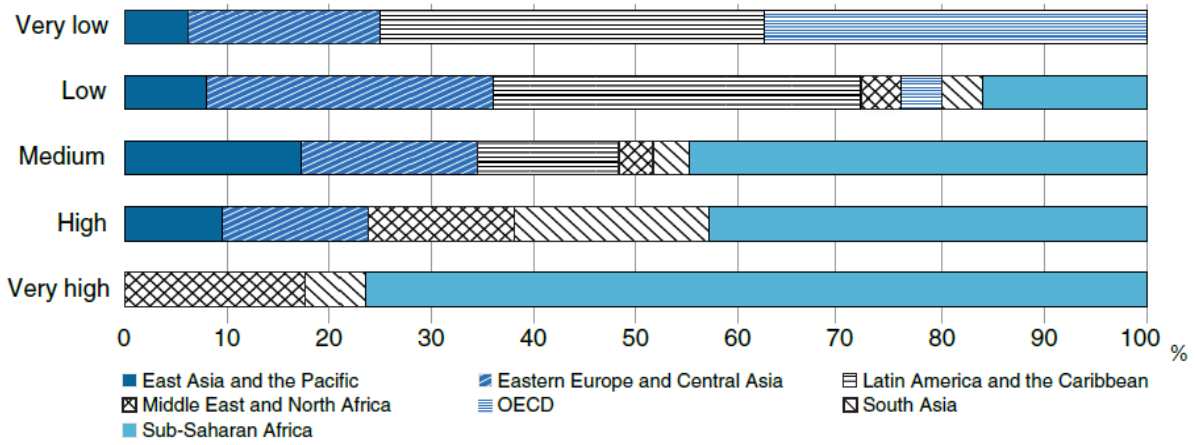
To conclude, gender differentials in social institutions are critical for economic performance and gender equity, even if the case for institutional change has to be weighed carefully from a normative perspective. It is now important to study how social institutions affecting gender vary across space and time, a subject to which I now turn.

In principle, it is challenging to 'measure' the extent of gender inequality in social institutions, since many institutions and norms are not easily quantified, let alone compared and aggregated. At the same time, there are now databases that have attempted to quantify central institutional features that deal with gender. Two of them, the Cingarella-Richardsen (CIRI) database as well as the World Bank's Women and the Law Database (Hallward-Driemeier et al. 2013a; Cingarella-Richardsen 2014) provide expert judgments on gender inequality in rights in various domains. They have the advantage of a clear focus and provide comparable data over many years.[2] A broader database is the OECD's Gender and Social Institutions Database and the Social Institutions and Gender Index built on it (Branisa et al. 2014; OECD 2015). For our purposes, this broader approach is particularly useful as it considers gender inequality in social institutions pertaining to five central domains: family code, civil liberties, physical integrity, son preference, and access to assets and resources. Within each of those domains, gender inequality in particular indicators is measured. For example, within the domain family code,

[22] The two databases differ substantially in approach. While the CIRI database is broader in its coverage of women's political, economic, and social rights, it is based on expert judgment that provides a summary assessment of rights in a particular domain. The World Bank's Women and the Law Database focuses more narrowly on codified law and quantifies the number of unequal treatments or restrictions in particular domains.

gender inequality in the legal age and the prevalence of early marriage, gender inequality in rights regarding own children and inheritance is measured. This information is available in 3 (not fully comparable) cross-sections covering roughly the periods 2000, 2005, and 2010 (OECD 2015). Figure 2, based on the latest version of the SIGI, shows that there are considerable regional differences in gender inequality in social institutions. In particular, a large share of countries from the Middle East and North Africa, South Asia, and sub-Saharan Africa has high or very high (average) gender inequality in social institutions. Interestingly, however, in all regions there is substantial variation within regions, with all three regions also containing countries where gender inequality in social institutions is very low.

FIGURE 2. GENDER INEQUALITY IN SOCIAL INSTITUTIONS



Source: OECD (2015)

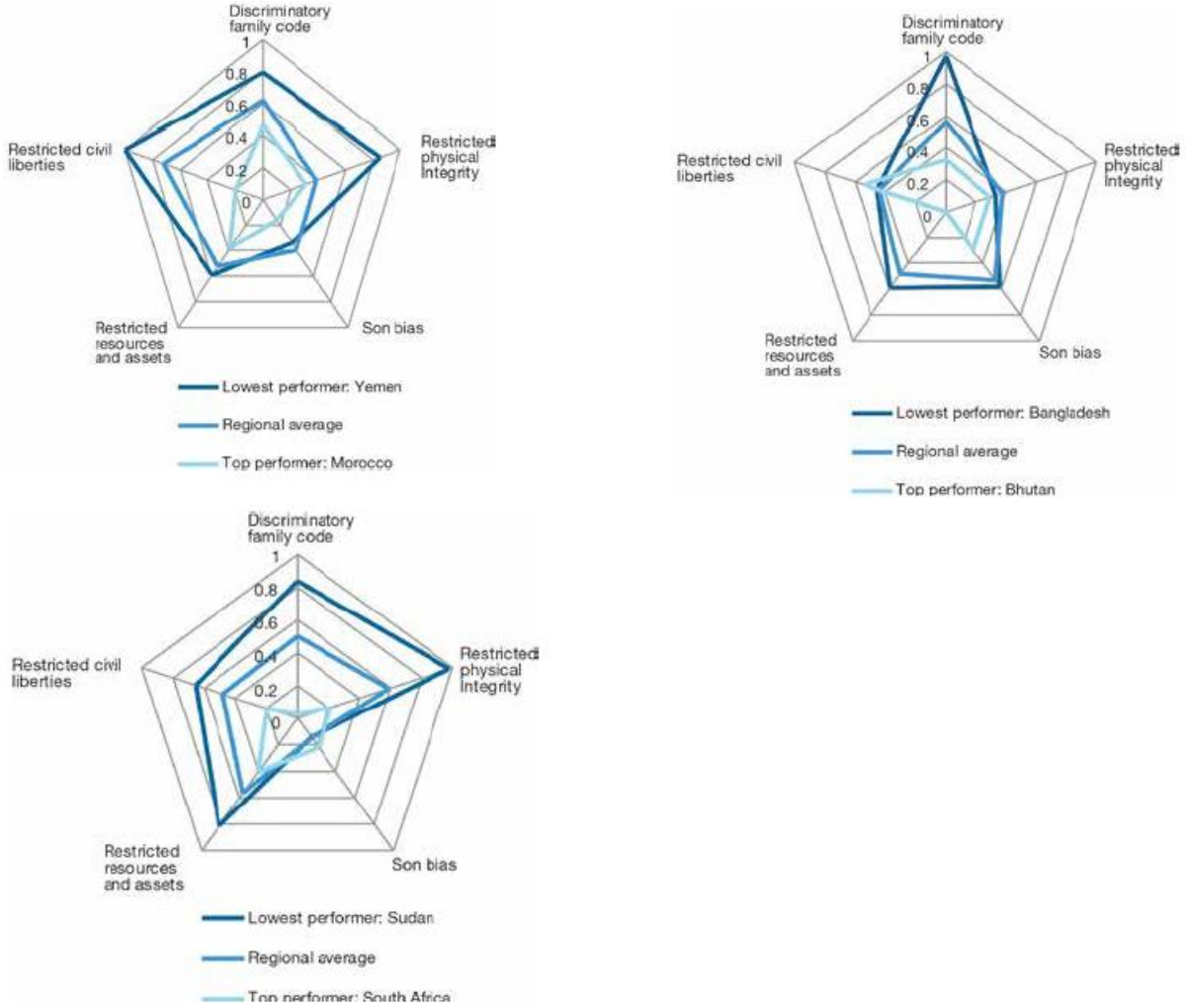
Figure 3 below shows that the type of gender inequality in social institutions also differs between the three regions. While in the Middle East and North Africa, discriminatory family code, restricted civil liberties and resource access are a particular problem, in South Asia, discriminatory family code, son bias, and restricted resource access are the most serious inequalities. In sub-Saharan Africa, restricted physical integrity, discriminatory family code, and restricted resource access are the most pressing issues. So, both intensity and type of inequality differs by region. And, as already apparent from Figure 2, the diversity within regions is substantial, suggesting that these issues are not only related to religious and cultural issues of particular regions.

There is a literature that has demonstrated that these inequalities in social institutions are also associated with other gendered development outcomes, including female education levels, fertility levels, child mortality and, interestingly, the level of corruption (Branisa et al. 2013; Yoon and Klasen 2015). These are of course directly relevant for women's well-being but indirectly affect overall economic performance. And indeed, there is also evidence that gender gaps in these institutions are also directly associated with lower economic growth (Ferrant and Kolev 2016). We will revisit these impacts in more detail in the next section.

At the same time, it is important to point out that gender inequality in social institutions has a more complex relationship with women's economic roles, in particular their participation in production. While gender inequality in social institutions goes hand-in-hand with reduced

economic opportunities for women in the Middle East and South Asia, sub-Saharan Africa is the great outlier here where gender inequality in social institutions is substantial while women's labour force participation rates are nevertheless quite high. This is related to women's high participation rates in subsistence agriculture which appears to be related to long-standing differences in the nature of African agriculture and the role women play in it (Boserup 1970).[3]

FIGURE 3. GENDER INEQUALITY IN SOCIAL INSTITUTIONS BY REGION (MIDDLE EAST, SOUTH ASIA, AND SUB-SAHARAN AFRICA)



In fact, when studying women's economic roles, long-standing regional differences in economic opportunities and conditions appear to play a role and a recent literature has investigated these historical drivers of gender roles more closely, where social institutions such as norms play a mediating role. Inspired by the work of Boserup (1970), Alesina et al. (2013) test the hypothesis that suitability of plow agriculture was inimical to women's economic roles

[3] There is an interesting and plausible correlation between women's economic roles, son preference, and marriage payments. For example, in South Asia, women have low participation rates, dowries are common and son preference in high, while in sub-Saharan Africa, women's participation is high, son preference low, and bride wealth is common. But there is also an outlier here which is China where son preference is high, despite women's relatively strong economic roles. For a discussion, see Klasen and Wink (2002 2003).

as it required greater male strength to operate them. Hansen et al. (2014) suggest instead that a longer time since the Neolithic revolution caused women's more restricted roles, with fertility levels and crop type being key transmission channels. Similarly, Hazarika et al. (2015) argue that historical resource scarcity, especially also low land availability, circumscribed women's economic roles. Lastly, Santos-Silva et al. (2016) argue that access to cool water and year-round water availability is associated with greater gender equity, with decentralized agriculture and, due to better health conditions, late and more autonomous and egalitarian marriages being key transmission channels. Empirical tests seem to suggest that cool water is more closely related to gender equality in education, health, and marriage, while conditions in agriculture are the more important driver of women's economic roles, in particular their participation in production activities today. Even to the extent that these underlying causes are no longer relevant today, norms regarding gender equality and women's economic roles have strong persistence and are being re-created and transmitted in successive generations and even persist when migrating. As shown by the work by Fernandez and Fogli (2009) and Fernandez (2011), one can identify distinct gendered patterns of behaviour regarding women's economic and social roles among immigrant communities in the United States which are related to social norms in their countries of origin.

To conclude this section, social institutions relating to gender set parameters for the interplay between production and reproduction and particularly affect women's economic and social opportunities and constraints. There is great regional heterogeneity in these social institutions regarding gender, also by dimension considered. These social institutions affect women's economic and social roles, their fertility, and education levels. And they are the outcome of long-standing historical developments with considerable persistence. We now need to investigate more closely how these gender gaps affect economic performance, to which we now turn.

Gender gaps and economic performance

There have been a number of theoretical and empirical studies examining the impact of gender inequality on economic performance, particularly focusing on the impact of gender inequality in education, employment, and earnings on aggregate economic performance. I will briefly summarize the most important insights here.[4]

There are three arguments that suggest that particular gender gaps could actually promote economic performance. The first goes back to Becker (1981), essentially arguing that there are (static) efficiency gains to a sexual division of labour where each gender specializes on the tasks where they have a comparative advantage, which Becker sees for women in home production (due to the complementarity of child-bearing and child-rearing). Whatever the merits of the argument, it is likely to become less relevant as fertility falls and household production becomes less time-consuming. A second argument was recently made by Tertilt and Doepke (2014) who argue that higher women's earnings or transfers might actually reduce growth as it might reduce investment in physical capital or land (though this would not hold if human capital was

[4] See, for example, Klasen (2002, 2006), Stotsky (2006) for more detailed reviews.

relatively more important). A third argument relates to the role of pay-gaps, in association with low gender gaps in education and earnings (see below). As suggested by Seguino (2000a), high gender pay gaps might become a competitive advantage for countries, particularly in export-oriented manufacturing (and associated FDI to develop the sector). We will return to this argument below.

