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Author

Arora, Rashmi

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GENDER INEQUALITY, ECONOMIC DEVELOPMENT, AND GLOBALIZATION: A STATE LEVEL ANALYSIS OF INDIA

Rashmi Umesh Arora*
Griffith University, Australia

ABSTRACT

This study using access to education and health as the indicators of gender inequality examines gender inequality and state level openness in the different states of India. Further, the study's findings show that at the sub-national level in India higher per capita income is accompanied with lower gender inequality. However, in some high income states gender inequality is also very high. High gender inequality was also observed in the states which score high in the openness index.

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Corresponding Author's Email Address: r.arora@griffith.edu.au

INTRODUCTION

India is increasingly portrayed as 'high globaliser' and a 'poster state' of globalisation (Rato, 2007)[1]. The extensive trade reforms and other reforms were carried out by the Indian government in 1991 with the objective of reducing controls and easing policies to achieve greater integration with the world economy and to stimulate economic growth. Often referred to as 'globalisation', the impact of integration in a large economy could differ for different groups of people like rich, poor, women, disabled, marginalised groups such as, those belonging to low caste, regions, and rural and urban areas. In recent years, globalisation and its implications for gender have been much discussed and commented upon in the wider literature. In the Indian context, a large literature has examined regional disparities in the country and has suggested that the disparities have increased since the reforms[2]. Yet in this discourse the issue of gender inequality at the sub-national level and its impact on economic growth and development has remained unexplored. Some studies have explored this in the context of globalisation, but only in a localized context and their geographical scope does not extend to all the states of India [3].

This paper examines gender inequality, economic development and globalisation in the different states of India. Specifically, it examines whether gender inequality differs across the Indian states and whether it is lower in more open and 'globalised' states. The question is significant as in a large economy social and economic characteristics at the sub-national level could vary sharply from that at the national level. Even localized field level studies focused on a single state or selected parts of state may not be able to present a macro state level perspective. The question is also significant as it unfolds whether in a fast growing and global integrating economy to what extents its population, differentiated by gender, is able to partake in its integration and growth.

Gender inequality, that is, disparities between individuals due to gender has been defined differently by different studies. Sen (2001) defined gender inequality as "not one homogeneous phenomenon, but a collection of disparate and interlinked problems." According to him, these could be mortality inequality; natality inequality; basic facility inequality for instance, unequal access to schooling to girls; special opportunity inequality such as, unequal access to higher education, professional trainings etc.; professional inequality in certain occupations; inequality in ownership of assets; and inequality within household in the division of labour. Gender inequalities also exist in the workforce for example, wage gap between men and women and unequal treatment meted out to women in higher promotions, postings etc. In our study, gender inequality is defined as inequality in women's access to education and health.

Increased trade openness through increased trade opportunities and increased output may lead to greater participation of women in paid workforce. Our study does not consider participation of women in the paid workforce as one of the indicators of gender inequality, as it may be low even among women with high education due to cultural and social expectations. Participation in workforce is also governed by women's education and health and other cultural factors such as, mobility of women. The mobility of women, particularly in many parts of South Asia, is limited as young girls and women are often expected to take responsibility of the household duties and men are expected to be the earners of the family. This, however, is changing rapidly in the major towns and cities as in the post-reform period "while the loosening of restrictions on physical mobility are seen as a hallmark of modernity, any attempts to restrict women's access to education and work constitute proof of 'backwardness' (Ganguly-Scrase & Vandenbroek, 2005).

The findings of our study show that at the disaggregate and sub-national level in India, by and large, high per capita income was associated with lower gender inequality and low per capita income in states with high gender inequality; however, in some states high income per capita coexisted with high gender inequality. In terms of openness, the study found that most of the states (with the exception of Tamilnadu) which ranked high in the openness index also had high gender inequality. The results of the study, however, should be treated with caution as it is constrained by lack of firm state level trade data: state level openness as defined here is based on the methodology developed by Marjit, Kar and Maiti (2008); and pattern of female employment. The contribution of this study to the existing literature on gender and development is two fold: it contributes to the literature on gender inequality and growth; and also contributes to the literature on gender inequality and trade openness. What distinguishes this study from others is that it attempts to examine above issues at the disaggregate sub-national level rather than at the national level alone.

Rest of the paper is organised as follows. Section II discusses the literature on gender inequality and economic growth and globalisation. This is relevant in understanding the relationships examined, and the role of gender. Data and methodology are outlined in Section III. The findings of the study are discussed subsequently in Section IV. The section examines gender inequality in the major states of India and builds Gender Inequality Index. It examines whether in the high per capita income states gender inequality is low, and whether 'open' states are more gender friendly than other states which are less open. In section V, the study concludes based on its findings.

