GrOW
Research Series

Effectiveness of Gender Budgeting on Gender Equality and Fiscal Space: Empirical Evidence from Asia Pacific

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ISID
INSTITUTE FOR THE STUDY
OF INTERNATIONAL DEVELOPMENT

GrOW Working Paper Series
GWP-2017-09 – Research Contribution Paper

Produced with support from McGill University and the International Development Research Centre (IDRC). Working papers are in draft form and distributed for purposes of comment and discussion only. The observations and views expressed in this working paper are the sole responsibility of the author(s).

Abstract

This paper analyses the effect of gender budgeting processes on gender equality and fiscal space in Asia-Pacific countries. Following the methodology of Stotsky and Zaman (2016), the paper formulates an empirical framework for gender budgeting (*gb*) and non-gender budgeting (*ngb*) Asian countries to investigate the impact of gender budgeting on reducing gender inequality. The data for our variables on fiscal, demographic, income, and gender inequality are mainly drawn from the IMF Database on gender indicators and the World Development Indicators (WDI) database, over 1990–2013. We use the equally distributed equivalent (X_{ede}) methodology to arrive at gender equality sensitive indicators (*gesi*) on three dimensions – education, health, and income – combined as a gender equality outcome measure. Countries are categorized as *gb* or *ngb* based on whether their ministries of finance integrate gender budgeting into budget call circulars.

The panel data analysis shows that gender budgeting efforts have significant impact on *gesi* as compared to economic growth. Public policy variables like public spending on health and education are also found relevant for progress in gender equality in the region. Sector-specific equations are also investigated for education, health, and labour force participation under random effects models and dynamic panel estimates. The implications of gender budgeting at sectoral level outcomes and level fiscal space are more ambiguous. At the sectoral level, we use the ratio of gender disparity in education enrolment as a proxy for education outcomes and maternal mortality rates as a proxy for reproductive health outcomes. Public policy variables are shown more relevant than growth variables at the sectoral level in education and health. Finally, the impact of gender budgeting on female labour force participation is found to be insignificant. The empirical evidence from our analysis further strengthens the rationale for employing gender budgeting to formulate inclusive fiscal policy for development.

Introduction

Gender budgeting is an approach to government fiscal policy that seeks to use a country's national and/or local budget(s) as a tool to resolve societal gender inequality and promote inclusive development. Gender budgeting does not involve the creation of separate budgets for men and women. Instead, it involves studying a budget's differing impacts on men and women so as to set new allocations and revenue policies to promote greater efficiency and equity as regards gender equality (Chinkin 2001; Stotsky 2016a). Ideally, gender budgeting is an approach to fiscal policies and administration that translates gender-related commitments into fiscal commitments through identified processes, resources, and institutional mechanisms, impacting both the spending and revenue sides of the budget (Chakraborty 2014).

More than 90 governments around the world, a quarter of which are in Asia, are pursuing gender budgeting (Budlender 2015). The literature outlines two overarching primary motivations for gender budgeting: its perceived positive impacts on economic efficiency, growth, and productivity, as well as its positive impacts on equity in terms both of inclusive development and equal realization of human rights. The basic argument underlying both the efficiency/growth motivation and the equity motivation for gender budgeting is that, first, gender budgeting reduces gender inequality, which, second, causes growth, more equitable development of women and society generally, and equal achievement of human rights.

The links in the second part of the argument, between reducing gender inequality and promoting growth and women's advancement, have been explored extensively in the literature. The exact causal relationship between gender inequality and growth is a bit unclear, with evidence at once suggesting that reducing inequality is the precursor to growth, that growth is in fact the precursor to reducing inequality, and even, concerningly, that maintaining inequality can yield growth (Cuberes and Teignier 2014). However, there is certainly strong evidence that gender budgeting can indirectly raise equitable growth through its impact on fiscal policies (Kabeer and Natali 2013; Stotsky 2016b). It is more assuredly found that reducing gender inequality does promote inclusive and equitable development, advancement of women and societies, and achievement of human rights (World Bank 2011).

The link in the first part of the argument, however – that gender budgeting actually reduces gender inequality – has been less clearly affirmed. As Stotsky (2016b) has observed, there have been few efforts to assess the results of gender budgeting in a quantitative manner. Stotsky asks whether the practice of gender budgeting has yielded greater gender equality in school enrollment (as a proxy for gender equality) and increased spending on social services, education, health, welfare, and infrastructure, in Indian states. Yet most other studies evaluating the success of gender budgeting initiatives tend to focus on the success of their *implementation*; that is, whether governments are following the steps of gender budgeting, rather than their *impact* in achieving their goals of equality, growth, inclusive development, and human rights (e.g. Nakray 2009; Mushi and Edward 2010).

This study seeks to extend work begun by Stotsky in India, to evaluate across a data set of Asia-Pacific countries the impact of gender budgeting on gender equality and fiscal spending. We use the Gender Development Index and Gender Inequality Index as proxies for gender equality. We also measure the impact of fiscal spending on gender development on the assumption that higher spending in these areas yields better outcomes for inclusive development (Lahiri et al. 2002). We show that gender budgeting matters for improving gender development indices.

In addition to the core analysis on the impact of gender budgeting on gender equality and fiscal spending in Asian countries, we also briefly observe differences between the covered countries in terms both of the formality of their approach to gender budgeting, and their legal climate as regards gender equality more broadly. Gender budgeting may be undertaken at an impermanent policy level, or it may be formalized into the budget process through incorporation into budget circulars and gender budgeting statements, or even into law. This study notes differences in the degree or method of formalization of the gender budgeting initiative in each country studied. The authors are preparing further study on whether formalization of budgeting, and in what form, is linked to better outcomes in equality and spending. This study similarly identifies in the Appendix key economic and social laws advancing gender equality that have, or have not, been enacted across the countries studied. The authors' future study will additionally explore what, if any, the nexus is between these laws and gender budgeting, to elucidate whether, how, and why a country's legal climate for gender equality impacts its decision to pursue gender budgeting, its gender budgeting implementation method, and the results of its gender budgeting program.

The remainder of the paper is organized in the following manner. Section II surveys literature exploring the relationship between gender inequality and a) efficiency, productivity, and growth, b) equity in terms of inclusive development, and c) equity in terms of equal realization of human rights. This section also surveys literature on public fiscal policies, and assesses gaps in the literature evaluating the link between gender budgeting and outcomes in equality and spending. Section III provides an overview of which Asian countries are pursuing gender budgeting, and through what means. Section IV identifies additional considerations on the method of formalization of gender budgeting, and the broader gender legal climate, in the studied countries. Section V discusses the empirical approach and provides our econometric model and results. Section VI analyses the results across gender budgeting and non-gender budgeting countries. And Section VII offers concluding remarks and implications for policy on gender budgeting.

Literature review

Gender inequality's impact on efficiency and equity

Our analysis of the effectiveness of gender budgeting in Asia begins with a survey of the literature outlining what, exactly, gender budgeting is meant to achieve. Scholars and governments alike typically name two overarching primary motivations for gender budgeting: its perceived positive impacts on economic efficiency, growth, and productivity, as well as its positive impacts on equity in terms both of inclusive development and equal realization of human rights. The arguments encouraging gender budgeting tend to proceed in two-steps: first, that gender budgeting reduces gender inequality; and second, that reduction in gender inequality in turn leads to positive outcomes in efficiency and equity.

Gender inequality and economic growth

One primary motivation for gender budgeting is its perceived impact on growth. Growth is often cited as an outcome of reducing gender inequality, which serves to close inefficient gender gaps in workforce participation, education, and health (Hill and King 1995; Dollar and Gatti 1999; Klasen 2002; Knowles et al. 2002; Esteve-Volart 2004; Berik et al. 2009). However, as many scholars point out, pinning the direction of causality between growth and reduction of gender inequality is tricky, and indeed inequality itself (and not its reduction) has been found to cause growth (Cuberes and Teignier 2014; Stotsky 2016b).

The International Monetary Fund (IMF) (2015) asserts that fiscal reform policies influence growth by increasing workforce participation, encouraging personal and state investment, strengthening human capital, and raising total factor productivity. Papers arguing that reducing gender inequality sparks growth typically centre on the first three IMF growth factors. Discussing labour force participation, for example, Aguirre et al. (2012) posit that raising female labour force participation to match country-specific male levels could raise GDP by percentage points ranging from 5 percent in the United States to 34 percent in Egypt. Cuberes and Teignier (2012) suggest that GDP per capita losses resulting from gender gaps in the labour market may be as high as 27 percent for some regions. The World Bank (2011) posits that "[s]pecifically in countries with a comparative advantage in female goods, gender differences in access to market work and persistent employment segregation by gender could severely undermine the country's capacity to compete internationally and ultimately hamper economic growth" (264). Considering the second factor of personal investment, ensuring women equal property rights, for example, is seen as an important tool to help women receive credit to fund new small businesses (World Bank 2011). Strengthening women's property rights can also increase households' agricultural production through causing more efficient sharing of resources between men to women (Udry 1996). Finally, considering the factor of human capital, Klasen (1999) argues that a failure to provide women equal access to education and to utilize their talents equally is a form of market distortion or restriction on the human capital productivity of an economy. Kabeer and Natali (2013) also note that the demonstrated propensity of women to invest more, comparative to men, in the human capital of their children has a long-term positive impact on growth.

But Bandiera and Natraj (2013) assert that the empirical research has yet to identify the causal link from inequality to growth, and Cuberes and Teignier (2014) survey theoretical and empirical studies that assert a causal chain going either one way, or the other way, or indeed both ways between gender inequality and growth. Indeed, Berik (2009, 13) says the "contradictory" evidence gives "rise to an important debate on whether the net effect of gender inequality is a stimulus or a drag on growth." For example, research by Seguino (2008) in semi-industrialized nations has shown that women's comparatively low wages in low-skilled export industries such as textiles have been a leading factor in helping governments attract foreign direct investment and build their export economy. This inequality has been an impetus for trade and growth. Berik (2009) also observes that women's seasonal and daily wage labour in agricultural industries has in some economies helped keep food production costs low and exports high, to positively impact GDP.

