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Export and Import Behaviour of Bangladesh : An Empirical Analysis

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Econometric estimates of price-income responsiveness of the external trade sector are of practical significance as price and income are treated as vital determinants of exports and imports of a country. Although not adequate, some information on those foreign trade parameters are available in Nguyen and Bhuyan (1977), Imam (1970) and Rabbani (1964). The aim of the paper is to estimate the elasticities of export and import of Bangladesh with respect to the variables related to demand, i.e., price and income. The estimates of price and income elasticity are obtained from the estimation of export and import functions using Ordinary Least Squares (OLS). As actual export and import do not adjust to potential export and import, so a partial adjustment mechanism has been introduced into the system. Use of dummy variables in the model accounts for structural change in the external trade sector of Bangladesh over the period 1972-1985.

I. Introduction

Bangladesh is encountered with chronic deficit in the balance of payments since independence in 1971. The yawning gap between export earnings and import payments is getting worse day by day. The export earnings is lagging behind import payments mainly due to lower volume of exports and deterioration in the terms of trade. Heavy dependence on imports and less exports turned the balance of trade situation of Bangladesh in the negative direction. The export base being limited to a very few traditional items is unlikely to form the basis of a sustained export drive. Jute as a major item in the export trade faces severe constraints from the side of both domestic supply (e.g., competition with rice) and foreign demand (e.g., competition from synthetics). The two other traditional items, i.e., tea and leather

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also suffer from supply inelasticities. The phenomenal deficit in the balance of trade has direct bearing on the structure of the economy, changes in the macroeconomic variables and foreign trade parameters. Standard international trade theory reveals that domestic real income and relative prices are the two important determinants of export and import of a country. The performance of export and import trade in turn largely depends on the income and price elasticities at a particular point in time. With that end in view the paper attempts to study the export and import behaviour of Bangladesh in response to changes in income and price, using time series data for the period 1972 - 1985. The estimates of income and price elasticities are obtained from the estimation of export and import functions specified in log linear forms (Houthaker and Magee, 1969 ; Leamer and Stern, 1970 ; Khan, 1974 ; Goldstein and Khan, 1978, 1985). This paper is divided into five sections including introduction and conclusion. Secion II presents specification of the model. Section III provides a brief account of data and methodology and section IV delineates empirical results in details.

II. Specification of the Model

Alternative specifications of the aggregate and disaggregated import demand functions and aggregate export functions to be estimated are presented below :

Import Equation

The simplest formulation of an aggregate import demand equation relates the real quantity of imports demanded to relative prices and domestic real income. In terms of logarithms, the equation can be specified as follows :

$$\log M_t^d = a_0 + a_1 \log P_t + a_2 \log GDP_t + U_t \qquad a_1<0,\ a_2>0 \qquad (1)$$

where,

M_t = quantity of real imports in period t,

P_t = relative prices, i.e., ratio of import prices to domestic prices in period t,

GDP_t = real gross domestic product in period t,

U_t = error term and the superscript d refers to demand.

A rise in the relative price of imports will reduce the quantity

demanded and a similar rise in real income will increase it ; hence the signs are expected to be : $a_1<0$; $a_2>0$.

The logarithmic interpretation of the model allows derivation of elasticities directly from the equation ; moreover, it enables avoiding problems of drastic changes in the elasticities as import quantities change. As actual import does not adjust to potential import instantaneously ; so, a partial adjustment mechanism has been introduced into the system. This mechanism relates the change in imports in period t to the difference between the demand for imports in that period and the actual flow of imports in the previous period, t-1 :

$$\Delta \log M_t = \mu(\log M_t^d - \log M_{t-1}) \qquad o \leq \mu \leq 1 \qquad (2)$$

where $\Delta \log M_t = \log M_t - \log M_{t-1}$, and μ is the coefficient of adjustment.