RELATIONSHIP BETWEEN GENDER INEQUALITY, GLOBALISATION, AND ECONOMIC GROWTH

Women's contribution to economic growth can be through accumulated capital- both physical and human capital; their participation in the paid workforce and through increased savings. In the theoretical endogenous growth literature, human capital is recognized as an important source of economic growth. Human capital, defined as "direct expenditure on education, training, health and internal migration" was first recognised as a source of economic growth by Shultz (1961, p.1). Becker in 1964 (third edt. 1993) even titled his book 'Human Capital' and described the forms of human capital as schooling, on-the-job-training, medical care and migration to improve income prospects. Women's role in endogenous growth literature is linked to the changed fertility pattern, a consequence of increase in capital per worker and higher wages leading to reduction in fertility and economic growth (Galor & Weil, 1996).

Women's role in development is reflected in reduced maternal mortality and improved maternal care, better education and nutrition of children, reduced fertility, and increase in the average age at first marriage (Shen & Williamson, 1999). Besides, the improved status of women in general, and better education of the mother in particular influences overall attitudes, including preferences of women towards the girl child. Often, it is this discrimination against the girl child from the moment she is born, or even before her birth, which culminates eventually in the low status of women, and leads to many other poor economic and social outcomes.

Dollar and Gatti (1999) examined the relationship between economic growth and gender inequality. Their results showed that gender inequality is higher in poorer and developing countries than the developed countries. Gender inequality is also high in certain religions. Besides, high gender inequality in terms of poor access to education by women also contributes to low economic growth and income. The study argued that increase in economic growth leads to reduction in gender inequality. The authors, therefore, suggested that growth is 'good for women'.

Stotsky (2006) argued that a simultaneous relationship exists between gender inequalities and economic growth. Similar to Dollar and Gatti (1999), Stotsky too emphasised that gender inequalities lead to low economic growth and high economic growth, on the other hand, leads to reduction in gender inequality. She also suggested that macroeconomic policies particularly those relating to financial markets should take into account the gendered differences.

In a cross-country setting, Gümbel (2004) examined the role of gender inequality in economic growth in the context of developed and industrialized countries. His results too indicated that high per capita income is associated with low gender inequality. Gümbel (2004) also pointed out that while absolute growth levels and gender inequality move in reverse direction, this does not hold true if the percentage growth and gender inequality are considered.

Forsythe, Korzeniewicz, Majid, Weathers and Durrant (2003) examined the effect of economic reforms and economic growth on gender inequality. Their results suggest that besides policies, socio-economic characteristics also play a role in gender equality. They found that macroeconomic policies including changes in trade policy do not explain gender inequality. The variable which influences gender inequality most is

the expenditure on education, and decline in gender inequality is associated with increased expenditure on education.

Morrison, Raju and Sinha (2007) argued that gender equality occurs through greater access of women to land and credit market and their enhanced decision making power within households. This leads to increased women's empowerment, reduction in poverty and increase in economic growth. The authors argued that while significant research has been done at the micro level on understanding the relationship between gender inequality and human development, at the macro level research on gender inequality and poverty reduction and economic growth has been inadequate.

While a large number of studies have found that gender equality and economic growth are positively related, and that higher per capita income is associated with lower gender inequality, the impact of globalisation on gender inequality has not been much researched. The increased trade opportunities through increased employment and output are expected to benefit all population groups including men and women. UNCTAD (2008) summarised the potential positive and negative effects of trade liberalisation on women (Table 1). These effects could, however, vary in developed and developing countries depending on the social, economic and institutional factors.

Oostendorp (2004) examined the gender gap in wages since globalisation. In a cross-country survey of the impact of globalisation on occupational gender wage gap using the data derived from International Labour Organization October inquiry, the study found that increase in economic growth and per capita income leads to reduction in occupational wage gap. The impact of globalisation, however, on gender wage gap was found mixed and uncertain.

Baliamoune-Lutz (2006) using cross-sectional data (5 yearly averages) looked at the effects of globalisation and growth on gender inequality. Her results found that increased trade openness leads to an increase in gender inequality in Africa. This is so as the increased trade openness leads to increase in the supply of unskilled labour and causes gender inequality to increase. The results further suggested that globalisation and economic growth had no effect on gender equality in non-Sub-Saharan countries.

Shultz (2005) examined the relationship between trade liberalization and economic status of women. Shultz takes schooling and health as the indicator of gender inequality. His study showed that trade restrictions in the form of tariffs, quotas or other restrictions such as, on foreign exchange lead to low trade and also affect women's education and health. His other results indicated that natural resource exports reduce women's schooling and health as the girls gain employment and school enrolments decline. Overall, the study indicated that trade liberalization and globalisation through spillover effects and increased demand for female labour could lead to increased education and health facilities for women in turn leading to increased gender inequality.