What seems most likely is that the causality does in fact run in both directions, yielding the practical wisdom that it is worth pursuing efforts geared towards *both* growth and inequality reduction. To the extent that *in*equality itself yields growth, that is a reminder to policy makers that there are other reasons than growth, namely equity, to pursue inequality reduction.

Gender inequality and equitable development

A second primary motivation for gender budgeting is its perceived potential to promote equitable development, distinct from economic growth. There are two facets to this motivation: at a basic level, since women and girls tend to suffer greater disadvantage across a range of social and economic indicators, therefore alleviating these development disparities through gender budgeting programmes is a valid development end in itself. Secondly, policy makers and academics have long highlighted the value of gender equality as a precursor to, or tool for promoting, economic development more broadly (World Bank 2011).

Women and girls face significant social and economic disadvantage vis-à-vis men and boys, including higher mortality rates than men in low- and middle-income countries, segregation into lower-paid and lower-skilled employment sectors, greater responsibilities in the care economy, lower levels of education, political participation, land ownership, and credit, and less power in household as well as community and national decision-making (World Bank 2011). Recognizing these gendered development disparities, the international community has, in 2000 with the adoption of the Millennium Development Goals (MDGs) and again in 2015 with the adoption of the Sustainable Development Goals (SDGs), identified promotion of gender equality and empowerment of women and girls as a development goal in and of itself. Literature on gender budgeting often posits advancement of gender equality and women's and girl's development as a motivation for gender budgeting (Sharp and Elson 2008; Stotsky 2016a). Moreover, governments adopting gender budgeting also highlight amelioration of gender disparities and empowerment of women as the key motivation. For example, in Asia, the Indian, South Korean, and Afghan gender budgeting initiatives all posit women's advancement as the motivator for their programmes (Chakraborty 2016; Kolovich and Shibuya 2016).

In addition to pursuing gender equality and development of women and girls for their own sake, these goals are also discussed as a means to development overall (Stotsky 2016a). In 2005, the UN Department of Economic and Social Affairs called gender equality and women's empowerment a "prerequisite" to achieving the other MDGs (United Nations 2005, 14), and in 2011, the World Bank asserted that "[g]ender equality matters also as an instrument for development" (World Bank 2011, 3). As discussed under the section on growth, a primary aspect of this argument is that development of women yields both immediate and long-term benefits for their children and for society. The World Bank (2011) identifies several studies discussing these linkages. For example, in China, increasing women's income by 10 percent of the average household income correspondingly increased by one percent the survival of girl children and increased years of schooling for girls and boys (Qian 2008). In Pakistan, a study found that children whose mothers attended even one year of school spend, themselves, an hour more studying each day, and have higher test scores (Andrabi et al. 2011). Greater lands rights of mothers in Nepal has been linked to stronger health of children (Allendorf 2007). Greater representation of women in local government in India has yielded increased provision of public goods desired by both men and women (Chattopadhyay et al. 2004). And in India and Nepal, giving women a greater role in management of forests has led to significantly stronger conservation results (Agarwal 2010a; Agarwal 2010b). To the extent then that gender budgeting promotes women's advancement, it is argued to have a second trickle-down effect in advancing children, households, and society at large.

Gender inequality and human rights

The third primary motivation for gender budgeting, also grounded in equity, is the achievement of women's equality and human rights. Scholars of gender budgeting argue that gender budgeting advances human rights in a few ways. First, the act of gender budgeting helps governments fulfil their international legal obligations to seek sex equality and equal realization of human rights within their states. Second, by helping states promote women's development and equal rights, gender budgeting can help women actually achieve those rights. And third, the process of gender budgeting, including the collection and evaluation of sex-disaggregated social and economic data and the study of challenges facing women, can encourage countries to promote the rights of women through new internal laws.

Several international human rights conventions establish equality between men and women including with respect to the enjoyment of numerous human rights. The International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR), which both entered into force in 1976, assert the right of men and women to benefit equally from the civil, political, economic, social, and cultural human rights outlined in the conventions. In 1979, the United Nations General Assembly adopted the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), which focuses specifically on ensuring equal human rights for women and relies on the first two conventions for its definitions of basic human rights.

Elson (2006) has taken the lead in demonstrating how gender budgeting can help governments meet their treaty obligations to ensure gender equality. Elson provides a helpful overview of how human rights are relevant to budgets, focusing on CEDAW. She notes that CEDAW does not include provisions on budgeting, but does require states-party to the convention to ensure equal rights (including both political and economic/social rights) for women. Key principles championed by CEDAW and highlighted by Elson are formal and substantive equality between men and women, non-discrimination against women, equal right of women to participation in public and political life, and modification of social and cultural patterns of conduct to eliminate discrimination against women. By pursuing gender budgeting to rectify inequality between the sexes particularly under the government's own fiscal policy, governments can turn their legal obligations into practical action.

By the same token, gender budgeting employed by a government can help women actually achieve their internationally recognized human rights. Human rights in the ICESCR are particularly relevant for gender budgeting, including the rights to work, to just and fair conditions of work especially for women, to social security, to an adequate standard of living including food, clothing and housing, to the highest attainable standard of physical and mental health, and to education. As Elson (2006) notes, the budget regulates programmes related to all of these rights, and thus can have direct bearing on women's ability to achieve these rights equally to men.

Finally, the process of gender budgeting, as an element of gender mainstreaming, can have the positive externality of encouraging passage of domestic laws creating or enforcing rights for women. One base element of gender budgeting is the collection of sex-disaggregated statistics, and several countries have begun their gender budgeting efforts with a mandate for greater disaggregation of sector-specific statistics (Chakraborty 2016; Kolovich and Shubuya 2016). This sex-disaggregated data can be used to justify passage of laws addressing gender disparities, such as laws promoting women's health and safety, access to education, equal rights to work, etc.

Gender budgeting and gender inequality

The literature surveyed above links gender inequality to arguments of efficiency and equity. It is still necessary to link gender budgeting to reduction in gender inequality. As Stotsky (2016b) and Chakraborty (2016) observe, further research is needed to test empirically this first link in the chain. Some analysis has been done of gender budgeting's tangible impact on gender equality. For example, Chakraborty (2016) observes that the Indian government decided to transition from a method of earmarking funds for women to a more macro level of gender budgeting, because it found that the earmark approach did not in fact result in the full amount of funds earmarked reaching women. In the same study, Chakraborty also notes that provision of sex-disaggregated data in Pakistan has helped to increase hiring of women in the government sector, decrease the gender wage gap, and spearhead public funding of day care centres to lighten women's home care responsibilities. Stotsky (2016b) analysed whether the practice of gender budgeting has yielded greater gender equality in school enrollment (as a proxy for gender equality) and increased spending on social services, education, health, welfare, and infrastructure, in Indian states. She finds that gender equality in school enrollment at least at the primary level is improved significantly in Indian states practicing gender budgeting, while impact on spending is more ambiguous, with greatest evidence of impact appearing in connection with infrastructure spending.

Nevertheless, the majority of studies evaluating the success of gender budgeting initiatives tend to focus on the success of their implementation; that is, whether governments are holding internal trainings on gender, undertaking analyses of the gendered impacts of the budget, seeking and analysing sex disaggregated data, and designing programmes and setting targets based on gender (e.g. Nakray 2009, evaluating whether gender budgeting works in India by assessing its implementation; Mushi and Edward 2010, judging the success of gender budgeting initiatives in Tanzania by studying the success of programmatic implementation). Further study is needed to discern whether successful implementation of such programmes helps countries achieve equality.

Public spending and inclusive development

In addition to exploring the impact of gender budgeting on achieving gender equality, this paper also seeks to evaluate the impact of gender budgeting on spending, which is expected to produce better outcomes for inclusive development (Stotsky 2016b). Lahiri et al. (2002), using a fixed effects model of pooled least squares for the early 1990s, found that a one percent increase in spending on health and education resulted in a 0.33 percentage increase in the UNDP's Human Development Index and only a 0.06 increase in the Gender Development Index for a period between 1993-05. This demonstrates that public expenditure on human capital formation positively impacts gender development indicators. It is important to note that the effectiveness of public expenditures on health and education may vary across regions according to asymmetric scales of socioeconomic development (Chakraborty 2016). This paper seeks to shed light on the nexus between spending and equitable development.

Overview of gender budgeting and its formalization in Asia-Pacific countries

More than a quarter of the 90-odd countries pursuing gender budgeting are located in the Asia Pacific (Budlender 2015). Chakraborty in 2016 conducted a survey of 26 Asian countries' activities in gender budgeting, finding that many (including Brunei, China, Hong Kong, Japan, Myanmar, New Zealand, Papua New Guinea, Singapore, and Taiwan) have not implemented gender budgeting. Among Asian countries that are pursing gender responsive budgeting, several are doing so by use of a budget circular: Afghanistan, Bangladesh, Bhutan, India, Indonesia, Malaysia, Nepal, and Pakistan.[1] Korea, the Philippines, Timor Leste, Vietnam, the Lao People's Democratic Republic, and Mongolia have embodied gender budgeting in law. Cambodia and Sri Lanka are pursing gender budgeting but have not incorporated the initiative into a budget circular document or law.

Elements of the budget adaptable through gender budgeting

A typical budget may be composed of three primary elements – expenditures, revenues, and intergovernmental fiscal transfers – all three of which may be adapted through gender budgeting to advance gender equality. Government expenditures comprise the regular fiscal allocations for various departments and programmes. When public expenditures are designed according to gender priorities, they are often grouped by the percentage of the expenditure that will impact women. When measuring expenditures through a gender lens it is especially critical to consider "fiscal marksmanship," or the difference between the authorized and actually allocated funds (Chakraborty 2016). Although government revenues have received less focus than expenditures as a means to advance gender equality goals, tax policies also can and should be designed with gendered priorities (Stotsky 2016a). Too lenient concessions to high-earning individuals or corporations, taxation of certain household necessities, and ensuring payment of certain tax credits to caregivers as opposed to the primary earner have all been shown to negatively or positive impact women (Elson 2006; Sharp and Elson 2008; St. Hill 2002). Finally, intergovernmental fiscal transfers from the national government to lower-tier governments can also be modified to achieve gender-based priorities under a gender budgeting regime. Anand and Chakraborty (2016), for example, observing that climate change variables were factored into transfer formulas in India, have suggested that transfer formulas could similarly be based upon gender-related indicators, such as to reward lower-tier governments for success in promoting gender parity in education enrollment.