On the other hand, there are a substantial number of papers arguing the reverse, i.e. that gender gaps reduce economic performance. Regarding gender inequality in education, the theoretical literature suggests as a first argument that such gender inequality reduces the average amount of human capital in a society and thus harms economic performance. It does so as by artificially restricting the pool of talent from which to draw for education and thereby excluding highly qualified girls (and taking less qualified boys instead, e.g. Dollar and Gatti 1999, Teignier and Cuberes 2015). Moreover, if there are declining marginal returns to education, restricting the education of girls to lower levels while taking the education of boys to higher levels means that the marginal return to educating girls is higher than that of boys and thus would boost overall economic performance; this effect would be exacerbated if males and females are imperfect substitutes (World Bank 2001; Knowles et al. 2002).

A second argument relates to externalities of female education. Promoting female education is known to reduce fertility levels, reduce child mortality levels, and promote the education of the next generation. Each factor in turn has a positive impact on economic growth (World Bank 2001; King et al. 2009). The strong linkage of female education to fertility was already discussed above, showing also that there are regional differences in its influence (see Figure 1). Some models emphasize that there is a potential of vicious cycles with larger gender gaps in education or pay reproducing themselves across generations leading to low-income poverty traps (e.g. Galor and Weil 1996, Lagerlöf 2003). But there is also an important timing issue involved here. Reducing gender gaps in education will lead to reduced fertility levels which will, after some twenty years, lead to a favourable demographic constellation which Bloom and Williamson (1998) refer to as a 'demographic gift'. For a period of several decades, the working age population will grow much faster than overall population, thus lowering dependency rates with positive repercussions for per capita economic growth.[5]

A third argument relates to international competitiveness and complements the argument made by Seguino (2000a) above. Many East Asian countries have been able to be competitive on world markets through the use of female-intensive export-oriented manufacturing industries, a strategy that is now finding followers in South Asia (particularly Bangladesh) and individual countries across the developing world (e.g. Seguino 2000a, b).[6] In order for such competitive export industries to emerge and grow, women need to be educated and there must be no barrier to their employment in such sectors. Gender inequality in education and employment would reduce the ability of countries to capitalize on these opportunities (World Bank 2001; Busse and Spielmann 2006).

[5] See Bloom and Williamson (1998) and Klasen (2002) for a full exposition of these arguments.
[6] Klasen (2006) reviews the literature and also notes that such strategies have now been extended, with some success to countries such as Tunisia, Bangladesh, China, and Vietnam.

Regarding gender gaps in employment, there are a number of closely related arguments. First, there is a similar argument that it imposes a distortion on the economy as do gender gaps in education. It artificially reduces the pool of talent from which employers can draw upon, thereby reducing the average ability of the workforce (e.g. Esteve-Volart 2009, Teignier and Cuberes 2015). Such distortions would not only affect employees, but similar arguments could be made for self-employed in agricultural and non-agricultural sectors where unequal access to critical inputs, technologies, and resources would reduce the average productivity of these ventures thereby reducing economic growth (see Blackden et al 2007). As self-employment (including in agriculture) is included in our empirical assessment, these arguments might have some empirical relevance in accounting for the results.

A second closely related argument suggests that gender inequality in employment can reduce economic growth via demographic effects. A model by Cavalcanti and Tavares (2007) suggest that gender inequality in employment would be associated with higher fertility levels which in turn reduce economic growth.

Thirdly, the results by Seguino (2000a,b) on the impact of gender gaps in pay on international competitiveness imply that gender gaps in employment access would also reduce economic growth as it would deprive countries to use (relatively cheap) female labour as a competitive advantage in an export-oriented growth strategy.

A fourth argument relates to the importance of female employment and earnings for their bargaining power within families, and makes the converse claim to Tertilt and Doepke (2014) discussed above. There is a sizable literature that demonstrates that female employment and earnings increase their bargaining power in the home (e.g. Sen 1990, Thomas 1997, Lawrence et al. 1997, World Bank 2001, Klasen and Wink 2003, King et al. 2009). This not only benefits the women concerned, but their greater bargaining power can have a range of growth-enhancing effects. These could include higher savings as women and men differ in their savings behaviour (e.g. Seguino and Floro 2003), more productive investments and use and repayment of credit (see Stotsky 2006), and higher investments in the health and education of their children, thus promoting human capital of the next generation and therefore economic growth (e.g. Thomas 1997, World Bank 2001).

A fifth argument relates to governance. There is a growing but still rather speculative and suggestive literature that has collated evidence that workers, on average, appear to be less prone to corruption and nepotism than men (Swamy et al. 2001; World Bank 2001; Branisa et al. 2013).[7] If these findings prove to be robust, greater female employment might be beneficial for economic performance in this sense as well.[8]

There is a related theoretical literature that examines the impact of gender discrimination in pay on economic performance. Here the theoretical literature is quite divided. On the one hand, studies by Galor and Weil (1996) and Calvalcanti and Tavares (2007) suggest that large gender

[7] The 'causes' of these differences in behavior may well be related to different socialization of girls and boys, or that women as outsiders may also not be part of networks that are often conducive for corruption.
[8] See a related discussion in King, Klasen, and Porter (2008) about the growth and welfare effects of women as policy-makers.

pay gaps will reduce economic growth. Such gender pay gaps reduce female employment, which in turn increases fertility and lowers economic growth through these participation and demographic effects. In contrast, Blecker and Seguino (2002) highlight a different mechanism, leading to contrasting results. They suggest that high gender pay gaps and associated low female wages increase the competitiveness of export-oriented industrializing economies and thus boost the growth performance of these countries. The most important difference of this study, in contrast to the models considered above, is that it is focusing more on short-term demand-induced growth effects, while the other models are long-term growth models where growth is driven by supply constraints. Clearly both effects can be relevant, depending on the time horizon considered.

It is important to point out that it is theoretically not easy to separate the effects between gender gaps in education, employment, and pay. In fact, in most of the models considered above, gender gaps in one dimension tend to lead to gender gaps in other dimensions, with the causality running in both directions.[9] For example, gender gaps in education might automatically lead to gender gaps in employment, particularly in the formal sector, where employers will prefer educated workers and will not consider applications of uneducated women. Conversely, if there are large barriers to female employment or gender gaps in pay, rational parents (and girls) might decide that education of girls is not as lucrative which might therefore lead to lower demands for female education and resulting gender gaps in education.[10] Thus gender gaps in education and employment are closely related to each other.[11]

They are not measuring the same thing, however, and thus are important to investigate separately. For one, it might be the case that the two issues are largely driven by institutional factors that govern education and employment access and do not therefore greatly depend on each other. For example, one might think of an education policy that strives to achieve universal education and thus reduces gender gaps, while there continue to be significant barriers to employment for females in the labour market. This might be particularly relevant to the situation in the Middle East and North Africa but most recently also for South Asia where education gaps have narrowed but employment gaps remain wide (see Gaddis and Klasen 2014, Klasen and Pieters 2015). Moreover, the externalities of female education and female employment are not all the same. For example, female education is likely to lead to lower fertility and child mortality of the off-spring, while the effect of female employment on this is likely to be much smaller and more indirect (working mainly through greater female bargaining power; and there may be also be opposite effects including that the absence of women in the home might in some cases negatively impact on the quality of child care). Conversely, the governance externality applies solely to female employment, not to female education.

[9] The one exception are again the two short-term structuralists models of Blecker and Seguino (2002) where large gender gaps in pay, implicitly combined with no gender gaps in education and employment, can deliver the income-enhancing effects;

[10] On these issues, see discussions in King and Hill (1993), Alderman et al. (1995, 1996), and World Bank (2001)

[11] Also, it is not obvious which factor is the prime cause of gender gaps that one should then include in a reduced-form estimation.

There is also some literature examining the impact of gender gaps in political empowerment on economic outcomes. That literature is mainly focused on the impact female politicians, due to their different preferences to men, can have on the provision of public goods with repercussions on development outcomes (e.g. Duflo 2014).

Given these many, and partly conflicting, arguments, it essentially becomes an empirical question to investigate these effects. A particularly large literature has developed examining the impact of gender gaps in education on economic performance. Most of that literature relies on cross-country cross-section and panel regressions, while some studies have used sub-national data or time series techniques for single countries. An early study by Barro and Lee (1994) pointed to a negative effect of female education on growth (while male education had a positive effect). Further scrutiny of this results showed that they were related to the use of initial-year schooling variables (in a pure cross-section), the failure to control for unmeasured regional effects, and multicollinearity among the education variables (see Lorgelly and Owen 1999, Klasen 2002).

Most subsequent studies point to a negative effect of gender gaps. For example, King and Hill (1993) as well as Knowles et al. (2002) use a Solow-growth framework and find that gender gaps in education significantly reduce the level of GDP. Dollar and Gatti (1999), Forbes (2000), Yamarik and Ghosh (2003), Appiah and McMahon (2002) and Klasen (2002) investigate the impact of gender gaps on economic growth and all find that gender gaps in education have a negative impact on subsequent economic growth. By now there are 52 studies that have investigated the impact of gender gaps on economic growth (or levels of GDP per capita), 32 of which use cross-country data, and the others relying on sub-national and single-country time series data. Of course, the quality of the econometric approach differs and ranges from simple correlation analyses with few covariates to fixed effects panel models with a large set of control variables and IV techniques to control for endogeneity. As discussed in a systematic review of these studies by Minasyan et al. (2016), some 75% of regressions in these studies using the ratio of female to male schooling show that gender inequality in education reduces growth, including most of the studies with the greatest econometric rigor; of the minority of studies that use male and female education separately, some 50% studies suggest that gender inequality promotes growth, but most of those use Barro's problematic specification and have to treated with caution. Based on this assessment, the balance of evidence clearly favours the view that gender inequality in education appears to lead to lower economic growth.

There are many fewer empirical studies on the impact of gender gaps in employment and pay on economic growth. A recent study by Teignier and Cuberes (2015) is based on calibrating a macro model to data from different regions showing that gender gaps in labour force participation can lead to particularly large growth penalties in the Middle East and North Africa as well as South Asia. There are few econometric studies which is largely related to data and econometric issues discussed above. Klasen (1999) found that increases in female labour force participation and formal sector employment were associated with higher growth in a cross-country context. Differences in female participation and employment are estimated to have accounted for another 0.3 percentage points in the growth difference between the MENA region and East Asia and the Pacific (EAP). But these findings have to be treated with caution as they

may suffer from reverse causality. In particular, it might be the case that high growth draws women into the labour force (rather than increasing female participation promoting economic growth).[12] There are no easy ways to correct for this econometrically as there are unlikely to be valid instruments that can be used. Also, there are questions about the international comparability of data on labour force participation and formal sector employment rates (see Gaddis and Klasen 2014). To the extent that the problems of comparability affect levels but not trends over time, these problems might be avoided in a fixed effects panel setting. Lastly, there is the question of collinearity between gender gaps in education and employment which can lead to misleading conclusions. In regressions that only consider the effect of gender gaps in education, they might implicitly also measure the impacts of gender gaps in employment, particularly if the two are highly correlated. So the robust effect discussed above of educational gender gaps may partly be mediated by affecting gender gaps in employment.

At the same time, such a high correlation between education and employment gaps might also make it difficult to separately identify the effects when both are included in a regression (due to the multicollinearity problem). Also, it will be difficult to assess which of the two is the causal driver of the other, given the close and plausible theoretical and empirical linkage.

Klasen and Lamanna (2009) study the impact of initial gender gaps in education and labour force participation on subsequent growth using a cross-country fixed effects panel framework. They find that both gender gaps in education and labour force participation negatively affect growth, although the results are not always significant when both variables are included, presumably due to multicollinearity. In reduced samples that focus on particular regions, however, the results are significant and estimate growth costs of gender gaps that are particularly sizable in South Asia and Middle East. In the Middle East, the employment gaps are more important for growth than the education gaps while in South Asia the reverse is the case. In this sense as well as in the estimated magnitudes, they are highly consistent with Teignier and Cuberes (2015). At the sub-national level, Berta Esteve-Volart has found significant negative effects of gender gaps in employment and managerial positions on economic growth of India's states using panel data and controlling for endogeneity by using instrumental variables (Esteve-Volart 2009).

