

Financing Pattern of the Industrial Sector by the Scheduled Banks: A Longitudinal Study

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***Abstract:** During the last few years, Bangladesh has been experiencing what we usually know as structural transformation-the popular economic cliché. Though little in magnitude, industrial contribution to the national GDP has been gaining in importance. Banking system in Bangladesh has gone through many extensive changes in the lapse of time. It has been fashioned by economic as well as political philosophies. It has been marked by Nationalization first. Afterwards it has been deregulated but with less degree of market orientation. Restrictive regulations had made the major portion of the banking system virtually spoon-fed. Later on, financial liberalization, prudential and information regulation has set the trail ready for market based orientation. Consequently, lending norms and practices have gone through changing pattern alike. This paper tries to capture the changing structure of the credit flows by the scheduled banks in the industrial sector.*

1.0. Introduction

Matchmaking among the surplus spending units and the deficit spending units has been the primary function of the banks these days. As the financial intermediary, banks mobilize funds to the desired entities. This fund mobilization is carried out through the conduit of collecting deposit and providing credit. Thus, providing credit is one of the primary functions of a bank. Bank credit is the major sources of loanable fund for millions of households and the government. Therefore, it is very imperative to an economy.

Various economic activities like agriculture, commerce, and industry of a nation are often financed by bank credit. Without ample financing, there can be no growth or maintenance of stable output. Thus, the bank credit influences total macroeconomic environment by affecting money supply, investment, total output, and employment. Therefore, it is very critical to know about the movement and growth of credit. Trend of credit implies the general tendency or direction of credit. Growth of credit means the process of growing or the development of the credit. The growth in credits is an important barometer of expansion of commercial banking structure of a country. Being the most important earning asset of the commercial bank, the trend and growth of the bank credit has direct impact on the financial performance of a bank. Ultimately, it affects the profitability of the total banking system. As the banking sector is the major part of the financial system, the trend and growth pattern of bank credit undoubtedly influences the total financial system.

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2.0. Methodology

The study is conducted on all the scheduled banks in Bangladesh. The banks are divided on the basis of ownership pattern like Nationalized Commercial Banks, Private Commercial Banks, and foreign commercial banks. In the initial section of the study we have conducted extensive literature review from the available literature, though we have noticed paucity of literature directly related to the topic of interest. This section is followed by the changing structure of advances by the scheduled banks to the industrial sector. After presenting the trend of financing the industrial sector by the scheduled banks, the contribution of each category of banks in the GDP has been analyzed with the help of multiple regressions. In this multiple regression analysis, industrial production has been used as a proxy for contribution to GDP by the manufacturing sector. In this regard, high degree of correlation has been expected between industrial production and production volume of manufacturing sector. Variables treated as independent are advances by the different category of banks. Variable treated as dependent is the sectoral contribution to GDP in the form of industrial production. Major findings and policy recommendation have been put in the next section. All the data are collected from secondary sources. The secondary sources included Bangladesh Bank Bulletin, Scheduled Bank Statistics, Economic Trend, publications of the Ministry of Finance, and different books, articles and seminar papers of home and abroad.

3.0. Literature review

Bangladesh has a unique Banking system comprising of multiple types of Banking such as Nationalized Commercial Banks (NCBs), Private Commercial Banks (PCBs), Foreign Commercial Banks (FCBs), Islamic Commercial Banks (ICBs), Specialized Development Banks and the Cooperative Banks. Loans comprise the most important asset as well as the primary source of earning for the banking financial institutions (Chowdhury et.al. 1997). On the other hand, loan is also the major source of risk for the bank management. A prudent bank management should always try to make an appropriate balance between its return and risk involved with the loan assortment.

Policies and practices relating to commercial bank lending to productive sectors have been a subject of active discussion during recent years. Hopefully, it would lead to changes that would render bank credit more helpful in promoting the national economic objectives. This is more likely to happen if the discussion is backed up by deeper analysis of issues. Lending to industries and commercial clients has always been a controversial area in the history of modern commercial banking. Some part of this controversy represents mere shadow boxing, e.g., the debate on cash credit or overdraft versus fixed loan systems of lending (Ahmed Ejaj et al. 2006). The present study tries to reveal the scenario of financing in the industrial sector by the scheduled banks.