Formalizing gender budgeting: budget call circulars, budget statements, and budget laws

Gender budgeting is most effective when it involves changes to both policy-making processes – such as determining budgeting allocations and designing programmes – and administrative systems – such as tracking expenditures and monitoring programme outcomes (Stotsky 2016a). Changes may be made at a policy level through executive branch decision-making, and/or formalized in budget circulars, the national budget law, or a separate law on gender budgeting.

Almost all countries use a budget call circular or equivalent document that serves as an official notice from the finance ministry instructing government agencies how to submit their annual budget bids (Budlender 2015). The budget circular may set the annual ceiling for each agency, identify priorities, and/or provide templates on how each ministry should submit its allocation bid. Some budget circulars are internal government documents, while others are open to the

[1] Australia was the first country to create gender budgeting statements, but because it ceased doing so in 2014, this study does not include it as a country having formalized gender budgeting in a budget circular.

public. In practice, the form of budget circulars varies widely across countries. Critically, budget circulars may be used to set gender-related priority requirements or seek sex-disaggregated data from each ministry. A budget circular may also require each covered agency to submit a gender budget statement, most often a document showing what each agency is doing with respect to gender equality. Such gender budget statements tend to be most used as accountability tools, although this is not the case in certain countries highlighted below. A gender budgeting statement tends to look backwards at what an agency has done; it therefore does not form part of the current years' policy prioritization and allocation determination. Budlender (2016) observes, however, that not all circulars require attention to gendered impacts, and similarly not all countries that incorporate gender into their budget circular require gender budget statements. Formalization of the gender budgeting initiative through budget circular has been termed gender budgeting by "fiscal fiat" (Chakraborty 2016).

Analysis of countries that have formalized gender budgeting through budget circulars[2]

i. Afghanistan

Afghanistan's gender budgeting initiative was launched in 2005 through support of international entities (Kolovich and Shibuya 2016). The 2005 National Action Plan for Women in Afghanistan encouraged all ministries to spend at least 30 percent of their development and operations allocation on women's advancement programs. Additionally, in 2007 a Gender Budgeting Working Group was established in the Ministry of Finance, and the Ministry committed to spend a small sum ($5 million USD) on pressing gender needs not otherwise covered by the budget. The pilot programme initially began with training programmes on gender-sensitive budgeting, targeted particularly to the ministries of Education, Public Health, Higher Education, Agriculture, Irrigation, and Livestock, Rural Rehabilitation and Development, and Women's Affairs.

In 2010, the National Budget incorporated gender budgeting directly, asserting the government was "firmly committed to equitable distribution of the benefits of national development among men and women" and clarifying that gender-related goals are to be accomplished through the gender budgeting initiative. Afghanistan's gender budgeting initiative has focused on improving gender-related data collection, such as on the ration of girls to boys at all levels of education and the share of women in wage employment outside of the agriculture sector. It has also sought increased hiring of women in the target ministries, though it is not clear whether these goals are tracked or enforced. The 2015 national budget calls for monitoring and assessment of the impacts of the gender budgeting initiative.

ii. Bangladesh

[2] Where not otherwise indicated, data is drawn from Budlender, 2015.

Bangladesh's methodology, which has been supported by UN Women, has evolved over time. Bangladesh incorporates gender into its annual Budget Call Circular-1 by mandating that all ministries and subdivisions address both the poverty reduction and "women's advancement" impacts of their policy goals, projects, and programmes. The circular includes several forms the reporting ministry must fill out, one of which asks the ministry to identify what proportion of the allocation of each project or programme will directly benefit poor people and, separately, women. The budget circular provides ministries instructions on how to assess and assign a percentage for the gender impact of each project or programme, by evaluating it according to fourteen "standards." These standards address a range of topics on women from access to public property and services, to access to education and training, to reduced violence and oppression. The circular also requires important performance indicators to be sex-disaggregated wherever possible. All of the 56 ministries' reports are available on the Ministry of Finance's website, and the Ministry of Finance has also incorporated the report data from 40 ministries into a table on "Women's Advancement and Rights." As of 2014, the table has been accompanied by an overarching review of the ministries' efforts regarding women's advancement, which may be considered as a form of gender budget statement.

iii. Bhutan

Bhutan's gender budgeting initiative is comparatively nascent, and though it has been incorporated into a budget circular, the circular provides few details or requirements in respect of gender budgeting. Bhutan's 2014/15 budget circular mentioned that budgetary agencies are required to ensure their proposals are "gender responsive" when generating their budget proposals, but did not provide clear guidance on what "gender responsive" means or how it should be accomplished. Bhutan's 2015/16, and also 2017-18 budget circulars require the ministries of Agriculture and Forests, Education, and Health to provide a narrative policy statement accompanying their proposals, outlining how the policies and key result areas contribute to gender-related goals (providing physical and financial data if available), listing key issues to be addressed to advance gender equality, and identifying a few relevant interventions or activities.

iv. India

In 2004, the Indian Ministry of Finance mandated the creation of gender budgeting cells in all ministries and departments, and by 2013 more than half of all ministries had established such cells. Since 2005/06, the Ministry has published an annual gender budget statement. The statement presents in two tables allocations considered to benefit women: table A identifies programmes for which 100 percent of the allocation targets women or girls, and table B identifies programmes for which at least 30 percent of the beneficiaries are expected to be women. India's annual budget call circular provides instructions for how ministries and departments are to identify which of their programmes should be recorded in these tables. The tabular structure has received some criticism, particularly that programmes reported in table A are not always clearly targeted solely to women, that agencies are not required to explain how the percentages are estimated nor report on the actual beneficiaries, and that allocations identified as targeting women in either table do not necessarily promote women's *empowerment*, and may in fact perpetuate gender stereotypes or gendered disadvantages.

v. Indonesia

In 2008, the Ministry of Finance of Indonesia passed a decree establishing a framework for gender budgeting within the central government (Chakraborty 2016). This was followed in 2009 by promulgating the first of ongoing "annual regulations," with are similar to budget circulars, calling for introduction of gender responsive budgeting analysis into the budgeting process. In 2010, the first gender budget statement was introduced, and the 2012 budget circular required central ministries to submit for that, and future, years a gender budget statement to several organizing ministries for their monitoring and evaluation. A drawback of the Indonesian budget circulars is that they are internal documents, and thus generate no public accountability.

vi. Malaysia

In the early 2000s, Malaysia piloted a gender budgeting statement. The statement largely followed the format used for ministries to report on other development programmes in the country, and the only reporting item altered to reflect gender was the item on "output specification," which required additional analysis of "equity." Because these gender budget statements were not made public, however, they could not serve to induce gender-oriented accountability within ministries. Malaysia no longer appears to be undertaking gender budgeting at central level.

vii. Nepal

In 2005 the Nepal Ministry of Finance established a Gender Responsive Budget Committee within the Ministry and also made gender budgeting mandatory for all national ministries beginning in year 2007/08. Nepal's budget call circulars integrated gender responsive budgeting requirements as a component (UN Women 2012). The guidelines, which have evolved over time, require that all line ministries, departments, and project and programme units across the levels of government grade their allocation requests according to five criteria: (a) women's participation in programme formulation and implementation; (b) benefit accruing to women; (c) capacity building of women; (d) contribution to women's employment or income generation; and (e) reduction in women's work load and qualitative improvement in time use (Budlender 2015). The planning unit within each ministry gives each programme a score between 1 and 20 for each of the five criteria. If the sum score is 50 or higher, the programme is considered "directly responsive to gender;" if between 20 and 49, then the programme is considered "indirectly responsive to gender;" and all lower scores render the programme "gender neutral." To assist the scoring, the government has developed a framework of generic indicators as well as a scoring manual. Nepal has also implemented a policy initiative to allocate a minimum of 10 percent of the budget of local bodies participating in a Target Group Development Program towards programs for women (UN ESCAP 2017, Nepal PowerPoint). Nepal has established a gender focal point within each sectoral or line ministry.

viii. Pakistan

Pakistan's Gender Resource Budgeting Initiative began in the federal government and Punjab province in 2005. The initiative was incorporated into the annual budget call circulars, in which instructions for ministries on how to fill out their budget request forms call for indicators, measures, and targets to reflect gender. The instructions suggest that gender may be reflected either through provision of sex-disaggregated data, or through choosing indicators that are relevant to an issue related to gender. Pakistan's gender budgeting initiative also required certain "pilot" ministries – Health, Education, and Population and Welfare – to submit gender budget statements identifying sub-programmes on the basis of the size of the allocation and the relative importance of the programme as regards achievements and obstacles pertaining to gender.

Analysis of countries that have formalized gender budgeting through law

As an alternative to "fiscal fiat" formalization of gender budgeting in budget circulars, gender budgeting may also be formalized in law as "legal fiat" (Chakraborty 2016). A gender budgeting initiative may be formalized in law either directly into a broad-based financial or budgeting act, or in independent legislation focused specifically on gender budgeting or gender mainstreaming.[3]

i. Korea

The Korean gender budgeting initiative, which has been quite substantive, was begun in the early 2000s through the advocacy of a couple women's organizations. In contrast to the other national initiatives described above, Korea's gender budgeting effort was formalized at the very outset in law: in 2006, the Korean National Assembly passed the National Finance Act, which addressed requirements on gender budgeting in several provisions. Of note, the Act required the government to analyse the impact of public expenditures on the sexes and use such analysis to shape budgetary allocations. The law also required all ministries to submit, starting in 2010, a gender budget statement and balance sheet to the National Assembly. The law also required the government to publish a master balance sheet and report determining whether the budget equally benefits men and women with the goal of mitigating gender discrimination.

