

Trade Liberalization and Export-led Growth: A Case of Bangladesh Apparel Industry

ECRIER-SABER Roundtable

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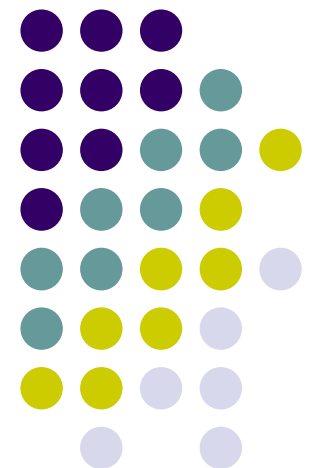
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Introduction



- Bangladesh pursued an outward-oriented development strategy since the mid-1980s.
- The strategy involved several key export incentives and a system for administering those incentives. It implied a move towards free-trade status for *all* export production (despite a protected regime for domestic production, particularly until the 1991 major reforms).
- Macroeconomic growth accelerated from 3.7% in the 1980s to 4.7% in the 1990s and then further to 5.8% in the 2000s. Export-oriented apparel industry emerged to be a major source of this growth acceleration.
- An interesting question is whether the exporting firms with a free trade regime made industrial upgrading by integrating with the global supply chain.
- The findings show that the exporting firms indeed made industrial upgrading and that both the backward linkage with foreign suppliers of raw materials and forward linkage with MNC buyers are the major determinants of firm performances.

Trade Liberalization, Key Export Incentives and their Administration



- Trade liberalization started in the mid-1980s. Import controls and other quantitative restrictions were gone by the end of 1980s and so a very high ‘implicit’ tariff eliminated. → Agriculture gained most.
- Tariff reforms began in 1991 → tariff bands curtailed, peak rates slashed, and the weighted average import duty declined from 42% to 13% over the 1990s (Table 1).
- Nonetheless, domestic production (e.g., textile) enjoyed heavy protection—textile sector alone accounted for 39% of all tariff lines with import prohibitions or restrictions.
- Conflicting domestic constituencies → import control vs. export promotion.
- A policy goal was: A free trade regime for *all* export activities.
- Two key systems essentially removed bias against producing for exports (*both direct and indirect*):
 - Special Bonded Warehouse (SBW)/Duty Drawback System → unrestricted and tariff-free access to the imported intermediate inputs.
 - Back-to-back L/C → an automatic access to bank loans for the working capital needed for export production.
 - Actual export orders, an import-export passbook, and an input-output table → comprised the essential documentation.
- Periodic devaluation of domestic currency → No sustained real appreciation.



Table-1: Tariff Structure in Bangladesh, 1991-2008

Year	No. of tariff bands	Maximum tariff rate	Unweighted average (All commodities)	Weighted average (All commodities)
1990-91	18	350.0	88.6	42.1
1991-92	18	350.0	57.5	24.1
1992-93	15	300.0	47.4	23.6
1993-94	12	300.0	36.0	24.1
1994-95	6	60.0	25.9	20.9
1995-96	7	50.0	22.3	17.0
1996-97	7	45.0	21.5	17.9
1997-98	7	42.5	20.7	16.1
1998-99	7	40.0	20.3	14.1
1999-00	5	37.5	19.5	13.8
2000-01	5	37.5	18.6	12.3
2001-02	5	37.5	17.1	9.7
2002-03	5	32.5	16.5	12.4
2003-04	5	30.0	15.6	9.8
2004-05	4	25.0	13.5	9.6
2005-06	4	25.0	13.4	8.4
2006-07	4	25.0	12.2	6.9
2007-08	4	25.0	13.4	7.6

Sources: National Board of Revenue (NBR) and Bangladesh Bank.

Table-2: Sectoral GDP Growth Rates: 1980/81-2007/08
(Annual average; in 1995/96 producer prices)

Sector	Decadal Averages		
	1980/81- 1989-90	1990/91- 1999/00	1998/99- 2007/08
Agriculture	2.54	3.22	3.77
Crop production	2.69	1.83	3.52
Fisheries	2.35	8.21	3.77
Others	2.31	2.92	4.58
Industry	5.75	6.95	7.32
Manufacturing	4.98	6.90	7.01
Large & medium	4.94	6.95	6.99
Small scale	5.15	6.78	7.07
Construction	6.02	7.54	8.06
Others	11.09	5.67	7.09
Services	3.71	4.48	5.86
Total GDP	3.73	4.69	5.77

Sources: BBS (2000, Table 4), BBS (2001, Table 1) and BBS (2008).