4.0. Industrial advances

Industrial production has been assuming a very significant role in our GDP. In the recent fiscal year, manufacturing contributed around 18 percent in GDP which was around 13

percent in the 1993-94 fiscal year. Advances by the banks seem play a great role in this enhancement of the contribution of the industrial sector in GDP.

4.1. Advances by all banks

Almost all the scheduled banks have shown a positive trend in financing industrial production in the form of manufacturing or industrial advances. During the recent years the trend in advance by all the banks is pretty much healthy. From 1986 to 2008, the industrial advances increased by phenomenal annualized growth rate 12.06%. It indicates the trend of Bangladesh economy to become more reliable on industrial production to agricultural production and is indicative of the more popular economics cliché- structural transformation. The advance provided by all the banks in industrial sector is shown in table-1 in annexure.

4.2. Advances by the Nationalized Commercial Banks (NCBs)

The financing provided by the Nationalized Commercial Banks (NCBs) in the industrial sector was constantly increasing in the second half of the 90's. But it was a bit shaky in the first half of this decade, especially during 2002-2005. The total amount of financing in the form of industrial advance by the NCBs stood at quarterly average of BDT 1074080 lac in the first quarter of 2008. This is shown in table-2 in annexure.

4.3. Advances by Specialized Banks

Some of the specialized banks, like Bangladesh Shilpa Bank, Bangladesh Shilpa Rin Sangstha, were created with the objective of promoting industrial produces, and consequently should have the neck for this area and they have not been quite successful to show such intention through their lending pattern. In many of the years the growth rate showed negative figures indicating lower degree of distributive efficiency. The high degree of Non-Performing Loans (NPLs) of the specialized banks also has been very discouraging from the national point of view. The pattern of industrial financing by the specialized banks has been made clear in table-3 in annexure.

4.4. Advances by Foreign Banks

Industrial financing by the foreign banks has not stable throughout the observation period, except in the later part of the reference period. From 2003 onwards, the growth rate has been mentionable. But in the later part of the 90's, the growth rate has been shaky and unstable. The trend becomes clear in table-4 in annexure.

4.5. Private Commercial Banks including Islamic banks

The financing by the private commercial banks in the industrial production has been quite laudable. After the 1995, the growth rate has never been in the negative territory. It becomes obvious from the year 2000 that the growth rate has been quite healthy. This growth was supported by the emergence of newer private banks as well as establishment of new branches by the existing ones. The growth picture is furnished in table-5 in annexure.