[3] Formalizing gender budgeting through law most typically occurs through legislation. However, in countries following the British common law tradition, law is also created through the court system, where court rulings may find and develop legal rules or obligations that become binding on entities under a court's authority. Courts typically cannot find policy-esque rules (such as a rule that the executive must pursue gender budgeting) if such an obligation has not already been legislated. Nor do courts typically develop complex, legislation-like policy requirements in their rulings. One potential exception to these norms is India, where the Indian constitution enables the Apex and High courts to hear direct claims from citizens pursuing enforcement of their constitutional rights, such as to equality and non-discrimination (Indian Constitution Art. 32). The Indian Apex court has issued quasi-legislative rulings binding on the executive branch in response to gender rights public interest litigations (*Vishaka* judgement).

The budget guidelines for 2006/07 required each ministry both to report on allocations seeking to advance gender equality and to monitor the effect that standard programmes have on gender equality. These statements were to be included in an existing national database repository for budget allocations, execution, evaluation, and management. From 2006 to 2010, the government piloted the gender budgeting statement initiative with sixteen departments; the government also established a government-funded research institute to support the pilot phase. The research institute undertook significant consultations, including taking overseas field trips and running a Gender Budget Forum to seek input from stakeholders in- and outside government to inform the development of the gender budget statements (Chakraborty 2016). The institute designed a gender budget statement to provide details on two types of projects: those targeted at women or promoting gender equality within the government, and regular expenditures subjected to a gender impact assessment.

ii. The Philippines

The Philippine gender budgeting initiative, like the Korean one, also was formalized very early on through law. In the early 1990s, the government began to develop a Philippines Gender and Development (GAD) policy that would be applicable to all government agencies. In 1994, a grouping of government and government-affiliated entities devised a framework and procedure for a budget for the GAD. By 1995, the GAD budget was formalized in law as part of the General Appropriations Act. The Act mandated that each government agency allocate at least five percent of its budget for the GAD. The Act divided agencies into two types: agencies within economic and social sectors subject to stricter requirements under the law, and agencies focused on public works, transport, and infrastructure facing more lenient requirements.

Over the years since passage of the Act, the GAD initiative, including its budgetary component, has been strengthened through periodic clarifications of gender mainstreaming methods and requirements on reporting. In 2001, an annual GAD Accomplishment Report was initiated to require reporting on GAD activities completed in the previous year. In 2009 the Philippines Commission on Audit issued a memorandum of guidance on how to implement GAD funding and activities. In 2012, additional guidance on the GAD budget was issued by the Department of Budget and Management in a budget circular. The circular requires that GAD Planning be incorporated into the agency's regular activities, taking up at least five percent of the agency's base budget. The circular encourages agencies to focus, where such programmes are weak inside the agency, on internal agency capacity building regarding gender issues, audit of gender programs, and collection of sex-disaggregated data. The circular also identifies the Harmonized Gender and Development Guidelines as a tool to help agencies score, between zero and 20, the gender impact of their programmes. Under these Guidelines, programmes that score between 4 and 7.9 may (conditionally) receive 25 percent of their budgeting from the GAD portion of the budget. Two GAD planning annexes provide guidance on implementing GAD programming, and a women-centred commission provides technical assistance to help agencies correctly determine what types of programmes may fairly benefit from the GAD budget. Through the GAD, gender-based analysis has been undertaken for expenditures in the education, health, environment, social welfare and protection, peace, and security sectors.

iii. Timor Leste

Timor Leste began planning its gender budgeting initiative in 2003 by undertaking trainings for gender focal points and senior staff within the Ministry of Finance (UN ESCAP 2017, Timor Leste PowerPoint). From 2008-10, the Ministry of Finance published an annual gender budgeting statement in the State budget document that identified gender mainstreaming in budgeting as a key mid- and long-term goal. In 2010, Parliamentary Resolution 12/2010 was adopted establishing a framework for gender budgeting and setting out the responsibilities for the parliament, government, civil society, and donors in implementing the initiative. Then for the first time in 2013, the budget preparation circular addressed gender budgeting, requiring state organs, ministries, and agencies to following gender-related guidelines in their budget preparation. Since 2013, the government has worked to develop sectoral guidelines and gender-sensitive indicators, as well as analyse gender policies in annual reports and run trainings for line ministries.

iv. Vietnam

Vietnam is among countries which have more recently incorporated gender budgeting into law (UN ESCAP 2017, Vietnam PowerPoint): in 2015, Vietnam's Law on State Budget listed expenditures achieving gender equality objectives among other prioritized expenditures, and also listed gender equality as one of five bases (along with socio-economic development, national defence, security, and diplomatic objectives) for making annual state budget estimates. Older laws in Vietnam also address gender in aspects of fiscal policy, such as the Labour Code of 1994 which encourages tax reductions for enterprises employing a high number of female workers. Nevertheless, it appears the government has taken few steps to actually implement gender budgeting, indicating it still requires a clear definition for the term and a guide for implementation.

v. *Lao PDR*

The Lao People's Democratic Republic launched its gender budgeting initiative in December 2015 when the National Assembly passed a new revised state budget law that included gender sensitive budgeting (UN ESCAP 2017, Lao PowerPoint). Passage of the law was followed a national workshop on gender budgeting, and formulation by the National Commission for the Advancement of Women and Mother-Child of strategies, a vision, and a plan of action on gender equality. The government has yet to produce guidelines for implementing the state budget law, and also needs to improve funding and human resources for implementing the gender budgeting initiative. Key priorities moving forward include improving collection of gender statistics and analysis, and monitoring and evaluation of programme implementation.

vi. Mongolia

In the early 2000s, the Mongolian government adopted a 2003-2015 National Program for Gender Equality designed to launch a gender mainstreaming programme (Costa and Sharp 2010). That gender mainstreaming programme was intended to include a gender budgeting initiative, commencing with collection of sex-disaggregated data (Costa and Sharp 2010). In 2011, the Parliament of Mongolia passed a Law on the Promotion of Gender Equality, which did call on the state to ensure accessibility of sex disaggregated data and also assigned to the Cabinet a mandate to "introduce a gender sensitive budgeting system" (Law of Mongolia on the Enforcement of the Law on Promotion of Gender Equality 2011).

Despite the law's existence, however, Begzsuren and Aldar found in 2014 that no gender budgeting system had yet been implemented, and also that while sex-disaggregated data were collected and reported by the national statistical office, policymakers were making inadequate use of such data in policy planning and service provision. In 2013, the Mongolian government adopted a Mid-term Strategy and Action Plan for Implementation of the Law of Mongolia on Promotion of Gender Equality, one objective of which was to introduce, by 2016, gender-sensitive budgeting methodologies in both national and local budgeting (Begzsuren and Aldar 2014).

Analysis of countries that have not formalized gender budgeting in budget circular or law

i. Cambodia

Cambodia's gender budgeting efforts began very recently as part of a broader public financial management reform programme (UN ESCAP 2017, Cambodia PowerPoint). In September 2016, the government held a national workshop on gender responsive budgeting. The government also held a technical workshop on both gender and finance issues with the Ministry of Economics and Finance, and established a core group comprised of key ministries and gender experts to develop skills in gender budgeting. The government intends to implement gender budgeting through its budget circular, seeking gender budget statements. It also intends to incorporate gender budgeting into its financial management information system, and collect further sex-disaggregated data. Based on its presentation at a 2017 Regional Forum on Gender-responsive Budgeting in Asia and the Pacific, the government appears to be in a stage of raising awareness and capacity around its future goals of gender budgeting (UN ESCAP 2017, Cambodia PowerPoint).

ii. Sri Lanka

Sri Lanka began gender budgeting as part of a Commonwealth gender budgeting pilot project in 1997, which focused on spending in health, education, the public sector, employment, agriculture, industry, and social services (Chakraborty 2016). In 2003, the national budget referred to women's development and established procedures for women to acquire credit for small businesses. That year, a report by the Department of National Planning found while there was no need for increased funding for women, redesign of existing programmes would better support women's advancement. In 2004, the national budget statement required all ministries to designate 10 percent of their budgets to advancing women.

Although Sri Lanka's gender budgeting effort appeared to terminate (Chakraborty 2016), the country did present details on its gender policies at a 2017 Regional Forum on Gender-responsive Budgeting in Asia and the Pacific. Sri Lanka's presentation asserts that in March 2016, the Cabinet Ministers mandated, in a cabinet memorandum, that at least 25 percent of the budget for rural economic development be allocated to development projects for women (UN ESCAP 2017, Sri Lanka PowerPoint). Projects should cover initiatives such as introducing new employment opportunities for women, expanding market access for women's products, minimizing violence and discrimination against women, and promoting women's resource ownership and saving and investment potential. The memorandum specified the ministries that would be required to allocate 25 percent of their development project funding for women, and asserted that the Provincial Chief Secretary and District Secretary should monitor the creation and implementation of a Provisional Women's Economic Development Plan to support the memorandum's policy goals.

Additional considerations on legal formalization and legal climate

Additional considerations on legal formalization

The research question in this paper compares outcomes between countries employing or not employing gender budgeting, without distinction as to whether and how gender budgeting initiatives are formalized in each country. We have noted, however, differences in the approach to gender budgeting – mere policy approach, or fiscal fiat, or legal fiat – taken by these countries. The 2016 UN Women review of budget circulars found little positive or negative evidence that "engendered" budget circulars had effected changes in the allocations and expenditures of those countries budgets, or achieved a difference in the lives of women and girls (Budlender 2015). However, that review focused specifically on those countries definitely engendering their budget circulars. Future broader comparative analysis may indicate that *vis-à-vis* countries not utilizing circulars at all for their gender budgeting initiative, countries with pursuing gender budgeting by fiscal fiat may achieve better outcomes. We do not make this claim in the paper, but note that further research into the potential benefits of formalization of gender budgeting is underway.