There are some papers by Seguino (2000a,b) that support the contention that the combination of low gender gaps in education and employment with large gender gaps in pay (and resulting low female wages) were a contributing factor to the growth experience of export-oriented middle income countries. Supporting this empirical claim is a paper by Busse and Spielman (2006) which finds for a sample of 23 developing countries that a combination of low gender gaps in education and employment and large gender gaps in pay helped promote exports. Unfortunately, the analysis is based on a small sample of semi-industrialized countries and the measures of gender wage gaps are rather crude; in fact, Schober and Winter-Ebmer (2011) show

[12] But note that, as discussed, below, economic growth has not generally pulled women into the labour force. See discussion below and Gaddis and Klasen (2014). So reverse causality might be less serious than presumed.

that the results disappear or even reverse if arguably more robust measures of gender wage gaps are used, so that these findings cannot be considered robust at this stage.[13]

The literature has also examined the impact of other gaps on economic outcomes. In particular, papers by Duflo and Chatthopadyai (2004), Bhalotra and Clots-Figueras (2014) and Duflo (2014), have found evidence that women's political empowerment promotes the provision of public goods, better human capital, and lower child mortality. These outcomes are, of course, valuable in and of themselves, but also have an indirect impact on growth. While some of these effects have turned out to be sizable, Duflo (2014) argues that they only have a relatively limited impact on overall economic development. This conclusion is, however, challenged by King, Klasen, and Porter (2009) who produce simulation results that women's political empowerment can have sizable development impacts through its effect on income growth as well as mortality reduction.

There is also a sizeable literature that has examined the impact of unearned incomes, credit, or targeted transfers for women on household expenditures, health and education outcomes. The overwhelming finding of many studies is that the effect of such monies brought in by women has a larger impact on household expenditures, health, and education outcomes than those of brought by men (e.g. Pitt and Kandkher 1998 and 2006, Thomas 1990 and 1997, World Bank 2001 and 2011). Simulations by King et al. (2009) show that the effect of such interventions to increase women's incomes on economic performance as well as reduced mortality can be sizeable.

While all this literature has studied the impact of educational and economic gender gaps on overall economic performance, these gaps are, as discussed above, related to deeper institutional and legal gender gaps. In fact, papers by Branisa et al. (2013 and 2014) and Yoon and Klasen (2015) have shown that social institutions related to gender are indeed important drivers of female education, fertility, and child mortality. Similarly, Hallward-Driemeier et al. (2013b) provide evidence that reducing legal gender gaps is associated with higher rates of female education, employment, as well as higher marriage ages although the effects appear to be smaller in poorer countries.

An emerging literature has also examined whether these gender gaps in social institutions as well as gender gaps in laws also can be linked to worse economic performance. Ferrant and Kolev (2016) show that higher gender inequality in social institutions is associated with worse growth outcomes, over and above the effect this has on educational and labour force gaps.

In sum, there is considerable theoretical support for the notion that gender gaps in education and employment are likely to reduce economic performance (while the literature on the effect of gender gaps in pay is more divided). The empirical results also point rather robustly to negative effects of gender gaps in education, but there is less evidence on gender gaps in employment, although most existing studies suggest the effects are negative as well. Lastly

[13] In the case of these papers, the focus on semi-industrialized, export-oriented countries was intended. But this can therefore not address the question whether there is a more general relationship between pay gaps and growth in developing countries that do not belong to this small group.

there is evidence that reducing gender gaps in political participation, laws, social institutions as well as increasing resources to women can promote income, health, and education outcomes.

It is important to point out that showing the inefficiency of (most) of these gender gaps does not imply that there will be automatic processes (facilitated by markets or political economy) that will reduce these inefficiencies. As discussed extensively in the literature (e.g. Hill and King 1995, King et al. 2009), inefficient arrangements can persist and reproduce themselves. Mechanisms that ensure persistent inefficient arrangements include externalities that drive a wedge between private and socially optimal behaviour (e.g. it may be socially valuable for parents to educate daughters as much as sons, but in setting where the daughter leaves the household upon marriage while the son stays, the private incentive is to prefer the education of sons), or there may be self-reproducing norms that maintain such gaps, or questions of power and control might militate against reducing some gaps. As a result, it is important to understand what drives changes in gender gaps as these are not passing phenomena that self-correct. Before examining drivers of changes, we need to first understand how these different gaps have developed over time, to which we turn now.

Heterogeneous trends in gender gaps in developing countries

When examining the world in 1960, gender gaps in many social, economic, and political dimensions were ubiquitous, and not confined to developing countries. Since then, many gaps have been sharply reduced in the developed world (especially regarding rights, education, political participation, and economic participation). In developing countries, gender gaps have generally moved only in one direction (becoming smaller), but the pace of change has been much more heterogeneous by region, but even more so by dimension. In fact, as I will show below, there appears to be three velocities of reducing gaps: fast in the case of education and rights, moderate in the case of economic and political participation as well as health, and slow to very slow in the case of occupational and sectoral segregation, and issues of violence within households (including domestic violence and female genital mutilation). In this section I will document these trends by region. While the direction of change has been in one direction so far, it is not guaranteed that this will continue in future. In particular, there are possibilities of backlash against the closing of some of these gaps, a subject to which I will return at the end of the next section.

The fastest pace of reduction in gaps has been in the fields of (formal) rights and education. Focusing first on education, Figure 4 shows the dramatic narrowing of gender gaps in educational enrolments at primary, secondary, and tertiary levels.

As can be seen, gender gaps in gross primary enrolment rates have nearly entirely disappeared. Small gaps remain in sub-Saharan Africa and the Middle East, but if trend continue they are likely to have mostly disappeared by now. In secondary enrolments, the gender gaps have also shrunk dramatically. Again, sub-Saharan Africa is lagging behind, presumably due to the somewhat slower pace of educational expansion there in recent years, compared to other regions. Maybe most surprising is that, with the exception of South Asia and sub-Saharan Africa, gender gaps in tertiary gross enrolment rates now favour females, in some regions with

a sizable margin. Educational achievement indicators, such as total years of schooling, show similar progress, with an expected delay (Barro and Lee 2013, see also Abu-Ghaida and Klasen 2004). It is also noticeable that the elimination of gender gaps in educational enrolments have led in short order to the elimination in gender gaps in educational achievement, such as test scores. Figure 5 in fact shows that girls regularly outperform boys in literacy skills and while they lag boys in mathematics, the difference is much smaller and not universal. Thus it appears that 'all' that was missing to ensure gender equality in educational outcomes was to ensure that girls and women got equal chances to go to school. Once they get the chance to participate and stay in school, gender gaps in outcomes disappear.[14] In short, gender gaps in education are about to close everywhere, and, in some places, gender gaps hurting males are emerging.[15]

Similarly, there has been rapid progress in closing gender gaps in rights. As can be seen in Figure 6, progress is universal, across all regions dimensions, but some interesting heterogeneities are noteworthy. Nearly all constitutions now include an equality principle, and an increasing share mention gender explicitly in that principle. Nearly all countries grant property rights to unmarried women, while many more (but far from all) extend these rights to married women. And in fewer countries, women are restricted in their independent legal capacity. As a result, the formal legal restrictions women face has been falling substantially across all regions, but progress has been slowest in Sub-Saharan Africa. This pertains to formal statutory law. In many countries, however, customary law continues to be recognized, particularly in areas relating to the family, so that the reality of women's rights may look worse in societies where customary law plays an important role (Hallward-Driemeier et al. 2013a,b).

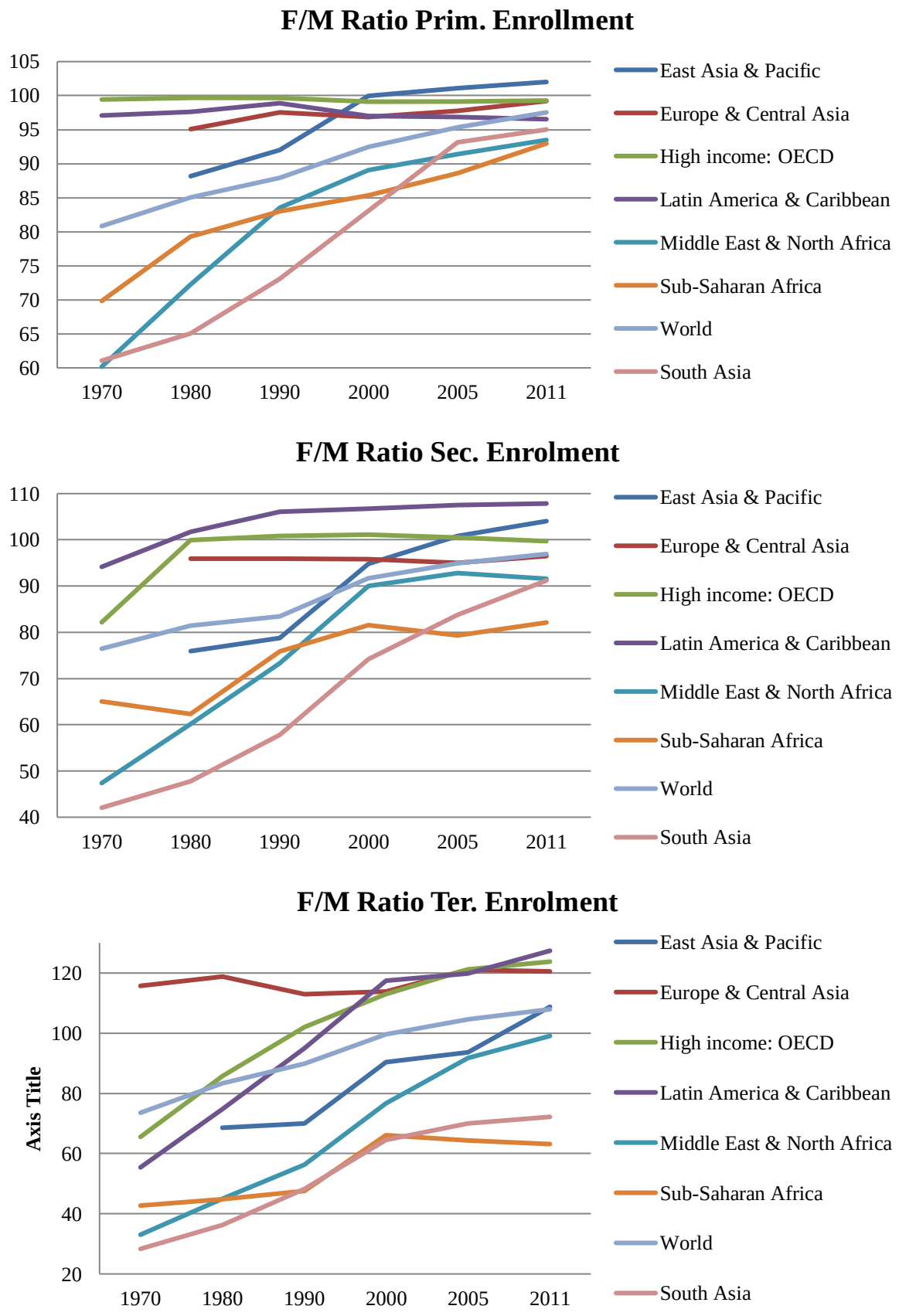
Progress has been substantially slower in the case of health, labour force participation, and political participation, and time use. Gender gaps in health have been referred to in the literature as the so-called 'missing women' issue (Sen 1989; Klasen 1994). This referred to the lower than expected sex ratios (males/females) in some parts of the developing world, most notably South Asia, China, and the Middle East and North Africa. As many studies have shown, this shortage of females is linked to excess female mortality, both pre, and post-birth (e.g. Banister and Coale 1994, Klasen and Wink 2002 and 2003). As shown in detail in Klasen and Wink (2002 and 2003), and Kahlert (2014), gender bias in mortality has been falling in the regions most affected by it. But progress has been quite slow in some regions, including India, and in fact, has worsened in some, including China from 1990 to 2000, as shown in Table 1 below. There has also been at least a temporary worsening of gender bias in mortality associated with HIV/AIDS where (young) women in Sub-Saharan Africa have suffered disproportionately (see example of Botswana in Figure 7 below).[16]

[14] This is not very surprising. For example, Alderman et al. (1995, 1996) suggested as much in their analysis of cognitive skills gaps in Pakistan: once supply and demand for education were equalized across gender

[15] This is a statement about averages. There are still places where gender gaps in education persist, including remote rural areas in South Asia and Sub-Saharan Africa.

