SANEM
Thinking Aloud

Editor's Desk

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Why are some households different from others when it comes to female LFP?

Selim Raihan and Israt Jahan

Integrating the contribution of the female into the economy has grown to be a necessity in equity and efficiency considerations for any economy. It suggests that the labor market participation of female workforce improves their relative economic position, and also stimulates the efficiency and development potentials of the economy. Yet the relatively low level of female labor force participation (LFP) rate in Bangladesh is in conflict with the equity and efficiency goals. Nevertheless, the female LFP in Bangladesh has increased over the recent two decades: the rate has reached at 36% in 2010, where it was only 14% in 1990. However, in the process of understanding the factors determining female LFP, a fundamental question can be raised: why are some households different from others when it comes to female LFP? To be very precise, the question is: To what extent differences in household characteristics matter in determining participation of a female household member in the labor market? In order to address this question, we have conducted an exercise using the data from the 2010 Household Income and Expenditure Survey (HIES) in Bangladesh. All the households are classified as whether they have at least one adult female member participating in the labor market or not. A set of variables are considered as explanatory variables, which include age of the household head, years of education of the household head, gender of household head, religion, ratio of the number of male earners to the household size, household having members aged under 5, household having members aged over 65, average years of schooling of female adults in the household, poverty status, rural-urban status, per capita land ownership, share of income from social protection in household's total expenditure, share of remittance in household's total income, share of farm income in household's total income, and six divisional dummies. We have run a probit regression model and calculated the marginal effects from the probit regression.

The marginal effects of the probit regression results suggest that household with higher aged head has a higher probability of female LFP: a year rise in the household head's age increases the probability of household's female LFP by 0.1 percentage points. Education of the household head doesn't seem to have any significant impact on the household's female LFP. Being a male headed household reduces the probability of household's female LFP by 15.8 percentage points and being a Muslim household reduces the probability of female LFP by 10.6 percentage points. The higher the proportion of

> *"The story tells us to what extent females' labor market participations are 'constrained' by their household characteristics. Economic policies, targeted at enhancing female LFP in Bangladesh, need to take into account such 'constraints' generating from differences in household characteristics."*

male earners in the household the lower is the probability of female LFP: one percentage point increase in such ratio decreases the probability of female LFP by 17.9 percentage points. Households with young children and elderly members have lower probabilities of female LFP: household with children aged lower than five reduces such probability by 4.3 percentage points, and household with elderly members aged above 65 reduces such probability by 3.6 percentage points. The average of the years of schooling of the adult female members of the household has a positive effect: a rise in the average years of schooling by one year leads to the rise in such probability by 0.3 percentage points. Poor household has a higher probability of female LFP: being a poor household increases such probability by 4.2 percentage points. Compared to the rural household, the urban household has a higher probability of female LFP: being an urban household increases such probability by 2.2 percentage points. Households with higher landholding have lower probability of female LFP: a 10% increase in per capita landholding by household reduces the probability of female LFP by 8.9 percentage points. Social protection has a positive impact on female LFP: a 10% rise in the household's social protection coverage increases the probability of household' female LFP by 2.9 percentage points. Remittance has a negative impact on female LFP: a 10% rise in remittance share in total household's income reduces the probability of female LFP by 13.5 percentage points. Dependency on farm income reduces the probability of female LFP: a 10% rise in the ratio of farm income to total income of the household reduces the probability of female LFP by 2.3 percentage points. From the HIES 2010 data, Rangpur division, among all seven divisions, has the highest proportion of households with at least one adult female member participating in the labor market. We have, therefore, considered Rangpur as the base for the division dummy in the regression. Compared to Rangpur, the probability of female LFP reduces by 2.3, 6.2, 2.6, and 3.9 percentage points respectively if households are from Chittagong, Barishal, Khulna and Rajshahi divisions (for Dhaka and Sylhet, there are no differential impacts compared to Rangpur).

What do we learn from this exercise? Some households are different from others in 'letting' their adult female members participate in the labor market. The story tells us to what extent females' labor market participations are 'constrained' by their household characteristics. Therefore, economic policies, targeted at enhancing female LFP in Bangladesh, need to take into account such 'constraints' generating from differences in household characteristics.

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South Asian Network on Economic Modeling

Does rise in per capita income in South Asia promote female LFP?