When applied to the imports of a particular country, this partial-adjustment mechanism implicitly assumes that import prices are exogenous to the home country with quantities being adjusted domestically. A theoretical rationale for equation (2) is generally made on the grounds that costs are involved in the adjustment of actual imports to the desired flow, and that these costs constrain instantaneous adjustment. Further, some imports may be linked to contracts extending over a period of time and thus cannot respond promptly to changes in demand. This partial adjustment framework introduces a distributed -lag structure with geometrically declining weights into the determination of imports, and thus the formulation is able to capture delayed response.

Substituting equation (1) in equation (2) and solving for imports in periold t, the following is obtained :

$$\log M_t = \mu a_0 + \mu a_1 \log P_t + \mu a_2 \log GDP_t + (1 - \mu) \log M_{t-1} + \mu U_t \qquad (3)$$

Where μa_1 and μa_2 are the short-run price and income elasticities respectively.

Disaggregated Import Equation

For disaggregated import equations, the imported goods have been disaggregated into four broad commodity groups, i.e., (1) food, beverages and tobacco (FD), (2) raw materials excluding fuels (RM), (3) fuels (FL) and (4) manufactured goods (MT).

Disaggregation is desirable in that the determinants of import demand vary depending on the type of import. For example, many manufactured imports enter directly into final demand, whereas raw material imports are exclusively intermediate inputs in the production process. Similarly, the demand for manufactures is likely to be more price sensitive than the demand for fuels or raw materials. Thus information that is not revealed by aggregate data can be made available through disaggregation. Further, disaggregation may give more precise estimates of price elasticities of foreign trade. There is another point to note in this connection. Aggregate data produces downward biased estimates for both income and price elasticities.

The disaggregated import function in logarithmic form may be specified as follows :

$$\log DM_{it}^{d} = c_0 + c_1 \log (PM_i/DPI_i)_t + c_2 \log Y_t + U_t \quad c_1<0,\ c_2>0 \qquad (4)$$

where,
DM = real import volume of the commodity group in period t,
PM = import unit value of the commodity group in period t,
DPI = domestic price index in period t,
Y = real gross domestic product in period t,
U = error term, and the superscript d refers to demand
i = import commodity groups.

The partial adjustment with regard to the disaggregated imports may be shown in the following way :

$$\Delta \log DM_{it} = \lambda (\log DM_{it}^{d} - \log DM_{it-1}) \qquad (5)$$

where $\Delta \log DM_{it} = \log DM_{it} - \log DM_{it-1}$, and λ is the coefficient of adjustment. Substituting equation (4) in equation (5) and solving for import item in period t, the following equation is obtained :

$$\log DM_{it} = \lambda c_o + \lambda c_1 \log (PM_i/DPI_i)_t + \lambda c_2 \log Y_t$$
$$+ (1- \lambda) \log DM_{t-1} + \lambda U_t \qquad (6)$$

where λc_1 and λc_2 are the short-run price and income elasticities respectively.

Export Equation

The export equation may be specified in log-linear from as follows :

$$\log X_t^d = b_o + b_1 \log \left(\frac{PX}{PW}\right)_t + b_2 \log W_t + U_t \qquad b_1<o,\ b_2>o \qquad (7)$$

where,

X_t = quantity of real exports in period t,

PX_t = unit value of exports in period t,

PW_t = price level of trade partners in the same period,

W_t = real income of trade partners in period t.

As in case of imports, an adjustment mechanism relating the change in exports to the difference between the demand for exports in period t and actual exports in the previous period t-1 may be specified in the following way :

$$\Delta \log X_t = \psi(\log X_t^d - \log X_{t-1}) \qquad o \leq \psi \geq 1 \qquad (8)$$

$\Delta \log X_t = \log X_t - \log X_{t-1}$, and ψ is the coefficient of adjustment . Substitution of equation (7) in equation (8), and solving for exports in period t gives :

$$\log X_t = \psi b_0 + \psi b_1 \log \left(\frac{PX}{PW}\right)_t + \psi b_2 \log W_t + (1 - \psi) \log X_{t-1} \qquad (9)$$

where ψb_1 and ψb_2 are the short-run price and income elasticities, respectively.

