

Oil Price Increase

An assessment of impacts and policy recommendations

[The paper is prepared by AK Enamul Haque and Sajjad Zohir - both are members of Economic Research Group. The section on 'economy-wide impacts' is drawn from an earlier ERG study done by Enamul Haque titled 'Macroeconomic impact of increase in world oil price on Bangladesh economy'. Other sections have been prepared by Sajjad Zohir, with assistance from Raisa Afsana, ERG Associate. Correspondence: info@ergonline.org]

The supply of petroleum products in Bangladesh is virtually under government monopoly with controls exercised through procurement from external sources, public ownership of refineries, and administered retail prices. No matter which single agency is assigned with a particular task, it is ultimately the government, which either makes money or incurs losses by such monopoly engagement. With increases in international prices of petroleum products, the old retail price regime could no more be supported since there had been net loss incurred by the government since fiscal year 2004-05. For quite some time, the sharp increase in procurement price was prevented from being passed on to the domestic market, allegedly due to political compulsions. The current caretaker government finally raised retail prices of diesel & kerosene to Tk. 40 (from Tk. 33) per liter; and increased the prices of petrol (octane) to Tk. 67 (Tk. 69) from Tk. 55 (Tk. 57) per liter. On an average, the price of petroleum products increased by nearly 20%. The policy to increase prices was welcomed by the World Bank (and IMF); and a Daily Star report (5th April 2007)¹ quoted a World Bank report suggesting that:

- The inflationary pressure (arising out of initial oil price increase) may be effectively countered with contractionary monetary policies; and
- Low prices of kerosene and diesel mostly benefit the better-off population, and price increase would not affect the poor significantly because spending on kerosene and public transport account for a small share of a poor household's budget.

There has also been discussion on losses incurred by individual agencies. Since the decisions on prices are made at the ministry levels, any gain or loss (other than those arising due to inefficient operations) out of administered prices may only be considered elements of government's tax-subsidy policy to a sector. With this perspective, the paper focuses on four inter-related issues. These are:

- Everyone agrees that increase in oil prices will lead to increase in inflation – but no estimate is available on the size of the anticipated change. There are agencies keen on undermining the importance of such increase. This paper draws upon a macro modeling exercise and provides projected inflation figures.
- Assertions such as those by the World Bank tend to undermine possible adverse implications of oil price increase on the poor. This paper presents figures from same HIES data to note that the petroleum products are no less important in poor's budget. More importantly, the macro modeling exercise allows one to quantify the size of economy-wide impacts on poverty and other economic aggregates – the results are summarized in this paper.

¹ "Checking Oil Price-Driven Inflation – WB prescribes credit tightening", The Daily Star, 5 April 2007.

- Will contractionary credit/monetary policy help reduce the inflationary pressure with neutral distributional impacts? The paper provides limited evidence on the subject.
- Once it is recognized that pricing of petroleum products is an issue of fiscal measure, it needs to account for economy-wide impacts of price changes – on growth, inflation and poverty; and simultaneously give due cognizance to prices set by the neighbors in order to avoid cross-border subsidization. Moreover, if there are adverse implications for poverty situation, one needs to look for other policy instruments redress the adversities.

The above-mentioned issues are addressed in this paper to arrive at a set of policy recommendations.

Poor and the Oil Price Increase

Pricing policy in the sub-continent with regards to petroleum products distinctly associates diesel and (particularly) kerosene consumptions with poor. As a result, lower price of diesel/kerosene vis-à-vis petrol/octane is justified on the ground of cross-subsidization even when the procurement costs of the two sets of products are almost similar². One therefore needs closer scrutiny of any assertion that undermines the adverse implication of price rise on the poor. Table 1 in the Annex summarizes the relative importance of the petroleum products for different (non-food) expenditure groups, as could be extracted from the HIES 2005 data.³ Almost a third of non-food expenditure of the poor is spent on fuel & lighting; and 16 to 19% of the latter is on procuring kerosene. One can hardly disregard such high dependence and assume the direct adverse effect to be negligible. In addition, the poor will be hard hit when the increasing inflation is largely associated with increase in food prices – the economy-wide impact and implication for poverty is addressed in the next section.