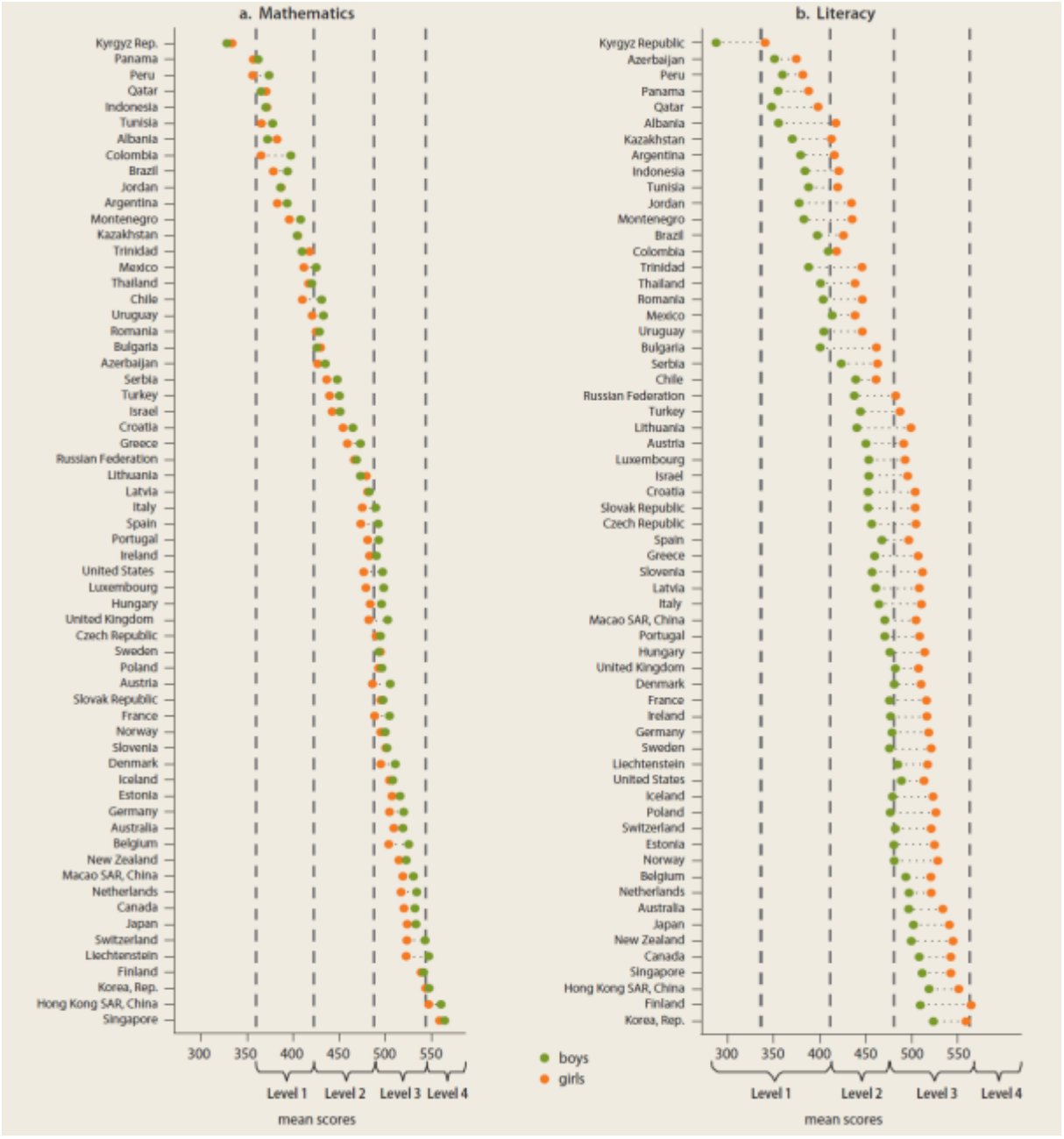
[16] There has been some suggestion, motivated by a paper of Anderson and Ray (2010) as well as World Bank (2011) that the annual death toll of excess female mortality is much larger than the previous literature has suggested and is also more prevalence among adults and in Sub-Saharan Africa. The results are, however, not credible as they are based on an implausible reference standard for defining what constitutes excess female mortality. See Klasen and Vollmer (2013) for a discussion.

FIGURE 4. FEMALE-MALE RATIOS OF GROSS ENROLLMENT RATES IN PRIMARY, SECONDARY, AND TERTIARY EDUCATION, BY REGION



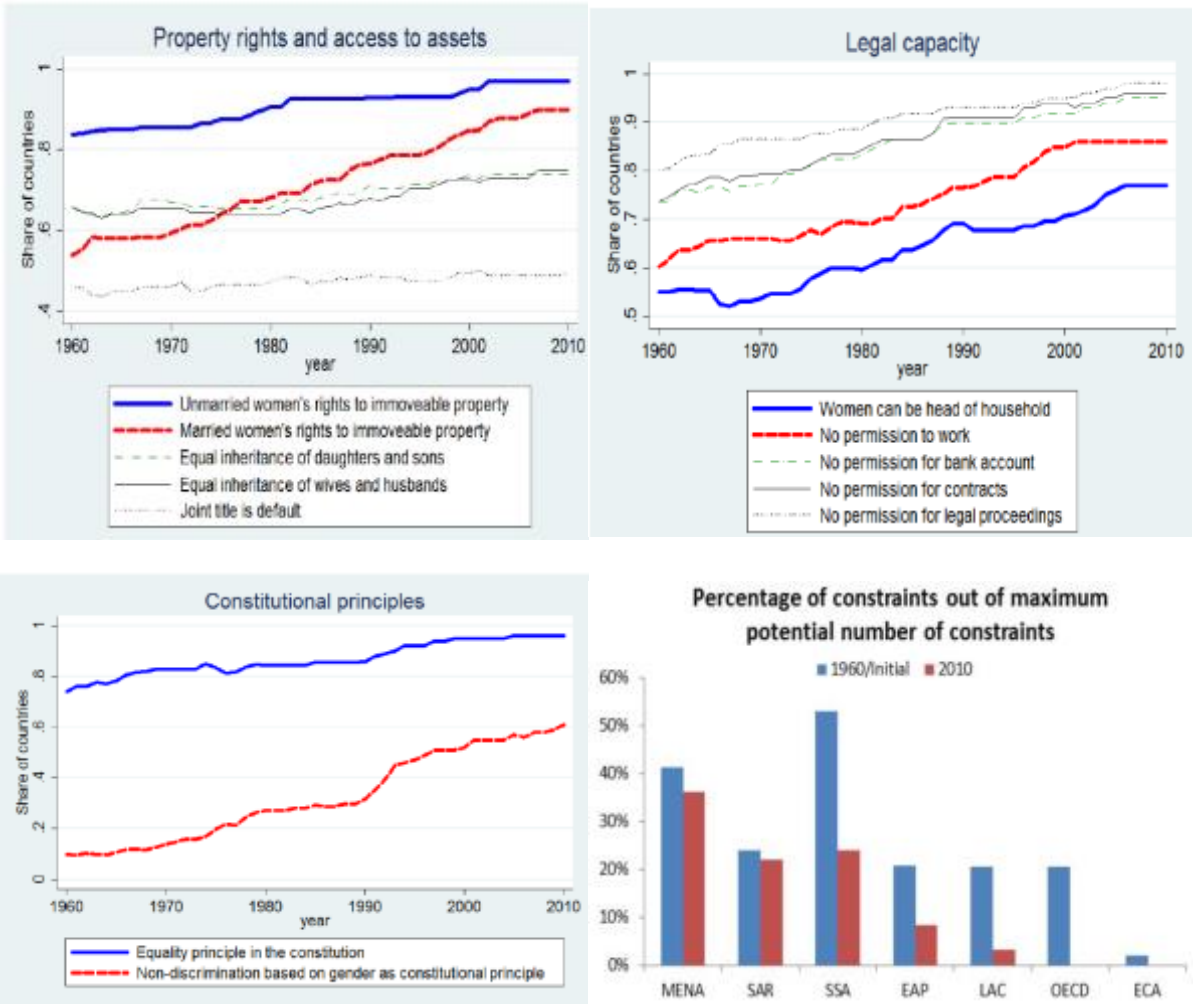
Source: World Development Indicators

FIGURE 5. GENDER GAPS IN PISA SCORES IN MATHEMATICS AND LITERACY



Source: World Bank (2011)

FIGURE 6. GENDER GAPS IN RIGHTS, TRENDS AND REGIONAL DIFFERENCES



Source: Hallward-Driemeier et al. 2013a, b

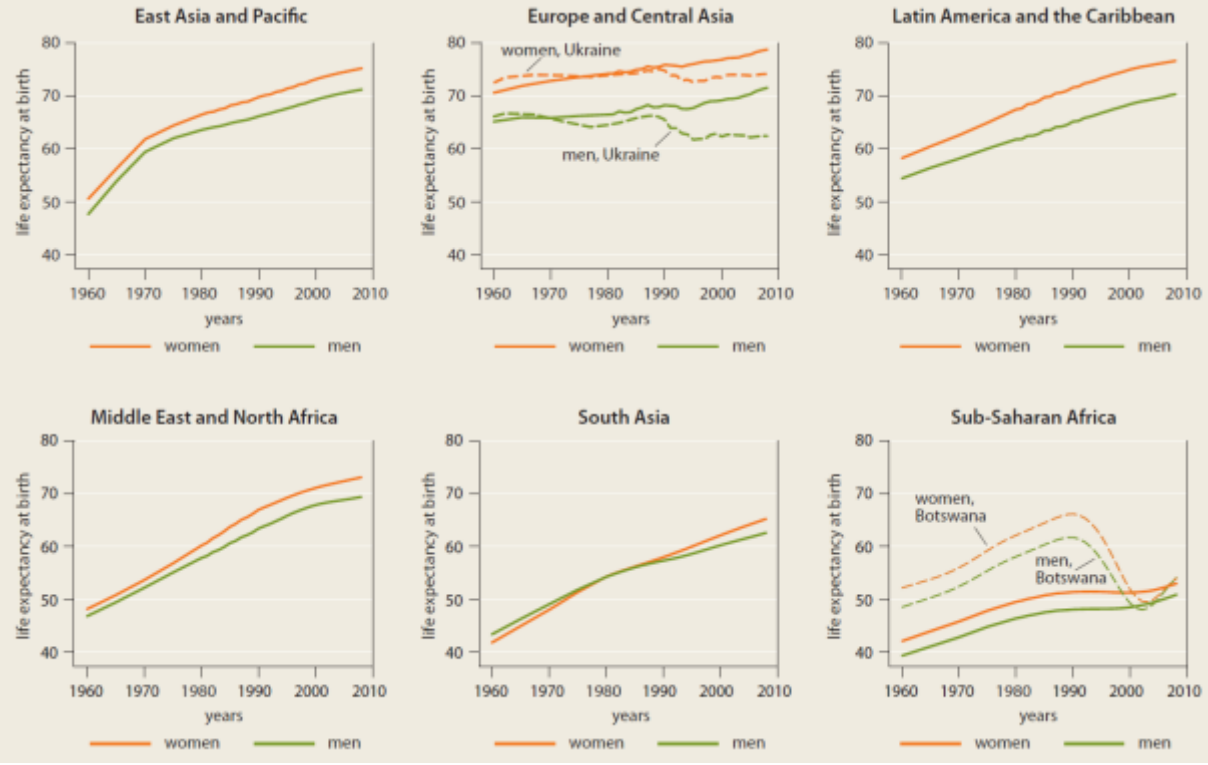
Similarly, gender gaps in labour force participation have also narrowed in many regions, but rather slowly and again with great regional heterogeneity, as shown in Figure 8. Several points are noteworthy. First, as already discussed above, female labour force participation has been high in East Asia, sub-Saharan Africa and Eastern Europe and Central Asia, as well as OECD countries, while it has been much lower in Latin America, South Asia and the Middle East (in that order); this is closely related to the 'deep drivers' debate I mentioned above. Second, while there has been a rapid expansion of female economic participation in Latin America and OECD countries, the pace of expansion in the Middle East and South Asia has been much slower, despite their lower initial levels. In fact, in India, there has been no increase at all in female labour force participation rates in urban and in rural areas, participation has fallen (Klasen and Pieters 2015). And this is despite the fact that educational gender gaps have been declining rapidly in those regions, as has fertility, both of which should promote greater female economic participation.