III. Data and Methodology

The data used in the estimation of export and import equations of Bangladesh are annual time-series data covering the period 1972-1985. Thus, the estimation of functions is based on 14 observations. The volume of imports into Bangladesh accounts for only a small share of total world imports and does have only a little influence on world market prices. In the equations for total imports, the explanatory variables are relative prices and real GDP. Here relative prices are the ratio of unit value of imports to domestic price level which is, in this case, the GDP deflator of the country. Data on quantity of imports, unit value index of imports are obtained from the International Financial Statistics : Supplement on Trade Statistics (1988). Figures on domestic price

level (GDP deflator) and GDP have been taken from the International Financial Statistics : Supplement on Price Statistics (1981, 1986) and Supplement on Economic Indicators (1985) respectively.

In the estimation of disaggregated import equations, the data on the four types of import goods namely, food, beverages and tobacco ; raw materials excluding fuels ; fuels and manufactured goods are obtained from the International Financial Statistics : Supplement on Trade Statistics (1988). The source of unit values for various components is Research Department, Bangladesh Bank. The data used in the estimation of import equations both aggregated and disaggregated are expressed in terms of US dollars. In case of import unit value index and domestic price index, 1980 is taken as the base year, i.e., 1980=100

In the equations for total exports, the explanatory variables are real imcome of trade partners and the ratio of unit value of exports to the price level of trade partners. However, in the present estimation two demand proxies have been considered, i.e., real income and real aggregate imports of trade partners. It is to be mentioned here that the industrialised and developing countries imported 85-90 percent of the total exports from Bangladesh. On the basis of export shares and price indices of the aforementioned countries, weighted relative prices were calculated and used in the estimation process.

The shares of industrialised and developing countries in respect of importing goods from Bangladesh are obtained from the IMF publication : Direction of Trade Statistics, 1986. The data on export quantity are taken from the same source. Unit value of exports is obtained from International Financial Statistics : Supplement on Trade Statistics (1986). Wholesale price index and real GDP figures of industrialised and developing countries are taken from International Financial Statistics : Supplement on Price Statistics (1981, 1988) and Suplement on Output Statistics (1981, 1988) respectively. Data on aggregate import of these two groups of countries are obtained from International Financial Statistics : Supplement on Output Statistics (1984, 1986). The data used in the estimation of export equations are expressed in terms of U.S. dollars. In case of export unit value and other price indices 1980 is taken as the base year, i.e., 1980 = 100.

IV. Empirical Results

Import Equations

Import equations both aggregated and disaggregated and export equations were estimated by using Ordinary Least Squares (OLS). The aggregate import equation has been estimated in different form expressed in three individual equations to identify behavioural characteristics of the variables in different settings. The first equation has been estimated in the level form. The second one is estimated in the difference form. In estimating the last equation I have treated the lagged logarithmic value of real imports as an explanatory variable.

Each of the above equations presents estimates of the parameters. The price elasticities are significantly different from zero at 5 percent level and have the expected negative signs in equations 1 and 2. It has got the negative sign in equation 3 also, but it is statistically insignificant. The estimated income elasticities show positive signs. However, they are not statistically significant. In case of the first equation, the Durbin–Watson coefficient is on the low side, suggesting that the static equations are too simple to capture the dynamics of demand. The coefficient of lagged real imports, which appears as an explanatory variable in equation 3, is 0.39 and is statistically insignificant (Table 1).

Table 1 : OLS Estimation of Aggregate Import Equations

Equation No.	a_0	a_1	a_2	L	R^2	D-W
1.	5.74	-0.59	0.21	-	0.50	0.81
	(1.70)	(-2.08)	(0.58)			
2.	0.02	-0.61	0.69	-	0.44	2.49
	(0.56)	(-2.58)	(2.00)			
3.	2.21	-0.54	0.26	0.39	0.56	1.53
	(0.53)	(-1.50)	(0.72)	(1.21)		

Note : Terms in the parentheses indicate t - values,L is the coefficient of lagged dependent variable.