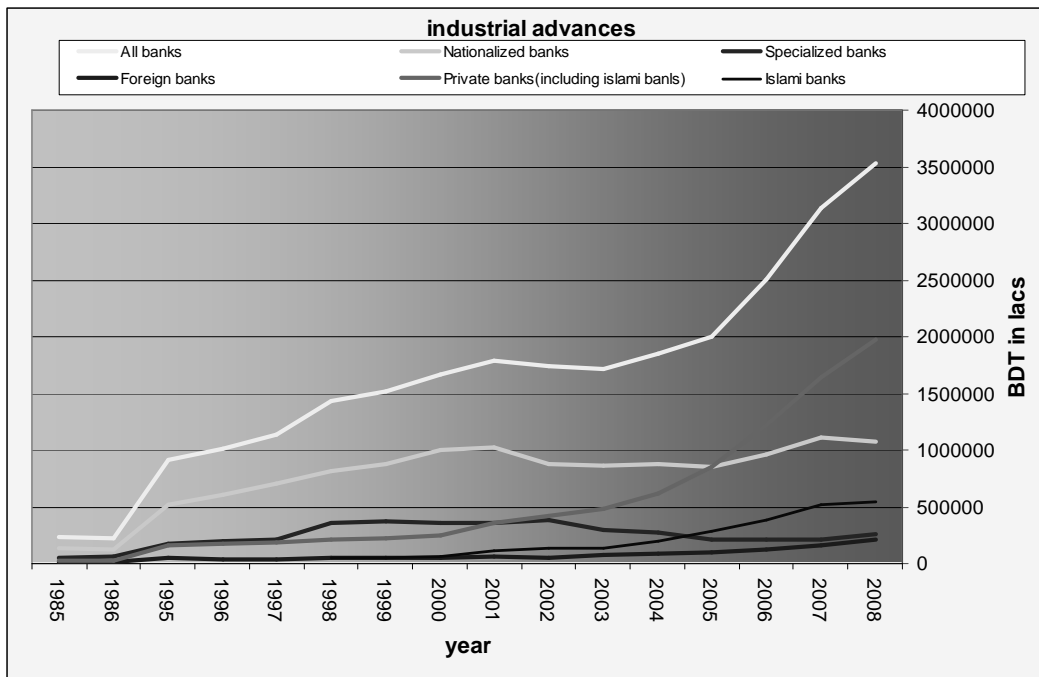
4.6. Financing by Islamic Banks

Like the Private commercial banks, the financing facilities provided by the Islamic banks have also been quite laudable. Starting from the inception in the 1998, the Islamic banks never showed negative growth rate, rather went on increasing the amount year by year mounting the total advances to a quarterly average of BDT 548626 lac in the first quarter of 2008. The amount was only 48638.25 lac in the year 1998. The financing scenario is mentioned in table-6 in annexure.

4.7. Aggregate picture: industrial advances

In aggregate, we notice that the trend of financing the industrial sector by all the banks has been positive. The nationalized commercial banks and the specialized banks showed a slowing down in industrial advances early in this decade. Except that, all the banks have shown a big jump in industrial advances throughout the reference period. This is shown below in the composite graph.

Graph: Industrial advances by Scheduled Banks



Comparative growth rate scenario of industrial advances by the scheduled banks is shown in the following table.

Table-01: Comparative growth rate scenario of scheduled banks

Year	Growth rate(%) of Industrial Advances by Categories of Banks					
	All Banks	Nationalized Commercial Banks	Specialized Banks	PCBs including Islamic Banks	Foreign Banks	Islamic Banks
1996	10.54%	15.51%	8.46%	7.07%	-26.05%	N/A
1997	13.22%	16.93%	7.65%	5.74%	17.08%	N/A
1998	25.61%	14.22%	73.29%	13.32%	37.19%	N/A
1999	6.33%	8.86%	2.72%	6.25%	-7.15%	1.67%
2000	9.38%	14.23%	-1.71%	11.42%	-3.01%	27.03%
2001	7.74%	1.41%	-2.05%	43.97%	26.44%	75.14%
2002	-3.37%	-14.31%	7.20%	18.56%	-10.73%	19.02%
2003	-1.15%	-1.47%	-20.90%	12.38%	36.33%	0.83%
2004	8.01%	1.56%	-8.27%	30.04%	7.40%	45.55%
2005	8.26%	-2.83%	-23.93%	37.27%	15.84%	44.73%
2006	25.04%	13.59%	-2.84%	43.28%	25.78%	38.77%
2007	24.87%	15.28%	5.15%	34.32%	39.89%	32.91%
2008	12.91%	-3.51%	23.43%	20.90%	30.70%	6.96%

Sources: Scheduled Banks Statistics, Various Issues

5.0. Regression Analysis: Contribution to GDP By Manufacturing Sector

Manufacturing sector can effectively influence GDP of Bangladesh. This section of the study concentrates on the pattern and strength of relationship between the contribution to GDP by the manufacturing sectors with the proxy of industrial production and the advances by the scheduled banks of Bangladesh in the concerned sector. Bangladesh is striving to develop in its industrial sector, and it is in the need of proper support from the infrastructural side.

