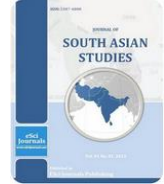




Available Online at ESci Journals

Journal of South Asian Studies

ISSN: 2307-4000 (Online), 2308-7846 (Print)
<http://www.escijournals.net/JSAS>



MEASURING AND CURBING GENDER INEQUALITIES: A CROSS COUNTRY ANALYSIS

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ABSTRACT

Discrimination against women and girls carry a high development cost. This paper captures and measures gender discrimination not only in economic dimensions but also in socio-political areas as well as inequalities in decision making power at the household level. The paper attempts to scientifically create a "Female Well-being Index" through factor analysis, by identifying and using potential indicators in spheres currently absent even in the UNDP's Gender Inequality Index. Using cross-country data, the paper further empirically stresses that empowerment is not primarily an outcome, but a process, which can be enabled through various policy interventions in political, economic as well as social spheres.

Keywords: Factor analysis, Female well-being Index, Gender inequalities, Impact analysis.

INTRODUCTION

Over the past decades, the Human Development Report (HDR) of the UNDP has been successful in shifting the focus of public policy from rather financial indicators of growth and development such as Gross National Product and Gross Domestic Product per capita to indicators that reflect a country's actual well-being (Sen, 1999). The motivation behind these reports was to point out the contrasting views on development. Growth in GDP or per capita incomes can, obviously, result in significant increase in well-being. But a country's development depends on many other determinants, such as social provisions (primarily, access to basic education and health), as well as ability to exercise political rights and participate in the civil society. Development should be neutral among different classes of the society- rich as well as poor, well provided as well as deprived. Development should account for well - being and opportunities provided to everyone. This "deprivation approach" to development can be extended to all classes of the society who are forced to lead deprived lives in some way or the other. (Sen, 1999) One such 'class' comprises females in general and women in particular. Even though men and women live together in a

household setting and work together in a workplace setting, quite often their benefits or the quality of life end up being very dissimilar. Women often suffer from various economic disadvantages like lower workforce participation rate, wage discrimination, several intra-household inequalities in terms of unequal inheritance rights, inequality in assets, consumption, and decision making on purchases for the welfare of the family as well as determining household size. Moreover, there is a significant underinvestment in girls' education, health and nutrition, particularly in developing countries (Dollar, 1999). Notably, these facets of inequalities are not mutually independent. Each impinges on the other, for instance, a low female participation in labor force can reduce their control over household finances, and therefore reduce decision-making power at the household level. (Mitra, 2013).

Given the multidimensional causality and reversibility of this issue, there is a strong case for investigating not only the economic but also political and social aspects of the issue of gender discrimination. This paper specifically focuses on developing a framework for conceptualizing "Female Well-being Index" using indicators of achievements and freedoms. It tries to encompass all aspects of inequalities and create a composite framework for policymakers to act on this very critical issue.

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The UNDP publication of the Gender-related Development Index (GDI) and the Gender Inequality Index (GII) as a part of the Human Development Report has triggered considerable rethinking on the gender inequality issues in a policy setting. The GDI measures gender gap in three basic dimensions of human development: health (female and male life expectancy at birth), education (female and male expected and mean years of schooling for children and adults respectively); and command over economic resources (female and male estimated earned income). Female and male HDI is first calculated through a geometric mean of the three sub-indices of dimensions and the final GDI is then the ratio of female to male HDI. The Gender Inequality Index (GII) on the other hand is a relatively more comprehensive measure reflecting gender-based disadvantages in three dimensions—reproductive health (maternal mortality rate and adolescent birth rate), empowerment (parliamentary representation and attainment of secondary and higher education) and the labourmarket (labor force participation rate). The female and male GII is calculated as in GDI but the final GII is a complex series of harmonic means. (Klugman, 2009).

What is missing in existing measures?

Both the measures have received considerable critiques mostly on two lines: the choice of dimensions and indicators as well as the methodology of aggregation. The idea behind GDI is to discount the HDI for gender disparities. The difference between the HDI and the GDI is therefore the human development forgone due to gender inequality. The GII lists women’s empowerment indicators as their political participation and educational attainment; these are, undoubtedly, crucial dimensions in measuring the actual well-being of women compared to men. However, changes in these dimensions are “neither necessary nor sufficient conditions” of female well-being (Betata, 2006). A country may undergo improvements under these indicators on the outset, but still may experience other forms of discrimination for example, increased violence against women, the reduced exercise of rights, lost opportunities due to increasing in unpaid work and reduced “soft powers” like lower say in decision making and bargaining at the household level. An index including not only the usual health, education, employment indicators but also the incorporating the unpaid “care” work of women, their position in the society at high decision-making authority levels as well

as the extent of their vulnerability to gender-based violence, is therefore necessary. This paper creates an alternative index, the Female Well-being (hereafter, FWB) index, and reveals the difference it makes to GII ranking of countries. However, measuring the wellbeing or inequalities is not enough. The greater task is to curb such inequalities and the paper therefore also tries to find out various important policy interventions that can directly affect women’s well-being and empowerment. Most important in this area is the need for gender-responsive budgeting. Such a task is extremely relevant for us today and has not been covered in previous literature.

The rest of the paper is organized as follows: Section 2 gives a review of the literature so far; Section 3 describes the data and methodology used for creating the FWB; Section 4 analysis results of FWB and the performance of India in particular; Section 5 proposes policy interventions and the effect of certain policy variables on the FWB; Section 5 summarizes the results and Section 6 concludes.

LITERATURE REVIEW

The literature on gender issues and development is fairly vast. However, the focus of the present paper is to come up with a more comprehensive measure of gender inequality or, for the sake of positivity, measure well-being, and therefore the literature review here concentrates only on such papers.