In the disaggregated import equation system there are four equations in respect of import item for food and raw materials. The first equation is estimated in the level form. The second one

has been estimated with difference of logarithmic values of the variables. The third and fourth equations are estimated introducing dummy variables. Dummy variables have been introduced in the third and fourth equations to capture major variations in quantities of import for food and raw materials during 1977 and 1978 respectively. Three equations have been estimated in respect of import item for fuel. The first one corresponds to level form and next one being in the difference form. In the estimation of the third equation for fuel, trend value has been added. There are two equations in respect of manufactured goods ; the first one is in level form and the other one is estimated in difference form.

The estimated equations for food, beverages and tobacco show that the price elasticities are with negative signs in all the equations. But they are statistically significant in second and fourth equations. The estimated income elasticities have positive signs and they are statistically significant in the first and third equations. In case of raw materials excluding fuels, the price elasticities are significantly different from zero at 5 percent level in equations 2 and 4 and have negative signs in all equations. The estimated income elasticities also have the right signs and are statistically significant in respect of equations 2, 3 and 4.

It can be observed from the estimated results for fuels that the price elasticities have the expected negative signs and are significantly different from zero at 5 percent level in equations 1 and 3. However, the income elasticities bear opposite signs, i.e., negative signs. The reason may be that there has been substitution of domestically produced natural gas for costly imported fuel. It has been noted in the Third Five Year Plan of Bangladesh (1985-90) that the share of imported fuel in the total power generation dropped from 26 percent in 1979 to 20 percent in 1984 and the share of natural gas increased from 50 percent to 64 percent during this period. To capture substitution of fuel, trend value has been estimated for fuel import in equation 3. In this equation the price and income elasticities are both statistically significant and the income elasticity has the expected positive sign. It can be seen from the first variant of the estimated equations for manufactured goods that the price elasticity has got the positive sign and the income elasticity is with negative sign. In the difference form as given in equation 2, the estimated price and income elasticities have got the right signs. But they are statistically insignificant (Table 2).

Table 2 : Estimation of Disaggregated Import Equations.

Equation No.	C_0	C_1	C_2	D	R^2	D-W
Food, beverages and tobacco						
1.	-10.81	-0.61	1.83	-	0.79	1.44
	(3.21)	(1.56)	(5.13)			
	/-3.08/	/-1.12/	/4.95/			
2.	-0.06	-1.34	0.83	-	0.51	2.27
	(-0.64)	(-3.04)	1.12			
	/-0.58/	/-4.49/	/1.45/			
3.	-3.39	-0.52	1.08	-0.58	0.90	1.89
	(-1.06)	(-1.88)	(3.24)	(-3.45)		
	/-0.96/	/-1.96/	/2.96/	/-2.96/		
4.	-0.20	-1.44	0.66	0.18	0.55	2.61
	(-1.05)	(-3.11)	(0.85)	(0.85)		
	/-1.11/	/-3.57/	/1.26/	/0.88/		
Raw materials excluding fuels						
1.	-0.42	-0.72	0.60	—	0.27	1.55
	(-0.12)	(-1.22)	(1.65)			
	/-0.23/	/-1.01/	/3.14/			
2.	0.10	-1.80	2.63	—	0.67	2.16
	(1.00)	(-4.05)	(3.37)			
	/0.75/	/-3.28/	/2.83/			
3.	-8.57	-0.66	1.43	0.64	0.77	2.50
	(-3.20)	(-1.88)	(5.10)	(4.63)		
	/-3.01/	/-0.31/	/4.83/	/3.58/		
4.	0.02	-1.80	2.56	0.11	0.69	2.24
	(0.15)	(-3.93)	(3.16)	(0.62)		
	/0.13/	/-3.05/	/2.57/	/0.56/		
Fuels						
1.	14.83	-1.60	-1.01	—	0.63	1.43
	(3.94)	(-4.10)	(-2.53)			
	/4.41/	/-3.02/	/-2.86/			
2.	-0.07	-0.76	-1.70	—	0.50	1.87
	(-0.53)	(-1.63)	(-1.69)			
	/-0.52/	/-2.31/	/-2.21/			
	Trend	C_1	C_2	D	R^2	D-W
3.	0.09	-1.76	0.50	—	0.99	1.43
	(3.24)	(-3.87)	(22.28)			
	/-3.00/	/-3.31/	/17.93/			