TABLE 1. POTENTIAL EFFECTS OF TRADE LIBERALIZATION ON WOMEN

Issues	Potential Positive Effects	Potential Negative Effects
Employment	Increase in quantity of jobs available. New alternatives to existing employment. Greater quality in terms of income and work conditions with development of new industries. Opening of new markets for goods and crafts, in particular traditional crafts.	Poor quality of opportunities. Insecurity of employments. Increase in part-time work, home based work, day-labouring and piece-based remuneration. Loss of traditional sector of activities and of business because of foreign competition.
Public Service Availability	More efficient and more adapted services in response to women's specific demands.	Decrease in service availability in some areas because not deemed profitable. Increase in the cost of services and medicines.
Price effects	Growing availability of cheaper foodstuff and goods.	As local production is displaced, gradually rising price of goods and greater sensitivity to fluctuating exchange rates.
Wage gap	Unclear whether trade liberalization can have any effect on the wage gap.	Competitive pressure may drive wages down as firms seek to minimize costs.

Source: UNCTAD (2008).

Seguino (2006) examined the impact of globalization on gender equality in case of Latin American and Caribbean countries. The results suggest that economic growth has not been beneficial for gender equality in the Latin American and Caribbean countries and has actually had negative effect on some indicators. This could be due to out-migration of women in low paid insecure jobs and men's increased financial insecurity because of their reduced earnings leading to domestic violence. The study also measured the impact of four variables on gender equity in well being- female bargaining power, structure of production, macroeconomic condition, and government spending. Her results showed that production structure or shift to manufacturing impacts gender equity positively. Women's economic activity leads to their increased bargaining power and has a positive impact on gender equity. The other factors have a negative effect on gender equity.

In the Indian context in a country level analysis, Pande (2007) urged researchers to incorporate gender perspective in the globalisation debate and argued that women in the informal sector with poor access to land, credit, education and health facilities remain marginalized despite globalization. They are often exploited by working long hours and paid low wages and also lack voice and participation. In this context, the author pointed out that the emergence of self help groups which provide finance to women to start

entrepreneurial ventures is a welcome initiative. Some other studies (Fontana et al., 1998; Fontana & Wood, 2000; Cağatay, 2001) also found that in the agricultural based economies trade actually leads to increase in gender inequality. Stotsky (2006) too argued:

In some countries, mainly those still based primarily on subsistence agriculture, inequalities in women's opportunities limit their ability to take advantage of beneficial macroeconomic and structural policies. This is a particular problem highlighted in research on sub-Saharan Africa. Where women are mainly limited to subsistence agriculture, exchange rate depreciation geared toward restoring external balance, can impose a relatively harsher adjustment burden on women. ---In addition, it is important to separate the short-term from the longer-run effects in assessing the impact of changes resulting from structural adjustment.

The review of the literature thus, by and large, shows that at the national or cross country level while the impact of high economic growth and increase in per capita income has been positive for reducing gender inequality, this does not appear to hold true if the impact of globalisation on gender equality is considered.

At the sub-national level, the gender-globalisation relationship could still be different from the national or cross-country level due to inter-regional disparities. This, however, remains largely unexplored in the existing literature. We have not come across any study in the wider literature which has examined gender inequality and globalisation at the sub-national level. This is possible as the inter-country trade denotes national sovereignty and national entity. The states or sub-national units do not establish trade relations with other countries primarily due to their lack of sovereign and independent status. However, we believe that it is the firms and industries located in different states and regions of the country which manufacture goods and contribute to the aggregate national trade. The impact of national level trade policies, thus could affect differently different regions, states and people employed in these firms and industries. This study is a first step in this direction.

DATA AND METHODOLOGY

The standard trade theory predicts that outward looking policies through greater participation in international economy and increased exports will result in increased employment. The labour surplus countries with large number of unskilled labour are particularly expected to benefit in terms of employment generation. This however, presumes perfect mobility of labour and adjusting markets. In the gender context in developing countries this may not hold valid as women often face severe constraints in terms of mobility, access to resources and human capital. UNCTAD (2008) noted that:

These disadvantages raise barriers to perfect mobility and full employment and are likely to result in crowding women into informal sector areas such as domestic services, petty trading etc., where entry barriers are low, as are remuneration and consequently, productivity levels. Over the years these patterns of development have pushed poor women to progressively lower levels of subsistence livelihood engagements.