The literature on measuring gender inequality is rather limited. Most papers give a critique of the GDI and GII without delving into alternative methods for measurement. Geske (2006) argues that a major issue with GDI is that it is unable to compare gender inequality across countries. Schuler (2006) finds that GDI has wrongly been interpreted as a measure of gender inequality when it simply discounts the Human Development Index (HDI), for gender inequality. Therefore, the possible policy impact of the GDI has remained questionable. Betata (2006) criticise the GDI on its methodology of aggregation, and its set of chosen indicators. The author argues that the GDI is an “incomplete and biased index” on women’s empowerment which measures inequality only among the educated and economically advantaged groups and fails to include other “non-economic dimensions” of decision-making power at the household level. Permanyer (2013) disagrees with the GII due to its “complicated” functional form and its over-reporting of

gender inequality in low-income countries.

Charmes et al. (2003) define gender inequality in a more comprehensive way. They create a “Women’s Empowerment Matrix” that consists of six dimensions - physical, socio-cultural, religious, economic, political, legal – and six levels: individual, household, community state, region, and global. Grown (2010) defines three “domains of empowerment”: capabilities, which measures knowledge and health factors through education, health, and nutrition indicators; access to resources and opportunities, which primarily refers to access to political decision making and economic assets; and security, which considers violence and conflict matters. Beteta (2006) propose a measure of “Gender Empowerment Enabling Environment” that would measure the legal (i.e., gender equal laws, ratification to international protocols, policy and its implementation), socio-cultural (attitudes and norms), and support factors (presence of institutions and NGOs that support gender equality) to scale a society’s commitment to gender equality. Folbre (2006) suggests incorporating indicators of gender disparities in “disposable time and care responsibilities” when measuring gender inequalities. They suggest “Gender Care Empowerment Index” measuring men’s participation in “feminine” domains of care, in contrast to GEM (which measures women’s participation in “masculine” activities).

The literature on constructing an index through multivariate analysis or factor analysis is confined to reconstructing the HDI using the same indicators. Lai (2003) has used principal component analysis to reconstruct the HDI and measure the progress of human development. Ogwang (1994) also constructs a human deprivation index using principal component analysis on the three HDI indicators.

Additionally, economists have proposed various policy interventions, their success or failure in bridging gender gaps. Most of the literature focuses on “Gender Responsive Budgeting” as a powerful tool that reflects the commitment and will of the government in addressing women empowerment issues (Dey, 2014; Agarwal, 1994a). Mitra (2010) points out that “explicit policy interventions” are the key to fix inequalities in the labour market and for “equitable and pro-women” growth. Proponents of gender equality emphasize on the role of the state and allocation of funds in ensuring equal opportunities, access to basic infrastructure, financial

inclusion, political and civil liberties as well as autonomy inside and outside households (for example see, Desai 2010; Beneria, 2007; Grown, 2010).

DATA AND METHODOLOGY

The paper uses a cross-sectional data of 83 countries (35 high income developed countries and the rest developing) for the year 2013, accessed from the World Bank Development Indicators and the International Labour Organization estimates. Female wellbeing will depend upon the health, education, employment, financial access and management. The index has been created using Factor Analysis (FA) technique. This technique essentially uses a multivariate weighting technique to condense large amounts of data and to determine the distinct factors or latent variables accounting for variation in the data. Matrices thus obtained are then transposed to determine the orthogonal factors which are used as weights. Factor loadings are the extent to which each variable associated with the data.

An advantage of using the factor analysis is that the values of the index so created are not confined into the interval of 0 and 1 (Lai, 2003). Hence FA may be better than a simple harmonic mean used in GDI and complex aggregations used in GII in measuring the differences between the areas with higher gender inequalities and the areas with lower gender inequalities.

The following section enlists the outcome indicators which have been used to create the FWB index and the rationale behind picking them as drivers of female wellbeing:

Female to Male labor force participation rate has been taken from ILO estimates to show the proportion of female labor force to the total male labor force. Labour force participation rate, as defined by ILO, is “the proportion of the population ages 15 and older that is economically active: all people who supply labour for the production of goods and services during a specified period”. A higher or close to 100 per cent ratio would show equal participation of male and female in the labor force and therefore lesser gender-specific inequalities in economic participation and vice-versa.

To account for unemployment, World Bank estimates of *unemployment, female (% of female labour force)* has been taken. More unemployment would result in lesser wellbeing of females. Data for wages are limited in availability and therefore the unemployment rate has been taken as a proxy for capturing economic wellbeing

of women in labor force.

In terms of health, *maternal mortality ratio (per 100,000 live births)* and *infant mortality rate, female to male (per 1,000 live births)* has been taken. These two indicators depict a comprehensive picture of the health of mothers as well as infants. Further, female to male IMR also captures the inherent “son bias” in many developing countries. A family preference for sons over daughters can manifest negatively in different ways, including higher mortality rate among female infants, worse health and nutrition status or lower educational attainment among girls.

For education, enrollment in primary education has not been taken because different countries have different estimates of relevant age groups, thus showing dubious results. Moreover, it does not capture the primary drop outs particularly common in females. Instead *Primary Completion Rate (% of relevant age group)* among females has been used. Primary completion rates as defined by the World Bank Development Indicators, is “the gross intake ratio to the last grade of primary education”. Moreover, *School enrollment, tertiary, female (% gross)* has been used to capture the increase in well-being that may occur due to successful completion of secondary education and enrollment in higher education. This is expected to increase work opportunities and income of women. Gross enrollment ratio is “the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown” (as per the World Bank Development Indicators), also capturing secondary completion rate.