While any assertion of negligible impact of price increase on poor needs to be contested, it is also important to recognize that diesel is no less a rich people's commodity – the expensive cars owned by the rich are diesel-run, and one would find a higher percentage of urban apartments and houses operating diesel-run generators in relatively richer residential areas. This does raise a policy dilemma – are the rich also being subsidized by lower diesel prices aimed to support the poor? There is clearly a need to link alternative policy instrument, which we address at the end of this paper.

² In instances of recent procurements, the landed cost (includes premium, duties, VAT and IDSC), cost per barrel is reported to be US \$75.00, 77.16 and 77.81 respectively for diesel, kerosene and octane.

³ In the absence of details on income and/or total expenditure, households were grouped (for the whole sample) in accordance with the size of non-food expenditure.

Anticipated Inflation and Economy wide impacts of fuel price increase

Inflation

The fuel price increase will definitely put pressure on commodity prices, and our analysis suggests that the average price level will increase by an additional 3.16% and push annual inflation rate beyond 10% within a year.

GDP and Economic growth rate

Increase in the inflation will slow down the economic growth rate by nearly 1% in terms of GDP at constant prices. However, at nominal (current) prices, the gross domestic expenditure will increase by 3% or about 13,221 crore taka. The increase in the value of products will affect the value of prices in three major sectors of the economy, namely, agriculture, industry (broadly defined to include others) and service sector. In terms of current value of expenditure, agricultural value added will rise by 3.03%. However, in terms of real value of goods and services produced in these sectors, the agriculture output will register a fall in its real production, measured in constant prices of 1996, by nearly 1%, industrial production will fall by 2.2%, but the service sector will not be significantly affected.

Rural Economy

The value of fall in agricultural output, at 1996 constant prices, will be nearly 551 crore taka and it is nearly 2,635 crore taka in industrial and other output. Service sector output will, on the other hand, rise by only 160 crore taka, at constant prices.

It is, thus, evident that rural economy will be hard hit due to increase in fuel prices and since a large number of poor people live in rural areas, this requires that government must come up with strategies to protect the interest of these people due to oil price hike.

Our estimate has further shown that industrial production will fall by 2.2%. However, most of the fall in prices is likely to impact upon the small and medium enterprises. Our estimate further suggests that the reduction of poverty will be halted meaning that the past record of nearly 1% drop in the poverty rate per annum will be wiped out due to higher inflation and its subsequent impact on the economy.

Urban Economy

The urban economy largely consists of service sectors and some of the industries. Urban service sector will not be significantly affected by the increase in fuel price. Analysis has shown that in current prices the service sector's value addition will rise by 4.16% but in real terms the value rise is only 0.12%.

Government Income and expenditure

While the economy will slow down by nearly 1% due to higher inflation, government, however, gets a positive boost due to increase in the government revenue earnings: collection of indirect taxes will increase due to price rise or inflation.

The analysis suggests that government revenue will register an increase by 1.32% or nearly 627 crore taka. Government expenditure will also rise due to inflation in the economy but our analysis suggest that the rise is about 0.82% or about 498 crore taka. Thus, government's net income (in nominal terms) will increase by 129 crore taka. This gain is the net benefit for the government due to increase in fuel price; and consequently under *ceteris paribus* condition, there will be a fall in budget deficit by 1%.⁴

Imports and exports

The inflation resulting from fuel price hike will have a significant impact on imports and exports of the economy. Domestic price hike will make the local products costly compared to foreign products if there is no devaluation of the currency⁵. As a result, the import of consumable products will rise by nearly 13% in one year, which is equivalent to 529 crore taka increase in the value of imports. However, import of fuel is projected to decline by 1.7% (from its trend path) due to higher prices. Moreover, oil price-triggered inflation will not induce investment – on the contrary, costs will increase making investment less attractive. Our estimates show that import of all goods (other than consumables), particularly those going into investment (for local as well as exports) will fall. Our estimate suggests that there will be a net fall of imports by 0.55%.

