FEMALE LABOUR SUPPLY IN BANGLADESH: CONTINUITY AND CHANGE

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Motivation

- Bangladesh has experienced steady growth of around 6-7% with steep decline in fertility and mortality.

- Benefits of growth not distributed equally between men and women.

- One third of working age women in labour market.

- Recent years representation increased-mainly in export sector.

- Female labour force participation increased from 8% (mid 1980s) to 33.5% (2013).

Motivation

- Women's labour supply for market work is low and crowded into certain industries and occupations.

- Social norms play a greater role in the type of economic activity women can engage in.

- Increase in labour force primarily occurred in informal labour mkt.

- Most employment in informal sectors is precarious, irregular, unprotected and insecured.

- Also the quality of employment is poor-unpaid family work.

Motivation

- Due to gender division of labour (family responsibility, social norms) opportunity cost of market work is high for women.

- So women are mostly concentrated in insecure, low return jobs.

- Need to examine whether higher FLS is a response to changing social norms, and/or weakening gendered structures in the labour market.

- Also whether formal schooling, better health and lower burden of childbearing have impact on FLS.

Objectives/Research Questions

- To understand the structural difference in labour market between male and female and structural change over time-how women's labour supply changed over times in terms of individual/household characteristics.

- To examine where the incremental female employment is occurring, in terms of industry, status in employment.

- To examine the factors that affect labour supply.

- To analyze the factors determining choice of labour market status.

Data Sources

- The study is based primarily on 2005/06 and 2010 Labour Force Survey (LFS) of Bangladesh Bureau of Statistics.

- LFS contains general information on gender, age, education, marital status etc.

- It has info. on employment/unemployment, wage rate, hours work etc.

- LFS reports type of job (full/part time; permanent/temporary; unpaid worker/family member; domestic worker; govt/NGO/private enterprise/private households; self employed/day-labourer) etc.

Methodology

- With LFS we examine the trends in labour force participation rates and composition of employed population using bivariate frequency distributions.

- We estimate the female labour supply function for 2010 and apply Heckman model and used the imputed wage.

- We used multinomial logit model to estimate choice of different modes of labour market status (regular paid, irregular paid, self employed, unpaid, unemployed).

Female Labour Force Growth in Bangladesh

- Size of female labour force (LF) is increasing: female LF grew from 8.5 million in 1999 to 18.2 million in 2013 (rise of 114%).

- Total LF grew from 40.7 million to 60.7 million (increase of 49%).

- In keeping with the feminization trend, the female share of LF grew from a little more than one fifth -22% in 2002 to 30% in 2013…..share of the employed expanded similar manner.

Female Labour Supply: Individual Factors

- Propensity for labour supply increased for women of all age groups except 45+-greater increase 25-44 years.

- LFP rates increased for married women, unchanged for unmarried, declined for widowed/separated/divorced.

- Propensity for female labour supply increased at all education levels.

- Literate women more likely to participate compared to illiterate women in 2010, reversing earlier pattern.

Female Labour Supply: Individual Factors

	1999		2005		2010	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**
Age						
15-24	0.62	0.26	0.67	0.22	0.62	0.36
25-34	0.94	0.28	0.96	0.35	0.93	0.44
35-44	0.98	0.26	0.98	0.36	0.97	0.46
45 and above	0.84	0.18	0.86	0.27	0.83	0.18
Marital Status						
Unmarried	0.63	0.29	0.67	0.19	0.61	0.28
Married	0.93	0.24	0.94	0.31	0.91	0.38
Separated/wid/div	0.43	0.27	0.55	0.32	0.47	0.21
Highest class passed						
no education	0.90	0.26	0.93	0.33	0.90	0.32
Classi-v	0.91	0.24	0.93	0.30	0.90	0.38
Class vi-viii	0.79	0.21	0.88	0.26	0.86	0.42
Class ix-x	0.79	0.21	0.76	0.21	0.69	0.37
SSC/equivalent	0.68	0.23	0.68	0.22	0.67	0.34
HSC/equivalent	0.68	0.23	0.67	0.26	0.50	0.25
Bachelor/equiv	0.77	0.33	0.82	0.43	1.00	1.00
Literacy						
Literate	0.80	0.23	0.81	0.26	0.79	0.37
not-literate	0.91	0.26	0.92	0.33	0.90	0.33

