

Saving Mobilization and Its Impact on Economic Growth: A Case Study on Bangladesh

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Abstract

This paper examines the role of saving in accelerating economic growth in Bangladesh and estimates a simultaneous equation related to this to assess the impact of various factors in determining savings and economic growth in Bangladesh with special emphasis on the impact of financial sector reforms initiated in the late 1980s. The findings reveal that the growth rate and real rate of interest have a positive impact on saving rate. Also the dummy variable (financial reform index) has a significant positive effect on saving rate indicating that the financial sector reform has ultimately enhanced saving rate in Bangladesh. Population per branch of scheduled banks, on the other hand, is negatively related to saving rate suggesting that increased availability of branches of banks can stimulate the saving tendency of people. Further, financial savings in turn, foreign direct investment and literacy rate positively affect the growth rate of the economy. Our findings also confirm the saving-growth simultaneity reflecting that saving and growth positively affect each other and go hand to hand.

Key Words: Saving Mobilization, Economic Growth, Bangladesh.

I. Introduction

Saving is one of the important variables for economic development that has emerged as the central issue in developing countries at least for two reasons. First, foreign aid inflow to the developing economies has declined during recent years. Second, saving positively affects the growth and development. The greater is the saving rate, the higher is the growth rate a country can attain. For economic development, growth is a must which cannot be achieved without investment or capital accumulation and saving through investment plays a vital role in this process.

Although investments can be financed by external capital inflow, it involves huge uncertainty, politically humiliating terms and economically unfavourable conditions. Apart from this, the amount of such assistances is very much negligible in relation to our need. So, it will be beneficial to achieve the ability to move in the direction of increasing self-reliance in terms of financing investment or capital formation. It is the savings, which plays a dominant role in achieving self-reliance and then growth and stability. It can help a developing economy like Bangladesh to get rid of the so called low level equilibrium trap or vicious cycle of poverty by creating a big push.

In Bangladesh, different commercial banks, post office and other financial institutions collect a greater portion of private savings through their activities. Unfortunately at independence in 1971, Bangladesh inherited a peculiar financial system, incorporating control over interest rates, directed credits, complex rules for money and capital markets and overvalued exchange rate. The problem was worsened by the nationalization of all financial institutions in the country. Even in 1980s, the financial sector was highly repressed. The small and relatively underdeveloped sectors were dominated by state owned commercial banks, which accounted for more than 90 percent of the system's total asset. The interest rate, in principle, is freely determined by banks since 1989 after launching the financial liberalization by privatizing two state-owned commercial banks and permitting private commercial banks to operate. The government launched the financial sector reform programme (FSRP) in 1990 with financial assistance from a member of donor agencies (Van Der Geest, 2001). After the start of financial reform process, it is assumed that saving motive would be improved. However, in reality the nationalized commercial banks were to demonstrate oligopolistic behaviour with respect to interest rate till February 1997 when interest rate controls were withdrawn. However, after experiencing haphazard situation in financial institutions it is noticeably observed that the continuing financial liberalization does spur saving and hence the economic growth.

This study highlights the importance of financial sector reform in mobilizing domestic savings more effectively for rapid economic growth. A world Bank study has also found that the paucity of financial savings, due to government rationing of available credit to so called priority sectors, has an adverse effect on economic growth by reducing both the volume and the productivity of investment (World Bank, 1989).

Various studies have tried to evaluate the impact of financial liberalization on private savings and hence on economic growth in a number of both developed (Bayoumi, 1993a, 1993b; Caporale and Williams, 2001; Chapple, 1991) and developing countries (Bandiera et al., 2000; Dayal Gulati and Thimann, 1997; Loayza and Shankar, 2000; Melo and Tybout, 1986).

However, one region that has not received much attention is South Asia. This study intends to fill the gap in the literature by empirically analyzing the determinants of private savings in Bangladesh, with special emphasis on the impact of financial reform, and its impact on economic growth.