Manufactured goods	C_0	C_1	C_2	D	R^2	D-w
1.	8.07	0.30	–0.12	—	0.05	1.13
	(3.52)	(0.75)	(–0.48)			
	/5.13/	/0.63/	/–0.69/			
2.	0.03	–0.12	0.55	—	0.10	2.60
	(0.51)	(–0.37)	(1.07)			
	/0.48/	/–0.48/	/1.23/			

Note : Terms in the parentheses indicate t- values. Terms below the parentheses indicate Whites's heterocedastic adjusted t- values.

The disaggregated import equations have also been estimated using the Seemingly Unrelated Regression Equations (SURE)/Zellner estimation method (appendix). This method is appropriate particularly in case of disaggregated observations because it can be expected that the disturbances in models are contemporaneously correlated and therefore, a potential gain in efficiency of the parameter estimates may be obtained.

Export Equations

All the number 1 equations are estimated in the level form and the number 2 equations have been estimated in difference form. The estimates of the equations have been made without imposing restrictions. The estimates show that the price elasticities are negative in all the equations with the exception of level form equation in respect of manufactured goods. They are significantly different from zero in the difference form equations for food, raw materials and fuel. In the equation for manufactured goods, the price elasticity is with wrong sign in equation 1. It bears the expected negative sign in equation 2 ; but it is statistically insignificant. Th estimated income elasticities have the positive signs in the equations for food and raw materials and also in the difference form equation for manufactured goods. But the income elasticities have the negative signs in the fuel equations only. A dummy variable was introduced in the estimation process in this case. In spite of that, the income elasticities in respect of fuel remained with the wrong signs. Incorporating time trend to the equation, the price and income elasticities are found with right signs and statistically significant.

In Table 3, the equations 1-3 are estimated with real GDP of trade partners (industrialised & developing) as a demand proxy. The estimates of equations 1 and 2 are in level and difference forms respectively. In equation 3 the lagged dependent variable, i.e., real exports is an additional explanatory variable. In the estimation of equations 4-6, real imports of trade partners have been introduced as a demand proxy. Equation 4 is in the level form and the difference form appears in equation 5. In the estimation of last equation (6) the lagged logarithmic value of the dependent variable, e.g., real exports is used as an additional explanatory variable. The estimates in the first three equations reveal that the price elasticities are significantly different from zero at 5 percent level and have the expected negative signs. The estimated income elasticities are also positive and statistically significant.

The price elasticities in equations 4 and 5 are significantly differnt from zero at 5 percent level bearing negative signs. The price elasticity in equation 6 is also negative but statistically significant. The estimates of income elasticities show that they are significantly different from zero and have the expected positive signs. The coefficients of lagged dependent variable in equations 3 and 6 are 0.14 and 0.21 respectively and they appear to be insignificant.

Table 3 : Estimation of Export Equations.

Equation No.	b_0	b_1	b_2	L	R^2	D-W
1.	-6.44	-0.68	1.42	-	0.89	1.46
	(-1.81)	(-7.15)	(3.64)			
2.	-0.03	-0.85	1.54	-	0.48	2.05
	(-0.83)	(-2.93)	(2.41)			
3.	-8.25	-0.66	1.52	0.14	0.90	1.95
	(-2.09)	(-4.22)	(3.24)	(0.63)		
4.	1.38	-0.21	0.68	-	0.82	1.77
	(0.55)	(-2.19)	(2.02)			
5.	-0.09	-0.52	1.55	-	0.44	2.06
	(-1.64)	(-2.23)	(2.22)			
6.	-2.38	-0.08	1.01	0.21	0.86	1.94
	(-0.71)	(-0.70)	(2.10)	(0.79)		

Note : Terms in the parentheses indicate t - values. L is the coefficient of lagged dependent variable.