Similarly, price hike at the domestic market for local products will make exports relatively costly in the world market if the exchange rate remains same. Analysis suggests that exports will fall by 0.73% and therefore, a net decline in the balance of trade by 136 crore Taka.

Monetary Policy Impact

Limited exercise was undertaken to assess the impacts of a 2% point increase in interest rate, considered a proxy of tightening the credit market. The simulation exercise shows no significant impact on GDP growth, inflation and poverty.

Petroleum Pricing Policies

There are three inter-related issues on pricing:

⁴ One may however note that the policy of converting all government vehicles has not been implemented. If running these vehicles is an essential input to running the government, one would expect a significant drain on government budget due to oil price increase.

⁵ With impressive growth in remittance inflow and reduced import demand on account of investment, the Bangladesh currency is unlikely to face any major stress in the coming months.

- Has there been a subsidy on diesel, kerosene and petrol/octane? If so, should prices be set at levels that involve subsidy?
- How do Bangladesh prices compare with prices in neighboring country? Is the 'export parity price' higher than the retail price providing the basis for cross-border informal outflows?
- Can the policy of lower diesel and kerosene prices compared to prices of petrol/octane realize growth and equity objectives of the government without additional measures?

Bringing transparency into 'Loss' and 'Subsidy'

While Bangladesh Petroleum Corporation (BPC) is assigned the responsibility to procure crude and refined oil and undertake wholesale distribution of refined oil, allegedly it has little (or no) role in setting the prices.⁶ The government imposes three different levies on all imports of refined petroleum products – customs duty (CD), value added tax (VAT) and industrial development surcharge (IDSC).⁷ All these are included in the calculation of 'landed cost', and distribution cost (commission to retailers, transportation and cost due to evaporation loss) is added to the latter to arrive at 'accounting cost' for calculation of 'subsidy'! To a layman, all levies charged are revenue to the government; and the issue of subsidy arises only when the retail price is less than the costs of procurement and distribution. Following to the latter principle, taxes and subsidies are estimated and static snapshots are presented in Table 2, while trends in the recent past are presented in Figure 1.

Numerical exercise based on a recent arrival of oil into the country suggests that the government would have incurred a net loss of Tk. 2.57 per liter if earlier prices prevailed. This would imply a loss of around 770 crore taka per year. With the price increase, the government will now earn net revenue of Tk. 4.66 per liter (see last three rows of information in Table 2). Thus, minus the jet fuel, the government would be earning net revenue of 1400 crore Taka per year if the current level and mix of consumption continues.⁸

As a matter of fact, monopoly over procurement and wholesale distribution of petroleum products had been a source of earning for the government till as late as 2003-04. With increases in international price of oil, and no corresponding adjustment in

⁶ BPC does however have important role in procurement and influencing the size of accounting cost of operation. Interestingly, the last annual report of BPC available in the public domain was for 1999-2000; and allegedly, upward trends in international prices eroded the accounting profit often tagged to bonuses.

⁷ There were two additional categories of charges: Supplementary Duty (SD) and Advance Income Tax (AIT), but with the increasing trend in world prices, the AIT was withdrawn in 2004-05 and the SD was withdrawn in 2006-07.

⁸ The 'accountants' would however choose to show a loss of around 800 crore taka; and conveniently show this as subsidy!! It may also be noted that price increases will reduce the demand for petrol/octane and therefore the size of government's net return will be reduced. Yet, in the extreme scenario, if octane was no more imported and locally consumed, the government would still be making money – 767 crore taka per year!

domestic prices, the government incurred net losses every year since 2004-05. The upward revision in price will put the government in the historical track (see Figure 1).