**Figure-1: Bangladesh Economy-Its Structure and Sectoral Growth Rates
(Annual average; in 1995/96 producer prices)**

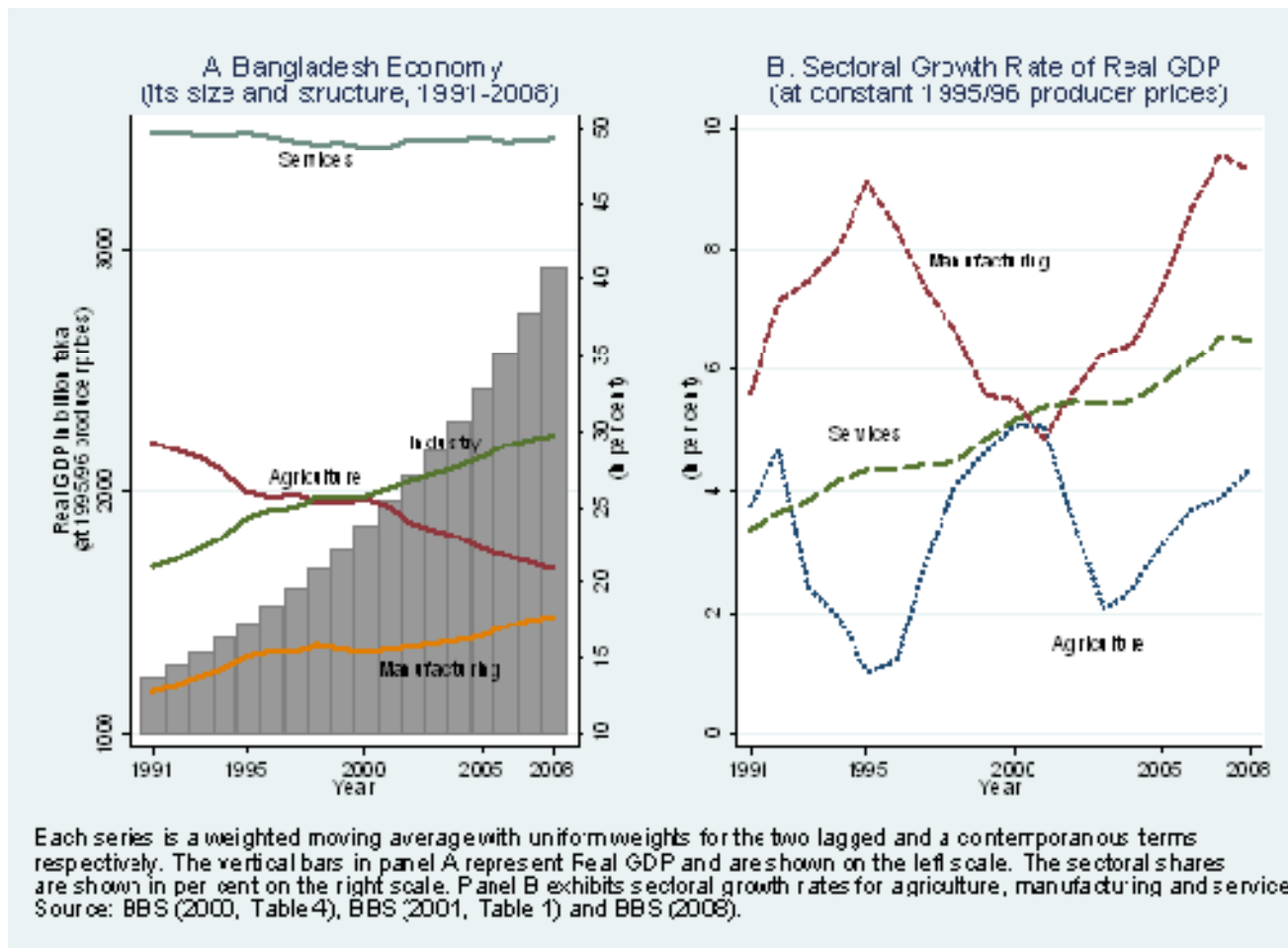


Table-3: Identifying Sources of Growth Acceleration



Sector	GDP growth over 1980/81~1989/90 (billion taka)	GDP growth over 1990/91~1999/00 (billion taka)	GDP growth over 1998/99~2007/08 (in billion taka)	Sectoral cont. to growth acceleration b/w 80s & 1990s	Sectoral cont. to growth acceleration b/w 90s & 2000s
Agriculture	65.4	130.9	195.3	48.3 (16.9)	64.4 (11.1)
Crop production	40.5	48.5	100.7	-1.7 (-0.6)	52.3 (9.0)
Fisheries	11.4	59.5	45.4	43.2 (15.1)	-14.1 (-2.4)
Others	13.5	22.9	49.1	7.2 (2.5)	26.3 (4.5)
Industry	102.4	239.2	447.0	119.9 (41.9)	207.8 (35.8)
Manufacturing	56.2	145.3	257.4	79.5 (27.7)	112.1 (19.3)
Large & medium	39.7	104.6	182.8	58.1 (20.3)	78.2 (13.5)
Small scale	16.6	40.7	74.6	21.1 (7.5)	33.9 (5.8)
Construction	29.3	73.9	149.4	39.4 (13.8)	75.5 (13.0)
Others	16.9	20.0	40.2	1.04 (0.4)	20.2 (3.5)
Services	174.1	321.8	629.9	118.3 (41.3)	308.2 (53.1)
Total GDP	341.8	691.9	1272.2	286.6 (100.0)	580.3 (100.0)

Sources: BBS (2000, Table 4), BBS (2001, Table 1) and BBS (2008).

What are the Underlying Sources of Growth Acceleration?