This paper also has not sought to assess whether countries like Korea and the Philippines, which go an arguable step further to cement their gender initiative by legal fiat, are yet more successful. At a theoretical level, a legislated gender budgeting initiative evidences buy-in from the legislative branch, which may suggest that a more participative and democratic process has been undertaken to generate the gender budgeting initiative. An initiative having broader-based popular support may be more successful and enduring. Additionally, in non-parliamentary democracies where the party of the legislature may differ from the party of the executive, a gender budgeting initiative formalized in legislation may be more immune to shifts in political power and thus more difficult to reverse. Yet counter-arguments also exist. Clearly not all legislation has public buy-in: legislation may be passed for all sorts of political reasons including to appease foreign donors. Where actual popular support is lacking, legislation may prove very weak. Further, if gender budgeting legislation is passed without strong support of the implementing ministries, its chances of success are practically low. Moreover, legislation without adequate funding and enforcement will be ineffectual regardless of its popular support. As described above, Mongolia is an example of a country whose law on gender budgeting has, for unexplored reasons, gone unimplemented for over five years. Again, we would note only that a future study could drill more usefully into the comparative benefits of fiscal or legal fiat. Given the low numbers of countries globally that have pursued gender budgeting through law, such a study might need to cross a wider geographic range than the Asia-Pacific alone, and must control for other variables bearing on the success or not of legislative initiatives.

Additional considerations on legal climate

In addition to or instead of gender budgeting, many countries drive for gender equity and women's advancement through constitutional provisions and laws. For example, countries may include a non-discrimination and/or an equal rights provision in their constitution. They may also pass legislation to address discrimination or violence against women in both economic and social settings, such as legislation requiring equal remuneration for equal work, setting quotas for women on company boards, invalidating child marriage, or ensuring equal property and inheritance rights. Countries may also ratify international conventions with bearing on gender equality issues, such as the conventions of the International Labour Organization on equal remuneration and non-discrimination in the workplace.

Tables A1 and A2 in the Appendix of this paper identify legal enactments in each of the studied countries that may be relevant, in future study, to understanding country conditions that lead to success in gender budgeting. Table A1 identifies key economic legal enactments, social legal enactments, and international commitments made by the covered countries, and identifies whether the countries have pursued gender budgeting through legal fiat, fiscal fiat, or neither. "Economic enactments" include, for example, whether the country has a law mandating pay for equal work, or a law setting a quota for representation of women on corporate boards. "Social enactments" include whether the country has a law prohibiting or invalidating child or early marriage, or a quota for women's participation in parliament or local government. The international commitments identified focus on ratification of certain ILO conventions related to women in the workforce. Table A2 regroups these same enactments according to whether they promote equal working conditions for women, support for women's dual reproductive (care economy) and productive responsibilities, or support women's economic advancement in society. By tracking these enactments across the countries studied, these tables help illustrate legal climate regarding gender equality in these countries that may correlate with their gender budgeting approaches or outcomes.

For some of the reasons outlined above in this section, it is difficult to use countries' legal climate on gender equality to meaningful evaluate their *actual* success in promoting gender equality. A range of factors can cause legislation to be enacted: a groundswell of popular support; the forward-thinking of politicians; leadership in the executive branch; encouragement from civil society; or international pressure. A combination of these factors may be at play in any particular case. Additionally, a range of factors impact whether legislation will be implemented once enacted: the legislation's clarity; the level of funding for the legislation; the level of executive branch support; the level of public awareness of the legislation; and the level of popular support, including among enforcement officials such as police officers and regulators. The possible combinations among all these variables are myriad, and yield diverse legislative landscapes and levels of enforcement across different countries and cultures.

Further study to evaluate the relation between such laws and the existence or success of a country's gender budgeting initiative could be enlightening. However, given the complexities of assessing the legal climate of even one country, such analysis is reserved for consideration in a future paper. Instead we have categorized countries according simply to their use of gender budgeting as per the fiscal fiat of budget call circular.

Measuring gender equality, econometric model and results

This section establishes an econometric estimation of the determinants of gender equality, by using the Gender Development Index and Gender Inequality Index as proxies for gender equality. As a precursor to our results, the following sections discuss complexities and challenges in measuring gender sensitive human development, drawing considerably from a similar discussion in Agarwal and Chakraborty (2016).

The Gender Development Index (GDI)

Human development can be understood as a process of enlarging people's choices and raising their level of well-being. The United Nations Development Programme (UNDP) has identified three elements of choice and well-being that are the most socially critical: the ability to lead a long and healthy life; the ability to acquire knowledge and be educated; and the ability to access the resources (often synonymous with income) necessary for a decent level of living (UNDP Human Development Reports, various years). A gender-neutral geometric mean of these three development dimensions was created, called the Human Development Index (HDI).

Later in 1995, the UNDP constructed the Gender Development Index (GDI) as an offshoot from the HDI. The GDI has been used to measure global gender development since then. The GDI uses the same variables as the HDI, but adjusts them according to a country's degree of disparity in achievement across genders. Under the GDI, the average value of each of the component variables is substituted with "equally distributed equivalent achievements". The equally distributed equivalent achievement (X_{ede}) represents the level of achievement that would, if attained equally by women and men, be considered exactly as valuable to society as the actually observed disparate achievements.

Lahiri et al. found in 2003 that taking an additively separable, symmetric, and constant elasticity marginal valuation function with elasticity 2, the equally distributed equivalent achievement X_{ede} for any variable X is the following:

$$X_{ede} = [\, n_f\,(1/X_f) + n_m\,(1/X_m)]^{-1}$$

where X_f and X_m are the values of the variable for females and males, and n_f and n_m are the population shares of females and males. X_{ede} is a 'gender-equity-sensitive indicator'(GESI). Under this calculation, for a chosen value of 2 for constant elasticity marginal valuation function, GDI is computed as follows:

$$GDI = \{L_{ede} + (2/3 \text{ x } A_{ede} + 1/3 \text{ x } E_{ede}) + Y_{ede}\}/3.$$

The Gender Inequality Index (GII)

The Gender Inequality Index (GII) replaced the GDI in 2010, serving as a measure of the disparities between the genders across three dimensions: (i) reproductive health, represented by the maternal mortality ratio (MMR) and the adolescent fertility rate (AFR);[4] (ii) women's empowerment, represented by the proportion of parliamentary seats held by each sex (PR) and the sexes' rates of attainment of secondary education (SE); and (iii) economic activity, represented by the labour market participation rate (LFPR) of men and women in the market economy. The GII shows the loss in development resulting from gender inequality, where a score of 0 represents complete equality and a score of 1 implies complete inequality.

GII is calculated by assessing the geometric mean across the dimensions. Because a mean cannot be calculated for zero values, a minimum of 0.1 percent is set for all "outlying" extreme values. For the MMR, a maximum rate is taken as 1000 deaths per 100,000 births and a minimum rate is taken as 10 per 100,000 births.

To calculate the geometric means for reproductive health, the aggregation formula for men and women must be different. For females (Gf):

$$Gf = \sqrt[3]{\left(\sqrt{\left(\frac{10}{MMR}\cdot\frac{1}{AFR}\right)}\cdot\sqrt{(PRf.SEf)}.LFRPf\right)}$$

[4] Maternal Mortality Rate is defined as the number of female deaths per 100,000 live births annually, from any cause related to, or aggravated by pregnancy or its management. AFR is the number of births per 1000 women aged 15-19.

Rescaling by 0.1 helps quantify the truncation of the maternal mortality ratio minimum at 10.

For males (Gm), the formula is as follows:

$$Gm = \sqrt[3]{\left(1.\sqrt{(PRm.SEm)}.LFRPm\right)}$$

After the geometric mean of the three is calculated, the harmonic mean is used to aggregate across gender. Use of the harmonic mean has been criticised (Hawken and Munck 2012); however, the rationale for its use is that it captures the inequality between women and men and further adjusts for association between dimensions.

The HARM index is as follows:

$$HARM(Gf, Gm) = \left(\frac{((Gf)^{-1} + (Gm)^{-1})}{2}\right)^{-1}$$

Before calculating the final index, a composite index is calculated using the geometric means of the arithmetic means. This ensures equal weight is given to both the genders and then aggregated across the various dimensions, i.e. health, empowerment, and economic activity. The composite index is as follows:

$$G(\overline{f}, \overline{m}) = \sqrt[3]{\left(\overline{Health}.\overline{Empowerment}.\overline{LFPR}\right)}$$

Where

$$\overline{Health} = \frac{\left(\sqrt{\left(\frac{10}{MMR} \cdot \frac{1}{AFR}\right)} + 1\right)}{2}$$

$$\overline{Empowerment} = \frac{\left(\sqrt{(PRf.SEf)} + \sqrt{(PRm.SEm)}\right)}{2}$$

$$\overline{LFPR} = \frac{(LFPRf + LFPRm)}{2}$$

Symbolically, the GII is finally represented as follows:

$$\mathrm{GII} = 1 - \frac{HARM(Gf, Gm)}{G(\overline{f}, \overline{m})}$$

The higher the value of GII, the higher is the corresponding gender gap and loss in potential of human development. By highlighting this gendered loss in development potential, the GII helps identify where gender gaps could productively be closed.

Criticisms of the GII

Although we have used the GII to understand links between gender budgeting and economic growth and public spending on health and education, we feel it important to highlight several conceptual and methodological shortcomings associated with the design of the GII – shortcomings we too criticize.

One of the main drawbacks of using GII is that it merges together in one index on men and women some indicators that are defined only for women: MMR and AFR. Because these numbers do not exist for men, the GII assigns a corresponding value for men of 1, which is far from realistic and leads to overestimation of the gap between women and men's health standards. Further, as Permanyer (2013) notes, an increase in MMR and AFR systematically represents a worsening of gender inequality levels, while on the other hand, decreases in women's education or LFP do not necessarily represent a decline if men's education and LFP decrease by the same amount. Another broader problem with using reproductive health as an indicator is that it does not distinguish, for lower-income countries, between poor reproductive health results that truly derive from gender-related inequalities, and poor health results that derive simply from poverty, or other non-gendered factors.