Then *Female legislators, senior officials and managers (% of total)* refers to the share of legislators, senior officials and managers who are female. This variable has been used to capture women working at high decision-making positions in companies as well as the influence of women in political decision making and the government. Increasing gender equality in political representation as well as in managerial positions is extremely important. It increases trust and representation in political regimes, changes attitudes, aspirations and behaviour of women and men, providing role-models for the younger generation (Betata, 2006). GII uses Share of women in parliament which can only capture political representation. Such an indicator might not be completely taking into account the representation of women in decision making at workplaces. Measurement

of wellbeing might give incomplete results if we take women’s political participation exclusively.

Any measure capturing female wellbeing should also include the extent to which women exercise physical integrity in the society. This includes both formal and informal laws, social norms and attitudes that protect women from gender-based violence and promote their reproductive autonomy (Branisa et al., 2009). Data on gender-specific crime rates is limited and skewed because most of the crime against women gets unreported especially in developing countries. However, it can be argued that an approximate, yet imperfect, the measure would be an indicator of control over fertility and particularly, freedom to choose motherhood. Moreover, such an indicator will also capture, to an extent, women’s decision-making power at the household or individual level. Some other imperfect measures include the use of contraception methods and the right to abortion, which indicate spacing decisions and the number of children. A more useful indicator could be the demand for contraception (Betata, 2006). However, such data are not readily available and therefore “Contraception prevalence” is used as a proxy for this measure. *Contraceptive prevalence rate (% of women ages 15-49)*, as per the World Bank Indicators, is the “percentage of women who are practising any form of contraception. It is measured for married women aged 15-49 only”.

Finally, women’s allocation of their time and money not only impacts their standard of living, but also their capabilities. Reliance on usual output estimates fails to capture important dimensions of women’s indispensable contribution to human development. In this context, unpaid care work refers to “non-remunerated activities performed within the household for its maintenance and well-being such as childcare and housework” (Elson, 2002). Caring responsibilities are often unequally distributed between men and women, bearing a huge opportunity cost on women’s economic role within a household. This higher share of time spent on unpaid work reduces a woman’s participation in the labour market. Moreover, the high gender wage gap is an outcome of this extra burden. Conventional measures fail to capture this crucial domain of unpaid work, as a result, policymakers ignore the public money saved on lower social provisioning for children, sick, and elderly care. Alternatively, women’s participation in the labour force increases the number of resources available. It also

gives women some autonomy to spend the money thus earned. Therefore, intuitively a country with better infrastructure in terms of better water and sanitation facilities, better transport, electricity etc. would reduce the time spent by women on unpaid work and therefore more time can be devoted to paid work. The *ratio of female to male time spent on unpaid work* is calculated and used as an indicator of women’s access to better public resources and her bargaining power and control over household decisions. More the ratio, lesser will be the bargaining power and therefore lesser score in terms of empowerment and well-being.

As can be pointed out from the above discussion, the

$$FWB_i = \omega_{LFPR}LFPRratio_i + \omega_{unemp}Unempt_i + \omega_{mmr}MMR_i + \omega_{imrratio}IMRratio_i + \omega_{prim}Primary CR_i + \omega_{tert}Tertiary ER + \omega_{officials}Officials + \omega_{contra}Contraceptive_i$$

Where ω is the weight assigned to each variable. Factor analysis is designed to find such weights. Table 1 below presents the results of the factor analysis done on 83

indicators seem to be highly correlated. In such a scenario, using multivariate factor analysis to construct a composite index from highly correlated variables seems relevant. The Female Wellbeing Index (FWB) has thus been calculated from the above discussed correlated nine variables. Results and comparison with the GII will be shown in the next section.

RESULTS FROM FACTOR ANALYSIS

The composite index takes the factor loadings as shown in Table 1 as weights where each weight is between 0 and 1. A typical index creation would follow the following equation:

countries (developed as well as developing) depending on the availability of data.

Table 1. Factor Analysis Results.

Variable	Factor1	Factor2
lfpr_ratio	0.0416	0.7348
unempt	-0.1485	-0.2527
mmr	-0.8678	-0.1382
imr_ratio	-0.0596	-0.5192
prim_compl	0.5738	0.0179
tert_enrol	0.7733	0.2403
officials_f	0.2313	0.6761
contra_f	0.6615	0.1417
Unpaidworkratio	-0.7713	-0.3794
Eigen Value	2.7937	1.5717
Variation explained	0.6441	0.3523

Source: Author’s own calculations.

The first factor with an eigenvalue of 2.7937 accounted for 65% of the total variation of all 9 indicators. The second factor with an eigenvalue of 1.5717, along with the first factor cumulatively accounted for 99% of the variation. The table shows fairly intuitive results. Unemployment, Maternal Mortality rate and female to male Infant Mortality ratio are negatively associated with a female to male labour force participation rate, the education variables, the percentage of female officials, contraceptive prevalence. Further, the ratio of time spent on unpaid work by females to that of males is negatively associated with the positive indicators, while directly correlated with MMR and gender inequalities in the unemployment rate and IMR ratio. To create the final index, the sum of the factor loadings of a particular

factor was multiplied by the respective variables to predict factor 1 and 2 for every country. These factors were then multiplied by the share of respective Eigenvalue in the total sum of Eigenvalues. The index calculated from factor 1 and 2 for 83 countries with their ranks is shown in the Appendix. In the following section we discuss some major results that are depicted in the index.