While trade openness has benefited some countries for instance, Bangladesh and Sri Lanka, the evidence nevertheless is mixed (UNCTAD 2008). Trade-openness or trade/GDP ratio is often used as the indicator of globalisation of the economy. Although

trade openness can be defined in a number of ways, researchers often use value of exports and imports divided by total country's output as the indicator of country's openness and its participation in globalisation. However, some studies have questioned the rationale of using this ratio as the indicator of globalisation (Birdsall & Hamoudi, 2002). Critiquing Dollar and Kray (2001) on their categorisation of countries into 'globalizers' and 'non-globalizers' based on trade/GDP ratio, Birdsall and Hamoudi (2002) argued that a high trade/GDP ratio indicating openness may be illusory as it may reflect relative commodity prices and has nothing to do with trade liberalisation policies. Also, low trade/GDP ratio may imply countries' dependence on primary commodities (in turn a reflection of geographical constraints and social political history of the country concerned), the prices and world demand of which may vary and may have again little to do with the trade liberalisation policies.

The exports and imports/GDP ratio of India has increased significantly since 1990-91 reflecting a shift in policies. The ratios were just 5.8 per cent and 8.8 per cent in 1990-91 and rose to 13.5 per cent and 21.2 per cent respectively in 2007-08[4] (RBI, 2008a). India's share in world trade (exports and imports together) increased from 1.2 per cent in 2006 to 1.3 per cent in 2007. Further, India was the 26th largest exporter and 18th largest importer in the world in 2007 (RBI, 2008b).

Although available at the national level, data on trade openness at the sub-national level in India is lacking. We, therefore, use the state level openness indices constructed by Marjit, Kar and Maiti (2008). Marjit et al. constructed state level trade openness index by taking into account industry output in each state and corresponding its exports at the country level. On this basis, they deduced that the state with a larger share of that item in its production set will approximately have a larger share in country's exports too. It may be mentioned that the purpose of Marjit et al. was to compute state level data on globalisation (implying trade openness), the data on which is lacking in the context of Indian states. Their study does not examine gender inequality (or any other inequality whatsoever) emanating from globalisation. Our study in a sense extends their analysis further by using their estimates of state level openness and applying them in the context of gender inequality.

Data on other economic indicators at the sub-national level collated by us, that is, extent of state level per capita credit sanctioned, level of urbanisation (percentage of urban population to total), percentage of surfaced roads, percentage of villages electrified and e-readiness index[5] also support Marjit et al. rankings of the Indian states in the openness index (Table 2). Thus, while Tamilnadu tops in the openness index, it performs better in other indicators too. At the other end are states like Bihar and UP which rank poorly in the openness index and also on other indicators. Some exceptions are Maharashtra and Haryana which although rank poorly in the openness index, perform well in all the other indicators.

TABLE 2. GLOBALISATION INDICATORS AT THE STATES LEVEL

States	Per capita credit sanctioned (in Rs.) (2006)	Per capita credit utilised (in Rs.) (2006)	Urbanisation (% of urban population in total) (2001)	% of surfaced roads (2002)	% of villages Electrified (2005)	E-readiness Index* (2004)	Openness Index value of states** (2002-03)	Openness Index ranking of states** (2002-03)
Uttar Pradesh	3766	4255	20.8	67.1	58.2	4	9	10
Bihar	1670	2204	10.5	43.2	51.3	6	11.5	14
Punjab	16963	16820	33.9	85.7	100.0	2	5	2
Orissa	5870	6991	15.0	22.0	55.2	4	7	5
Karnataka	19159	23559	34.0	68.3	98.1	1	7.5	6.5
Haryana	13398	16239	28.9	93.3	100.0	2	9.5	11
Madhya Pradesh	5568	6182	26.5	48.6	96.3	3	7.5	6.5
Kerala	15512	16246	25.9	33.3	100.0	2	10.5	13
Rajasthan	6686	7446	23.4	62.2	63.9	4	5.5	3.5
Gujarat	11538	15628	37.4	90.3	98.7	2	8	8
Tamilnadu	23494	23247	44.0	75.8	94.9	1	2.5	1
Maharashtra	51292	40811	42.4	78.4	86.5	1	8.5	9
West Bengal	8848	9653	28.0	53.8	84.8	3	5.5	3.5
Andhra Pradesh	12510	13254	27.3	61.1	99.8	1	10	12

Sources: Compiled from CSO (2005); DIT (2004); RBI, Marjit et al. (2008).