In the analysis, it was assumed that the relationship among the variables- contribution to GDP by the industrial production and advances by the banks nationalized commercial banks, specialized banks, foreign banks and private commercial banks including Islamic banks was linear as:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4$$

Here,

y= Contribution to GDP by the industrial production

a = was the value of constant

x₁ = Advances by the Nationalized Commercial Banks

x₂ = Advances by the Specialized Banks

x₃ = Advances by the Foreign Banks

x₄ = Advances by the Private Commercial Banks including Islamic

Banks b₁, b₂, b₃, b₄ were the regression coefficients

Based on the data provided in Annexure (statistical part), the values of the coefficient and constants were calculated. The regression model estimated by regressing the advances by the scheduled banks and the contribution to GDP by the industrial production is presented below:

$$Y = 1846186 + 0.55X_1 + 0.532X_2 + 0.529X_3 + 3.6685X_4$$

Contribution to the GDP by the industrial production is very intricately related with the advances disbursed by the scheduled banks in the concerned sectors. Based on the above linear regression equation, the following explanations were developed:

- $b_1 = 0.55$ which indicates if the advances from the nationalized commercial banks increases by BDT 1 lac, then total contribution to GDP by the industrial production increases by BDT 0.55 lac provided the other independent variables remain unchanged. b_1 (advances from the nationalized commercial banks coefficient) was statistically significant because its level of significance was 0.096 or 9.6% level which was less than 0.10 or 10% level.
- $b_2 = 0.532$ which indicates if the advances from the specialized banks increases by BDT 1 lac, then total contribution to GDP by the industrial production increases by BDT 0.532 lac provided the other independent variables remain unchanged. b_2 (advances from the specialized banks coefficient) was statistically significant because it was significant at 0.039 or 3.9% level which was less than 0.05 or 5% level.
- $b_3 = 0.529$ which indicates if the advances from the foreign banks increases by BDT 1 lac, then total contribution to GDP by the industrial production increases by BDT 0.529 lac provided the other independent variables remain unchanged. b_3 (advances from the foreign banks coefficient) was not statistically significant because it was significant at 0.969 or 96.9% level which was more than 0.10 or 10% level.
- $b_4 = 3.668$ which indicates if the advances from the private commercial banks including Islamic banks increases by BDT 1 lac, then total contribution to GDP by the industrial production increases by BDT 3.6685 lac provided the other independent variables remain unchanged. b_4 (advances from the private commercial banks including Islamic banks coefficient) was statistically significant because it was significant at 0.024 or 2.4% level which was less than 0.05 or 5% level.
- $R = 0.992$ indicates that there exist a very high degree of relationship among variables.
- $R^2 = 0.985$ indicates that 98.5% of the variations in the contribution to the GDP by the industrial production can be explained by the combined variations of advances from nationalized commercial banks, specialized banks, foreign banks and private commercial banks including Islamic banks.

From the ANOVA table (shown in Appendix-statistical part), it can be concluded that the results were statistically significant at the 1% level, as the significance level indicated in the ANOVA table was 0.000 or 0%, which was less than 0.01 or 1% level.

From the betas of the independent variables represented in the coefficient table (shown in Appendix- statistical part), the following facts were pointed out,

β advances from the nationalized commercial banks = -0.041

β advances from the specialized banks = 0.018

β advances from the foreign banks = 0.012

β advances from the private commercial banks including Islamic banks = 0.957

As beta for advances from the private commercial banks including Islamic banks was higher than the betas of advances from the nationalized commercial banks, advances from specialized banks, advances from the foreign banks, the variable- advances from the private commercial banks including Islamic banks exerts more influence on contribution to GDP industrial production .

According to the Pearson correlation represented in Appendix-statistical part,

r Nationalized Commercial banks, Specialized banks = 0.384

r Specialized banks, Foreign banks = -0.232

r Specialized banks, Private including Islamic banks = -0.295

r Foreign banks, Private including Islamic banks = 0.787

r Private including Islamic banks, Nationalized Commercial banks = 0.666

r Foreign banks , Nationalized Commercial banks = 0.663

The correlation coefficients between the advances by the nationalized commercial banks, specialized banks, foreign banks, privatized commercial banks including the Islamic banks and the manufacturing contribution to the GDP are 0.691, -0.451, 0.980 and 0.991 respectively and are significant at 99% confidence level. The manufacturing contribution to the GDP is highly correlated to advances from privatized commercial banks including the Islamic banks. Here, it can be strongly concluded that the problem of multicollinearity does not exist because correlation coefficient between the independent variables are not greater than 0.8 or 80% and lower than the coefficient with dependent variable.