Selim Raihan, Sayema H. Bidisha and Nafiz Ifteakhar

The relationship between female labor force participation (LFP) and per capita income is far from straightforward with cross sectional evidences often differing from individual country experiences. The relationship is believed to support a U-shaped pattern with the participation of females in the labor market tends to be higher in poor economies but eventually falls when countries goes towards the transition of middle-income countries. Finally with the course of development, female LFP tends to rise. This U-shaped relationship is however not robust to individual countries and different estimation methodologies. From an empirical point of view, it is somewhat widely argued that, with the course of development, weakening of social constraints along with expansion in education, women's participation in the labor market tends to improve.

Female LFPR (% of female population ages 15+)			
Country	1990	2000	2012
Bangladesh	14.00	24.63	39.40
Bhutan	49.40	53.30	66.40
India	34.80	33.90	28.80
Maldives	20.20	37.50	55.90
Nepal	79.80	81.70	79.90
Pakistan	13.40	16.00	24.40
Sri Lanka	36.40	37.30	35.00
Source: ILO			

From a global perspective, evidences show that, despite the gradual rise in female LFP over the decades, there still exists gender gap in labor market participation. However, this gap is much larger in South Asia than in other regions of the world, excepting those of Middle Eastern and North African countries, where average male LFP rate (LFPR) being 84% as opposed to the corresponding figure of 33% for female. Over time, with increased education, higher income and lesser stigmatization, there has been an overall increase in female labor market participation in South Asia, supporting a positive association between economic development and women's involvement in labor market. In terms of individual countries, the relationship between income/GDP and LFPR is mixed. The trend in Female LFPR in South Asian countries reflect that, over time there has been an increase in female LFPR for Bangladesh: from only 14.0% in 1990 to 39.4% in 2012. Similar trend can also be seen for Maldives as the country has experienced a consistent increase from a mere 20.2% in 1990 to 55.6% in 2012. As for Pakistan, an increase in female LFPR has also been seen in recent years. Nepal has experienced consistently high female LFPR over time whereas Bhutanese females' LFPR has undergone an impressive rise over time. In terms of economic progress, all of these countries have experienced increases in their per capita GDP over the years. Therefore, economic development can said to have been translated into greater participation of female in the labor market. This positive association between per capita GDP and female LFPR is however not observed for countries like India and Sri Lanka, and in spite of the impressive growth performance of these two countries, we do not observe any reflection in corresponding labor market performance of females. The inspiring performance of Bangladesh and Maldives in female LFP on one hand and the lagging experience of India and Sri Lanka on the other therefore leads to a puzzling scenario for South Asia. The 'rise in per capita GDP' inducing effect of female LFP is not that clear cut which necessitates further investigation into the matter.

In order to understand the effect of economic development on labor market performance of females in South Asia in greater detail, we have estimated a cross country panel regression with 180 countries for the period of 1990 to 2013 with female LFP rate (FLFPR) being the dependent variable. Here, real per capita GDP entered into the estimation as the key explanatory variable with a number of macro variables which are likely to influence FLFP e.g. initial value of FLFPR, under five mortality rate, remittance as a percentage of GDP, industry sector's value addition as a percentage of GDP, public spending in education as percentage of total government expenditure, fertility rate, dummy variable for religion (1 if religion is Islam and 0 otherwise) etc. The data are mostly taken from the World Development Indicator. With a view to exploring the FLFPR and per capita GDP linkage for South Asian countries, we have interacted per capita GDP with South Asian country dummies (Bangladesh, India, Pakistan, Sri Lanka, Bhutan, Nepal and Maldives).

As expected, initial value of FLFPR has come out as highly significant with positive sign in the fixed effect regression model. Our estimate suggests that, industrialization also have a positive and statistically significant effect on FLFPR and a percentage increase in industry-GDP ratio would raise FLFPR by 0.07 percentage points. Remittance-GDP ratio, on the other hand has a significant yet negative effect on the dependent variable. In case of human capital variables, reduction in under five mortality is found to have a highly significant and positive effect on females' participation in the labor market whereas greater government spending in education has a negative effect. Given the expected negative effect of reproductive responsibilities on women's work, the coefficient of 'fertility rate' has come out as significant with negative sign. According to our estimates, holding other factors constant, countries with majority of the people being Muslim are found to have significantly lower FLFPR.