Analysis of the FWB Index

The FWB index scores 83 countries according to their level of development in gender-related issues. The index ranges from a value of 21.7 (of Yemen) to 165.2 (of United States) with an average of 111.43. We classify them into four groups; from very low from very low levels of wellbeing (18% of the countries, with an

average of 65.0) to high levels (24% of the countries, with an average of approximately 150.0). As shown in Figure 1, more than 50% of the countries have very low or low values of the index. Only 46% of countries have medium or high levels of wellbeing. This category however includes only 2 developing countries (Mongolia

and Ukraine). India stands on the 77th position in this data with a meagre score of 70.01! Yemen, Pakistan and Burkina Faso are the bottom three worst performers. Bangladesh, Sri Lanka, Bhutan, Egypt all appear above India but are in the “very low” or “low” category.

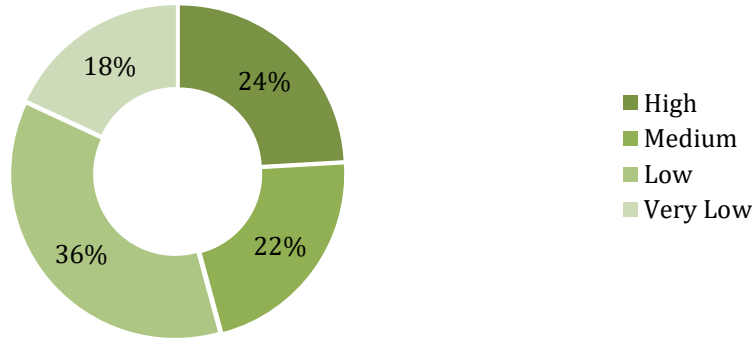


Figure 1. Countries classification with respect to FWB. Source: Author’s own calculations.

Further, for each region: High income OECD countries, Europe and Central Asia (ECA), East Asia and Pacific (EAP), Latin America and Caribbean (LAC), Middle East and North Africa (MENA), South Asia (SA) and Sub-Saharan Africa (SSA), Figure 2 shows the average,

highest and the lowest performing country on the basis of index value. While the average of South Asia was 76.78, India performs below this average but interestingly enough, it also performs below the average of Sub Saharan Africa.

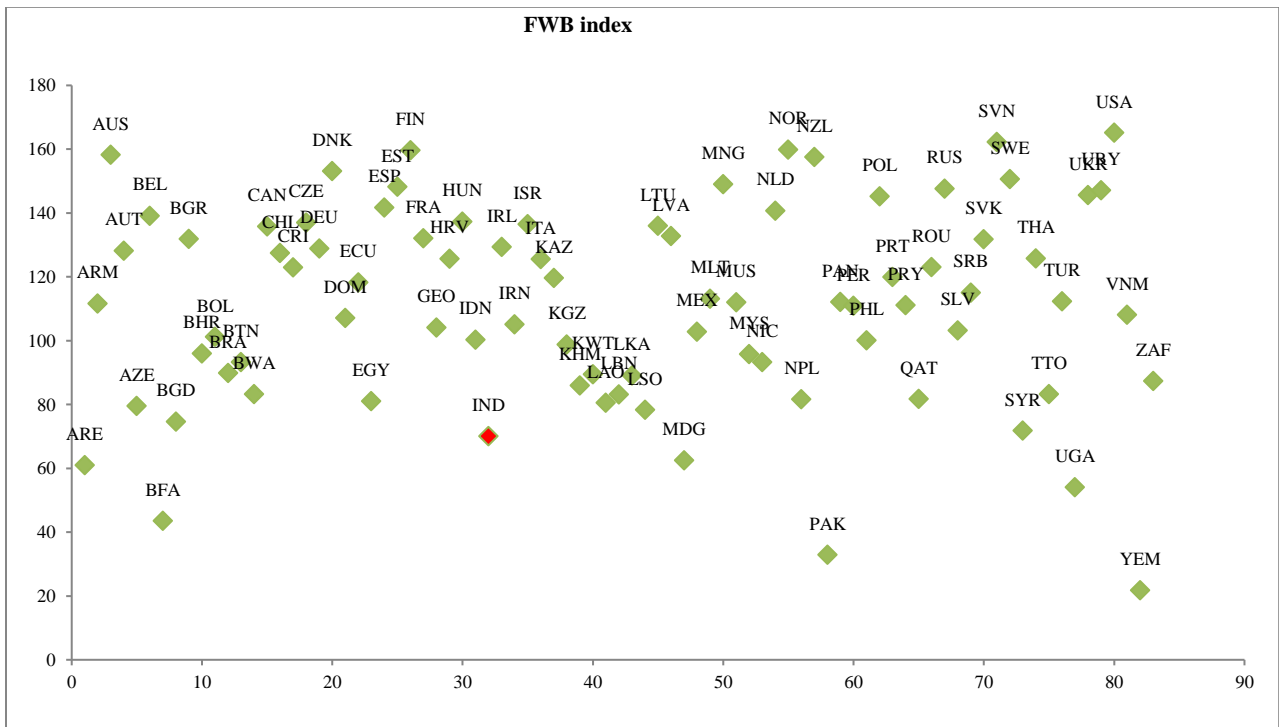


Figure 2. Scatterplot of Countries.