Differential Price Policy

While subsidy was not a historical norm, certain groups of consumers had continued to be subsidized, often at the cost of others. The price of diesel and kerosene have always been kept lower than that of petrol or octane on grounds of equity considerations, since the poor rely heavily on their usage in their daily lives. Although the procurement costs of diesel, kerosene and octane do not vary considerably, the retail price of octane is set much higher than that of diesel and kerosene, so that the revenue earned from octane can be used to subsidize the other two. However, after the recent price increase, the demand for petrol/octane has decreased and the demand for diesel has not moved out of its growth path. Since the demand for kerosene is seasonal, depending on weather conditions and power supply, it has not shown any increase in its demand, as this is not its peak season. Rather its demand has reportedly decreased, largely attributed to a decline in fraudulent practice of mixing kerosene with petrol and due to a decline in demand for petrol with which kerosene would be mixed. Considering the magnitude of shifts in consumption of octane and diesel, this could mean that the amount of net revenue earned by the government from fuel after the price increase would be lower than that mentioned.

Subsidy on diesel has historically been justified on the ground that it is an important input into mechanized irrigation and to the operation of the transport sector that integrates various segments within the economy as well as with outside to harness better opportunities. There has been a shift towards use of electricity in irrigation and conversion of motor vehicles into CNG (particularly, the buses, taxis, and private cars)⁹. The trucks, main carriers of cargo (food and non-food) remain diesel-run. With major failures in the power sector, use of diesel-run generators has emerged as a significant component in total diesel use – estimates were not readily available.

The empirical observations made above suggests that the policy of subsidizing poor through maintaining lower kerosene prices had also the added fallout in terms of promoting fraudulent practices (mixing petrol with kerosene), which obviously is a problem of governance that is additionally burdened to ensure market segmentation (so that the subsidy reaches a target group). Similarly, a lower diesel price also subsidizes the urban better-off people.¹⁰ And, the unique correspondence between equity consideration and differential price policy may not be taken for granted.

Interestingly, price setting in the neighboring country appears to have responded to some of the concerns raises; the relative price of diesel compared to that of petrol has an increasing trend value over the last five years – moving from 0.63 to 0.70 (based on

⁹ One may note on the side that the more luxurious and expensive cars, mostly owned by the rich, are run with diesel.

¹⁰ Casual observation suggests that the percentage of dwelling units covered by generators is higher in rich locality compared to clusters of poor households.

Kolkata retail prices). In contrast, the relative price had mostly been flat in Bangladesh; and with a period (early 2005 till mid 2006) of high relative price (often exceeding the normally higher Kolkata ratio)¹¹, the revised prices brought the ratio back to its flat plain. Looking at Figure 2, one gets the awkward feeling that there is great deal of fixity/rigidity in policy thinking!

That setting lower price alone fails to realize the target of benefiting (or reducing the cost to) the poor is reflected in the Indian practice of maintaining two prices for kerosene – the poor may stand in long queues to get a small quota of kerosene at an unbelievably low price! Bangladesh's experience with food rationing has not been that great, but it has been running quite a successful program in the guise of allowances for old age people and for distressed women. One may draw upon these lessons and consider alternative ways of reaching the target group.

Cross-Border Price Comparison

While many plead for pricing based on domestic considerations with a faith on the authority's ability to regulate external flows (and therefore ability to ensure market segmentation), the reality of market forces can hardly be ignored. Even with the best of our effort on both sides of the border, it is costly and difficult to sustain any non-market measure against cross-border flows if the price differentials are too high. Figure 3 shows the Kolkata retail price per liter of diesel, converted to Bangladesh Taka using the monthly average exchange rate (between Taka and Indian Rupee). Based on information on differences in Kolkata market between Indian oil and Bangladesh diesel, a second price series is calculated; and the latter has been used to arrive at an 'export parity price' (EPP). It is believed that there will be outflow ('export') of diesel if the retail price is below EPP.¹² The trends captured in Figure 3 show that the discrepancy in Bangladesh price with the EPP had been significant till the recent increase in prices.