The highly significant and positive coefficient estimate of real per capita GDP reveals that, in the cross-country panel setting, a 100 US$ increase in real per capita GDP will raise FLFPR by 0.03 percentage points. A close look at the interaction dummies suggest interesting findings regarding the relationship between FLFPR and the rise in per capita GDP of South Asian countries. While for Nepal and Bhutan the positive and significant associations between per capita GDP and FLFPR, derived from the cross-country panel regression, are maintained, the per capita GDPs have found to have statistically significant different implications for FLFPR of other South Asian countries. In contexts of Bangladesh, Pakistan and Maldives, per capita GDPs have significantly higher impacts: a 100 US$ increase in per capita GDP of Bangladesh, for example is expected to raise FLFPR by 6.13 percentage points, the magnitude of such impact for Pakistan is 3.57 percentage points and 0.52 in the case of Maldives. The net impact is significant but negative for countries like India and Sri Lanka - which is consistent to the descriptive mentioned earlier. According to our estimation results, a 100 US$ increase in per capita GDP for India is likely to result in a 1.7 percentage points reduction in FLFPR where the corresponding figure for Sri Lanka is 0.44 percentage points.

This contrasting set of estimation results for South Asia therefore reflects a mirror image of the simple descriptive, indicating a puzzling scenario while rise in per capita GDPs in South Asia have led to different outcomes for different countries. This also calls for a careful examination of the characteristics of the economic growth processes in these countries. In particular, concerns are very much on the rise for India and Sri Lanka despite their impressive growth performances in recent decades.

Percentage point change in FLFPR for a 100 US$ increase in per capital GDP

Bangladesh 6.13; India -1.70; Nepal 0.03; Bhutan 0.03; Maldives 0.52; Pakistan 3.57; Sril Lanka -0.45
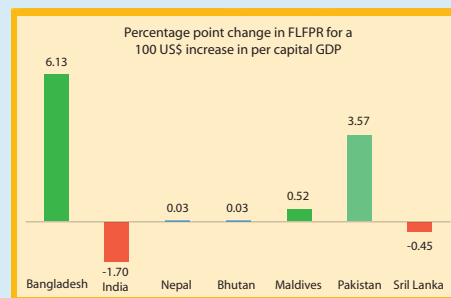
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"women are not entering waged employment at an increased pace"

SANEM interviews Ms. Simeen Mahmud, Coordinator of the Centre for Gender and Social Transformation (CGST) based at BRAC Institute of Governance and Development (BIGD). She is also the Lead Researcher at BIGD, BRAC University. Her current research focuses primarily on women's work, pathways of women employment, NGO contributions to deepening democracy and mobilization for citizenship and rights.

SANEM: Do you think there has been any significant change in the female labor force participation rate?

SM: Female labor force participation (LFP) rate in Bangladesh during the last two decades has increased slowly from very low levels (8%) in the mid 1980s to 35% in 2010, meaning 1 in every 3 economically active women is participating in the labor force. In West Bengal female LFP rate during the 90s was higher than the female LFP rate in Bangladesh, which has currently surpassed that of West Bengal, where the rate remains largely unchanged.   There has been some structural change both in the economy and the society that has contributed to the rising female labor force participation in Bangladesh.

SANEM: Considering the current scenario, can we say that the change in the FLFP has been a good one?

SM: Yes, rising female LFP is generally a "good" change for both women and the society and economy. But the extent to which this is "good" depends upon whether there has also been a corresponding improvement in the quality of employment in terms of remuneration, skill development, hours of work, place of work and so on. If we turn our focus on the status of women's employment, we find that wage and salaried employment has declined in importance, while over 50% of the employed women are engaged in unpaid work inside the home. Family responsibilities and child rearing are major reasons that restrict women from seeking (and finding) paid work outside their homes. In addition, microcredit has also contributed in generating more self employment for women, perhaps depressing wage employment. Moreover, there is spatial variation: not all regions have experienced similar growth in female labor market participation: Barisal and Sylhet lag behind Dhaka and Rajshahi.

SANEM: What types of job opportunities are available for women? What is the rising trend?

SM: In terms of new employment opportunities, the health and education sector and employment within households have increased, as well as in manufacturing and factory based employment. But women's employment is still very much concentrated within 5-6 industries, dominated by agriculture. In manufacturing sector participation is highly concentrated in the RMG sector.

SANEM: How would you perceive this increased participation in unpaid and self employment work?