Source: Author’s own calculations

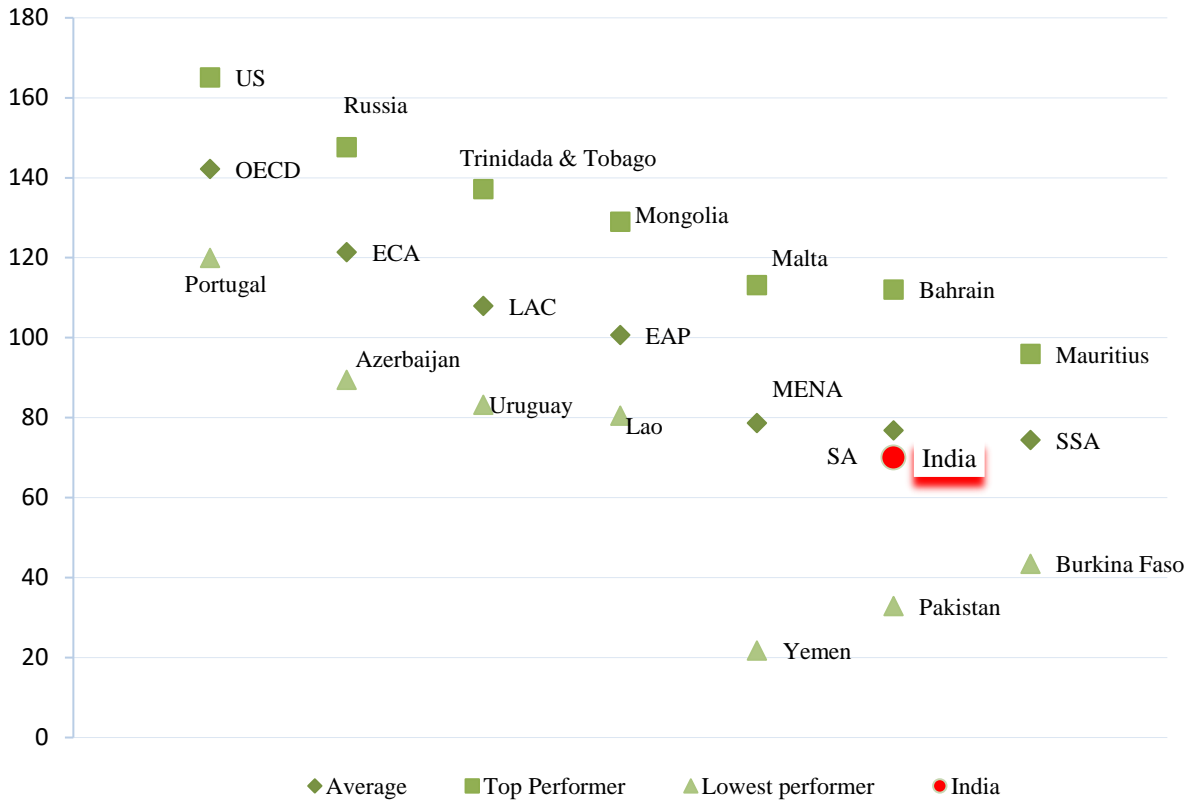


Figure 3. Region wise country performance.

Source: Author’s own representation of calculated figure.

Further comparing the income of countries with the index, we find that most of the low-income countries are at low ranks and high income at very high ranks showing some relationship. In Table 2, the diagonal elements show increasing value of female well-being index with an increase in income. The upper diagonal elements

show a low value of index compared to the income group of the country. India lies in the lower middle-income group with a very low index value (among the 7 countries of this box). The classification of countries on the basis of income is standard and has been taken from the World Bank Development Indicators 2014.

Table 2. Index classification with Countries' Income.

Income/Index	Very Low	Low	Medium	High
High income	2	4	12	17
Upper middle income	1	13	6	1
Lower middle income	7	11	0	2
Low Income	5	2	0	0

Source: Author’s own calculations.

This primarily supports the debate of economic growth versus social development. There are some concerns that the path, process and priorities of economic growth may be neglectful of the social welfare and increasing inequalities within countries. This result shows there might be increasing gender inequalities as well that manifests from the process of economic growth.

Performance of the worst performer and the best performer based on the variables incorporated in the FWB index is shown in Figure 3. As can be seen, India’s indicators are not very different from Yemen when we look at time spent on unpaid work ratio as well as LFPR ratio. In fact, India’s performance is worst when it comes to female to male IMR ratio.