*Notes: *Numbers allotted to states by the present study to show the group to which the state belongs. Thus (1) is for Leaders; Aspiring Leaders (2); Expectants (3); Average Achievers (4); Below Average Achievers (5) and Least Achievers (6). **: The state with the lowest openness index value is ranked 1 and so on. Marjit et al. have included Assam too in their study which ranks lowest at 15 with high openness index value at 12.5.*

Gender Development Index (GDI) and Gender Empowerment Measure (GEM) were developed by United Nations Development Programme (UNDP) primarily with a view to draw the attention of researchers and policymakers to gender related issues (Schüller, 2006). Gender Development Index or GDI was first introduced by UNDP in its Human Development Report for the year 1995. GDI, similar to the Human Development Index (HDI), takes into account life expectancy, education, and GDP per capita disaggregated by gender. The gender empowerment measure (GEM) examines whether women and men are able to actively participate in economic and political life and take part in decision-making. It shows the share of seats in parliament held by women; female legislators, senior officials and managers, and female professional and technical workers. It also shows the gender disparity in earned income, reflecting economic independence of women. The indices, however, have been subjected to much criticism directed more towards the methodology used in their construction, and their actual usefulness (Bardhan & Klasen, 1999). Also the indices do not take into account social and cultural differences across the countries (Pillarisetti & McGillivray, 1998).

Gender inequality has also been measured by other studies (see Breitenbach, 2007). Dollar and Gatti (1999) used four measures of gender inequality which are: i) access to education; ii) health facilities; iii) legal and economic equality of women- in

society and marriage; iv) women's empowerment (measured by women in parliament and women's right to vote). Other examples are Norway's Gender Inequality Index (Statistics Norway, 2008) and Swedish Gender Inequality Index for the municipalities (Statistics Sweden, 2008).

Norway's index published since 1999, measures the extent to which men and women participate in politics, education and working life. The indicators covered are: kindergarten coverage for children aged 1-5; number of women per 100 men aged 20-39; education levels for women and men; labour force participation for women and men; income for women and men; percentage of female municipal council members.

The Swedish Gender Equality Index compares performance of regions on gender equality and is based on 13 variables. Statistics Sweden (2008) points out that Gender Equality Index is a *'comparison index* (not a time series index)'. The variables which this index takes into account are: people with post secondary education; people in gainful employment; level of job seekers; average income from gainful employment; people with low income; unequal sex distribution by industry; days of parental leave benefit; days of temporary parental leave benefit; sickness rates; young adults (25-34 years of age); women and men in municipal council; municipal executive board; entrepreneurs with at least 1 employee. For each variable and region the relative difference between the statistical values for women and men are calculated. The equation followed is shown below:

$$\text{Relative Difference} = 100^* \text{ Abs } (W-M)/ (W+M) \quad (1)$$

When the values for men and women are equal (ex. W=50; M=50), the function yields= 0 and is 100 at maximum difference (ex: W= 100, M= 0, or reverse that is, W= 0, M=100). Further, all regions are ranked by the values of relative difference and best is ranked 1 and so on. The index is then computed by averaging rank values for all variables for each region. For some variables such as, unemployment, low incomes and number of days of sickness absolute levels are used.

The Swedish Gender Equality Index (and even Norway's Gender Inequality Index) measures gender inequality at a disaggregate level, that is, at the municipality level and, therefore, more appropriate in our context. Besides, as Breitenbach (2007) pointed out the yardstick of the quality of any index should be "quality of the data i.e. reliability, robustness; clarity; comparability ---, frequency of availability; capacity for trend analysis; capacity to provide profiles for relevant groups and areas---". Also Breitenbach (2007) emphasised the indicators should be 'relatively easy to understand', and 'accessible to a range of users and to the general public'. The Swedish Gender Equality Index meets the criteria on these fronts too.

Our methodology is similar to the Swedish methodology on Gender Equality Index. As pointed out earlier, we take gender inequality to comprise access to education and health. Our study does not consider participation of women in the paid workforce as it is governed by a number of factors including access to education, health facilities and socio-cultural factors. We, therefore, take education and health as the key indicators of gender inequality. We further divide these indicators into nine sub-indicators each, and for each variable calculate the relative difference between the statistical values for men and women by using the following formula:

Relative Difference = 100* Abs (W-M)/ (W+M) (2)

