Fiscal Policy Effectiveness and Gender Equality: 
Efficacy of Gender Budgeting in Asia Pacific

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ABSTRACT

Gender budgeting is a fiscal approach that seeks to use a country’s national and/or local budget(s) to reduce inequality and promote economic growth and equitable development. Our study investigates the impact of gender budgeting on promoting gender equality across Asia Pacific countries. The study classifies Asia Pacific countries as gender budgeting or non-gender budgeting according to whether they have formalized gender budgeting initiatives in laws and/or budget call circulars. To measure the effect of gender budgeting on reducing inequality, we measure the link between gender budgeting and the Gender Development Index (GDI) and the Gender Inequality Index (GII) scores in each country. The data for our gender inequality variables are mainly drawn from the IMF database on gender indicators and the World Development Indicators database over the 1990–2013 period. Our results show that gender budgeting has a significant effect on increasing the GDI and a small but significant potential to reduce the GII, strengthening the rationale for employing gender budgeting to promote inclusive development. However, our empirical results show no prioritization for gender budgeting in the fiscal space of health and education sectors in the region.

KEYWORDS: Gender Budgeting; Fiscal Policy; Gender Equality; Asia Pacific

JEL CLASSIFICATIONS: H00; I3; J1
I. INTRODUCTION

Gender budgeting is an approach to government 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 2016). 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 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. There is strong evidence that gender budgeting can increase equitable growth through its impact on fiscal policies (Stotsky and Zaman 2016; Kabeer and Natali 2013). 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).

As Stotsky and Zaman (2016) have observed, there have been few efforts to assess the results of gender budgeting in a quantitative manner. 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 (see, for example, Nakray [2009] and Mushi and Edward [2010]).

This study seeks to extend work begun by Stotsky and Zaman (2016) in India, in order to evaluate the impact of gender budgeting on gender equality and fiscal spending across a data set
of Asia Pacific countries. We use the Gender Development Index (GDI) and the Gender Inequality Index (GII) 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. We also show that gender budgeting matters for improving gender development indices.

The remainder of the paper is organized in the following manner. Section II surveys the literature while Section III provides an overview of gender budgeting in Asia Pacific. Section IV provides our econometric model and results. Section V offers concluding remarks and implications for gender budgeting policies.

II. LITERATURE REVIEW

As mentioned above, scholars and governments alike typically name two overarching primary motivations for gender budgeting: its perceived positive impacts on economic efficiency, growth, and productivity, and its positive impacts on equity, both in terms of inclusive development and equal realization of human rights. Growth is often cited as an outcome of reducing gender inequality, which serves to close inefficient gender gaps in workforce participation, education, and health (Berik, Rodgers, and Seguino 2009; Hill and King 1995; Dollar and Gatti 1999; Klasen [1999 and 2002]; Knowles, Lorgelly, and Owen 2002; Esteve-Volart 2004). However, as many scholars point out, pinning the direction of causality between growth and reduction of gender inequality is tricky (Stotsky and Zaman 2016; Cuberes and Teignier [2012 and 2014]).

Literature on gender budgeting often posits advancement of gender equality and women’s and girl’s development as a motivation for gender budgeting (Stotsky 2016; Sharp and Elson 2008). 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 programs (Chakraborty 2016; Kolovich and Shibuya 2016).
Yet another basic 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.

Lahiri, Chakraborty, and Bhattacharyya (2002), using a fixed effects model of pooled least squares for the early 1990s, find that one percent increase in spending on health and education resulted in a 0.33 percentage points increase in the UNDP’s Human Development Index (HDI) and only a 0.06 percentage point increase in the GDI for the period between 1993–2005. 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).

Stotsky and Zaman (2016) analyzed 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. This paper seeks to take this literature forward by testing the link between gender budgeting and gender equality outcomes in the context of Asia Pacific.