- What is the relative role of tradables and non-tradables in the growth acceleration?
- Is the dominant role of non-tradables an outcome of endogenous growth of the sector or an exogenous demand stimulus?
- If the huge pool of underemployed led to the surge of growth of non-tradables?
- Possible sources of external demand stimulus: (a) foreign remittances, (b) agriculture, and (3) phenomenal growth of export-oriented apparel industry.
- Agriculture and apparel exporting—two major sources of enhanced demand stimulus for non-tradables.

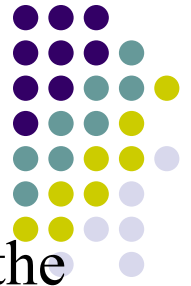




Table 4: Phenomenal Growth of Apparel Exports, 1980-2008

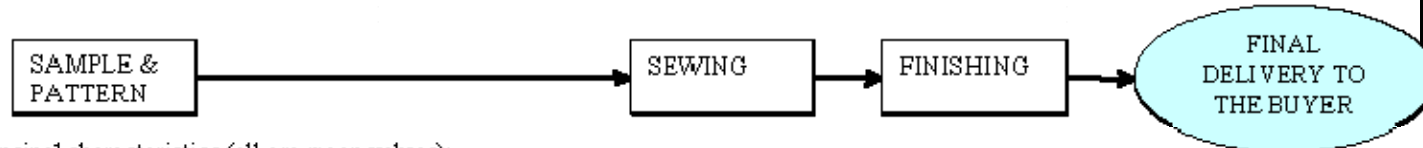
Products	1980	1990	2000	2005	2008
(in billions of U.S. dollars)					
Total merchandise exports	0.7	1.5	5.8	8.7	14.1
Of which: Total apparel exports	0.0	0.6	4.4	6.4	10.7
Woven apparels	0.0	0.6	3.1	3.6	5.2
Knitwear apparels	0.0	0.0	1.3	2.8	5.5
(In percent of total exports)					
Total merchandise exports	100	100	100	100	100
Of which: Total apparel exports	0	41	76	74	76
Woven apparels	0	40	54	42	37
Knitwear apparels	0	1	23	33	39

Sources: EPB, 2008.

Is it Vertical Integration or Industrial Upgrading or both?