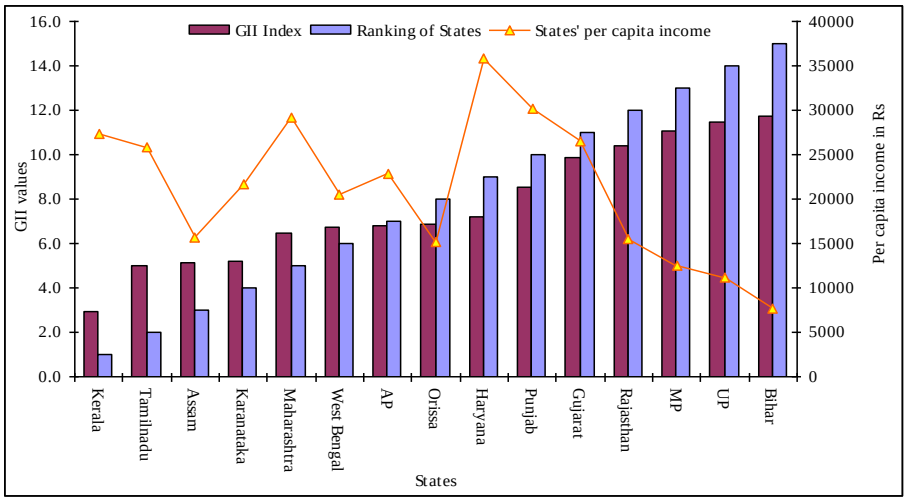
The 15 major Indian states are ranked by the values of relative differences for each variable and best gets rank 1 and worst 15. To arrive at the index the relative difference is:

Dij=100* Abs (Vij_w-Vij_m) / (Vij_w+Vij_m) (3)

For analytical convenience and clarity, the GEI rankings of the states have been further grouped into three categories:
1. $1 \geq GEI \leq 5$ = low gender inequality
2. $6 \geq GEI \leq 10$ = medium gender inequality
3. $11 \geq GEI \leq 15$ = high gender inequality

The data for education and health are drawn from Population Census and National Family Health Surveys (NFHS, 2006). The NFH survey is a large scale multi-round survey representative household survey and is a rich source of information on state level infant and child mortality[6], child health, maternal health and reproductive health. The latest survey results available are for the year 2005-06. **FINDINGS**
Figure 1 shows GEI and ranking of states of the major states of India in GEI.

FIGURE 1. GII INDEX OF STATES



Note: The state with the least gender inequality is ranked 1 and state with highest gender inequality is ranked 15th in Gender Inequality Index.

The figure shows that in states with high per capita income, gender inequality is low and in states with low per capita income, gender inequality is high. This finding corresponds to the finding of other cross-country studies (Dollar & Gatti, 1999 among others) which showed that a reverse association exists between gender inequality and per capita income.

At the sub-national level in India, the correlation coefficient between gender inequality and per capita income is negative at -0.53 indicating that lower the gender inequality, higher the per capita income. However, our study also found that even in high per capita income states such as, Punjab and Haryana gender inequality is high. Both child mortality and under-5 mortality rates are much higher for girls than boys in these two states. The cross country and national level regression results, therefore, need a critical look as they may not reveal true picture of gender inequalities within the country particularly, in large countries with high regional disparities.
Table 3 displays Gender Inequality Index and also shows openness index of the states.

TABLE 3. RANKING OF STATES IN GENDER INEQUALITY INDEX AND OPENNESS INDEX

States	Gender Inequality Index (GII)	Ranking of states in GII	Openness Index value of states	Openness Index ranking of states
Kerala	2.9	1	10.5	13
Tamilnadu	5.0	2	2.5	1
Assam	5.2	3	7.5	6.5
Karnataka	5.2	4	12	15
Maharashtra	6.5	5	8.5	9
West Bengal	6.8	6	5.5	3.5
Andhra Pradesh	6.8	7	10	12
Orissa	6.9	8	7	5
Haryana	7.2	9	9.5	11
Punjab	8.5	10	5	2
Gujarat	9.9	11	8	8
Rajasthan	10.4	12	5.5	3.5
Madhya Pradesh	11.0	13	7.5	6.5
Uttar Pradesh	11.4	14	9	10
Bihar	11.7	15	11.5	14

Note: Data for Gujarat, Madhya Pradesh and Assam relates to NFHS 1998.

Some patterns which emerge from Table 3 (also Figure 1) are that the states which lie in the southern and western part of the country have lower gender inequality than the states in the northern region. The states with medium gender inequality (group ranking 6-10) are West Bengal, Andhra Pradesh, Orissa, Haryana and Punjab. Haryana and Punjab, as mentioned earlier, are very high income agriculturally prosperous states. The BIMARU low income states (Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh) have much higher inequality in gender and fall within the last group of rankings (11-15) in gender inequality. High gender inequality exists in both education and health.