V. Conclusions

Domestic real income and relative price are considered to be the two important economic variables in determining the export and import of a country. Empirical results reveal that relative price and income are important factors influencing the demand for imports and supply of exports. It is found that disaggregated import demand functions provided better and reliable estimates of price and income elasticities as compared to aggregate import demand functions. Changes in export and import in response to changes in income and price are found to be consistent with the real world. The estimates of price elasticity is found to be negative and statistically significant thereby justifying the proposition that a rise in relative price reduces demand for imports and volume of exports and vice versa. On the contrary, the positive and statistically significant income elasticity supports the hypothesis that as real income increases, demand for imports and volume of exports also increases and vice versa. The estimates of price and income elasticities are also found to be similar to other cross-country studies. The results of this study should be used carefully because it had a very limited number of observations and used proxy variables due to non-availability of necessary data. However, before formulating policy a larger study with adequate number of observations and actual data should be undertaken to enhance the relaibility of estimates.

Appendix

Table 1 : Real Imports, Real GDP, Relative Prices and Real Exports of Bangladesh, 1972 - 1985

Year	Real Imports	Real GDP	Import Unit Value	GDP Deflator	Relative Prices	Real Exports
1972	1873.2	16977.8	36.3	21.5	1.7	546.4
1973	2291.6	17191.9	43.2	33.9	1.3	613.4
1974	1960.0	18392.7	55.1	47.6	1.2	446.2
1975	2207.3	12834.6	59.8	81.5	0.7	443.2
1976	1599.3	11283.6	59.4	62.1	0.9	544.0
1977	1826.7	11413.3	63.5	60.0	1.1	592.5
1978	2097.2	12446.7	72.0	78.3	0.9	607.3
1979	2276.5	12565.5	83.9	88.4	0.9	674.8
1980	2600.0	12811.5	100.0	100.0	1.0	790.2
1981	2678.5	11752.3	100.8	110.3	0.9	821.7
1982	2396.2	9636.0	96.4	124.4	0.8	800.0
1983	2397.3	8943.7	90.1	130.6	0.7	763.3
1984	3230.5	9023.0	87.6	152.0	0.6	914.8
1985	3258.8	7934.4	85.0	174.8	0.5	913.8

Note : Real Imports, Real GDP and Real Exports figures are in million U.S. dollars. Real GDP are at 1980 prices. In case of GDP deflator and import unit value, 1980 = 100.

Table 2 : Real GDP and Real Imports of Industrialised (IC) and Developing Countries (DC), 1972 - 1985

(In billions of U.S. dollars)

YEAR	Real GDP (IC)	Real GDP (DC)	Real M (IC)	Real M (DC)
1972	5410.2	3530.1	997.5	288.5
1973	6038.9	3749.0	1117.9	326.4
1974	5948.4	3786.4	1132.7	378.6
1975	5964.7	3568.5	1041.3	402.4
1976	5996.2	3290.1	1189.2	428.6
1977	6302.3	3135.8	1232.2	469.4
1978	7047.4	3082.2	2196.4	497.6
1979	7421.2	2912.9	1393.5	504.2
1980	7460.2	2658.2	1370.1	556.3
1981	6940.3	2223.5	1340.3	611.6
1982	6410.3	1586.6	1325.1	597.2
1983	6281.4	1092.0	1371.4	581.3
1984	6275.8	818.3	1535.8	594.5
1985	6239.0	610.2	1614.2	594.1

Table 3 : Relative Prices Used in the Estimation of Export Equation.

YEAR	WPIC	WPDC	XUV	XSIC	XSDC	RPW
1972	45.3	14.8	48.0	48.4	30.1	1.4
1973	50.9	18.3	58.2	56.7	32.3	1.4
1974	61.8	23.7	77.6	45.8	40.1	1.8
1975	66.3	28.8	73.8	40.8	48.0	1.6
1976	70.9	36.8	73.6	49.8	43.4	1.3
1977	75.7	46.4	80.0	44.7	45.9	1.3
1978	79.7	56.0	84.5	41.4	45.8	1.3
1979	88.2	73.9	97.2	48.0	40.3	1.2
1980	100.0	100.0	100.0	36.0	56.7	1.0
1981	108.7	131.4	96.3	33.9	58.9	0.8
1982	114.5	175.4	96.0	37.7	53.0	0.6
1983	118.1	261.3	94.9	46.4	44.9	0.5
1984	123.3	414.6	101.8	50.4	44.7	0.3
1985	125.6	659.5	109.3	47.9	46.6	0.2