TABLE 1— MISSING WOMEN IN 1990 AND 2000

	Around 2000					Around 1990	
	(1) Number of Women	(2) Expected Sex Rati	(3) Expected Number of Women	(4) 'Missing' Women	(5) Share Missing	(6) 'Missing Women'	(7) Share Missing
China	612.3	1.001	653.2	40.9	6.7%	34.6	6.3%
Taiwan	10.8	1.002	11.3	0.5	4.7%	0.7	7.3%
South Korea	22.2	1.000	22.4	0.2	0.7%	-0.0	-0.1%
India	495.7	0.993	534.8	39.1	7.9%	38.4	9.4%
Pakistan	62.7	1.003	67.6	4.9	7.8%	4.3	10.8%
Bangladesh	63.4	0.996	66.1	2.7	4.2%	3.8	8.9%
Nepal	11.6	0.992	11.7	0.1	0.5%	0.6	7.7%
Sri Lanka	8.6	1.006	8.6	0.0	0.0%	0.3	3.4%
West Asia	92.0	1.002	95.8	3.8	4.2%	3.9	7.1%
Of which: Turkey	27.9	1.003	28.5	0.7	2.4%	0.8	3.2%
Syria	6.7	1.016	6.9	0.2	3.1%	0.4	5.0%
Afghanistan	11.1	0.964	12.1	1.0	9.3%	0.6	9.7%
Iran	29.5	0.996	30.6	1.1	3.7%	1.1	4.5%
Egypt	29.0	1.003	30.3	1.3	4.5%	1.2	5.1%
Algeria	14.5	1.005	14.7	0.2	1.2%	0.3	2.7%
Tunisia	4.3	1.000	4.4	0.1	2.1%	0.2	4.5%
Sub-Saharan Africa	307.0	0.970	312.5	5.5	1.8%	4.9	1.9%
World	1774.8			101.3	5.7%	94.7	6.5%

Source: Klasen und Wink (2002, 2003)

FIGURE 7. GENDER GAPS IN LIFE EXPECTANCY



This is also closely related to very slow progress in reducing gender gaps in time spent in household production. Even in places where women have entered the labour force in large numbers, there has been no commensurate reallocation of time use on childcare, other care, and housework activities to which women continue to devote substantially more time than men (World Bank 2011).

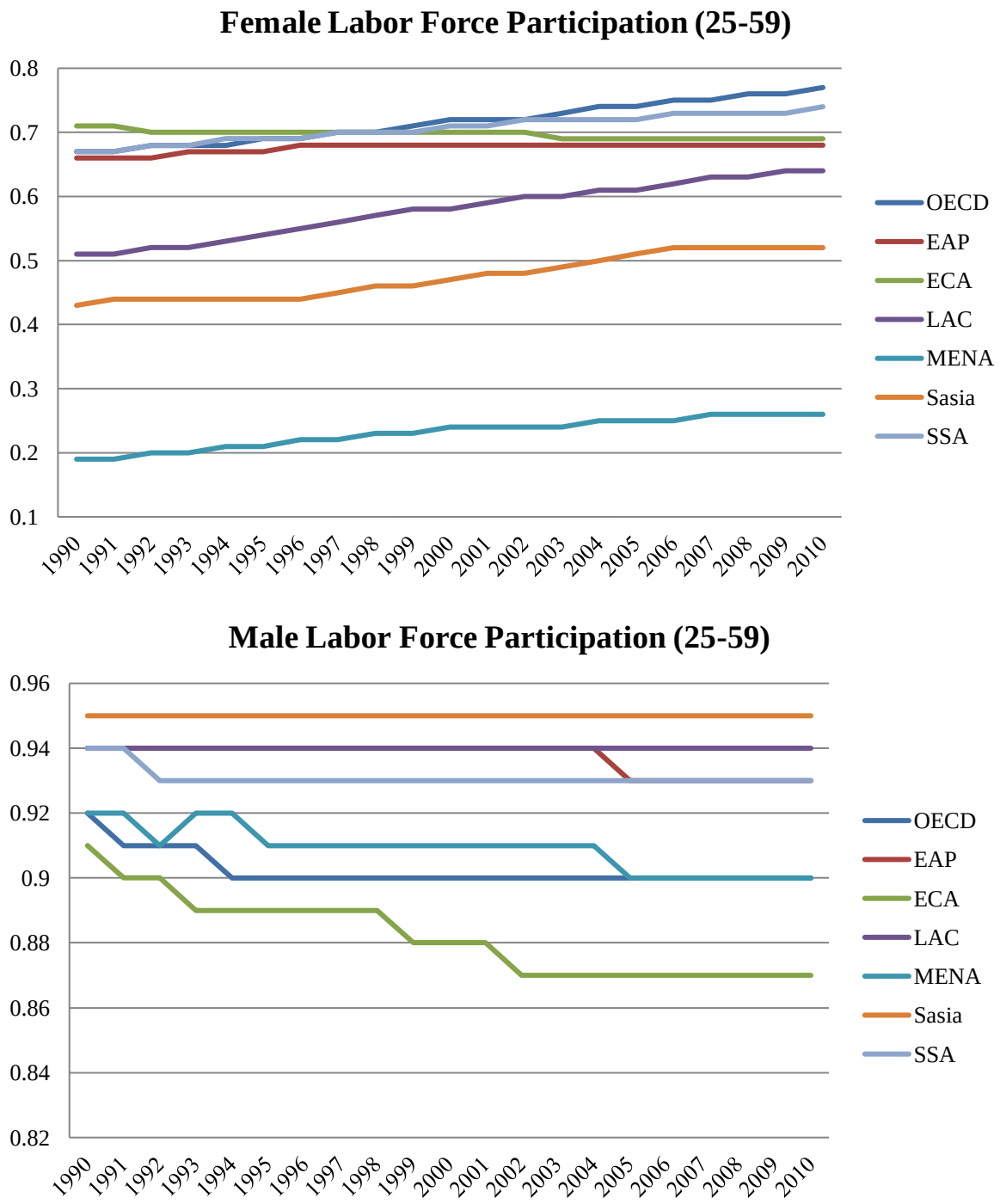
Lastly, gender gaps in political participation have also fallen only slightly and remain very large in many parts of the developing world, as shown in Figure 9 for the case of female parliamentary representation. Noteworthy is that the trends in all regions (with the exception of East Asia and the Pacific, which is heavily dominated by China) have been rather uniform and steadily increasing. Of particular interest is the development in transition countries. During socialist times, parliaments had little say and female representation was high. In the transition process, freely elected parliaments have become more powerful and the female share initially fell strongly (see also Klasen 1993).

There is a last category of gender gaps where it appears that there has been no progress whatsoever over the past 40-50 years, although the database for such an assessment is not strong. Two gender gaps related to labour are the unexplained gender wage gap and occupational and sectoral segregation by gender. While the decline in human capital differences has led to a smaller overall gender wage gap and, in an increasing number of countries, to the complete elimination of the explained gender wage gap, the unexplained portion, which is closely related to occupational and sectoral differences among genders as well as pay discrimination and other unmeasured gender differentials, has remains largely unchanged as shown in Figure 10 from Weichselbäumer and Winter-Ebmer (2005). Given this, it is not surprising that occupational and sectoral segregation has also not changed over time and, interestingly, does not appear to change as countries get richer and more women join the labour force (World Bank 2011; Borrowman and Klasen 2015). It thus appears that as females enter the labour market, they often do so in proportion to the existing female shares in particular sectors and occupations, rather than by breaking into more male-dominated sectors and occupations. As a result, some sectors become heavily female-dominated (including personal services, education, health, and public sector) while others remain largely male-dominated (including construction and manufacturing, IT services, etc).

Other gendered issues which appear not to change very much relate to particular forms of violence against women, including domestic violence and female genital mutilation. While the data on those forms of violence against women is patchy and often not comparable across space and time, it appears that the incidence of both problems has not fallen over time (e.g. World Bank 2014), although a recent report by the World Bank suggests that the acceptance of domestic violence among women is falling slightly in developing countries (World Bank 2014).

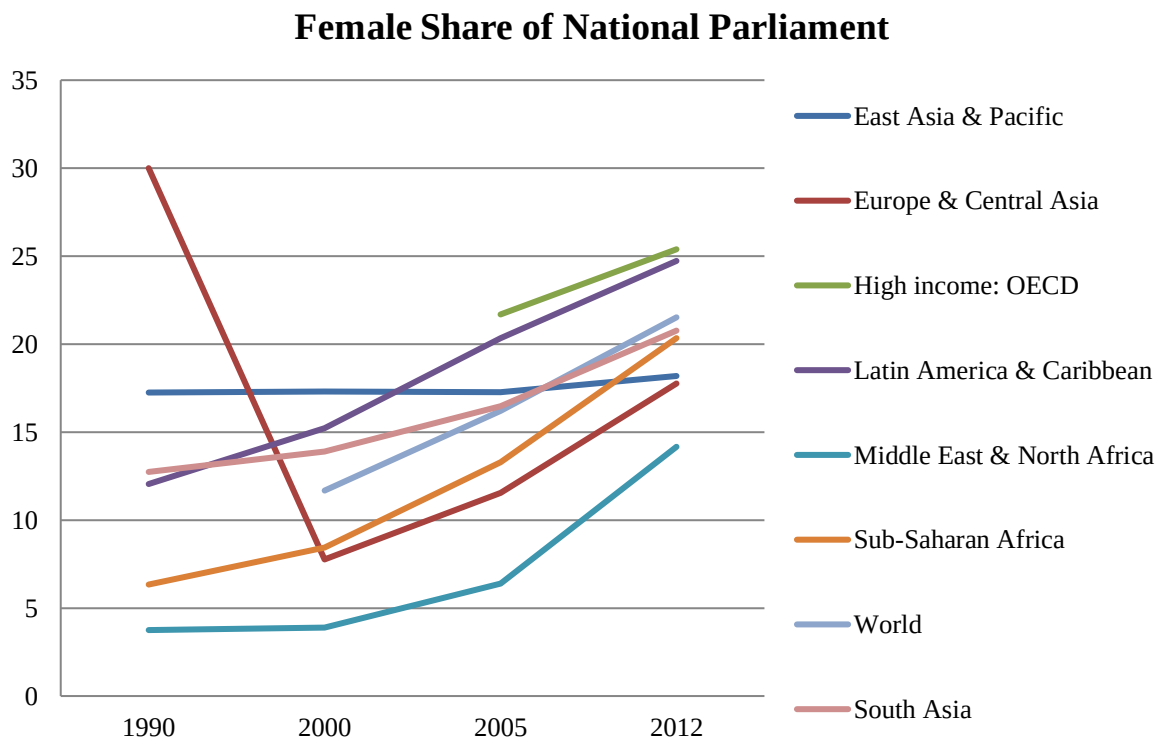
This descriptive discussion suggests a bewildering diversity of trends in gender gaps along different dimensions. While there are few gender gaps that have actually gotten worse over time, the pace of improvement ranges from none to very fast by dimension, with substantial differences in speed across regions. In particular, while we have witnessed a breath-taking progress in reducing gender gaps in education, there has been much less progress in other dimensions. This is surprising insofar as one would have expected that closing of this particularly important gap would contribute to eventually closing other gaps, but this has happened at most in part. It is therefore now important to make sense of these divergent trends by theorizing about the drivers of falling gender gaps across dimensions in developing countries. Much of this will be highly speculative pointing to the urgent need to investigate the drivers of this differential performance more closely.