Detailed state level NFHS reports are not yet available for Gujarat, Assam and MP. We, therefore, took the previous survey results (1998) for these three states. We are aware that between the two survey periods 1998 and 2006 improvements might have taken place in these indicators. On verifying with the overall broad results for 2006 available for Gujarat, we found that surprisingly the rates have remained more or less same between the two survey periods 1998 and 2006. For instance, data on trends in

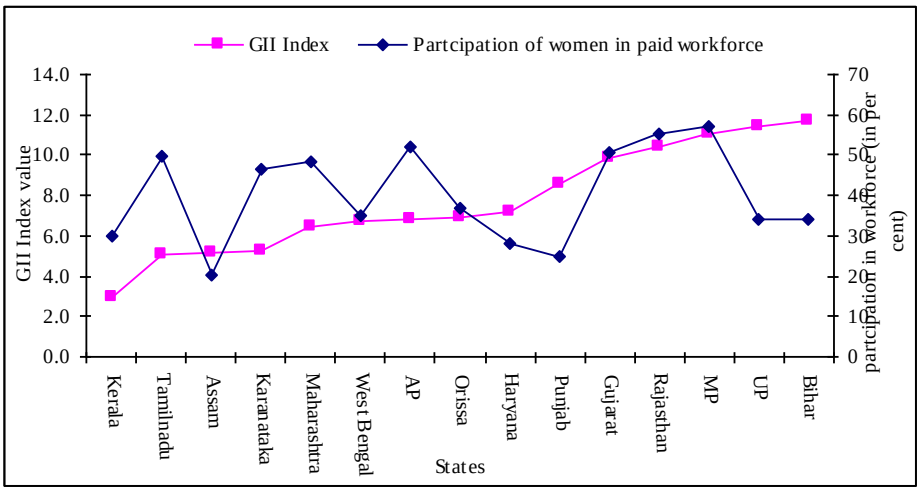
children's nutritional status reveal that the percentage of children under 3 wasted was 44 percent in 2006 survey. This was more or less similar to the 1998 results. Infant mortality has actually risen during the two survey periods from 63 deaths per 1000 live birth to 69 deaths per 1000 live birth.

The results in regard to the openness index and gender inequality, on the contrary, are mixed. Tamilnadu is the only state which ranks high in both indices. Rajasthan, a state with high gender inequality ranks high in the openness index. The state has a high share in tourism, gems and jewelry exports and minerals. Similar is the case with Punjab which ranks 10 in the gender inequality index, but ranks high among the states in the openness index. This result needs to be treated with caution as openness is measured as contribution of that state to the total bundle of country's exports proxied by the state's industrial output in export products.

Kerala, according to our study, has the lowest gender inequality in terms of both education and access to health. Other studies too have confirmed these results. However, Kerala's superior performance in terms of gender equality may be illusory as Kodoth and Eapen (2005) point out that despite favourable Gender Development Index and Gender Empowerment Index in the state, a high proportion of women in the state do not participate in the paid workforce[7]. The latest results of NFHS (2006) also reveal that despite the lowest gender inequality among all the states of India and high access to education and health, a high percentage of women in Kerala do not participate in the paid workforce. In Kerala only 30.1 percent of the women are employed compared to the states with high gender inequality such as, Rajasthan (55.4 per cent) and Gujarat (50.8 per cent)[8]. Figure 2 below displays GII index values and participation of women in paid workforce in the different states of India.

It is well recognised that improved health and education of women leads to better development outcomes. However, women's contribution to economic growth will only take place if the women increasingly participate in the paid workforce. Stotsky (2006) in this context observed: Higher levels of participation in labor markets increase women's contribution to household resources and hence increase their control over the allocation of household resources, potentially affecting consumption, savings, and investment decisions. These effects are negated, however, when household commitments severely limit labor market participation.

FIGURE 2. GII INDEX AND PARTICIPATION OF WOMEN IN PAID WORKFORCE



A number of other studies have also examined women's participation in labour markets (for instance, Behrman, 1999; Blundell & MaCurdy, 1999). Participation of women in labour market is complex and is determined by women's education, health, social and cultural factors and household commitments. Stotky (2006) argued that discrimination against women including occupational segregation in the labour market also reduces women's participation in workforce particularly in the developing countries. Our study does not include participation in paid workforce as an indicator of gender inequality as it believes that lower participation of women than men is in turn an outcome of other inequalities. High gender equality in Kerala along with low participation of women in the paid workforce constrained by social and cultural factors, therefore, warrants a closer look at the state level institutional factors which is beyond the scope of this study.

CONCLUSIONS

In recent years gender has become a significant part of the mainstream discourse on economic growth and development. Gender perspective has been adopted by the international organisations such as, World Bank, WTO and IMF in the formulation of Millennium Development Goals, trade policies and macroeconomic structural programmes. A large number of studies based on cross-country results have also highlighted the role of gender in economic growth and development. At an aggregate level, these studies have shown that inequality in gender is bad for economic growth and lower the gender inequality, higher is per capita income and economic growth. Studies on gender-globalisation nexus have found that higher trade openness may not necessarily lead to higher gender equality. Thus while gender-growth relationship at the country level has been determined, gender-globalisation link remains uncertain. Our study argued that

at disaggregate and sub-national level, the above two results could be different and examined them specifically in the case of major Indian states.