6.0. Findings and recommendations

- Financing the industrial production by the scheduled banks in the form of advances has shown positive trends throughout the period under study.
- Though industrial advances have been sanctioned with greater degree of flexibility, the amount of defaulted loan is not encouraging from the nation's point of view.
- Contribution to GDP in the form of industrial production is very much influenced by the advances of the Privatized Commercial Banks (PCBs) including the Islamic banks.
- The advances sanctioned by the NCBs and Specialized banks has exerted less impact on the GDP.

- In the absence of alternative financing for the medium and long-term, commercial banks are carrying out the financing in the medium and longer term which is by definition not their main function. In this regard, creation of institutions specializing the industrial and manufacturing financing is absolutely vital.
- The capital market should be viewed as one of the main sources of financing for the business units. If the industrial units can obtain fund from the capital market, these units will not have to bear the exorbitant interest rates that are currently being charged by the commercial banks right now.

7.0. Conclusion

The role of bank advances in keeping the wheel of economy moving is absolutely vital. But in the face of global financial crisis and economic downturn, careful and cautious lending policy should be in practice just not to jeopardize the peoples' money but for a financially sound, technically & truly operational banking system. It is important to nurture and foster peoples' trust because at the end of the day, banks do business with peoples' money.

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Annexure

Table-1: Industrial advances (quarterly average) - All Banks

Industrial advances (quarterly average in lac)		
Year	All banks	Growth rate
1985	229870	
1986	222730.25	-3.11%
1995	911391.75	309.19%
1996	1007426.75	10.54%
1997	1140562.25	13.22%
1998	1432690	25.61%
1999	1523371.5	6.33%
2000	1666305.75	9.38%
2001	1795263.25	7.74%
2002	1734676.75	-3.37%
2003	1714794.5	-1.15%
2004	1852095.5	8.01%
2005	2005015.5	8.26%
2006	2507084	25.04%
2007	3130534	24.87%
2008	3534801	12.91%
Source: Scheduled banks Statistics,1985-2008		

Table-2: Industrial advances (quarterly average) – Nationalized Commercial Banks

Industrial advances (quarterly average in lac)		
Year	Nationalized commercial banks	Growth rate
1985	138149	
1986	127686.25	-7.57%
1995	524382.5	310.68%
1996	605732.5	15.51%
1997	708297.75	16.93%
1998	808999.75	14.22%
1999	880669.25	8.86%
2000	1005968.75	14.23%
2001	1020148	1.41%
2002	874205.25	-14.31%
2003	861378.25	-1.47%
2004	874836	1.56%
2005	850036.25	-2.83%
2006	965595	13.59%
2007	1113106.25	15.28%
2008	1074080	-3.51%
Source: Scheduled banks Statistics,1985-2008		

Table-3: Industrial advances (quarterly average) – Specialized Banks

Industrial advances (quarterly average in lac)		
Year	Specialized banks	Growth rate
1985	54472	
1986	58868	8.07%
1995	177661.25	201.80%
1996	192700.25	8.46%
1997	207437.25	7.65%
1998	359464.25	73.29%
1999	369240.5	2.72%
2000	362916	-1.71%
2001	355491.25	-2.05%
2002	381070.5	7.20%
2003	301412.25	-20.90%
2004	276493.75	-8.27%
2005	210327.75	-23.93%
2006	204350	-2.84%
2007	214875.25	5.15%
2008	265216	23.43%
Source: Scheduled banks Statistics,1985-2008		

Table-4: Industrial advances (quarterly average) – Foreign Banks

Industrial advances (quarterly average in lac)		
Year	Foreign banks	Growth rate
1985	16767	
1986	16744.75	-0.13%
1995	45710.75	172.99%
1996	33805	-26.05%
1997	39580.25	17.08%
1998	54298.25	37.19%
1999	50414.75	-7.15%
2000	48897.25	-3.01%
2001	61826.75	26.44%
2002	55191.75	-10.73%
2003	75243.25	36.33%
2004	80812.75	7.40%
2005	93615	15.84%
2006	117749.25	25.78%
2007	164717.25	39.89%
2008	215285	30.70%
Source: Scheduled banks Statistics,1985-2008		