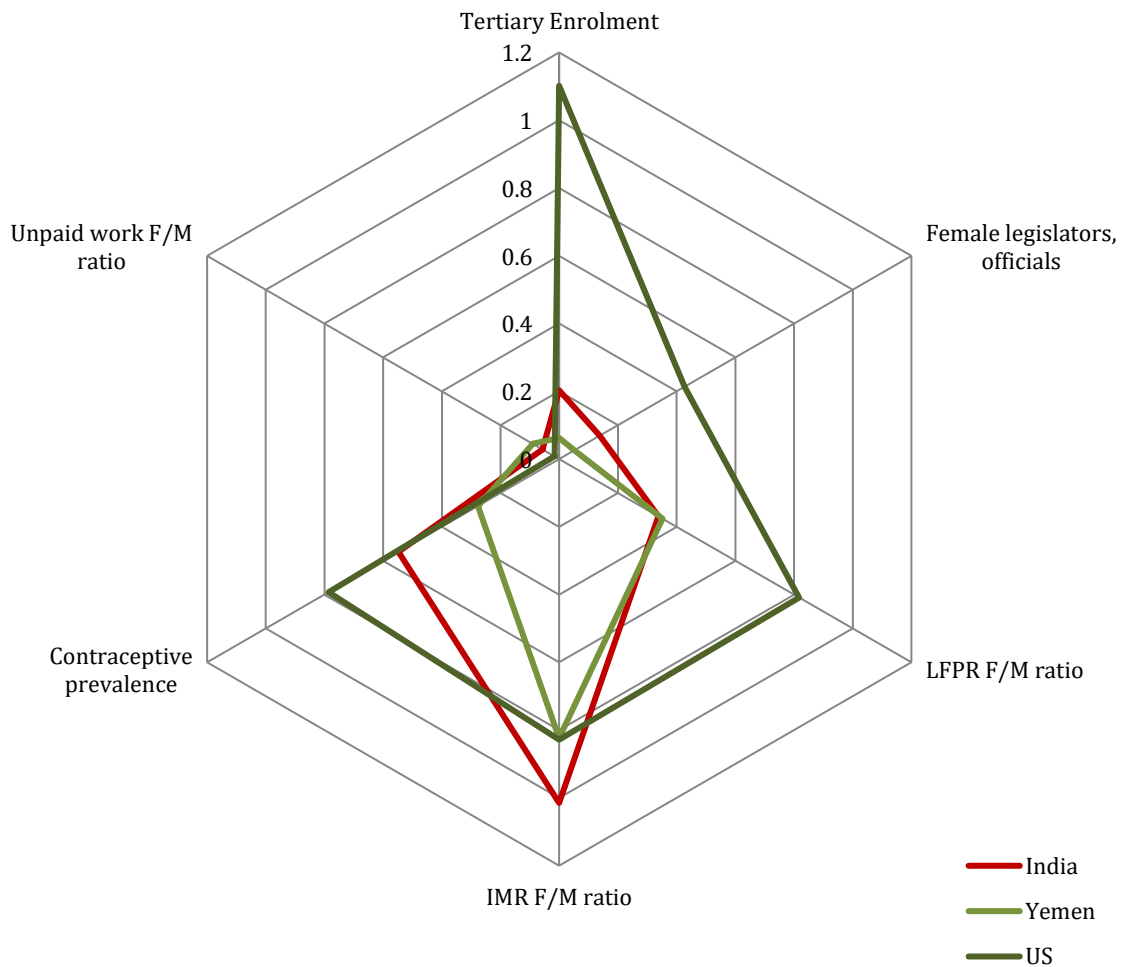


Figure 4. Performance on FWB indicators.

GII and FWB: A comparison

Since we used different indicators incorporating the non-socioeconomic parameters, a comparison of our index with the UN’s GII is relevant at this point. Table 3 below shows that most of the countries’ indices coincide with the GII. But there is some evidence of GII underestimating the inequalities for around 32 countries

as shown in the table below. There are 13 countries which have a low FWB value but a very low GII value and another 10 who fall in the medium category in the FWB index but in the very low category in the GII. Such off-diagonal countries’ differences in indices can be attributed to the indicators this paper takes that are uniquely different from what is included in the GII.

Table 3. Comparison of FWB with GII.

GII/FWB	Very Low	Low	Medium	High
High	5	0	0	0
Medium	7	15	1	0
Low	2	13	7	6
Very Low	0	0	10	14

Source: Author’s own calculations.

Thus, the FWB index shows some interesting insights into the performance of countries on the aspect of gender inequalities. However, the scope of this paper is also to suggest some policy parameters which can have an effect on the index value. These are explained in detail in the next section.

Policy Analysis and Results

The above measurement of gender wellbeing is relevant for official policies towards gender empowerment especially in case of countries like India which perform relatively well in terms of economic growth but rank abysmally low in case of female wellbeing. In this section we propose some policy interventions and their significance in increasing the value of our index.

Policy Interventions

Ever since gender issues have entered into the domain of policy, efforts have been made for policy interventions to reduce the persistent gender gap. One of the major purposes of this paper's index is to make policymakers and practitioners in various fields aware of the holistic nature of these gender issues. Therefore, while measuring the inequalities and wellbeing of women is only half task done, policy implications relevant for policymakers must also be made.

In the following paragraphs, we identify some areas of policy intervention with respect to empowerment and actions that can be taken to achieve a higher wellbeing have been laid out. For each policy prescription, we look for variables that can capture the intervention taken/to be taken by the governments around the world. Using a simple OLS regression, the significance of the intervention with respect to the FWB index is assessed in two models- one with the level of income as controls and the other without.

Gender Responsive Budgeting: In recent years, the emphasis has been laid on gender-responsive budgeting. It is defined as the policy and financial planning that contributes to upliftment in the status of women, both socially and economically, as well as equal rights for them. It does not mean having separate budgets for women, it means to find out the impact of specific spending has on men and women separately. We use the World Bank's gender equality CPIA (Country Policy and Institutional Assessment) rating (1=low to 6= High). Gender equality rating, as defined, assesses the "extent to which the country has installed institutions and programs to enforce laws and policies that promote equal access for men and women in education, health,

the economy, and protection under the law". We take this variable as a proxy for Gender-responsive budgeting.

Economic Empowerment: Policies and programs related to generating more wage employment for women are needed as a policy action. Equal pay for equal work needs to be enforced. Moreover, easy access to credit must be ensured for women so that they can use funds for self-employment. We use *Account at a formal financial institution, female (% age 15+)* as a proxy for women's access to credit as they are more likely to be financially active and responsive if at least they have an account in a bank to start with. Moreover, Hashemi et al. (1996) empirically find the positive impact of access to credit for women on the following indicators of empowerment: women's economic contribution, their mobility in public, ability to make large and small purchases, ownership of productive assets, and involvement in major decision-making in the household, such as purchasing land, or livestock or other income-earning assets.

Social Empowerment: Policies and programs to promote access to education and health facilities are necessary to curb gender inequalities. Gender equality rating, as described above, can be used as a proxy for this measure.

Political Empowerment: The Restricted Civil Liberties index created by OECD for the year 2014 has been used to capture the importance of women's participation in society, politics and public decision making. Ranging from 0 to 1 (1 showing high discrimination) this sub-index (of the Social Institutions and Gender Index) highlights discriminatory laws and practices that restrict women's access to public spaces, freedom of movement, electoral participation and their political voice. This index will capture government policies, actions and inactions with respect to women's political empowerment, including affirmative action measures, such as quotas.