This study, perhaps first of its kind in the Indian context on state level gender inequality and trade openness index examined gender inequality in the 'open' or globalised states of India. We have not come across any study which has examined the relationship between gender inequality and state level openness in the Indian context. Our results showed that while overall high per capita income was associated with lower gender inequality and low per capita income in states with high inequality; in some states high income per capita coexisted with high gender inequality. In terms of openness, the study found that most of the states (with the exception of Tamilnadu) which ranked high in the openness index also had high gender inequality. This result has to be treated with caution as openness based on the methodology constructed by Marjit et al. (2008) is defined as state's industrial output and the share of that product in country's total trade. Also, it is possible that women in these industries are employed at the lower rungs of employment performing menial jobs which although leads to their increased employment in terms of number, yet their status in terms of access to education and health may still remain inferior. Firmer estimates on state level openness could, however, yield different results.

As low per capita income was found associated with high gender inequality, a more inclusive, but strongly focused growth oriented strategy in the states, particularly in those with high gender inequality, is called for. In the Indian context, other studies have also found a strongly negative relationship between income and non-income factors such as, strong reverse relationship between Human Poverty Index and per capita income (Arora, 2009). Referring to the increased western interest in slum tourism in Kibera, a slum in Nairobi, Kenya, it was remarked, "but people just want to talk about poverty, poverty, poverty all the time" (Cawthorne, 2007, p.B3). In a similar vein, though in a different context, we reiterate that the increased emphasis should be on growth, growth and growth. Further, strong positive measures aimed at increasing women's education and better health facilities are required in the states as these will lead to improvement in women's status and empowerment. The improved status of women in turn through their increased participation in paid workforce would lead to higher economic growth and reduction in poverty. Female education and better health is linked to many other positive developments such as lower fertility rates, lower child mortality, better education of children. This has been supported by the findings of several studies (Baliamoune-Lutz, 2006; Knowles et al. 2002, World Bank, 2001).

However, improved access to education and better health facilities may still not facilitate women's contribution to economic growth and lead to reduction in gender inequality unless accompanied with women's increased participation in the labour force and change in overall mind set and attitudes. To enable both men and women to partake in global integration, reduction in gender inequalities, therefore, requires a social transformation which takes place through change in deep-rooted attitudes beginning at the family level. The role of the state is to facilitate that change through ensuring legal rights, increasing awareness of those rights and providing basic social services to women.

ENDNOTES

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[1] Contrary to all the claims on globalisation, a recent globalisation survey of 72 countries by research firm AT Kearney has ranked India as the second least globalised country with its ranking at 71 followed by Iran ("India 2nd least globalised economy: Report," 2007). The reasons attributed for India's low ranking were its large rural population (70 per cent); and a low percentage of population with access to internet (only 5 per cent).

[2] Some of the studies are Ahluwalia (2001), Joseph (2004), Kurian (2000), Sachs and Bajpai and Ramiah (2002a; 2002b), Topalava (2008), and Purfield (2006).

[3] A few among others are Pande (2007), Ganguly-Scrase (2003).

[4] The increase in ratios since reforms has prompted Dollar and Kray (2001) to include India among the group of high globalisers.

[5] The e-readiness index of the states has been constructed by the Government of India and covers 91 variables taking into account environment, readiness and usage of information technology in the states. It has grouped the states into six different levels of a pyramid and classified them into: Leader; Aspiring Leaders; Expectants; Average Achievers; Below Average Achievers; and Least Achievers. UP belonged to the Average Achievers group in 2004 (DIT, 2004). To obtain clarity and for a clearer understanding, the present study assigned numbers to each group starting from 1-6 and arranged individual states accordingly based on their group.

[6] Infant mortality is the probability of dying before the first birthday; child mortality is the probability of dying between the first and fifth birthdays and under five mortality is the probability of dying before fifth birthday.

[7] Roy (2005) points to the existence of an M shaped curve in developed countries in the participation of women in paid workforce according to the age-group. According to this, the participation of women is high in the younger age groups, declines in the childbearing years, and rises again when women increasingly join back into the workforce. In contrast to this, he points out that in India, because of a number of socio-cultural barriers, M shaped curve in the participation of women in the workforce does not exist. The pattern of women in workforce participation which exists in India is that of a inverted prolonged (somewhat flat) U shaped curve which implies entry of younger women in the workforce and exit from the workforce after marriage.

[8] The data available on women's employment is for the age group 15-49, and further breakdown of this age group and employment is not available.

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