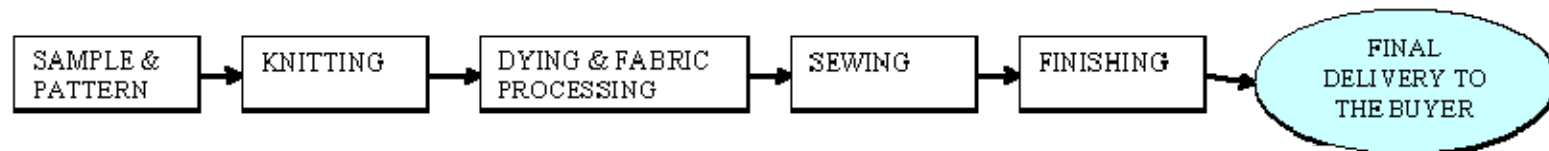
Panel A: Woven firms [Sample size: 53]



Principal characteristics (all are mean values):

1. Output, value added (in BDT millions), value added ratio and materials import intensity: 260.3, 74.9, 31.7%, and 93% respectively.
2. Gross capital formation (in millions of BDT): 56.2
3. Production labour (number of workers): 655
4. Production labour costs relative to value added: 0.51

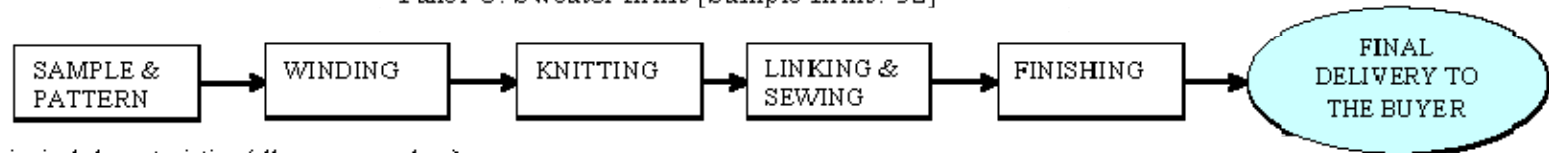
Panel B: Knit firms [Sample size: 30]



Principal characteristics (all are mean values):

1. Output, value added (in BDT millions), value added ratio and materials import intensity: 414.5, 139.8, 33%, and 75% respectively.
2. Gross capital formation (in millions of BDT): 236.0
3. Production labour (number of workers): 882
4. Production labour costs relative to value added: 0.31

Panel C: Sweater firms [Sample firms: 32]



Principal characteristics (all are mean values):

1. Output, value added (in BDT millions) and value added ratio: 233.2, 101.3 and 43.7% and 71% respectively.
2. Gross capital formation (in millions of BDT): 64.25
3. Production labour (number of workers): 1006
4. Production labour costs relative to value added: 0.68

Pattern of Backward Linkage in Bangladesh Apparel Industry

(All figures other than ratios are shown in million BDT)

Major operating/financial attributes of firms	All Firms (N=115)	Woven Firms (N=53)	Knit Firms (N=30)	Sweater Firms (N=32)	Group mean differences (figures in parentheses are t-statistics)		
	Mean	1	2	3	(1-2)	(1-3)	(2-3)
(1) Value of output	293.0	261.0	415.0	233.0	-154 (-1.91**)	27.4 (0.58)	181 (2.33**)
(2) Imported yarns, fabrics & accessories	155.0	175.0	189.0	90.2	-14.2 (-0.38)	84.6 (2.93***)	98.8 (3.35***)
(3) Local inputs	31.0	7.7	66.4	36.5	-58.6 (-2.14**)	-28.8 (-2.90***)	29.8 (1.03)
(4) Total yarns, fabrics & accessories (2+3)	186.0	182.0	255.0	127.0	-72.9 (-1.36*)	55.7 (1.77**)	129.0 (2.60***)
(5) Total intermediate inputs	194.0	186.0	275.0	132.0	-89 (-1.56*)	53.9 (1.68**)	143 (2.67**)
(6) Value added at firm-level (1-5)	99.2	74.9	140.0	101.0	-64.9 (-1.88**)	-26.4 (-1.53*)	38.5 (1.08)
(7) Value added to the economy (1-2)	142.1	85.9	238.5	144.9	-140 (-2.66***)	-57.1 (-2.29***)	82.5 (1.48*)
(8) Value added ratio1 (6/1)	0.35	.32	.33	0.44			
(9) Value added ratio 2 (7/1)	0.47	0.38	0.49	0.60			

Total intermediate inputs include costs of energy & utilities. Statistical significance *** p<0.01, ** p<0.05,

* p<0.1.