LFPR: HH Characteristics

	1999		2005		2010	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**
LFPR	0.834	0.245	0.86	0.30	0.83	0.35
Sex of the HH head						
Male	0.84	0.23	0.86	0.29	0.84	0.36
Female	0.72	0.46	0.76	0.41	0.66	0.29
Presence of small children						
Children under 5	0.89	0.24	0.90	0.29	0.88	0.36
Highest class passed by head						
No Education	0.88	0.28	0.90	0.34	0.87	0.35
Class I-V	0.86	0.24	0.87	0.28	0.84	0.37
Class VI-VIII	0.83	0.23	0.84	0.27	0.81	0.35
Class IX-X	0.80	0.20	0.83	0.26	0.77	0.38
SSC/Equiv	0.75	0.21	0.77	0.23	0.75	0.35
HSC/Equiv	0.74	0.19	0.74	0.23	0.68	0.30
Bachelor	0.72	0.23	0.73	0.26	0.80	0.30
Master	0.67	0.31	0.77	0.29	0.71	0.27
Household Landownership						
Landless	0.89	0.31	0.90	0.32	0.88	0.32
Marginal	0.86	0.24	0.87	0.30	0.84	0.29
Small	0.81	0.22	0.84	0.28	0.80	0.43
Medium	0.71	0.19	0.80	0.28	0.76	0.44
Large	0.77	0.22	0.78	0.31	0.72	0.38

Female LS: Household Characteristics

- The LFPR declined in female headed households.

- Presence of small children did not affect women's labour supply at any period.

- In 1999 female labour supply had a U pattern with head's education level. In 2010 the head's education up to the SSC level did not have any association, but declined when head had a HSC or higher degree.

- Between 1999 and 2010 the propensity for FLS doubled when head self employed.

- Participation rates doubled in small and medium landowning households, and to a lesser extent in large landowning households, while unchanged in landless and marginal households.

Distribution of Employed Women

	2005	2010	2013
Female employed ('000)	11277 (100%)	16202 (100%)	16846 (100%)
Agriculture, Forestry and Fishing	68.06	66.49	53.5
Mining and Quarrying	0.06	0.15	0.1
Manufacturing	8.98	10.74	22.5
Electricity, Gas, Steam and Air Condition	0.04	0.02	0.1
Construction	1.03	1.47	1.0
Wholesale Retail Trade, repair	4.1	6.22	4.6
Financial and Insurance activities	0.82	0.28	0.5
Professional, Scientific and Technical	0.01	0.14	0.2
Administrative and Support Service	0.11	0.26	0.3
Public Admn, Defense, Soc security	1.24	0.23	0.6
Education	3.46	1.97	4.2
Human Health and Social work	1.11	0.97	1.7
Activities of households as employers	9.83	9.24	9.1

Distribution of Employed Women

	2005	2010	2013
Female employed ('000)	11277	16202	16846
Formal/Semi formal	14.5	12.6	9.7
Informal	85.5	87.4	90.3
Status in employment			
Paid employee (waged/salaried worker)	11.40	9.54	32.8
Employer, self employed	21.26	25.75	12.4
Unpaid/contributing Family Worker	58.79	57.14	50.1
Day labour (agriculture/non agriculture)	6.20	5.24	na
Domestic Worker	2.36	2.32	na
Occupation			
Managers, administrator	0.19	0.6	0.5
Professional (includes technical for 2005 and 2010)	4.38	2.1	5.4
Technicians	-	1.1	1.1
Clerical worker	1.27	0.6	1.1
Serviceworker (includes sales worker in 2013)	7.67	10.2	8.7
Sales worker	2.08	-	-
Skilled agricultural	-	2.9	44.5
Agriculture, forestry and fishery worker	68.33	66.6	-
Craft and related trade	-	7.8	23.7
Production and transport worker	16.06	(10.4)	-
Plant and machine operator	-	4.8	2.7
Elementary occupations	-	3.4	12.3
Other	0.01	(0.4)	0

Distribution of Employed Women

- Proportion of female employment in agriculture was 54% in 2013, down from 68% in 2005.

- The other important industries in 2013 were manufacturing (22.5%), wholesale and retail trade (4.6%), education (4.2%), and activities of household employers (9.1%).

- Was a shift away from agriculture to skilled manufacturing and to a lesser extent in education and health service.

- There was a declining trend in the proportions employed as unpaid family worker between 2005 and 2013, while the proportion of self employment halved between 2010 and 2013.

- Proportion of waged and salaried doubled between 2010 and 2013.

Estimation of Labour Supply

- In this analysis we include:

  ➢ individual factors: age and age sq; dummies of education (no edu, primary or secondary grades 1-9, SSC or HSC degree and university degree); dummy of marital status (widowed/divorced, unmarried, married)

  ➢ household factors: number of children (less than 16 years); number of children under age 6 ; net family income (log); amount of land owned (decimals); dummy of whether in-laws reside.

  ➢ factors of household head: dummies of education level of head (no educ, primary or secondary grades 1-9, SSC or HSC degree and university degree); occupation of head (self employed=1, other=0); sector of activity of head (agriculture=1, other=0).

  ➢ regional factors: rural/urban (urban=1, rural=0); regional dummies.