Note : WPIC = Wholesale price index of industrialised countries.
WPDC = Wholesale price index of developing countries.
XUV = Export unit value index of Bangladesh exports.
XSIC = Export share of industrialised countries.
XSDC = Export share of developing countries.
RPW = Relative prices (ratio of export unit value index to price level of trade partners) weighted.

(In respect of price indexes and export unit value index, 1980 = 100).

Table 4 : Estimation of Disaggregated Import Equations Using SURE / Zellner Estimation Method.

Import Items	d_0	d_1	d_2	R^2	D-W
Food, beverages and tobacco					
Eqn. 1.	-11.04 (-3.71)	-0.54 (-1.62)	1.85 (5.89)	0.78	1.50
Eqn. 2.	-0.62 (-0.72)	-1.27 (-3.38)	0.83 (1.28)	0.15	2.31
Raw materials excluding fuels					
Eqn. 1.	-0.30 (-0.10)	-0.37 (-0.81)	0.58 (1.82)	0.24	1.77
Eqn. 2.	0.93 (1.09)	-1.64 (-4.47)	2.52 (3.72)	0.67	2.33

	d_0	d_1	d_2	D	R^2	D-W
Fuels						
Eqn.1.	5.49 (1.65)	-1.60 (-5.92)	-0.59 (-0.17)	0.68 (4.49)	0.77	1.54
Eqn. 2.	-0.17 (-2.67)	-0.62 (-2.71)	-2.24 (-4.27)	1.04 (6.19)	0.82	1.72

	trend	d_1	d_2	R^2	D-W
Eqn. 3.	0.27 (2.47)	-1.43 (-3.64)	0.51 (22.45)	0.44	1.16

Import Items	d_0	d_1	d_2	R^2	D-W
Manufactured goods					
Eqn.1.	7.84 (3.90)	0.18 (0.55)	-0.93 (-0.43)	0.05	1.05
Eqn. 2.	0.31 (0.56)	-0.22 (-0.82)	0.59 (1.33)	0.09	2.52

Note : Terms in the parentheses indicate t- values.