III. OVERVIEW OF GENDER BUDGETING AND ITS FORMALIZATION IN ASIA PACIFIC COUNTRIES

Chakraborty (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. Australia was the first country to create gender budgeting statements, but it ceased doing so in
2014. India is a pioneer in institutionalizing the gender budgeting within the Ministry of Finance through designing analytical matrices (Stotsky, 2016 and Chakraborty, 2016). 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 Gender Budgeting**

A typical fiscal policy may be composed of three primary elements—expenditures, revenues, and intergovernmental fiscal transfers—and all three are crucial elements of gender budgeting to advance gender equality. When measuring expenditures through a gender lens it is especially critical to consider “fiscal marksmanship,” or the difference between the authorized funds and actually spent (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 2016). Too lenient concessions to high-earning individuals or corporations, taxation of certain household necessities, and insurance of payment of certain tax credits to caregivers as opposed to the primary earner have all been shown to impact women (Sharp and Elson 2008; Elson 2006; 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 school enrollment.

**Formalizing Gender Budgeting: Budget Call Circulars, Budget Statements, and Budget Laws**

Gender budgeting is most effective when it involves changes to both policymaking processes, such as determining budgeting allocations and designing programs, and administrative systems, such as tracking expenditures and monitoring program outcomes (Stotsky 2016, Chakraborty 2016). 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.
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.

IV. ECONOMETRIC MODELS AND RESULTS

The model we consider for analysis is as follows, where we test whether gender budgeting (GB) is a significant determinant of gender equality (GE) in the Asia Pacific region, along with control variables (X).

\[ GE_{it} = a + b_1 GB_{it} + b_2 X_{it} + \mu_{it} \]

The control variables we use in our models are log of public spending on health and education, GDP per capita, and female labor force participation.

Gender equality (GE) is proxied by Gender Development Index (GDI) and Gender Inequality Index (GII). Under the GDI, the average value of each of the component variables in the index – education, health and income – is substituted with “equally distributed equivalent achievements” (Lahiri, Chakraborty, Bhattacharyya, 2002). The equally distributed equivalent achievement \( X_{cde} \) 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. The GII is a measure of disparities between the genders across three dimensions: (i) reproductive health, represented by the maternal mortality ratio (MMR) and the adolescent fertility rate (AFR); (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 labor force 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.
The dynamic panel estimates in table 1 show that gender budgeting is significantly and positively related to the GDI in the Asia Pacific countries. In the dynamic panel model, public spending on health and education, as well as growth, are found to be insignificant in determining the GDI.

**Table 1: Determinants of GDI and GII: Dynamic Panel Estimates**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model (1) GDI</th>
<th>Model (2) GII</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagged GDI</td>
<td>0.7711* (10.5700)</td>
<td>0.7167* (0.0571)</td>
</tr>
<tr>
<td>Log of GDP per capita</td>
<td>0.0001 (0.8300)</td>
<td>0.0000 (0.0000)</td>
</tr>
<tr>
<td>Female labor force participation rate</td>
<td>0.0019 (1.6200)</td>
<td>-0.0041* (0.0017)</td>
</tr>
<tr>
<td>Log of public spending on education</td>
<td>0.0004 (0.2800)</td>
<td>0.0031 (0.0022)</td>
</tr>
<tr>
<td>Log of public spending on health</td>
<td>-0.0011 (-0.7400)</td>
<td>-0.0045* (0.0024)</td>
</tr>
<tr>
<td>Gender budgeting in call circular regime</td>
<td>0.0024* (3.1100)</td>
<td>-0.0035* (0.0008)</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.8669* (-3.1300)</td>
<td>2.9819* (0.6693)</td>
</tr>
</tbody>
</table>

*Note: The figures in the brackets refer to standard errors.
Source: UN Human Development Reports, IMF Gender Database, and World Development Indicators (various years, basic data)*

The results also show that the GII is significantly determined by gender budgeting initiatives, public spending on health, and female labor force participation. Spending on education and economic growth variables are found to be insignificant in reducing the GII. The estimates showed that a 1 percent increase in public health spending in the Asia Pacific region can reduce the GII by 0.0045 percentage points, while an increase in female labor force participation can reduce the GII by 0.0041 percentage points.