The GII empowerment variable is also criticized for several reasons. First, it measures only the share of women in national parliaments, not state or local parliaments – or the other branches of government, for that matter. Additionally, alternative measures to PR and SE, such as participation in household decision-making and even exposure to newspapers and television, might be added to the variable to more fully capture the reality of women's empowerment.

A third key criticism of the GII is its measure of labour force participation. The GII's labour force variable measures only participation in the market economy, and thus fails to capture women's labour in housework, childcare, and care of elderly relatives, which economists increasingly understand as having indispensable financial benefit to the entire economy (Bartuskova and Kubelkova 2014). Time use statistics can be used to quantify labour across three market and non-market activity types: Systems of National Accounts (SNA) activities that are included in GDP calculations; extended SNA activities that are not included in GDP but should be included in the satellite accounts; and residual non-SNA activities. Challenges exist in calculating time use statistics, however: it is difficult to get the economic activity in utils (i.e., units utilized) of time, and also to impute the market price or market wages to time (Chakraborty 2014). Indeed, researchers often must use the lowest wage in the wage hierarchy in the market economy to approximate a value for work in the unpaid care economy. At any rate, time use statistics are not incorporated into GII for two reasons. First, the time use survey itself is not conducted at a macro level in many developing countries. Second, empirically, the process of collecting labour force participation statistics still rarely incorporates unpaid care work.

Owing to the importance of unpaid work and the differences in representation of genders in SNA and extended SNA activities, it is desirable to incorporate women's unpaid work into the gender inequality index in some fashion. Incorporation must occur in a manner that recognizes the actual (GDP-boosting) labour of women without equating it to labour in the formal economy in manner that masks the barriers which often prevent women from working in the paid formal economy. A measure of inequality should evaluate differentials in (both) men and women's participation in (both) the care and formal economies.

As for the GII's measurement of health inequality, the Under Five Survival Rate can be useful to capture gender discrimination in access to health care and nutrition between girls and boys. The Under Five Survival Rate is the probability per 1000 that a new born baby will live past the age five. Because women have a biological advantage in longevity, evidence of higher rates of female deaths per thousand live births suggests some sort of gender bias in most countries where it occurs, and therefore the rate is used as a proxy for health in the measurement of inequality.

Despite these limitations of GII, we use these indices to try to understand their links with public spending on health and education, economic growth, and gender budgeting experiences using panel regressions.

Econometric investigation

We use panel data estimations (static models) and Hausman test suggested for random effects. The Hausman test suggests between fixed effects and random effects model based on the null hypothesis that the time invariant part of the error terms are not correlated with the regressors. If the p value is above 0.05, the random effects model provides more efficient estimates.[5]

The econometric models reveal that GDI is positively and significantly linked to gender budgeting and education variables. The coefficients show that female literacy rate increases GDI by 0.004 percentage points while gender budgeting increases GDI by 0.062 percentage points. Economic growth is found insignificant in determining GDI and GII (Table 1). We will rerun the models using dynamic panel estimation, correcting for endogeneity issues.

[5] We performed fixed effects and random effects model. A test of preferring one among these models can be interpreted as a test of over identifying restrictions. Wooldridge (2002) suggest that the fixed effects estimator uses the orthogonality conditions that the regressors are uncorrelated with the idiosyncratic error; $E(X_{it}*e_{it}) = 0$. It is further suggested that the random effects estimator uses the additional orthogonality conditions that the regressors are uncorrelated with the group-specific error u_i (the "random effect"), $E(X_{it}*u_i) = 0$. In other words, these additional orthogonality conditions are over identifying restrictions. The random effects model is re-estimated augmented with additional regressors along with original regressors transformed as deviations from the mean values. While the fixed-effects coefficients are consistent, the random effects coefficient are more efficient. If p-value is greater than 0.05, the random effects estimators are selected.

TABLE 1— DETERMINANTS OF GDI AND GII: RANDOM EFFECT ESTIMATES

Variable	Model I (a) GDI	Model I (b) GDI	Model 2 (a) GII	Model 2 (b) GII
Education Outcomes-	0.0048	0.005	-0.004	-0.001
femLit	(0.0007)	(0.001)	(0.001)	(0.001)
Log of GDP per capita				
Gender budgeting in Call	0.0618*	0.062*	0.021	0.048
Circular	(0.0333)	(0.033)	(0.046)	(0.036)
Log of Public Spending on	0.0199	0.006	0.062	0.006
Health	(0.0281)	(0.006)	(0.036)	(0.023)
_cons.	0.53574	0.544	1.386	1.543
	(0.0891)	(0.089)	(0.113)	(0.088)

Source: (Basic Data), UN Human Development Reports, IMF Gender Database and World Development Indicators

The Dynamic Panel Data methodology by Arellano and Bond (1991) is based on the instrumental variables approach. We can estimate better – more efficient – estimates of the dynamic panel data model by applying an instrumental variable method in a Generalized Method of Moments (GMM) context. As the DPD estimators are instrumental variables methods, it is particularly important to evaluate the Sargan–Hansen test results when they are applied.

The estimates are checked for diagnostics statistics using AR test for autocorrelation of the residuals. In Arenello Bond methodology, the residuals of the differenced equation may possess serial correlation. The difference GMM approach used by Arenello and Bond is to tackle the endogeneity. The AB methodology deals with endogeneity by transforming the data to remove the fixed effects. However any first difference (FD) transformation removes the fixed effect at the cost of initiating a correlation between $\Delta y_{i,t-1}$ and $\Delta \nu_{it}$, both of which have a term dated $(t - 1)$. The disadvantage of the first difference transformation is that it widens the gaps in unbalanced panels. If some value of y_{it} is missing, then both Δy_{it} and $\Delta y_{i,t-1}$ will be missing in the transformed data. However, the panel we used for the analysis is highly balanced and therefore it will not affect our Arenello Bond dynamic models.

TABLE 2— DETERMINANTS OF GDI: DYNAMIC PANEL ESTIMATES

Variables	Coefficients	Standard Error	z-statistic	P>|z|
Lagged GDI	0.7711	0.0729	10.5700	0.0000
Log of GDP per capita	0.0000	0.0000	0.8300	0.4090
Female labour force participation rate	0.0019	0.0012	1.6200	0.1050
Log of public spending on education	0.0004	0.0014	0.2800	0.7770
Log of public spending on health	-0.0011	0.0015	-0.7400	0.4570
Gender Budgeting in Call Circular	0.0024	0.0008	3.1100	0.0020
constant	-1.8669	0.5963	-3.1300	0.0020

Note: lags(i), vce robust estimates and artests(2)

Source: (Basic Data), UN Human Development Reports, IMF Gender Database and World Development Indicators

The dynamic panel estimation reinforced the significance of gender budgeting in Asia Pacific region to improve GDI (Table 2). However, in the dynamic panel model, the public spending on health and education and economic growth are found insignificant in determining GDI. The results are the same with the outcome variables on education as well.

The estimates from dynamic panel through Arenello Bond methodology suggests that GII is significantly determined by public spending on health, female literacy, and gender budgeting initiatives. The estimates showed that one per cent increase in public health spending in Asia Pacific can reduce GII by 0.01 percentage points, while rise in female literacy rate can reduce GII by 0.0027 percentage points. The results hold good after controlling for female labour force participation rate in the region; that gender budgeting, health spending and female force participation rate matter for reducing GII in Asia Pacific (Table 3).

The dynamic panel estimates showed that gender budgeting initiatives through budget call circulars has the potential to reduce the gender inequality index in the Asia Pacific region. The estimates also revealed that one percent increase in public spending on health can reduce the GII by 0.005 percentage points, while spending on education and economic growth variables are found insignificant in reducing the GII (Table 3).

TABLE 3— DETERMINANTS OF GII: DYNAMIC PANEL – ARENELLO BOND – ESTIMATES

Variables	**Coefficients**	**Standard Error**	**z-statistic**	**P>|z|**
Lagged GII	0.788	0.050	15.700	0.000
Log of GDP per capita	0.000	0.000	-0.590	0.557
Log of education spending	0.003	0.002	1.460	0.143
Log of health spending	-0.005	0.002	-1.950	0.051
Gender Budgeting in Call Circular	-0.003	0.001	-3.850	0.000
constant	2.685	0.682	3.940	0.000
gii	Coef.	Std.	z	P>|z|
With FLF				
Variables	**Coefficients**	**Standard Error**	**z-statistic**	**P>|z|**
Lagged GII	0.7167	0.0571	12.5500	0.0000
Log of GDP percapita	0.0000	0.0000	-1.2400	0.2150
Female labour force participation rate	-0.0041	0.0017	-2.3300	0.0200
Log of public spending in education	0.0031	0.0022	1.3900	0.1640
Log of public spending in health	-0.0045	0.0024	-1.8900	0.0580
Gender Budgeting in Call Circular	-0.0035	0.0008	-4.1500	0.0000
constant	2.9819	0.6693	4.4600	0.0000

Note: lags(i), vce robust estimates and artests(2)

Source: (Basic Data), UN Human Development Reports, IMF Gender Database and World Development Indicators

Sectoral analysis of determinants of gender equality in Asia Pacific

At the sectoral level, in models relate to determining Maternal Mortality Rate (MMR), education variables are found significant and negative relationship. The higher the female literacy, the lower the MMR by -9.73 percentage points. One percent rise in public spending on education decreases MMR by 23.034 percentage points. The economic growth, health spending and gender budgeting are found to be insignificant in reducing MMR in the Asia Pacific region (Table 4).