Estimation of Labour Supply

Variable	Participation (without Wage)	Participation (with Wage)
Imputed Wage		0.0841158***
Age	0.017244***	0.0368269***
Age²	-0.00032***	-0.0006292*
Primary and Secondary Passed	0.056264***	0.1216993***
SSC and HSC Passed	0.12315***	0.1619635***
University Passed	0.575612***	0.5413693***
Married	-0.09113***	-0.0911314***
Unmarried	0.074169***	0.0741692***
Number of children under 16 years	0.003749	0.0037489
Number of children under 6 years	-0.03367***	-0.0336683***
Living with In-Laws	-0.02967***	-0.0296679***
Net Family Income (Natural log)	-0.07022***	-0.0702218***
Household Land	7.05E-05***	7.05E-05***
Head Employed in Agriculture	0.007575	0.0075748
Head Self Employed	0.475433***	0.4754332***
Head Primary and Secondary Passed	0.001174	0.0011738
Head SSC and HSC Passed	0.006197	0.0061971
Head University Passed	-0.03718**	-0.0371764**
Urban	0.118587***	
N	42646	42646

Estimation of Labour Supply

- Inclusion of wage didn't change analysis-wage has a strong effect.

- Age had a non linear relationship with female labour supply.

- Education had a strong positive effect -probability of participation was 58% higher for women with a uni degree.

- Negative relationship with being currently married - when other factors are held constant, family obstacles could lower participation probability.

- Presence of one child under 6 lowered labour supply by 3.6%.

- Having in-laws in the household had a negative effect.

Estimation of Labour Supply

- Family income depressed female labour supply, ownership of land increased.

- Head's employment in agricultural activities had no bearing.

- A self employed head increased participation probability by 48%.

- Compared to a household head without schooling, head's education up to SSC/HSC level did not affect female labour supply, but the probability of participation was lower for women when the head had a university degree.

- Residing in urban areas increased participation probability by 12%.

- In comparison to Barisal division, probability of labour supply of women was higher in all other divisions except Sylhet.

Determinants of Labour Market Status (Marginal Effect)

Variable	Regular paid	Irregular paid	Self employed	Unpaid Worker	Unemployed
Imputed Wage	0.036074***	0.004603***	-0.009763***	0.0090281***	0.0030164***
Age	0.009314***	0.001083***	0.0161475***	0.0072222***	-0.0007797***
Age^2	-0.00016***	-2.1E-05***	-0.0001652***	-0.0002043***	1.08E-06
Secondary Level Passed	0.018578***	-0.00043	0.0149458***	0.031256***	0.0080907***
Marital Status	-0.05835***	-0.00527***	-0.0336381***	0.0418985***	-0.0115449***
Number of children under 16	-0.00073	9.98E-05	0.0038701***	-0.0044446***	0.0003281
Number of children under 6	-0.01122***	-0.00213***	-0.0161239***	-0.0013653	0.0024318***
Living with In-Laws	-0.0127***	-0.00035	-0.0187173***	0.0003928	0.0035762**
Net Family Income (N log)	-0.01935***	-0.00219***	-0.0189696***	0.0136654***	0.0017445**
Household Land	1.56E-05**	-1.88E-06	0.0000142***	0.0000393***	-6.43E-06
Head Self Employed	-0.04047***	-0.00287***	0.0853169***	0.3242508***	-0.0080886***
Pseudo R^2	0.3183				
Chi^2	28777.73				
N	42646				

Determinants of Labour Market Status

- We have chosen a simpler set of explanatory variables.
- Wage increased probability of waged/salaried, but reduced probability into self employment. Wage had a positive relationship with selection into unpaid family work (save expenditure by not hiring) and also increased selection into looking for work.
- The positive quadratic effect of age was seen for selection into all categories, except for unemployment.
- Having secondary or higher educ increased selection into all categories except irregular work.
- Being married reduced selection into regular and irregular paid work, self employment and looking for work, but increased the probability of being an unpaid family worker.

Determinants of Labour Market Status

- Total number of children did not affect selection into waged/salaried employment, but increased into self employment and reduced into unpaid.
- The number of children below 6 had negative effect.
- In-laws reduced probability of regular waged work and self employment.
- Family income reduced selection into paid work, but increased selection into unpaid work.
- Land increased selection into regular paid, self employment and unpaid family work.
- Self employed head reduced selection into salaried, but increased self employed or unpaid.

Conclusion

- Rising female LFP, can be growth enhancing ….

- Growing social acceptance in economic activity, especially waged/salaried work, is empowering – improves self esteem and agency.

- Increases acceptance of women's visibility in public domain, women's capabilities e.g. physical mobility, accessing information and public exposure.

- Self employment and unpaid work preferred economic activity in near future but it is waged employment that has greater potential for transforming the gendered structures of the labour market and society.

Conclusion

- Positive effect of family income on unpaid and negative effect on self employment is contradictory-family honour and status, put pressure to engage in unpaid family work, although this is weakening.

- Social norms to women's waged/salaried employment could be weakening-entry into labour market through waged/salaried employment becoming less constrained.

- This is a positive structural change, that may reduce female labour supply-demand mismatch at higher secondary levels of education.

Conclusion

- Policies should attribute towards reducing domestic burden e.g. day care facilities.

- Focus should be to encourage greater participation in wage employment that entails for safe work place, transportation.

- Recognition of unpaid family work in terms of monetary compensation can reduce inequality-at least at intra household level.

Thank You