Figure 1 : Real Exports and Imports of Bangladesh, 1972- 1985

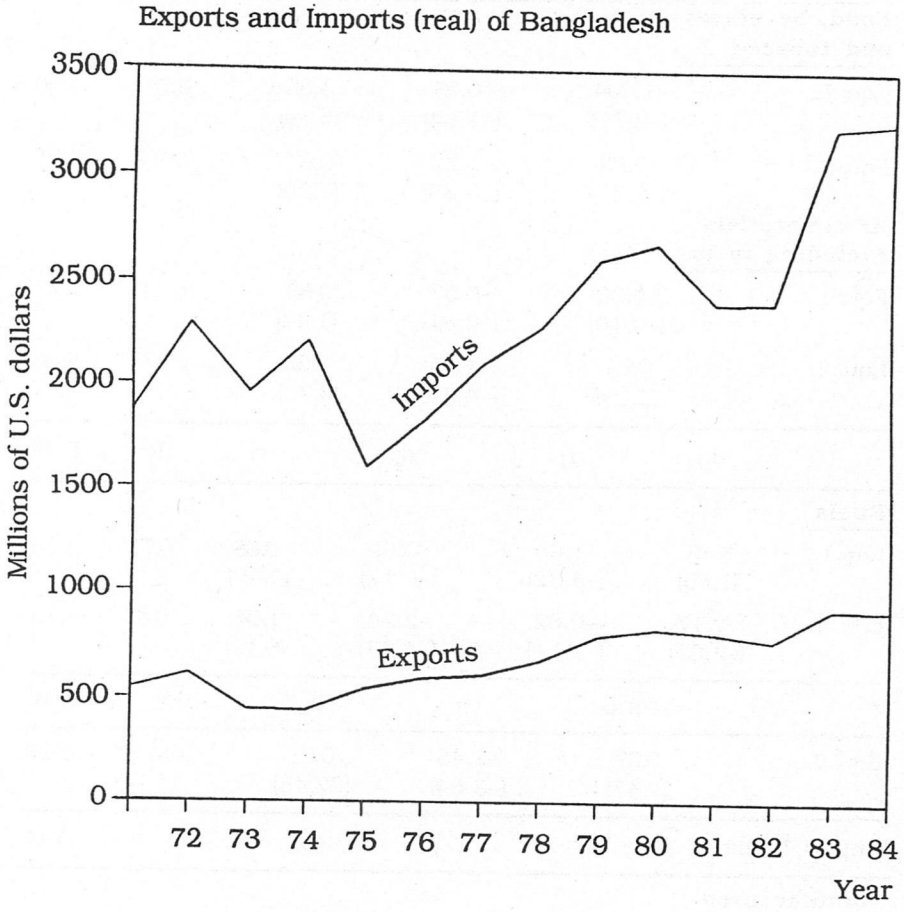
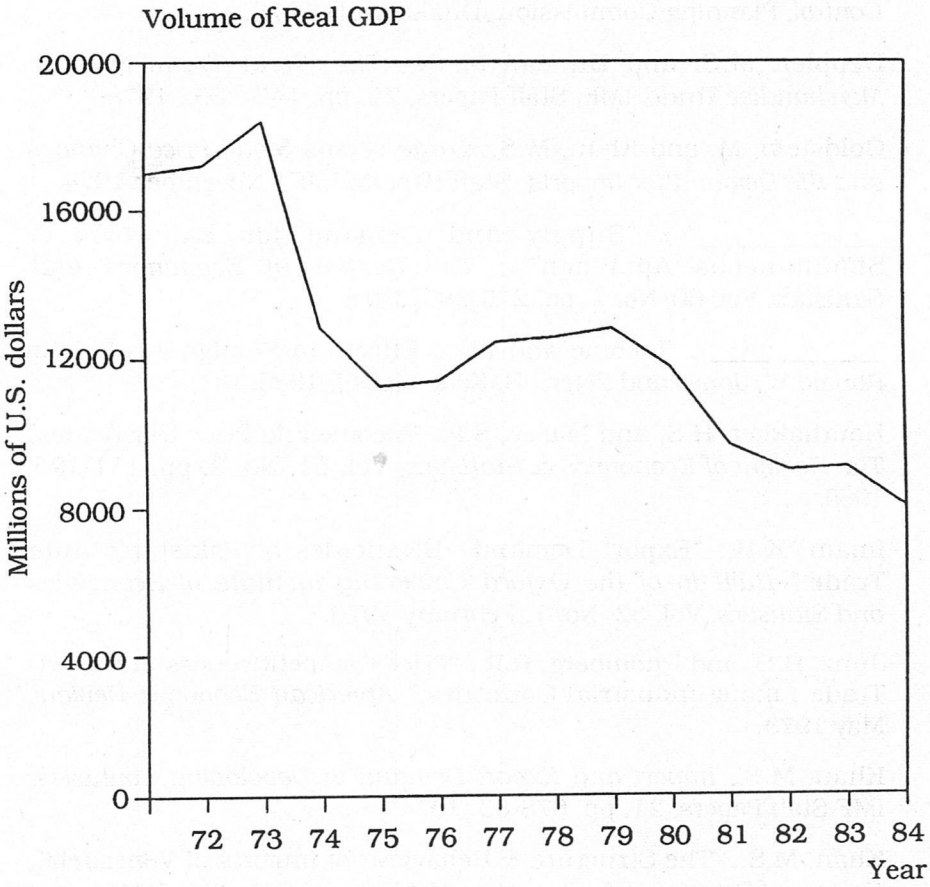


Figure 2 : Volume of Real GDP of Bangladesh, 1972-1985



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