Remarks on Procurement Price

The discussion till this point assumed that the country was importing oil at competitive prices, whatever that may mean. For imports of refined oil, we normally take the fob Gulf price; and contracts on forward purchases normally define cost prices to include fob price and a premium for all other costs including shipment and unloading at Chittagong port. Limited query with the figures revealed that the forward contract that we have been involved with always involve procurement prices higher than that under spot market purchase – for premium as well as (it appears) for the quoted fob price. The extra margin is found to be more than 7%. That is, fob price reportedly paid under a consignment is more than 7% higher than the fob on that date. There are good reasons in a volatile market, but there are apprehensions unfair prices imposed on small stakeholders like Bangladesh. The same also applies for determining premium, a part of

¹¹ The diesel price was at par with (or lower than) Kolkata price. The low relative price of diesel was due to setting relatively low prices for petrol and diesel!

¹² One may however note that transfer cost may increase due to various reasons, including increase in transportation cost, increase in toll charged by border authorities, etc.

the high premium has been due to faults at our end (such as, passing the demurrage charges to suppliers), and positive changes may not immediately be realized into lower premium. A part of the high premium is however due to attempt by suppliers to safeguard against risk in a contract that remains valid for six months. While current procurement practices¹³ need closer scrutiny, there may be scope to reduce procurement cost by acting swift, and lowering the premium (and higher prices) by shortening the duration of forward contract. Obviously, the gains can be retained only if the costs of negotiating contracts within the government are reduced.

Policy Recommendations

In the backdrop of sustained (net) loss over two years, price increase is justified on all possible criteria that one may think of. However, *ad hoc* jumps are more harmful to the economy and the costs of adjustment become more painful. In addition, the price increase came during a period when there was upward pressure on prices for various other reasons. Ideally, one would have preferred a gradual increase in prices, which is a feasible option in this country since private hoarding of petroleum products, otherwise expected in anticipation of price increase, is not permissible. Given that the revised price regime will generate net positive earning to the government, two options may be weighed: to lower the price marginally, or to find better instruments to distribute subsidy (out of the net earning as well as savings on procurement cost) to targeted sectors and people. For establishing credible policy regime, we favor the second option, and suggest that the first option remains open for review in the coming months.¹⁴

Our analysis suggests that two-digit inflation in the coming months as a result of fuel price increase is almost a *fate accompli*. This will have the most adverse effects on the productive sectors of the economy – agriculture and the small & medium industrial and other enterprises. The analysis suggests that tightening credit will not succeed in reducing the increase in inflation. Rather policies need to be framed for targeted assistance to the affected productive sectors and the poor, and to undertake measures to promote investment, since the latter will be negatively affected by current pattern of inflation. The latter calls for, if anything, expansionary credit policy, and not a contractionary policy.

To minimize impact on output in the agricultural and industrial sector, government may develop schemes to help producers through a) subsidized supply of diesel for irrigation purposes in the agriculture, b) either a subsidized fuel price for industries or readjustment of VAT for small and medium sized producers.

To effectively administer the subsidy plan (for agriculture) we suggest using ‘fuel

¹³ A significant amount of our import is from Kuwait Oil under government-to-government arrangement. There had also been similar arrangement with Indian Oil. Reportedly, there will be imports from private party (mostly engaged in hedging) in the coming months. The history of these arrangements is a separate subject, not dealt with here.

¹⁴ Prices in the Indian markets are reviewed once a fortnight; and we may seriously look into more frequent adjustments.

coupon' issued to the irrigation pumps used in agriculture. Similar to the arrangements under monthly cash allowances administered through the banks and relying on lists prepared locally with assistance from DSW and later from MWCA, one may use the good office of the Block Supervisors (DAE) and local bodies to identify the irrigation pump operators who may receive 'pump-subsidy' from the bank on the condition that the irrigation prices are not raised from the last season. The proposal however remains hypothetical at this stage since irrigation in *Boro* season is now over, and soon we the wet season will begin.