TABLE 4— DETERMINANTS OF MMR: ARENELLO BOND ESTIMATES IN ASIA PACIFIC

Variable	**Model 3 (a)** **MMR**	**Model 3 (b)** **MMR**	**Model 3 (c)** **MMR**
Log of Public Spending in education	-6.067* (1.474)	-9.734* (0.819)	-8.742* (1.033)
Log of GDP per capita			
Education Outcomes – femLit	-23.036* (11.112)	-	-
Gender Budgeting in Call Circular	11.608 (69.943)	-75.788 (46.885)	-56.489 (54.425)
Log of Public Spending in Health	4.649 (12.852)	-	33.442 (23.717)
_cons.	732.620 (133.404)	928.586 (66.938)	824.806 (96.340)

Source: (Basic Data), UN Human Development Reports, IMF Gender Database and World Development Indicators

At a sectoral level, education (female literacy rate) is determined by GDP per capita by 14.32 percentage points rise, however all other variables are found to be significant in equation on female literacy rate. When we tried Gender Disparity Index (GPI) in education variable, it was found that public spending on education increases GPI by 0.037 per cent. It is found that one percent rise in GDP per capita decreases GPI by 0.107 percentage points, and one percent increase in gender budgeting decreases GPI by 0.0106 percentage points. Public spending on health is found insignificant (Table 5).

TABLE 5— DETERMINANTS OF EDUCATION: ARENELLO BOND ESTIMATES IN ASIA PACIFIC

Variable	**Model 4** **FLIT**	**Model 5** **GPI-ED**
Log of Public Spending on Education	-	-
Log of GDP per capita	14.32 (	
Education Outcomes-femLit	4.073 (3.677)	.0374* (.0151)
Gender budgeting in Call Circular	-	-.0106* (.0439)
Log of Public Spending on Health	-	-.0478 (.0184)
female labour force participation rate	-	-
_cons.	-58.215 (17.748)	.1015 (.0971)

Source: (Basic Data), UN Human Development Reports, IMF Gender Database and World Development Indicators

At a sectoral level, the female labour force participation is not significantly determined by gender budgeting. This result is not surprising as the budgetary allocations under gender budgeting in the Asia-Pacific countries are mostly on health and education, not significantly on care economy infrastructure or any other women empowerment related spending which will in turn increase the female labour force participation (Table 6).

TABLE 6— DETERMINANTS OF FEMALE LABOUR FORCE PARTICIPATION: ARENELLO BOND DYNAMIC PANEL ESTIMATES FOR ASIA PACIFIC

Variable	**Model 6 (a) FLF**	**Model 6 (b) FLF**
Log of Public Spending on Education	0.147*	-
	(0.051)	
Log of GDP per capita		
Education Outcomes-femLit	-	-0.359
		(0.368)
Gender budgeting in Call Circular	0.808	-2.221
	(3.919)	(4.258)
Log of Public Spending on Health	1.392*	1.115*
	(0.748)	(0.533)
_cons.	35.45	28.101
	(5.053)	(3.657)

Source: (Basic Data), UN Human Development Reports, IMF Gender Database and World Development Indicators

The results revealed that one percent increase in female literacy rate will increase female labour force participation by 0.147 percentage points. One percent rise in public spending on health increases female labour force participation by 1.39 per cent. Economic growth is found not stimulating female economic force participation.

Disaggregated analysis: results in gender budgeting and non-gender budgeting countries

Determining MMR reduction

At a disaggregated level analysis based on the categorization of gender budgeting and non-gender budgeting countries we have rerun the GLS regressions for the sectoral level variables. In case of MMR, we found that education spending by public sector (-33.04 percentage points) and female literacy rates (-7.93 percentage points) reduces MMR in non-GRB countries. However, the female labour force participation is found inducing MMR by 10.07 percentage points. The economic growth of a country is found to have no impact in reducing MMR. The public spending on health is also found insignificant in reducing MMR in Asia Pacific.

TABLE 7— DISAGGREGATED ANALYSIS OF GRB AND NON-GRB COUNTRIES: ARENELLO BOND DYNAMIC PANEL ESTIMATES IN ASIA PACIFIC

Variable	**Model 1 (a) FLF gb=0**	**Model 1 (b) FLF gb=1**	**Model 2 (a) FLIT gb=0**	**Model 2 (b) FLIT gb=1**	**Model 3 (a) MMR gb=0**	**Model 3 (b) MMR gb=1**
Log of public spending in education	-	-	-	-	-7.934 (2.060)	-5.878 (2.030)
Log of GDP per capita						
Education outcomes-female literacy rate	-.0517 (.678)	-.2793 (.406)	-8.502 (4.728)	2.607 (2.797)	-33.037 (18.130)	-18.556 (10.274)
Log of public spending in health	1.615 (.768)	.4271 (.734)	-19.420 (4.405)	-6771 (4.412)	9.221 (17.382)	-3.771 (21.464)
Female labour force participation rate	-	-	-	-	10.076 (3.855)	.7062 (3.1600)
constant	25.79 (4.392)	28.275 (4.440)	-84.929 (17.194)	-11.618 (18.416)	475.486 (165.316)	715.984 (239.271)

Source: (Basic Data), UN Human Development Reports, IMF Gender Database and World Development Indicators

In gender budgeting countries, one per cent increase in GDP per capita decreases MMR by 0.0019 percentage points. The female literacy rate was also found to be significant (-5.879 percentage points). However, female labour force participation and education and health spending by public sector are found to be insignificant in reducing MMR.

Determining increase in female literacy rate

In non-gender budgeting countries, one percent increase in GDP per capita increases female literacy rate by 21.53 percentage points, while public spending on health increases female literacy rate by 19.42 per cent. The public spending on education is found to be insignificant. In countries where is gender budgeting stipulated by Budget Circulars, the results showed that one percent increase in GDP per capita induces increase in female literacy by 11.55 percentage points, whereas public spending on health and education induce a rise of 6.711 and 8.5 percentage points (Table 7).

Determining rise in female labour force participation

In non-gender budgeting countries, the female labour force participation responds to increase in economic growth (GDP per capita) to a range of 1.38 percentage points and public spending on health by 1.61 percentage points (Table 7). Public spending on education is found to be insignificant in determining a rise in female labour force participation rate in non-gender budgeting countries. In gender budgeting countries, only economic growth is found to be significant by 1.035 percentage points. The public spending on education and health are found insignificant.

Impact of gender budgeting on fiscal space

Against the backdrop of fiscal consolidation and rule based fiscal rules, the countries in the region are increasingly adhering to a fiscal deficit to GDP ratio at three per cent. In India, Fiscal Responsibility and Management Review committee has recommended the national and subnational governments to adhere to a debt-to-GDP ratio of 60 percent threshold. In determining fiscal space, could gender budgeting be a determinant? To analyse this, we have examined sectoral patterns in public spending in education and health, and examined whether gender budgeting has any impact on public spending on these sectors. The dynamic panel data analysis revealed that public spending on health increases with increase in economic growth (Table 8). However, gender budgeting is found insignificant in determining the fiscal space in health sector. Yet another variable that found significant in determining fiscal spending in health sector is health outcomes. We proxied maternal mortality rate as the gender related health indicator.

TABLE 8— EFFECT OF GENDER BUDGETING ON FISCAL SPACE: ARENELLO BOND DYNAMIC PANEL ESTIMATES FOR HEALTH SECTOR IN ASIA PACIFIC

Variables	**Coefficients**	**Standard Error**	**z-statistic**	**P>|z|**
Lagged (health spending)	0.6795	0.0447	15.2100	0.0000
Log of GDP percapita	0.0001	0.0000	4.7100	0.0000
Gender Budgeting in Call Circular	-0.0068	0.0167	-0.4100	0.6850
Maternal Mortality Rate	0.0017	0.0007	2.4200	0.0150
_constant	6.3525	14.4790	0.4400	0.6610

Note: lags(i), vce robust estimates and artests(2)

Source: (Basic Data), UN Human Development Reports, IMF Gender Database and World Development Indicators

TABLE 9— EFFECT OF GENDER BUDGETING ON FISCAL SPACE: ARENELLO BOND DYNAMIC PANEL ESTIMATES FOR EDUCATION SECTOR IN ASIA PACIFIC

Variables	**Coefficients**	**Standard Error**	**z-statistic**	**P>|z|**
Lagged education spending	0.7065	0.5473	1.2900	0.1970
Log of public spending on health	0.8933	0.5774	1.5500	0.1220
Log of GDP per capita	0.0020	0.0010	2.1200	0.0340
Gender Budgeting in Call Circular	0.1982	0.3511	0.5600	0.5720
Female Literacy rate	-0.1893	0.0991	-1.9100	0.0560
constant	-172.6384	297.4006	-0.5800	0.5620

Note: lags(i), vce robust estimates and artests(2)

Source: (Basic Data), UN Human Development Reports, IMF Gender Database and World Development Indicators

The Arenello Bond estimates showed that gender budgeting does not have impact on fiscal space in education sector (Table 9). Overall GDP and the sectoral outcome indicators are found to be the determinants of sectoral fiscal space. The impact of gender budgeting on aggregate fiscal space has not been attempted as the sectoral inferences are insignificant.

Conclusion

Following the methodology of Stotsky and Zaman (2016), we have analysed the impact of gender budgeting on gender equality indicators in gender budgeting (*gb*) and non-gender budgeting (*ngb*) countries, at the aggregate level and disaggregated levels. We have used the GDI based on equally distributed equivalent (X_{ede}) methodology to arrive at gender equality sensitive indicators (*gesi*) on three dimensions – education, health and income – as a gender equality outcome measure. We have also used the Gender Inequality Index (GII) to capture the gender disparities in health, women's empowerment, and labour force participation.

We have categorized the countries into *gb* and *ngb* based on the process of integrating gender budgeting processes in the budget call circulars published by respective Ministry of Finance of Asia-Pacific countries. Using random effects and dynamic GMM estimation for the panel data, the study found that gender budgeting efforts have significant impact on gender equality sensitive indices as compared to economic growth. Public policy variables like public spending on health and education were also found relevant for the progress in gender equality in the region.