**Impact of Gender Budgeting on Fiscal Space**

Against a backdrop of fiscal consolidation and rule-based fiscal policy, countries in the Asia Pacific region are increasingly adhering to a 3 percent ratio of fiscal deficit to GDP. In India, the Fiscal Responsibility and Management Review committee has recommended that national and subnational governments adhere to a debt–GDP ratio of 60 percent. In determining fiscal space, could gender budgeting be a determinant? To analyze 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 estimates in table 2 reveal that gender budgeting is found to be insignificant in increasing fiscal spending on health. We used the MMR to proxy the gender-related health indicator, which was found to be significant in determining fiscal spending on health. Public spending on health does increase with an increase in economic growth.

Table 2: Effect of Gender Budgeting on Fiscal Space: Dynamic Panel Estimates for the Health Sector in Asia Pacific

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagged (health spending)</td>
<td>0.6795*</td>
</tr>
<tr>
<td></td>
<td>(.0447)</td>
</tr>
<tr>
<td>Log of GDP per capita</td>
<td>0.0001*</td>
</tr>
<tr>
<td></td>
<td>(0.0000)</td>
</tr>
<tr>
<td>Gender budgeting in call circular</td>
<td>-0.0068</td>
</tr>
<tr>
<td></td>
<td>(0.0167)</td>
</tr>
<tr>
<td>Maternal mortality rate</td>
<td>0.0017*</td>
</tr>
<tr>
<td></td>
<td>(0.0007)</td>
</tr>
<tr>
<td>Constant</td>
<td>6.3525</td>
</tr>
<tr>
<td></td>
<td>(14.4790)</td>
</tr>
</tbody>
</table>

Source: UN Human Development Reports, IMF Gender Database, and World Development Indicators (various years, basic data)

The dynamic panel estimates, following the methodology of Arenallo and Bond (1991), in table 3 show that gender budgeting does not have impact on fiscal space in the education sector. Moreover, the impact of gender budgeting on aggregate fiscal space has not been attempted, as the sectoral inferences are insignificant. Overall GDP and the sectoral outcome indicators are found to be the determinants of sectoral fiscal space.
Table 3: Effect of Gender Budgeting on Fiscal Space: Dynamic Panel Estimates for Education Sector

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagged education spending</td>
<td>0.7065 (0.5473)</td>
</tr>
<tr>
<td>Log of public spending on health</td>
<td>0.8933 (0.5774)</td>
</tr>
<tr>
<td>Log of GDP per capita</td>
<td>0.0020* (0.0010)</td>
</tr>
<tr>
<td>Gender budgeting in call circular</td>
<td>0.1982 (0.3511)</td>
</tr>
<tr>
<td>Female literacy rate</td>
<td>-0.1893* (0.0991)</td>
</tr>
<tr>
<td>Constant</td>
<td>-172.6384 (297.4006)</td>
</tr>
</tbody>
</table>

Note: The figures in the brackets refer to standard errors.
Source: UN Human Development Reports, IMF Gender Database, and World Development Indicators (various years, basic data)

V. CONCLUSION

Following the methodology of Stotsky and Zaman (2016), we have analyzed the impact of gender budgeting on gender equality indicators. We have used the GDI based on equally distributed equivalent ($X_{ede}$) methodology to arrive at gender-equality-sensitive indicators for three dimensions—education, health, and income. We have also used the GII to capture the gender disparities in health, women’s empowerment, and labor force participation.

We have categorized the countries into gender budgeting and non-gender budgeting countries based on whether countries have integrated the gender budgeting processes in a formalized manner. Using dynamic panel models, the study has found that gender budgeting efforts have a more 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 to be relevant for the progress of gender equality in the region.

Finally, we studied the impact of gender budgeting on increasing fiscal spending in health and education, using the MMR as a proxy for health and the gender disparity ratio in school enrollment (ratio of female to male students enrolled in the relevant schooling, divided by the
cohort of that age group) as a proxy variable for education outcomes. The implications of gender budgeting in these areas were insignificant. This has public policy implications, against the backdrop of fiscal rules, as the countries in the Asia Pacific region have not yet incorporated gender budgeting as a priority in their spending decisions.
REFERENCES.