FIGURE 8. GENDER GAPS IN LABOUR FORCE PARTICIPATION BY REGION



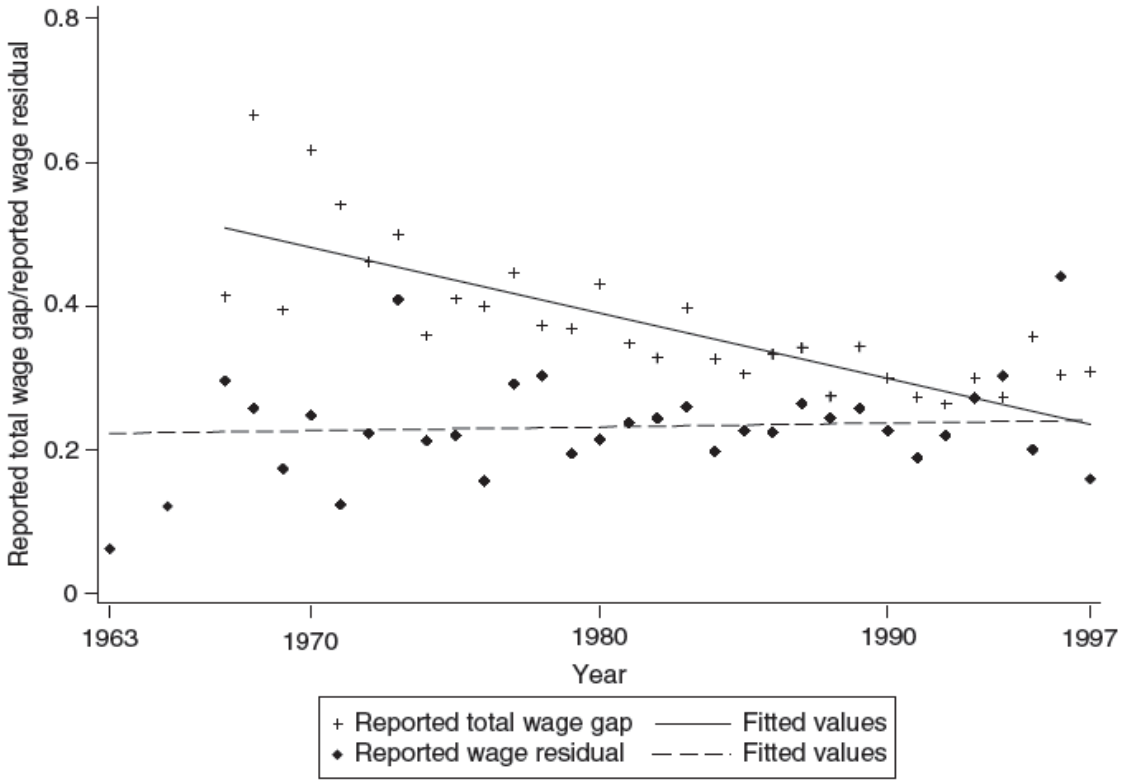
Source: ILO 2011

FIGURE 9. FEMALE REPRESENTATION IN NATIONAL PARLIAMENTS



Source: World Development Indicators

FIGURE 10: EXPLAINED AND RESIDUAL GENDER GAP OVER TIME



Source: Weichselbäumer and Winter-Ebmer (2005)

Theorizing about drivers of change

Before considering different factors affecting gender gaps, a strong presumption ought to be that trends in gender gaps should be closely correlated, either because one gap promotes another, or because the same secular trends affect both gaps simultaneously. For example, it is hard to see how one can close the gender gap in formal sector pay without closing the gender gap in education and sectoral segregation. Similarly, a secular change that draws women into the labour force will raise their returns to schooling and should therefore reduce the gender gap in education as well. Or an anti-discrimination policy could affect several gaps at the same time. But as the descriptive section above showed this has not happened, with gender gaps moving at different speeds in different dimensions and regions. Thus we will now theorize about drivers of change for each of these gaps, noting the potential linkage between them.

In this, rather speculative, section I will try to spell out some hypotheses that might account for the very heterogeneous nature of progress across dimensions of gender gaps, as well as across regions. While it surely is the case that there are unique factors that affect the development of a particular gender gap in a particular region, I will start with some broader hypotheses that might affect the pace of change.

A first group of factors that might affect the pace of change I would call structural economic factors. One of them is economic growth and development itself which might have an immediate impact on a particular gender gap through several mechanisms. First, it may increase the resource base of households that reduce the need for rationing of scarce household resources on sons where son preference is prevalent, for example in the case of education and health. Second, such growth also tends to increase public resources that can be devoted to improving and lowering the private costs of education and health and improving access for all. As countries move towards universal access, the previously left-out girls and women can benefit disproportionately. Third economic growth can increase the demand for greater female education and employment by raising labour demand for women, a point already made by Engels in 1884 (Engels 1884). It can also increase the demand for female education to improve their ability to participate in the economy or to increase the education of their children. Fourth, growth is often associated with rapid pace of technological change that can, among other things, lower the relative importance of physical strength relative to cognitive abilities and thus reduce the salience of the male advantage in physical strength (Galor and Weil 1996). Lastly, growth can be accompanied by structural change towards manufacturing and services which can lead to disproportionate demand for female labour. To be sure, growth is unlikely to address all gender gaps. These effects are likely to be particularly relevant for gender gaps in education, health, and labour force participation, but less so in the case of time use, occupational segregation, political representation, and the like. Nor will all types of growth have the same effects. For example, growth based on resource extraction will not generate many of the effects discussed above.

A second structural economic factor is globalization. In particular, falling trade barriers and increasing trade has increased competition and sometimes put pressure on wages in previously protected and often male-dominated sectors. It has also led to a greater demand for flexibility

and thus put pressure on previously stable and long-term male breadwinner employment models. As argued by Standing (1999), women can be the relative beneficiaries of this trend as they are more willing to work on flexible and worse-paid work arrangements (see also Braunstein 2012, Kis-Katos and Sparrow 2015, Gaddis and Pieters 2016). This would increase the demand for female education and labour force participation, particularly in those countries that are actively participating in global value chains and export manufactured goods and services.

A second group of factors I would call the scope for policy to affect gaps. Some gaps can be addressed relatively easily by a policy intervention while other gaps are much harder to change. For example, the scope for changing laws that treat the two sexes unequally is high (if the political will is there). Such initiatives can then also be supported by international processes such as the ratification of conventions that demand equal treatment (including the CEDAW convention). Similarly, gender gaps in schooling can be reduced relatively easily through supply-side (e.g. building schools, equipping them better) as well as demand-side interventions (e.g. subsidies, conditional cash transfers), or even compulsory schooling mandates (when the conditions actually allow its enforcement). Increasing the share of women in parliaments can be done relatively easily in systems of proportional representation by mandating a share of party lists to be reserved for female candidates. In contrast, other gaps are much harder to influence directly by policy. Occupational choice can only be affected marginally through policy interventions (e.g. using role models, mentoring, etc.), and the scope for policy to affect time use in household production is also comparatively small. In fact, despite many efforts, particularly in developed countries, the success in equally sharing the care burden for children and elderly has been limited.

A third closely related group of factors relates to the policy attention a particular gap received in national and international policy debates. And here, clear differences exist. Gender gaps in rights have received considerable attention and are a great focus of the CEDAW convention, signed and ratified (with reservations) by the nearly all countries of the world. In addition, a strong national and international advocacy community has supported ratification, implementation, and turning into national law of gender equality in rights. Similarly, gender gaps in education received great attention in national and international policy debates, both from people in the education field, as well as those from the gender field. Removing gender gaps in education were the key targets of the third MDG on gender equity, and there was strong donor support for addressing gender gaps. In contrast, policy attention was less in the fields of labour force participation, even less in occupational and sectoral segregation, and gender inequality in social institutions. Issues such as domestic violence or FGM have not generally enjoyed such a broad-based discussion and policy attention (although of course there were people working on all of these issues).

A fourth group of factors relate to the strength of gender norms in a particular dimension: the stronger the norms in a dimension, the harder it is to change gender gaps as it will also shape preferences of all parties concerned. The strength of gender norms of course differs by dimension across regions and these norms are themselves affected by other factors. For example, women's employment outside of the home (including unaccompanied travel to and

from work) is perfectly normal in some places and seen as deeply problematic in others, and this might differ by social status and change over the development process. But one hypothesis regarding the gender norms across dimensions could be that gender norms tend to be stronger in areas that relate to regulating life in households and families. As a result, it is particularly difficult to change gender gaps that directly challenge gender norms within the household, including for example widespread norms allocating the primary care burden for children (and elderly) to women. So, for example, it is then relatively easier to push for female education which does not, in principle, question this norm. But it would be harder to allow women to work out side of the home or to reshape time use within the home.[17]

A fifth group of factors relates to the roles of crises and shocks. Severe economic crises, wars, and other shocks can powerfully affect gender relations. They can pose opportunities and threats. One the one hand, they can question long-established norms, for example regarding the appropriate sexual division of labour. There is a literature that has demonstrated that war-time absence of men gave a push to increasing female labour force participation rates (e.g. Akbulut et al. 2011, Kreibaum and Klasen 2015), and post-war settlements offer opportunities to rewrite constitutions. At the same time, wars and crises can of course also be times to roll back changes, a subject to which I return briefly below. Sixth, it may matter whether addressing the gender gap in question is perceived to be a zero-sum game or a win-win situation for both sexes. At the one extreme, increasing female representation in parliaments will necessarily reduce male representation. At the other extreme, increasing education for girls can be seen largely as a win-win situation. It will help girls and women, but also produce more educated wives and mothers from which males will benefit in many ways. And it has, as discussed above, positive economic effects for all. Addressing many other gender gaps are in-between these extremes. Greater female employment, for example, can be seen to come at the expense of male employment, but it also provides additional household incomes which can be particularly critical if households are poor or incomes are uncertain.

Lastly, it is also important to discuss the roles and interests of men in sustaining or reducing gender gaps. Beyond the question of win-win versus zero-sum situations, it is important to point out that men may have divided interests as argued by Tertilt and Doepke (2009) and Fernandez (2014). In particular, while they may want to do little to reduce gender gaps affecting women of their generation (including their spouses) as they benefit from the privileges they enjoy, they may be altruistic towards their daughters and will be more willing to accept and even support lower gender gaps in the next generation. The relative importance they place on enjoying privileges themselves versus ensuring high well-being for their daughters can then determine how much they will support or resist the reduction of gender gaps.[18]

[17] There is, of course, also the question of whether there are systematic differences in preferences by gender that exist beyond norms and socialization. It may be the case, example, that there are differences in preferences towards care work (not only in the home but also in outside employment) that partly account for persistent sectoral segregation by gender as well as unequal time use in the home. For a discussion, see Klasen (2016).
[18] This is how Tertilt and Doepke (2009) explain why women in the US, for example, were granted equal economic rights before they had any political rights, including the right to vote. Men found equal economic rights for their daughters important enough to tolerate granting economic rights to women of their generation.

With these hypotheses in mind, one can now speculate about the drivers of differential progress across dimensions of gender gaps (and, to a lesser extent, across regions). To be sure, this is really more the definition of a research agenda than actual findings.

Starting with the rapid closing of educational gender gaps, it appears that a range of favourable circumstances have come together. Economic growth enabled an expansion of education, bringing in girls into the system. In addition, it turns out that a range of demand and supply-side policies are quite effective in getting girls to school (e.g. World Bank 2001), there was a great policy attention on the issue in national and international circles, it is not strongly challenging existing gender norms about gender roles and sexual division of labour, gender norms have shifted substantially towards equal opportunities in education (see World Bank 2011), and (maybe also influenced by the studies mentioned above) promoting female education was seen as a win-win situation that promotes gender equity and overall economic development. It is then also not surprising that the largest gender schooling gaps remain in remote areas in very poor countries with relatively little growth, where the progress towards closing the gaps was commensurately slower. Also, conflicts and crisis situations could also slow down progress or reverse gains, although not as much as one might have feared (e.g. Khan and Seltzer 2015).

Turning to gender gaps in rights, progress is likely to have been spurred by the relative ease through which such changes can be effected, and the substantial policy attention devoted to it, also related to CEDAW and related UN conferences (see World Bank 2011; Hallward-Driemeier et al. 2013b). In addition, as shown by Hallward-Driemeier et al. (2013b), crises and dramatic political change has helped, particularly if it involved writing a new constitution which then tended to be much more gender-balanced in rights than previous versions. Similarly, as shown by World Bank (2011) popular support for equal rights, including among men, is quite high and rising. At the same time, of course, one has to be cautious when interpreting these changes. There might have been rapid progress in equality of rights on paper with little changes on the ground.[19]

Turning to the more slow-moving reductions in gender gaps, let me first discuss gender gaps in health. Here progress was facilitated by economic growth and rising household incomes that reduced the need to ration scarce household resources (e.g. Klasen and Wink 2003). Policy attention was quite substantial in the countries affected by it, but the levers for policy action are not as straight-forward as effective action depends on effective primary health care services for all at little or no costs to the users (see World Bank 2003). In some countries, most notably China, policy action actually worsened gender bias in mortality as an unintended consequence of the strict one-child policy in a situation of remaining strong son preference (Klasen and Wink 2003). In addition, technological change limited progress in reducing the 'missing women' problem as it facilitated, through the spread of ultrasound technologies, prenatal sex selection and associated sex-selective abortions, particularly in China and India (Banister and Coale 1994; Klasen and Wink 2003).

[19] On the ability of laws and social engineering to overcome women-hurting customs, see also Platteau, Camilotti, and Auriol (2017).

The factors affecting trends in labour force participation are also more varied than in the case of education. First, the relationship between economic growth and female labour force participation is more complicated than commonly presumed. While there is some literature that claims that the relationship between incomes and labour force participation follows a U-shape, there is no strong empirical support for this claim (Gaddis and Klasen 2014). Instead, large country-differences in labour force participation, likely related to the deep drivers discussed above, are more important for the level of labour force participation than income levels are. At the country level, the relationship is also more complicated as higher incomes might induce some poorer women to get out of (undesirable) employment while drawing more educated women into the labour force (e.g. Klasen and Pieters 2015). Different patterns of structural change are also likely to affect women's economic opportunities. Policy clearly can play a role in boosting female participation. In particular, policies to improve the compatibility of female employment with having and raising children (e.g. through provision of affordable child care), or tax policies that encourage female participation have been found to affect female labour force participation (e.g. Gehringer and Klasen 2016, Klasen and Minasyan 2017). But nearly all of this evidence is from rich countries and it is less clear whether it is easily transferable to developing countries where childcare arrangements are quite different and tax policies have limited reach. Thus, the lack of easily implementable policies may be one reason for the sluggish progress here.