Subsidy to small and medium sized producers using diesel for their production, for example rice mills, could be provided in the aforementioned manner or by reducing VAT rate for them. While one can appreciate the difficulties in administering subsidy programs, government under the current circumstances (free from political influence and also reduced corruption) is advised to utilize its local offices to identify the right groups.

Increase in inflation triggered by oil price increase is a one-shot phenomenon, which is expected to settle down at higher price levels. With oil prices unlikely to decline in the international market, the domestic price adjustments could hardly be avoided. There are however costs associated with this transition and subsequent adjustments in the real sector of the economy. On the growth front, the country will lose out if investment slows down and/or capital stock gets eroded. Finding a right balance between protecting domestic producers and opening up the economy for essentials (including the informal channels) so that price increases are bearable, is a major challenge to the policymakers. No less important an area of concern is the distributional impact of inflation. While producers may eventually pass the higher input costs to consumers through price increases, nominal wages and salaries of fixed-income groups are unlikely to change at the pace of price increases, resulting in a substantial erosion of real income of the relatively poor in both rural and urban areas. There will also be many amongst producers – particularly the small ones – who will fail to survive through this transition; aggravating inequity and social disharmony. All these call for more judicious economic management of politics in order to sustain the achievements made so far in the sphere of politics!

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Statistical Annex

Table 1: Importance of Petroleum Products in Household Budget, HIES 2005

Description	Percentile groups based on non-food expenditure					All
	lowest 5%	5-10%	10-25%	25-50%	50-100%	
Rural						
Share of fuel & lighting in total non-food expenditure	34.60	29.72	27.26	20.65	10.10	13.22
Share of kerosene in fuel & lighting expenditure	18.65	18.54	17.17	16.46	12.99	14.64
Share of transport in total non-food expenditure	5.20	6.50	8.06	8.60	11.95	11.07
Share of bus, taxi & auto-rickshaw in transport expenditure	26.55	35.58	35.13	37.99	25.29	27.29
Urban						
Share of fuel & lighting in total non-food expenditure	35.25	28.98	25.88	20.82	9.40	10.67
Share of kerosene in fuel & lighting expenditure	16.08	15.44	12.54	11.06	5.41	6.73
Share of transport in total non-food expenditure	2.95	6.21	6.27	8.11	14.62	13.94
Share of bus, taxi & auto-rickshaw in transport expenditure	18.95	24.01	30.97	38.18	16.43	17.45

Source: HIES 2005.

Table 2: Gains/Losses to the Government under alternative domestic price regimes with Current Procurement Prices

(All figures are in Taka unless mentioned otherwise)

Items	Diesel	Kerosene	Octane	Aggregate (weighted)
Scenario with the Price Increase				
Weights (shares)	0.73	0.19	0.08	1.00
Cost in Chittagong Port, paid to suppliers	32.82	33.69	33.06	33.01
Duty + VAT	7.28	7.28	7.28	7.28
Landed Cost (includes taxes)	40.10	40.97	40.34	40.29
Loss + Finance & distribution cost	4.43	4.43	4.43	4.43
Retail Prices, break-even with tax	44.53	45.40	44.78	44.72
Retail Prices, declared	40.00	40.00	67.00	42.10
Government gain/loss with rightful claim on duty & VAT	-4.53	-5.40	22.22	-2.62
Government gain/loss (includes duty & VAT)	2.75	1.88	29.51	4.66
Scenario without the Price Increase				
Retail Prices, old	33.00	33.00	57.00	34.86
Government gain/loss with rightful claim on duty & VAT	-11.53	-12.40	12.22	-9.86
Government gain/loss (includes duty & VAT)	-4.25	-5.12	19.51	-2.57

Note: US \$ = Tk. 69.20.