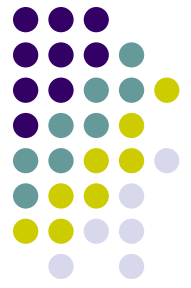


Table 5: A Comparative Analysis of Profitability of Apparel Firms
 (Values in million BDT; mean values are reported)



	All Firms (N=115)	Woven Firms (N=53)	Knit Firms (N=30)	Sweater Firms (N=32)	Group mean differences (figures in parentheses are t-statistics)		
		1	2	3	(1-2)	(1-3)	(2-3)
1. Value added	99.2	74.9	140.0	101.0	-64.9 (-1.88**)	-26.4 (-1.53*)	38.5 (1.08)
2. Total labour costs	32.8	24.4	31.8	47.6	-7.36 (-1.16)	-23.2 (-3.13**)	-15.9 (-2.06)
3. Other semi-variable business costs	4.3	3.2	7.3	3.3	-4.12 (-1.06)	-0.125 (-0.05)	3.997 (1.07)
4. Variable profit (1-2-3)	62.1	47.3	101.0	50.4	-53.4 (-1.75**)	-3.07 (-0.25)	50.3 (1.62*)
5. Capital services (Depreciation)	9.5	5.4	19.0	7.5	-13.5 (-3.28**)	-2.02 (-1.52*)	11.5 (2.74**)
6. Profit before interest and taxes (4-5)	52.6	41.9	81.8	42.9	-39.9 (-1.37*)	-1.047 (-0.09)	38.8 (1.30*)
7. Capital employed	104	56	236	64			
8. Return on capital employed (ROCE, %)	51	75	35	67			

Statistical significance *** p<0.01, ** p<0.05, * p<0.1



Table 6: Factors Determining Productivity of Apparel Firms

Dependent variables	Ln(Output)	Ln(Value added)	Ln(Variable profit)	Ln(Output per labour)
Independent variables	1	2	3	4
Ln(Production Labour)	0.518*** (0.079)	0.563*** (0.097)	0.373*** (0.141)	-0.136 (0.087)
Ln(Capital stock)	0.271*** (0.047)	0.207*** (0.057)	0.257** (0.106)	
Ln(Capital stock per labour)				0.259*** (0.051)
Backward linkage with foreign suppliers	0.600*** (0.224)	0.223 (0.290)	0.737 [†] (0.502)	0.683*** (0.258)
Forward linkage	0.409** (0.161)	0.106 (0.177)	0.258 (0.298)	0.479*** (0.173)
Adjusted R-squared	0.561	0.408	0.173	0.285
No. of observations	114	114	108	114

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, [†]p<0.15.

The estimated Cobb-Douglas production function augmented by integration variables:

$$Y_i = AK_i^\alpha L_i^\beta e^{(\delta_1 Z_{1i} + \delta_2 Z_{2i})} e^{\varepsilon_i}$$

Summary and Policy Implications



- Trade liberalization—both liberalization of agricultural inputs and a free trade regime of export production—accelerated macroeconomic growth in the 1990s and 2000s.
- Tradable sector itself experienced fastest growth acceleration and, indirectly, provided a major demand stimulation for the growth of non-tradables.
- Diversification of apparel production into knitwear was more an outcome of policy inconsistency than a profit maximizing behavior.
- Industrial upgrading at firm-level and as such firm-specific performances are largely determined by its ability to integrate backward with foreign suppliers and forward with the MNC buyers (lead firms).
- With trade-related protections progressively falling, firm's ability to manage the supply chain determines its competitive position.
- A continued protection of domestic textile production and a free trade status is producing policy inconsistencies.
- The key institutional gap is thus managing vested interests.