The sector specific equations were also investigated for education, health, and labour force participation. The implications of gender budgeting at sector level fiscal space were insignificant. At sectoral level, we used gender disparity ratio in education enrolment (ratio of female to male students enrolled at the relevant schooling divided by the cohort of that age group) as proxy variable for education outcomes and maternal mortality rate for reproductive health outcomes. The public expenditure variables were found more relevant than growth variables at sectoral level in education and health. However, the impact of gender budgeting on female labour force participation was found insignificant in Asia Pacific. This has public policy implications as the countries in the region have not yet incorporated care economy infrastructure policies. The effect of legal fiat of gender budgeting on gender development index and gender equality is beyond the scope of the paper, and would be published as the next paper.

Acknowledgements

This paper is part of a larger research project on Intergovernmental Fiscal Relations in India. This work was carried out with the aid of a grant from the International Development Research Centre, Ottawa, Canada, under the Think Tank Initiative. This paper was invited for presentation

in the Gender and Macroeconomics Conference organised by the Levy Economics Institute, New York, September 2017.

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Appendix

TABLE A1— GENDER-RELATED LAWS ADOPTED BY EACH COUNTRY

Country (34)	**Gender-Related Enactments (Social)**	**Gender-Related Enactments (Economic) (excluding gender budgeting)**	**Gender-Related Commitments (International)**	**GBR-Related Fiscal Fiat (FF) and/or Legal Fiat (LF)**
Afghanistan	a, c, g, h (statistics law to be reviewed)	C, E, H, N	i, ii	FF
Australia	a, (b N/A), c, d, e, f, i	A, B, F, J, K, L, M, N	i, ii, iii, iv	
Bangladesh	a, b, c, d, f, g	A, C, E, G, H, J, L	i, ii	FF
Bhutan	a, b, d, e, f	A (equal remuneration for equal worker qualifications), C, D, G, H, J, L		FF
Brunei Darussalam	b, c, d, i	C, F, J, L		
Cambodia	a, b, c, d, f, i	A, B, C, F, G, H, J, L, M, N	i, ii	
China	a, b, d, f, g, i	B, C, E, H, J, L, N	i, ii	
Cook Islands				
Fiji	a, (b N/A), d, f, i	A, C, D, G, H, J, L	i, ii	
Hong Kong	a, b, c, d, e, f, i	B, C, F, H, J, K, L, N	N/A	
India	a, b, c, d, f, g (local level only), i	B, C, G, H, I, J, L	i, ii	FF
Indonesia	a, b, c, d, e, f, g	C, F, H, I, L	i, ii	FF
Japan	a, (b N/A), c, d, f, i	B, C, G, H, L, M, N	iii	
Kiribati	a, (b N/A), c, d, f	A, C, F, J	i, ii	
Korea	a, b, c, d, e, f, g, h, i	B, C, D, G, H, J, L, M, N	iii	FF; LF
Laos	a, (b N/A), c, d, f, i	C, F, H, J, L, M	i, ii	FF; LF
Malaysia	a, b, c, d	C, G, H, I, J, L, N	i	FF
Maldives	a, b, d, e, f, i	B, C, D, E, F, G, H, L, M		
Mongolia	a, b, c, d, f, g, h, i	C, D, G, H, J, K, N	i, ii	
Myanmar	a, b, c, f, g, i	C, G, H, J, L		
Nepal	a, (b N/A), d, e, f, g, h (statistics law to be reviewed), i	C, F, G, H, J	i, ii	FF
New Zealand	a, (b N/A), d, e, f, h, i	B, C, F, G, J, K, L, M, N	i, ii	
Pakistan	a, c, d, f, g	C, G, H, J, L, N	i, ii	FF
Papua New Guinea	a, b, c, d, f, i	C, H	i, ii	
Philippines	(b N/A), c, d, e, f, i	A, C, F, H, J, K, L, N	i, ii	FF; LF
Samoa	a, (b N/A), d, e, f, h, i	A, C, D, E, F, G, H, L	i, ii	
Singapore	a, b, c, d, f, i	C, F, H, J, L, N	i	
Solomon Islands	a, (b N/A), d, f, i	C, E, G, J	i, ii	
Sri Lanka	a, b, c, d, f, h (statistics law to be reviewed), i	C, G, H, J, L	i, ii	
Taiwan	a, b, c, d, e, g, h, i	A, B, C, E, F, G, H, J, L, M, N	N/A	
Thailand	a, b, c, d, e, f, i	C, H, J, L, N	i	
Timor-Leste	a, b, c, d, e, f, h (statistics law to be reviewed), i	B, C, D, E, F, G, H, J, L, M, N		FF; LF
Vanuatu	a, (b N/A), d, f	C, D, E, F, G, H	i, ii	
Vietnam	a, b, c, d, e, f, h (statistics law to be reviewed), i	A, B, C, D, G, H, J, K (gender only) L, M, N	i, ii	LF

Gender-Related Economic Enactments (WB Data 2015-6)

A. Law mandates equal remuneration for men and women for equal work
B. Law mandates nondiscrimination based on gender in hiring
C. Law mandates paid or unpaid maternity leave
D. Law requires that mothers are guaranteed an equivalent position after maternity leave
E. Law gives special protections to pregnant or nursing workers
F. Law allows non-pregnant and non-nursing women to do the same jobs as men

G. Constitution has nondiscrimination clause mentioning gender
H. Constitution has an equality provision
I. Quota exists for women on corporate boards
J. Law specifically addresses sexual harassment
K. Law prohibits discrimination by creditors on the basis of gender and marital status in access to credit
L. Law allows women to do the same night hours as men
M. Law requires employer to provide leave to care for sick relatives
N. Childcare is subsidized or publicly available

Gender-Related Social Enactments (WB Data 2015-6, except where otherwise indicated in parentheses)

a. Law grants equal property ownership rights to men and women
b. Law allows married women same process as for married men to achieve National ID
c. Law prohibits or invalidates child or early marriage
d. Legislation exists on domestic violence
e. Law explicitly criminalizes marital rape
f. Law does not require married women to obey their husbands
g. Quota exists for women in parliament or local government
h. Existence of law on gender statistics (UNSD)
i. Inheritance rights discriminate do not against women and/or girls

Gender-Related International Commitments (ILO Data 2015-6)

i. Country has ratified ILO C100 – Equal Remuneration Convention
ii. Country has ratified ILO C111 – Discrimination (Employment & Occupation)
iii. Country has ratified ILO C156 – Workers with Family Responsibilities
iv. Country has ratified ILO C175 – Part-Time Work
v. Country has ratified ILO C177 – Home Work
vi. Country has ratified ILO C183 – Maternity Protection

TABLE A2— GENDER-RELATED LAWS ADOPTED BY EACH COUNTRY, GROUPED BY PURPOSE OF THE LAW

Country	**Laws promoting equal working conditions for women (A, B, F, I J, L)**	**Laws supporting women's dual reproductive and productive responsibilities (C, D, E, M, N)**	**Laws supporting women's economic advancement in society (K, a, b, c, f, g, i)**
Australia	A, B, F, J, L	M, N	K, a, (b N/A), c, f, i
Bangladesh	A, J, L	C, E	a, b, c, f, g
Bhutan	A, J, L	C, D	a, b, c, f
Brunei Darussalam	F, J, L	C	b, c, i
Cambodia	A, B, F, J, L	C, M, N	a, b, c, f, i
China	B, J, L	C, E, N	a, b, f, g, i
Cook Islands			
Fiji	A, J, L	C, D	a, (b N/A), f, i
Hong Kong	B, F, J, L	C, N	K, a, b, c, f, i
India	B, I, J, L	C	a, b, c, f, g, i
Indonesia	F, I, L	C	a, b, c, f, g
Japan	B, L	C, M, N	a, (b N/A), c, f, i
Kiribati	A, F, J	C	a, (b N/A), c, f
Korea	B, J, L	C, D, M, N	a, b, c, f, g, i
Laos	F, J, L	C, M	a, (b N/A), c, f, i
Malaysia	I, J, L	C, N	a, b, c
Maldives	B, F, L	C, D, E, M	a, b, f, i
Mongolia	J	C, D, N	K, a, b, c, f, g, i

Myanmar	J, L	C	a, b, c, f, g, i
Nepal	F, J	C	a, (b N/A), f, g
New Zealand	B, F, J, L	C, M, N	K, a, (b N/A), f, i
Pakistan	J, L	C, N	a, c, f, g
Papua New Guinea	--	C	a, b, c, f, i
Philippines	A, F, J, L	C, N	K, (b N/A), c, f, i
Samoa	A, F, L	C, D, E	a, (b N/A), f, i
Singapore	J, L	C, N	a, b, c, f, i
Solomon Islands	J	C, E	a, (b N/A), f, i
Sri Lanka	J, L	C	a, b, c, f, i
Taiwan	A, B, F, J, L	C, E, M, N	a, b, c, g, i
Thailand	J, L	C, N	a, b, c, f, i
Timor-Leste	B, F, J, L	C, D, E, M, N	a, b, c, f, i
Vanuatu	F	C, D, E	a, (b N/A), f
Vietnam	A, B, J, L	C, D, M, N	K (gender only), a, b, c, f, i

Note: Laws promoting equal working conditions for women

O. Law mandates equal remuneration for men and women for equal work
P. Law mandates nondiscrimination based on gender in hiring
F. Law allows non-pregnant and non-nursing women to do the same jobs as men
I. Quota exists for women on corporate boards
J. Law specifically addresses sexual harassment
L. Law allows women to do the same night hours as men

Laws supporting women's dual reproductive (care economy) and productive (market economy) responsibilities

Q. Law mandates paid or unpaid maternity leave
R. Law requires that mothers are guaranteed an equivalent position after maternity leave
S. Law gives special protections to pregnant or nursing workers
M. Law requires employer to provide leave to care for sick relatives
N. Childcare is subsidized or publicly available

Laws supporting women's economic advancement in society

K. Law prohibits discrimination by creditors on the basis of gender and marital status in access to credit
a. Law grants equal property ownership rights to men and women
b. Law allows married women same process as for married men to achieve National ID
c. Law prohibits or invalidates child or early marriage
f. Law does not require married women to obey their husbands
g. Quota exists for women in parliament or local government
i. Inheritance rights discriminate do not against women and/or girls