On the other hand, there is some evidence that globalization and the opening up of economies has increased female labour force participation (Kis-Katos and Sparrow 2015; Gaddis and Pieters 2016), supporting the notion that the working arrangements that come alongside greater international competition tend to relatively favour females who are more willing work under these arrangements (Standing 1999; Braunstein 2012). And, perversely, economic crises tend to boost female labour force participation as female labour force participation tends to be strongly countercyclical in developing countries (Bhalotra and Umana-Aponte 2010).

Lastly, female labour force participation can more easily seen as a zero-sum game, and pose a more direct challenge to existing norms and beliefs about the appropriate gender roles and the associated desired sexual division of labour; it may particularly also challenge more deep-seated notions about the division of labour in the home. This can be seen as particularly problematic when female earnings are not seen as strictly 'necessary' to escape poverty. It is not surprising that norms about who should get jobs when they are scarce have only improved little and still show much greater support for a male preference than in the case of education (World Bank 2011).

As a result, it is not so surprising that the changes in gender gaps in labour force participation have generally been slower and more uneven across regions. For example, it may be the case that progress in the Middle East has been slow due to slow growth and little structural change as well as strongly persistent norms on female employment, while in places such as India, higher growth and strong norms combine to reduce women's labour force participation at the low end of the education distribution (Klasen and Pieters 2015).

Turning to gender gaps in political participation, progress has been helped by the relative ease with which such change can be enacted and the considerable policy attention is has received,

including widely noted quota policies in many developing countries. Quotas are particularly easy to implement in systems of proportional representation, while first-past-the-post-systems actually need to resort to reserving certain seats for women to be effective. Since gender gaps in political participation are still wide and in many countries husbands or other male family members exercise influence over female elected leaders, it is unclear how far reductions in gaps go before they generate rising resistance due to their zero sum nature.

It is also not surprising that progress in reallocating domestic care work has been very slow. There has been relatively little policy attention on this issue, it is hard for policy to influence this significantly, and it does to the heart of gender norms that are particularly resistant to change as they focus on women's roles in reproduction and within the home.

Lastly, among the areas with very little change, it is also not so surprising that progress has been largely absent in the case of occupational and sectoral segregation. While growth may draw women into the labour force, there are few structural forces that would generate a more even distribution across sectors. Policy attention in developing countries has been low and experiences from industrialized countries also show that it is hard for policy to have a serious impact. And the occupational and sectoral segregation is intimately linked up with gender norms about an appropriate sexual division of labour. it is therefore to be expected that these roles and norms will reproduce themselves across generations, as upbringing, parental roles as well as education is likely to reinforce these norms over time.

The continued high prevalence of domestic violence and the (regionally concentrated) prevalence of FGM can partly be related to the fact that there are no structural processes that would work to reduce them. Indeed, they might persist also as an indication of how conflictual some of the changes in gender gaps have been, and that these conflicts unload themselves in domestic violence. For example, there is a literature that shows that greater female employment, higher earnings than their spouse, and unemployment of the husband can lead to higher incidence of domestic violence (although the empirics is not entirely clear at this stage, see World Bank 2014, Anderson and Genicot 2015, Lenze and Klasen 2016).

These are just some speculations about the differential nature of progress in closing gender gaps across regions. Many of these claims have not been tested empirically, and testing these hypotheses would be of central importance for research and policy.

Before concluding this section, it is important to discuss the question of backlash. So far, the entire discussion has operated on the premise that there is only one direction for gender gaps: to become smaller. All the discussion was focused on differential speeds by dimension and region. But this view might be too sanguine. Instead, it might be the case that there could be a serious backlash to some reduction in gender gaps, leading for them to widen again. It appears that backlash can become an issue in several circumstances. First, resistance to reduced gender gaps can build up as part of anti-Western agitation. Promoting women's rights and their involvement in the economy can be seen as an assault on traditional values and norms, leading to resistance as part of a wider resistance to the West. Extreme manifestations of this are the fight again female education by the Taliban in Afghanistan and Pakistan (Khan and Seltzer 2015), Islamic State, or by Boko Haram in Nigeria. Second, political transitions from

governments with a strong ideological stance in favour of gender equality can lead to a backlash once these governments are ousted. In transition countries, this has been visible during the transition process where women suffered from much higher unemployment, reduced labour force participation, and sharply falling female representation in parliaments (e.g. Klasen 1993); similar development are now visible in some Middle Eastern countries affected by the Arab spring rebellion. Third, the threat of backlash can be particularly strong in conflict and war situations where rule of law is replaced by rule of the strongest (men), and this often leads to excesses of violence against women (such as mass rapes, enslavement, and the like). But a backlash can also develop more gradually as a resistance to increasing gains made by women. For example, as women increased their education and labour force participation in the US, this was accompanied by claims that this was ultimately against their best interests, as argued by Faludi (1991).[20] Similarly, the rise of white male-dominated right-wing movements in many advanced countries can also be seen as a reaction to the gains made by women (and non-white or minority groups). Thus, it is not clear yet whether gender gaps are invariably on their way out and only the speed with which they disappear will differ. There is significant resistance to the reduction in some gaps, and it is unclear whether such backlashes will be more than isolated incidences of push-back. Clearly this is another area for further investigation.

Conclusions and a research agenda

This paper has shown that gender relations are a central institutional feature of societies. They particularly provide opportunities and constraints for women's productive and reproductive roles. As I have shown in the survey, the way these institutions work out matter not only for gender equity but for overall economic development. The survey has also revealed that gender gaps in key economic, social, and political variables have changed at vastly different speeds. While there has been massive progress in eliminating gender gaps in education (and formal rights), the progress in reducing other gaps has been much smaller. I have tried to spell out some hypotheses why these differential trends might exist. But we know surprisingly little about the drivers of these changes and to what extent policy can have an impact. A forward-looking research agenda should at least tackle the following questions:

i. To what extent have the different forces (development, structural change, globalization, scope for policy action, policy attention, strength of norms, perceptions of win-win versus zero sum, crises, and role of men) empirically affected the development of gender gaps across dimensions and across countries?
ii. What is the respective importance of these groups of factors? In particular, how important are structural changes, and how important have policy interventions and policy attention been?
iii. What drives the differential impact of policy (including policies by developing countries, but also by donors and international organizations) on the different gender gaps? What are examples where policy has made a difference in closing slow-moving

[20] In her book 'Backlash' she argued that women were being dissuaded from joining the labour force and pursuing higher education by false claims that this would reduce their ability to find husbands, have healthy children, or be happy. See Faludi (1991) for details.

gaps faster? What is the role of overall macro and structural policies versus targeted interventions in addressing gender gaps?

iv. How strong are the linkages between different gender gaps? For example, how long can/will low gaps in education co-exist with large gaps in employment? What are the mechanisms that drive these linkages and what are the temporal dynamics? And how important is closing gender gaps in politics for closing other gender gaps? Or would it be better to tackle other gender gaps in order to make the largest progress?

v. How do gender norms develop, how do they differ between men and women, and how much do they respond to changing economic conditions, structural forces, and policies?

vi. How serious is the threat of backlash and what are the conditions for reversals to happen? Are these reversals durable or temporary?

vii. What are the welfare effects of pushing for reductions in particular gender gaps? To the extent that they reflect norms and preferences, what is the case for policy intervention? Are there gaps where the welfare case for addressing them is not clear?

viii. Which gaps can be successfully addressed by different players, including governments, NGOs and civil society, and international actors?

Clearly, there remains much to be understood in the relationship between institutions, gender, and economic development. But one thing appears clear: the very fast progress that the world has seen in reducing gender gaps in education is unlikely to translate into similar developments in other dimensions. As a result, tackling remaining gender gaps will likely become increasingly difficult, an area that deserves urgent attention for research and policy.

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References

Abu-Ghaida, D. and K. Stephan. 2004. "The costs of missing the Millennium Development Goal on Gender Equity." *World Development* 32(7): 1075-1107.

Akbulut-Yuksel, M., Khamis, M. and M. Yuksel. 2011. "Rubble women: the long-term effects of postwar reconstruction on female labour market outcomes." *IZA Discussion Paper* No. 6148.

Aldermann, H., Behrman, J., Khan, S., Ross, D. and R. Sabot. 1995. "Public schooling expenditures in rural Pakistan: Efficiently targeting girls and a lagging region". In *Public Spending and the poor: Theory and Evidence*, edited by van de Walle, D. and K. Nead, Baltimore: Johns Hopkins Press.

Alderman H., Behrman, J., Rossm, D. and R. Sabot. 1996. "Decomposing the Gender Gap in Cognitive Skills in a poor Rural Economy." *Journal of Human Resources* 31: 229-254.

Alesina, A., Giuliano, P. and N. Nunn. 2013. "On the Origins of Gender Roles: Women and the Plough." *Quarterly Journal of Economics* 128(2): 469–530.

Anderson, S. and G. Genicot. 2015. "Suicide and property rights in India." *Journal of Development Economics* 114: 64-78

Anderson, S. and D. Ray. 2010. "Missing Women: Age and Disease." *The Review of Economic Studies* 77(4): 1262-1300.

Appiah, E. and W. W. McMahon. 2002. "The social outcomes of education and feedbacks on growth in Africa." *Journal of Development Studies* 38(4): 27-68.

Banister, J. and A. Coale. 1994. "Five Decades of Missing Females in China." *Demography* 31(3): 459-479.

Barro, R. and J.W. Lee. 1994. "Sources of Economic Growth." *Carnegie-Rochester Conference Series on Public Policy* 40: 1-46.

Barro, R., and J.W. Lee. 2013. "A New Data Set of Educational Attainment in the World, 1950-2010." *Journal of Development Economics*, 104:184-198.

Becker, G. 1981. *A treatise on the family*. Chicago: University of Chicago Press.

Behrmann, J., Parker, S. and P. Todd. 2009. "Medium-term impacts of the opportunities conditional cash transfer program on rural youth in Mexico." In *Poverty, inequality. and policy in Latin America*, edited by Klasen, S. and F. Nowak-Lehmann, Cambridge: MIT Press.

Bhalotra, A. and I. Clots-Figueras. 2014. "Health and the political agency of women." *American Economic Journal: Economic Policy* 6(2): 164-197.

Bhalotra, S. and M. Umaña-Aponte. 2010. "The Dynamics of Women's Labour Supply in Developing Countries." IZA Discussion Paper Series, No. 4879.

Blackden, M., Canagarajah, S., Klasen, S. and D. Lawson. 2007. "Gender and Growth in Africa: Evidence and Issues". In *Advancing Development: Core Themes in Global Development*, edited by Mavrotas, G. and A. Shorrocks, WIDER, Helsinki, Finland and UNU-WIDER Research Paper No. 2006/37.

Blecker, R. and S. Seguino. 2002. "Macroeconomic effect of reducing gender wage inequality in an export oriented, semi-industrialized economy", *Review of Development Economics*, 6(1): 103-119.

Bloom, D. and J. Williamson. 1998. "Demographic Transition and Economic Miracles in Emerging Asia." *The World Bank Economic Review*, 12(3): 419-455.

Borrowman, M. and S. Klasen. 2015. "Drivers of gendered occupational and sectoral segregation in developing countries." *Unpublished paper*.

Boserup, E. 1970. *Women's role in economic development*. Chicago: University of Chicago Press.

Branisa, B. Klasen, S. and M. Ziegler. 2013. "Gender inequality in social institutions and gendered development outcomes". *World Development* 45: 252–268.

Branisa, B., Klasen, S., Ziegler, M., Jütting, J. and D. Drechsler. 2014. "The Institutional Basis of Gender Inequality: The Social Institutions and Gender Index (SIGI)" *Feminist Economics* 20(2): 29-64.

Braunstein, E. 2012. "Neoliberal development macroeconomics." *UNRISD Research Paper*.

Bandiera, O. and A. Natraj. 2013. "Does gender inequality hinder development and economic growth? Evidence and policy implications." *World Bank Research Observer* 28:2-21.

Busse, M. and C. Spielmann. 2006. "Gender inequality and trade." *Review of International Economics 14*(3): 362-279.

Cavalcanti, T. V. and J. Tavares. 2007. *The output costs of gender discrimination: A model-based macroeconomic estimate.* Mimeographed: University of Lisbon.

Chattopadhyay, R. and E. Duflo. 2004. "Women as policy makers: evidence from a nationwide randomized experiment in India." *Econometrica* 72:1409–43.