Figure 1

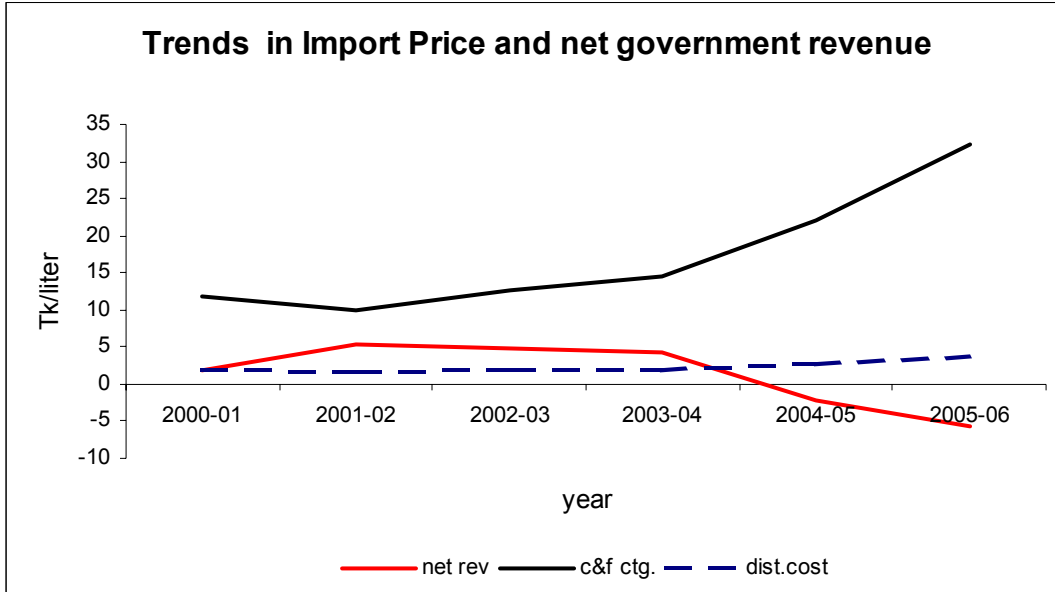


Figure 2

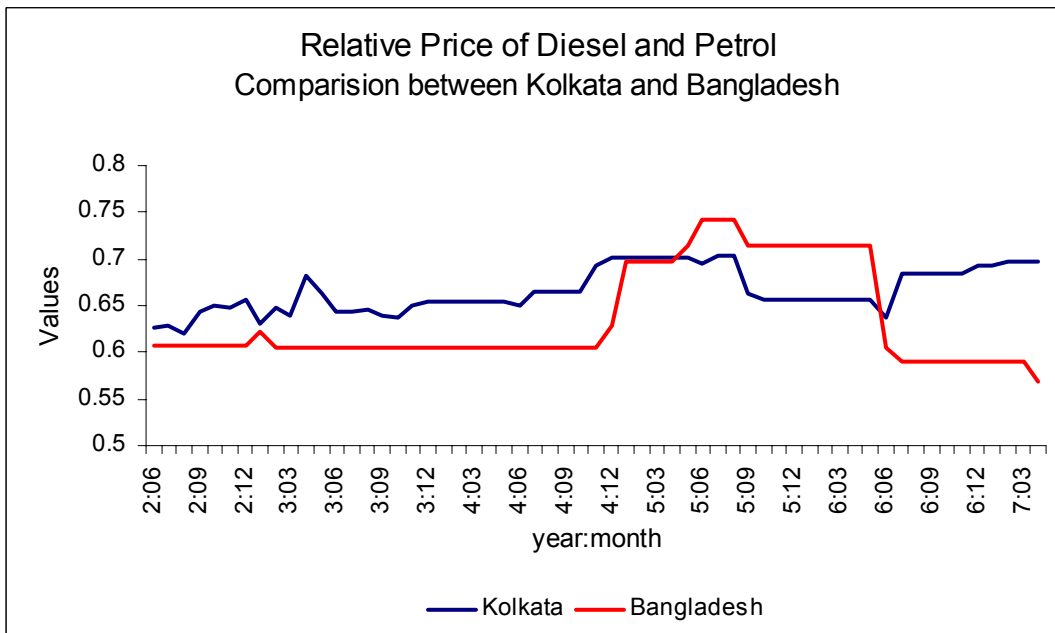


Figure 3