Household level empowerment: The importance of the unequal distribution of unpaid care work has been emphasised before. Beijing Platform for Action (1995) and the United Nations Open Working Group on Sustainable Development Goals have acknowledged this as a strategic objective. A very important, rather rural, aspect of this inequality is the long hours spent by women in collecting water and fuel, used by all household members- men or women. Infrastructure

interventions such as increasing access to water, sanitation, and fuel helps in addressing this gap. Such investments can be termed as non-targeted interventions which reduce the unpaid work of women/girls who fetch water and gather fuel. Access to sanitation facility has been taken as a proxy for this kind of intervention.

Civil codes: Formal and informal laws, social norms and practices covering areas such as marriage and inheritance, exist in civil and religious laws. Women’s decision-making power and status determine both their ability to choose their own growth pathway and the well-being of their families. The Discriminatory Family

Code sub-index of the Social Institutions and Gender Index, ranging from 0 to 1 (1 being high discrimination) developed by the OECD successfully captures 4 aspects: legal age of marriage, early marriage, parental authority and inheritance rights.

The performance of the US, Yemen compared to India has been shown in Figure 5 below. Values have been normalised to make them comparable. As can be clearly seen, the US has performed better in all aspects of social, legal, civil and political parameters. Yemen performs better compared to India in case of access to sanitation facilities but better in all other aspects. However, its performance is far below that of US in every parameter.

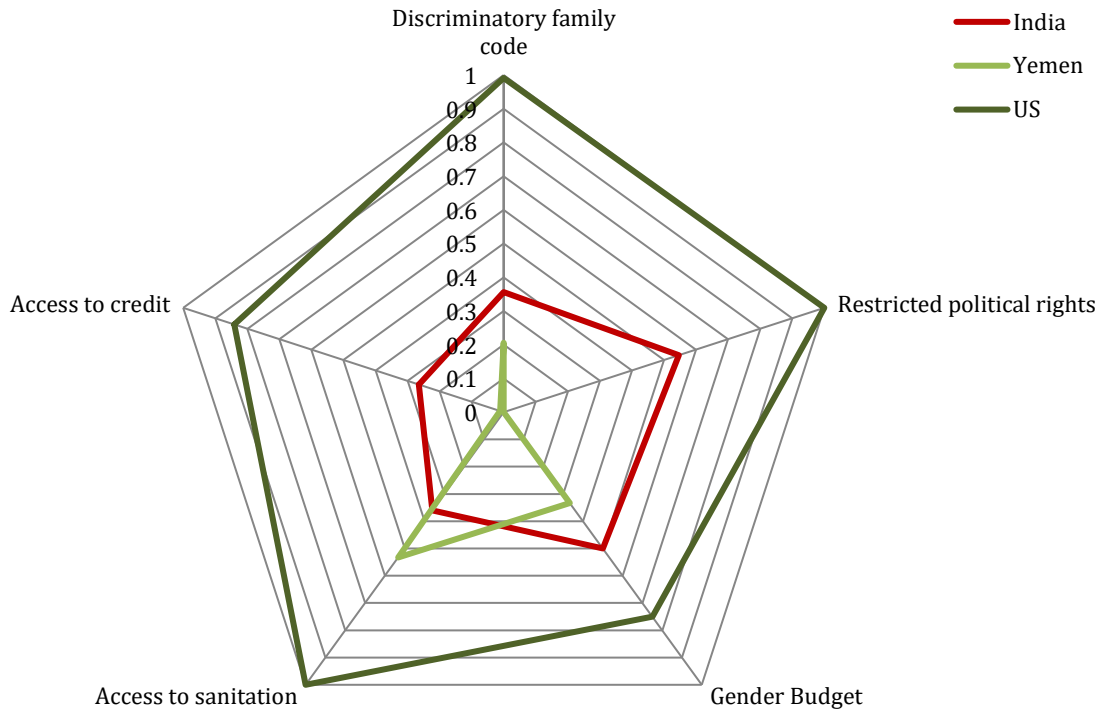


Figure 5. Performance on Policy parameters.

Results from regression analysis

The table shows the results of regression analysis. As can be seen for the table of regression results, countries’

$$FWB = \alpha + \beta_1 GenderBudget + \beta_2 Access\ to\ credit + \beta_3 Water\ and\ Sanitation\ facility + \beta_4 Political\ liberties + \beta_5 Family\ codes + \beta_6 i.\ income + \mu$$

The results from regression analysis with and without income controls are shown below in Table 4. In the

performance in terms of all variables discussed above is significant.

second model with income fixed effects, the low-income category is omitted. As expected, gender budgeting

variable comes out significant in both regressions. Accounts at formal financial institutions also turn out significant. Access to sanitation facilities is extremely significant at 1% significance level. Political and civil liberties as measured by the sub-index of SIGI, 2014 is significant with income fixed effects. Its coefficient is negative as expected in both regressions because more the restrictions on political and civil rights more would be, lesser would be the wellbeing of women in social and

political dimensions. This result highlights the importance of women’s participation in society’s actions and public decision making for a range of development outcomes such as governance, health and education. The discriminatory family code also gives significant and very high negative coefficients in both regressions. This shows that effect of civil codes, informal laws on marriage, inheritance rights, the legal age of marriage etc. have significant and huge effects on female wellbeing.

Table 4. Results from regression.