Table-5: Industrial advances (quarterly average) – Privatized Commercial Banks including Islamic Banks

Industrial advances (quarterly average in lac)		
Year	Private Commercial banks including Islamic Banks	Growth rate
1985	20481	
1986	19429.5	-5.13%
1995	163617	742.11%
1996	175189	7.07%
1997	185247	5.74%
1998	209927.75	13.32%
1999	223047	6.25%
2000	248523.75	11.42%
2001	357797.25	43.97%
2002	424209.25	18.56%
2003	476731.25	12.38%
2004	619953	30.04%
2005	851036.5	37.27%
2006	1219389.75	43.28%
2007	1637832.75	34.32%
2008	1980220	20.90%

Source: Scheduled banks Statistics,1985-2008

Table-6: Industrial advances (quarterly average) – Islamic Banks

Industrial advances (quarterly average in lac)		
Year	Islamic banks	Growth rate
1998	48638.25	
1999	49448.5	1.67%
2000	62813	27.03%
2001	110009.75	75.14%
2002	130934.5	19.02%
2003	132018.5	0.83%
2004	192153.5	45.55%
2005	278103.5	44.73%
2006	385917.25	38.77%
2007	512924.25	32.91%
2008	548626	6.96%

Source: Scheduled banks Statistics,1985-2008

Annexure- statistical part**Contribution to GDP by manufacturing sector and the volume of advances by the Scheduled banks****Correlations matrix**

		Industrial production	All banks	Nationalized commercial banks	Specialized banks	Foreign banks	Private Banks including Islamic banks
Industrial production	Pearson Correlation	1	.970(**)	.691(**)	-.251	.980(**)	.991(**)
	Sig. (2-tailed)	.	.000	.006	.386	.000	.000
	N	14	14	14	14	14	14
All banks	Pearson Correlation	.970(**)	1	.726(**)	-.059	.765(**)	.767(**)
	Sig. (2-tailed)	.000	.	.000	.842	.000	.000
	N	14	14	14	14	14	14
Nationalized commercial banks	Pearson Correlation	.691(**)	.726(**)	1	.384	.666(**)	.663(**)
	Sig. (2-tailed)	.006	.000	.	.175	.009	.010
	N	14	14	14	14	14	14
Specialized banks	Pearson Correlation	-.451	-.059	.384	1	-.232	-.295
	Sig. (2-tailed)	.386	.842	.175	.	.424	.306
	N	14	14	14	14	14	14
Foreign banks	Pearson Correlation	.980(**)	.765(**)	.666(**)	-.232	1	.787(**)
	Sig. (2-tailed)	.000	.000	.009	.424	.	.000
	N	14	14	14	14	14	14
Private Banks including Islamic banks	Pearson Correlation	.991(**)	.767(**)	.663(**)	-.295	.787(**)	1
	Sig. (2-tailed)	.000	.000	.010	.306	.000	.
	N	14	14	14	14	14	14
Islamic banks	Pearson Correlation	.978(**)	.774(**)	.655(*)	-.803(**)	.764(**)	.794(**)
	Sig. (2-tailed)	.000	.000	.029	.003	.000	.000
	N	11	11	11	11	11	11

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Descriptive Statistics

	Mean	Std. Deviation	N
Industrial_production	4212450	2250677.921	14
Nationalized_ commercial_banks	869102.5	168863.52062	14
Specialized_banks	277046.9	76366.08194	14
Foreign_banks	81224.80	52245.09854	14
Private_Banks_including_ Islamic_banks	626622.9	587347.49374	14

Table-: Variables entered table
Variables Entered/Removed^b

	Variables Entered	Variables Removed
1	Private_Banks_including_Islamic_banks, Specialized_banks, Nationalized_ commercial_banks, Foreign_banks ^a	.

b. Dependent Variable: Industrial_production

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1246186	672329.7		1.854	.097
	Nationalized commercial	.55	1.363	.041	.403	.096
	Specialized	.532	2.549	.018	.209	.039
	Foreign	.529	13.158	.012	.040	.969
	Private including Islamic	3.668	1.356	.957	2.705	.024

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