SM: Self employment and unpaid work are better than not working, but work inside the home is often not given value by families and societies, and women do not have access to their earnings. They are also unable to acquire skills and resources necessary to negotiate and bargain better.

SANEM: Do you think there is any definition and/or data issues for Female Labor Force Participation in Bangladesh?

SM: The quality of BBS Labor Force Survey is improving. Data for 2010 was much better than data for 2005. However, the data collection and analysis would be more reliable and effective if the same households could be surveyed for both HIES and LFS. By doing so, many other aspects and characteristics could have been analyzed with the available data and the studies conducted would be more diversified.

SANEM: What do you think about the necessity of a Time Use Survey Data for Bangladesh?

SM: Time use data can help gain an in-depth understanding of the overall labor market scenario of a country. It is more important especially for Bangladesh because the BBS 2012 pilot time use survey helped a lot in better understanding the care economy and its link to the labor market. The survey showed that women who participate in productive work spend more time in combined production and care work compared to men. Also, when women allocate time for the labor market their leisure time gets squeezed, but that of men remain unchanged.

SANEM: What do you think are the policy issues in terms of Female Labor Force Participation?

SM: There are several issues for concern. First, women are not entering waged employment at an increased pace, possibly due to demand constraints, but also perhaps due to the fact that work outside the home is not very attractive to either women themselves or their families, unless it is very well paid and in the formal sector. But the reality is that new employment opportunities are mainly emerging in the informal sector. Second, there is no clear relationship between education and women's labor market participation. We find that women with an SSC/HSC have the lowest LFP rates, so apparently education is not raising the marketable skills of women, which may be one reason why so many women turn to unpaid work or self employment at home.

SANEM: Thank you very much.

SM: You are welcome.

The interview was conducted by Syer Tazim Haque, Research Associate at SANEM.

SANEM Updates

SANEM's research team is currently working on the following issues:

- Preparing technical papers for the Seventh Five Year Plan of Bangladesh: For Planning Commission of Bangladesh
- Preparing technical papers on labor market, growth and poverty in Bangladesh: For IDRC-Canada
- Randomized control trial experiment in a research project on "Reducing Extreme Poverty through Skill Training for Industry Job Placement": For IZA, Germany and DFID
- Quasi-experiment in a research project on "Employment Effects of Different Development Policy Instruments": For World Trade Institute of Bern, and Swiss National Foundation
- Facilitating Entrepreneurs to Harness Export Potential through Policy Support in the Leather Sector: For Asia Foundation
- Preparing technical papers for "Deltas, vulnerability and Climate Change; Migration and Adaptation (DECCMA) Project,Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA) programme": For Institute of Water and Flood Management (IWFM), Bangladesh University of Engineering and Technology (BUET) and IDRC, Canada

Review

Gunatilake, H. and S. Raihan (2014), "Opportunity Cost of Natural Gas Subsidies in Bangladesh". ADB South Asia Working Paper Series No. 25, Asian Development Bank, Manila.

Natural gas is heavily subsidized in Bangladesh, resulting in waste, low government revenues, and gas and power shortages. This paper examines the impact of optimal gas pricing policy- aligning the price with the international market price – together with better gas revenue management regime, in which augmented gas revenue is used to invest in physical and social infrastructure. General equilibrium model assessment results show that Bangladesh is losing a significant development opportunity due to gas subsidy. By 2030, if these changes were made, Bangladesh could reach $4070 gross domestic product per capita in comparison to the business-as-usual per capita projected gross domestic product of $1580. Inflationary pressures from higher energy prices would be completely offset by the positive impacts of infrastructure constraint removal. The optimal gas pricing and investment in infrastructure would benefit all sectors of the economy without any adverse effects on the poor.

10th Global Meeting of Working Group on NTA

Organized by the National School of Development at the Peking University, the 10th Global Meeting of Working Group on Macroeconomic Aspects of Intergenerational Transfer (NTA) was held on November 10-14, 2014 at the Peking University, Beijing, China. The meeting consisted of a workshop and a Global Conference. Topics of discussion of the NTA10 meeting included Economic Development, Social Security Reform, Population Aging and Population Policy. Muhammad Moshiur Rahman and Syer Tazim Haque, Research Associates at SANEM, participated in this NTA10 Global Meeting on behalf of SANEM and Bangladesh. The workshop consisting of two separate tracks included issues like constructing NTA, advance topics on NTA and its policy implications. The Global Conference titled "International Symposium on Demographic Change and Policy Response" was held on 13-14 November, 2014. During the conference, Muhammad Moshiur Rahman presented some preliminary findings of the NTAs of Bangladesh. As a new member of NTA network Bangladesh Team's progress was greatly appreciated by other member countries.