VARIABLES	(1) indefinable	(2) indefinable
Gender CPIA rating	4.319** (2.120)	3.523* (2.041)
Account at a formal financial institution, female (% age 15+)	0.223** (0.105)	0.344** (0.166)
% Access to Sanitation	0.384*** (0.114)	0.364*** (0.123)
Restricted civil liberties	-12.998 (11.013)	-17.399* (10.167)
Discriminatory family code	-45.785*** (12.120)	-49.650*** (13.386)
Income group = 2, Lower middle income		10.081 (7.159)
Income group = 3, Upper middle income		2.293 (10.643)
Income group = 4, High income		-7.439 (16.810)
Constant	69.094*** (10.959)	67.872*** (10.610)
Observations	50	50
R-squared	0.756	0.782
Robust standard errors in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		

Source: Author’s own calculations.

POLICY IMPLICATIONS

Based on the above results, certain policy actions for governments around the world can be prescribed. Strengthening gender-responsive legislative framework seems to be a top priority with a high and significant impact on our FWB index. Gender budgeting seeks to mainstream gender aspects of issues within government policies and promote greater responsiveness of governments to gender issues (Stotsky, 2006). Gender budgeting is not intended to focus only on female-targeted schemes or to prepare a separate “women’s budget”, but rather to examine the gender effects of all government programmes and policies, their impact on

resource allocation and improving outcomes. The second conclusion that is derived from our result is related to increasing access to credit. Governments can propose policies for the financial inclusion of women which directly as well as indirectly benefit women in all strata of the society. It not only increases opportunities for self-employment but also increases command over resources that belong to women (like earned income) and therefore enhance their bargaining power in intra-household decision making. Organizations such as, the Grameen Bank in Bangladesh and Self-Employment Women’s Association (SEWA) in India enhance credit and economic opportunities for women, and strengthen

their bargaining power (Agrawal, 1997).

Gender inequalities also decrease significantly by state interventions in the form of increased access to infrastructure as evident from our third result. Public investment in infrastructures like water supply and sanitation, rural electrification, and better transport infrastructure can have positive externalities in terms of female education and improving the health and nutrition of the household. A World Bank study (Bredie, 1998) noted that easy access to drinking water leads to an increase in school enrolment, particularly for girls as it reduces the time spent on collecting water. Such fiscal policies can also bolster intra-household equalities in terms of household division of labour and financial responsibilities (Chakraborty, 2011; Agrawal, 1997).

Our next result is related to public participation of women in terms of access to public space, the share of women in national parliaments and presence of quotas to promote women's participation in politics at national and regional levels. There is a huge body of literature which supports such interventions. Introducing electoral quotas and involving women network at grassroots level in decision-making processes would help ensure that new policies and legislation are gendered neutral. Increased political power can also increase the ability of women to better disobey religious ideologies and social norms that are unfavourable to women (Agrawal, 1997). Chattopadhyay and Duflo (2004) have measured the impact of "feminization of governance at the local level" in survey-based study villages of West Bengal, India. They found that women council leaders of investing more in infrastructure that is relevant to the needs of rural women (like drinking water, fuel, and roads) and that village women are more likely to participate in the policymaking process if the leader of their village council is a woman.

Our final result based on discriminatory civil codes across countries is quite interesting. It captures 4 areas: legal age of marriage, the prevalence of early marriage (or marriage before the age of 20), parental authority whether fathers have complete control over children, and inheritance practices whether bequests are equally shared between male and female offspring. In the literature on gender inequality, only a few authors explicitly recognize the importance of social norms and model them. Agarwal (1997) shows how social norms limit the bargaining power of women in intra- as well as extra-household decision making. Social norms enter

virtually every sphere of activity ranging from acceptance of polygamy to unequal gender division of labour within the home, outside the home, women's participation in the job market, participation in household decision-making process and inheritance. It has been found that having land rights can lead to less restrictive social norms. Such women also report an enhanced sense of economic security and self-confidence (and therefore negotiating power), as well as improved treatment from husbands (Agrawal, 1994a). Countries should go for collective action to eliminate discriminatory laws in the family code and contest social norms which beget inequality. Therefore, a 'Uniform Civil Code' which ensures legal equality of women can alter gender biased civil laws, religious and personal laws and practices.

ACKNOWLEDGEMENT

I would like to thank Prof. Arup Mitra (Institute of Economic Growth, Delhi) for providing valuable insights and comments leading to successful completion of this paper.

DISCLAIMER

Views expressed in the paper are author's own and do not represent or reflect the views of Government of India.

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APPENDIX

The table shows the classification of countries into Very low, Low, Medium and High levels of Female Well-being-determined on the basis of the constructed Female Well-being Index:

Very Low	Low	Medium	High
Yemen, Rep.	Lebanon	Ecuador	Israel
Pakistan	Trinidad and Tobago	Kazakhstan	Czech Republic
Burkina Faso	Botswana	Portugal	Hungary
Uganda	Cambodia	Costa Rica	Belgium
United Arab Emirates	South Africa	Romania	Netherlands
Madagascar	Sri Lanka	Italy	Spain
India	Kuwait	Croatia	Poland
Syrian Arab Republic	Brazil	Thailand	Ukraine
Bangladesh	Bhutan	Chile	Uruguay
Lesotho	Nicaragua	Austria	Russian Federation
Azerbaijan	Malaysia	Germany	Estonia
Lao PDR	Bahrain	Ireland	Mongolia
Egypt, Arab Rep.	Kyrgyz Republic	Slovak Republic	Sweden
Nepal	Philippines	Bulgaria	Denmark
Qatar	Indonesia	France	New Zealand
	Bolivia	Latvia	Australia
	Mexico	Canada	Finland
	El Salvador	Lithuania	Norway
	Georgia		Slovenia
	Iran, Islamic Rep.		United States
	Dominican Republic		
	Vietnam		
	Peru		
	Paraguay		
	Armenia		
	Mauritius		
	Panama		
	Turkey		
	Malta		
	Serbia		

Source: Set of 83 countries used in the paper and classification on the basis of Author's calculations