Cho, S.Y. 2014. "International Women's Convention, Democracy and Gender Equality." *Social Science Quarterly* 95(3): 719-739.

Cingranelli, David L., David L. Richards, and K. Chad Clay. 2014. "The CIRI Human Rights Dataset." http://www.humanrightsdata.com Version 2014.04.14.

Doepke, M. and M. Tertilt. 2009. "Women's liberation: What's in it for men?" *Quarterly Journal of Economics* 124:1541–91.

Dollar, D. and R. Gatti. 1999. *Gender Inequality, Income and Growth: Are Good Times good for Women?* Mimeographed. Washington DC: The World Bank.

Dreze, J. and A. Sen. 2002. *India Economic Development and Social Opportunity*. Oxford: Clarednon Press.

Duflo, E. 2012. "Women empowerment and economic development." *Journal of Economic Literature* 50(4): 1051-1079.

Engels, F. 1894. *Origins of the family, private property, and the state*. Zurich.

Esteve-Volart, B. 2009. *gender discrimination and growth: Theory and evidence from India.* Mimeographed, University of York, Canada.

Faludi, S. (1991) *Backlash: The undeclared war on American women.* New York: Crown Publishing.

Fernandez, R. and A. Fogli. 2009. "Culture: An empirical investigation of beliefs, work, and fertility." *American Economic Journal: Macroeconomics* 1: 146-177.

Fernandez, R. 2011. "Does culture matter?" volume In *Handbook of Social Economics*, edited by Benhabib, J., Jackson, M. and A. Bisin, Vol 1A. Amsterdam: North Holland.

Fernandez, R. 2014. "Women's rights and development." *Journal of Economic Growth* 19(1): 37-80.

Ferrant, G. and A. Kolev. 2016. "Does gender discrimination in social institutions matters for long-term growth?" *OECD Development Centre Working Paper* No. 330. Paris: OECD.

Forbes, Kristin. 2000. "A Reassessment of the Relationship between Inequality and Growth." *American Economic Review* 90:869-887.

Gaddis, I. and S. Klasen. 2014. "Economic development, structural change, and women's labour force participation rate: A re-examination of the feminization U-hypothesis." *Journal of Population Economics* 27: 639-681.

Gaddis, I. and J. Pieters. 2016. "The gendered labour market impacts of trade liberalization: evidence from Brazil." *Journal of Human Resource (forthoming).*

Galor, O. and D. Weil. 1996. "The Gender Gap, Fertility, and Growth." *American Economic Review* 86: 374-387.

Galor O. and D.Weil. 2000. "Population, technology and growth." *American Economic Review* 90(4): 806-828.

Guirkinger, C. and J.F. Platteau. 2016. "The dynamics of family systems: Lessons from the past and present times." *EDI pathfinding paper*, Mimeographed, Universite de Namur.

Haddad, L., Hoddinott, J. and H. Alderman. 1997. *Intrahousehold resource allocation in developing countries.* Baltimore: Johns Hopkins Press.

Hajnal, J. 1982. "Two Kinds of Pre-industrial Household Systems." *Population and Development Review* 8(3): 449-494.

Hallward-Driemer, M., Hasan, T. and A. B. Rusu. 2013a. "Women's legal rights over 50 years: Progress, stagnation or regression?" *World Bank Policy Research Working Paper* No. 6616. Washington DC: The World Bank.

Hallward-Driemer, M., Hasan, T. and A. B. Rusu. 2013b. "Women's legal rights over 50 years: What is the impact of reform?" *World Bank Policy Research Working Paper* No. 6617. Washington DC: The World Bank.

Hansen, C. W., Jensen, P. S. and C. V. Skovsgaard. 2014. "Modern gender roles and agricultural history: the Neolithic inheritance". *Journal of Economic Growth* 24(4): 365–404.

Hazarika, G., Jha, C. K. and S. Sarangi. 2015. "The Role of Historical Resource Scarcity in Modern Gender Inequality". *Unpublished Working Paper.*

Hill, A. and E. King. 1995. "Women's Education and Economic Well-being." *Feminist Economics* 1(2): 1-26.

ILO 2011. "ILO estimates and projections of the economically active population: 1990–2020", 6th edn., International Labour Organization, Geneva. http://laboursta.ilo.org/

Jones, E. L. 1984. *The European Miracle*. New York: Oxford University Press.

Kahlert 2014. *Missing Women in the 2000s.* Mimeographed, University of Göttingen.
Khan, S. and A. Seltzer. 2015. *The Impact of Fundamentalist Terrorism on School Enrolment: Evidence from North-Western Pakistan 2004-09*. Mimeographed, UCL.

King, E. and A. Hill. 1993. *Women's Education in Developing Countries: Barriers, Benefits, and Policies.* Baltimore: Johns Hopkins Press.

King, E., Klasen, S. and M. Porter. 2009. "Women and Development." In Lomborg, B. (ed.) Global Crises, Global Solutions 2nd Edition. Cambridge: Cambridge University Press.

Kis-Katos, K. and R. Sparrow. 2015. "Poverty, Labour Markets and Trade Liberalization in Indonesia.", *Journal of Development Economics* 117: 94–106.

Klasen, S. 1993. "Human Development and Women's Lives in a Restructured Eastern Bloc," In Schipke, A. and A. Taylor (eds.) *The Economics of Transformation: Theory and Practise in the New Market Economies*. New York: Springer.

Klasen, S. 1994. "Missing women reconsidered." *World Development* 22(7): 1061-71.

Klasen, S. 1999. "Does gender inequality reduce growth and development?" *World Bank Policy Research Report Working Paper* No.212

Klasen, S. 2002. "Low Schooling for Girls, Slower Growth for All? Cross- Country Evidence on the Effect of Gender Inequality in Education on Economic Development" *World Bank Econ Rev* 16 (3): 345-37

Klasen, S. 2006. "Gender and Pro-Poor Growth." In Menkoff, L. (ed.) *Pro-Poor Growth: Evidence and Policies*. Berlin: Dunker&Humblot.

Klasen, S. 2016. *Measuring gender inequality using the capability approach: issues and challenges.* Mimeographed, University of Göttingen.

Klasen, S. and S. Vollmer. 2013. "Missing women: Age and Disease: A correction." *Courant Research Center Discussion Paper* No. 133.

Klasen, S. and F. Lamanna. 2009. "The impact of gender inequality in education and employment on economic growth: new evidence for a panel of countries." *Feminist Economics* 15(3): 91-132.

Klasen, S and C. Wink. 2002. "A Turning Point in Gender Bias in Mortality? An Update on the Number of Missing Women." *Population and Development Review* 28(2): 285-312.
Klasen, S. and C. Wink. 2003. "Missing Women: Revisiting the debate." *Feminist Economics* 9: 263-299.

Klasen, S. and J. Pieters. 2015. "What explains the stagnation of female labour force participation in urban India?" *World Bank Economic Review*.

Knowles, S., Paula L. and O. Dorian. 2002. "Are Educational Gender Gaps a Brake on Economic Development? Some Cross-Country Empirical Evidence." *Oxford Economic Papers* 54: 118-149.

Kreibaum, M. and S. Klasen. 2015. "Missing men: Differential effects of wars and socialism on female labour-force participation in Vietnam." *Courant Research Center Discussion Paper* No. 181.

Lagerlöf, N. 2003. ''Gender Equality and Long-Run Growth.'' *Journal of Economic Growth* 8(4): 403–26.

Lenze, J. and S. Klasen. 2016. "The Impact of Women's Labour Force Participation on Domestic Violence in Jordan." *Feminist Economics* (forthcoming).

Lorgelly, P.K. and P.D. Owen. 1999. "The Effect of Female and Male Schooling on Economic Growth in the Barro-Lee Model." *Empirical Economics* 24(3): 537-557.

Minasyan, A., Zenker, J., Klasen, S. and S. Vollmer. 2016. *The impact of gender inequality in education on economic growth: A systematic review of the evidence.* Mimeographed, University of Göttingen.

Murthi, M., Guio, A.C. and J. Drèze. 1995. "Mortality, Fertility, and Gender Bias in India: A District-Level Analysis." *Population and Development Review* 21(4): 745-782.

OECD. 1995. *Household Production in OECD Countries*. Paris: OECD.

OECD. 2015. *Social Institutions and Gender Index Synthesis Report*. Paris: OECD.

Oostendorp, R. 2009. "Globalization and the Gender Wage Gap." *World Bank Economics Review* 23(1): 141-16.

Pitt, M. and S. Khandker 1998. "The Impact of Group-based Credit Programs on Poor Households in Bangladesh." *Journal of Political Economy* 106: 958-96.

Pitt, M., Khandker, S. and J. Cartwright. 2006. "Empowering women with micro finance: Evidence from Bangladesh." *Economic Development and Cultural Change* 54(4), pp. 791–831.

Platteau, J.-P., Camiloti, E., and E. Auriol. 2017. "Eradicating women-hurting customs: what role for social engineering?" Paper presented at the 2017 WIDER Gender and Development Meeting, February.

Rees, R. and R. Riezman. 2012. *"Globalization, Gender and Growth", Review of Income and Wealth* 58(1): 107-117.

Santos-Silva, M., Alexander, A., Klasen, S. and C. Welzel. 2016. *Historical drivers of gender inequality.* Mimeographed, University of Göttingen.

Schober, T. and R. Winter-Ebmer. 2011. "Gender wage inequality and economic growth: Is there really a puzzle? A comment." *World Development* 39(8): 1476-1484.

Seguino, S. 2000a. "Gender Inequality and Economic Growth: A Cross-Country Analysis." *World Development* 28: 1211-1230.

Seguino, S. 2000b. "Accounting for Gender in Asian Economic Growth", *Feminist Economics, Taylow and Francis Journals* 6(3): 27-58.

Seguino, S. and M.S. Floro. 2003. "Does gender have any effect on aggregate saving?" *International Review of Applied Economics* 17(2): 147-166.

Sen, A. 1989. "Women's Survival as a Development Problem." *Bulletin of the American Academy of Arts and Sciences* 43(2):14-29.

Sen, A. 1990. "Gender and Cooperative Conflict." In Irene Tinker (ed.) *Persistent Inequalities – Women and World Development*, pp. 123-149. New York: Oxford University Press.
Standing, G. 1999. "Global feminization through flexible labour: a theme revisited." *World Development* 27(3): 583-602.

Stotsky, J. 2006. "Gender and its relevance to Macroeconomic Policy: A Survey" *IMF Working Paper* WP/06/233.

Summers, L. 1994. *Investing in all the people.* Washington DC: The World Bank.

Swamy, A., Azfar, O., Knack, S. and Y. Lee. 2001. "Gender and Corruption". *Journal of Development Economics* 64(1): 25-55.

Teignier, M. and D. Cuberes. 2015. "Aggregate costs of gender gaps in the labour market: A quantitative excercise." *Journal of Human Capital* (forthcoming).

Tertilt, M. and M. Doepke. 2014. "Does female empowerment promote economic development?" *NBER Working Paper* No. 19888.

Thomas, D. 1990. "Intrahousehold resource allocation: An inferential approach." *Journal of Human Resources* 25(4): 635-664.

Thomas, D. 1997. “Incomes, Expenditures and Health Outcomes: Evidence on Intrahousehold Resource Allocation.” in L. Haddad, J. Hoddinott, and Harold Alderman (eds) *Intrahousehold Resource Allocation in Developing Countries*, Johns Hopkins University Press: Baltimore.

UNDP. 1995. *Human Development Report.* New York: Oxford University Press.

Waring, M. 1988. *If women counted.* New York: Harper and Row.

Weichselbaumer, D. and R. Winter-Ebmer. 2005. “A meta-analysis of the international gender wage gap.” *Journal of Economic Surveys* 19(3): 479–511.

World Bank. 2003. *World Development Report 2004: Making services work for poor people.* Washington DC: The World Bank.

World Bank. 2011. *World Development Report 2012: Gender equality and development.* Washington DC: The World Bank.

World Bank. 2014. *Voice and Agency. Empowering women and girls for shared prosperity.* Washington DC: The World Bank.

World Bank. 2001. *Engendering Development.* Washington DC: The World Bank.

Yamarik, S. and S. Ghosh. 2003. *Is Female Education Productive? A Reassessment.* Mimeograph, Tufts University, Medford, MA.

Yoon, J. and S. Klasen. 2016. *An Application of Partial Least Squares to the Construction of the Social Institutions and Gender Index (SIGI) and the Corruption Perception Index (CPI).* Mimeographed, University of Göttingen.

Young, A. 1995. “The tyranny of numbers.” *Quarterly Journal of Economics* 110(3): 641-680.

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