7th South Asia Economic Summit, 5-7 November 2014

The 7th South Asia Economic Summit was held on 5-7 November, 2014 at New Delhi, India. The summit commenced with a welcome speech by Prof. Sachin Chaturvedi (Director General, RIS, India) followed by a speech from the Honorable Vice President of India, Mr. M. Hamid Ansari. Prof. Rehman Sobhan (Chairman, Centre for Policy Dialogue, Dhaka) delivered a special address during the inauguration. On 6th November, Professor Selim Raihan (Executive Director, SANEM) was the lead presenter for the session on "South Asia Economic Union: Challenges and Tasks Ahead". Dr. Raihan emphasizes that there is a need for a new regime towards South Asian integration and this regime should involve four integration processes including investment integration, growth integration, policy integration and market integration. Topics of other plenary sessions included "South Asia Regional Integration: Past, Present and Future"; "South Asia Connectivity: Regional Agenda for South Asia Economic Union"; "Cooperation for South Asia Investment Bloc"; "India-Pakistan Cooperation and Implications for South Asian Economic Union", "Strengthening South Asia Value Chain: Prospects and Challenges" and "Post 2015 Agenda: South Asian Perspectives".

A Regional Consultation held at Kathmandu, Nepal

Organized by SAWTEE, a regional consultation on "Deepening Economic Cooperation in South Asia: Expectations from the 18th SAARC Summit" was held on 23-24 November, 2014 at Kathmandu, Nepal. The book on "NTMs in South Asia: Assessment and Analysis" was launched during this consultation where Dr. Selim Raihan presented on "Promoting Trade through Reducing Non-tariff Barriers in South Asia".

7th South Asian Training Program on CGE Modeling

The "7th South Asian Program on CGE Modeling" was organized jointly by SANEM, Bangladesh, SAWTEE, Nepal and Center for WTO Studies, New Delhi on 20-24th November, 2014 at Godavari Village Resort, Nepal. Professor Selim Raihan (Department of Economics, University of Dhaka, Bangladesh) conducted the training. Selected young researchers from Bangladesh, Nepal, Sri-Lanka, India, Pakistan, Afghanistan and Bhutan participated in the training. The inaugural session started with opening remarks from the chair, Dr. Hiramani Ghimire (Executive Director, SAWTEE, Nepal). The training sessions focused on policy analysis, Social Accounting Matrix (SAM), construction of SAM Multiplier Model, Building CGE Models using GAMS, some hands on exercises on SAM and CGE Model using GAMS. Three research associates from SANEM, Ahmed Tanmay Tahsin, Nabila Tasnuva and Israt Jahan participated in the training. The training program came to an end with closing remarks from Dr. Selim Raihan and Dr. Hiramani Ghimire.

SANEM-ADB Conference on "Linking Financial Sector to the Real Economy"

SANEM-ADB Conference on "Linking Financial Sector to the Real Economy" was held on 3rd November, 2014 at the Westin Hotel, Dhaka. Dr. Selim Raihan (Executive Director, SANEM), Dr. Guntur Sugiyarto (Senior Economist, ADB Manila) and the Chief Guest of the event Professor Atiur Rahman (Honorable Governor, Bangladesh Bank) inaugurated the event by conveying their introductory remarks. The Chief Guest mentioned that despite the financial volatility and political crisis, Bangladesh has performed really well in terms of financial stability. Dr. Akhtaruzzaman (Leading Economic Advisor, Bangladesh Bank), Dr. A.K. Enamul Haque (Professor of Economics, East West University, Dhaka) and a representative from Bangladesh Bureau of Statistics (BBS) participated in the conference as key discussants. The key presenters of the conference were Mr. Md. Syful Hoque (Research Fellow, SANEM) and Mr. Esraz Ul Zannat (GIS Specialist, Institute of Water Modelling (IWM)). Conference topics included "Real Estate: Residential Property Valuation using GIS Approach" and "Tracking Pawnshops: Uncovered Source of HH Credit". The conference concluded with a Discussion on Role of BB and BBS in Compiling EFSIs for Financial Stability Analysis.

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