II. Review of Literature

Empirical research in this field is not substantial. This is specially limited for Bangladesh. Some partial estimates were made available by Lewis and Khan (1964), Haq and Baqai (1967), Ghafur (1969), and Alamgir & Rahman (1974). There are also two studies conducted by Habibullah (1963, 1964). In one, he studied the pattern of urban savings based on a sample of 288 households in the city of Dhaka. His second study was concerned with some aspects of rural capital formation and was based on a sample of 500 households drawn equally from five unions selected from different geographical region of Bangladesh. Another work on savings was done by Huq (1969) but it was not an empirical one. All of the mentioned studies were done based on the data collected under Pakistan regime and gave only a partial scenario of the economy. However, an empirical study in this field was done by Rahman (2001), where she put emphasis on financial savings. Recently a discussion paper was presented by Chowdhury (2001), where he estimated a saving function but with special reference to financial sector reform programme initiated in the late 1980s. But the relation between saving and economic growth was not depicted in both of the studies. Laski (2007) conducted a study where he analyzed the relation between aggregate demand and the propensity to save using the model of 'stunted growth' of Josef Steindl. His analysis highlighted situations in which increased saving rates slowed economic growth and cases in which decreased saving rates spurred growth. As a result, the analysis proved that an increased saving rate does not necessarily accelerate economic growth. Another study has been done by Uddin (2007) allowing the impact of economic growth on saving. But there was a technical problem as economic theories suggest that there is simultaneity between economic growth and saving and the present researchers attempt to examine such kind of relationship.

III. Savings in Bangladesh: An overview

Bangladesh boasts of some convincing progress with economic development, like increasing per capita income, poverty alleviation and so on. Yet, the development challenges for Bangladesh as it enters into the new millennium are indeed daunting. Its per capita income in 2008 was est. US\$1,500 (adjusted by purchasing power parity) significantly lower than India, Pakistan, both which are also lower than the world average of \$10,497 (Wikipedia, 2010). Total national savings go from Tk. 254480 million in 1993/94 to Tk. 976110 million in 2004/05, thus representing 283.57% increase over a period of 12 years. Gross national savings (*GNS*) during the same period varied from 18.75% to 26.49% of *GDP* showing an upward trend. As the proportion of Gross national income (*GNI*) it increased from 18.22% to 25.06%. It is clear that almost through the nineties *GNS/GNI* is lower than *GNS/GDP* but from 1999 onwards it is getting larger (Table: A-1). Most probably, the explanation is that the lion's share of net factor income (or remittances) went to consumption expenditure at the early stage of the period. However, after a short span of time nation began to save more from their remittances. There is a dramatic decrease in the rate of savings especially in the marginal rate of saving that is observed in the period 2000/01 (Table: A-2). Another alarming fact is that the government share in *GNS* is

continuously decreasing in Bangladesh. The chronic erosion in the public sector savings is responsible for low gross national savings in the country. In a developing country government has to face some binding constraints such as inadequacy of resource mobilization, subsidies, tax rebate, growing interest burden, high level of administrative expenditure that result in huge government revenue deficit hence public sector dissaving. Chronic negative trade balance (Table: A-3) and structural imbalance, i. e. total consumption plus investment which is greater than *GDP* (Table: A-4), are also responsible for public sector dissaving (borrowing).

Reasons for low savings in Bangladesh

Financial savings during the period 1976/77 to 1981/82 varied between 13 percent to 15 percent of *GNI* with some fluctuations. However, after that period, it rose sharply to about 30 percent of *GNI* in the period 1994/95 following an increasing trend. And there was a fall in the ratio of financial saving to *GNI* in the period 1995/96 to 1997/98 (23%). But from 1998/99 and onward it began to rise (Table: A-6). Nonetheless, it cannot be considered satisfactory as compared to the neighboring countries. The reasons might be as follows:

1. *Low level of income and extreme inequality*: The most insurmountable problem in Bangladesh is the low level of income. A very large proportion of population lives below the poverty line which acts and reacts on savings through vicious cycle of poverty. Further, this problem has been aggravated by the extreme inequality in income distribution. It was alleged that only about two dozen of families in the then Pakistan were in possession of 80 percent of the entire productive capital, and yet after 38 years of independence the scenario has not been changed noticeably in Bangladesh. Inequality in income is often held to be favourable for capital formation. But, in a low-income country like ours, extreme inequality is a great disincentive to save as the overall *MPS* is lower in a community of extremely unequal income than in a community where income is more evenly distributed. Not only are savings quantitatively low but also qualitative composition of investment is often bad from the standpoint of resources mobilization for development. In a developing country like Bangladesh, while many sectors are languishing for lack of capital investment the richer sections are indulged in conspicuous consumption and therefore the volume of voluntary savings is meager. Further, too much of the country's limited savings go into unproductive investment such as gold and jewellery, real estate, etc. Still another qualitative dissipation of the limited savings in the country comes from the frequent tendency of the wealthiest persons in the sphere of influence of the state-power to pile-up their savings abroad legally and illegally, thereby sufficient voluntary savings cannot be available for raising significantly the rate of capital formation.
2. *Borrowing from external sources*: Most of the external assistances are conditional and thus it failed to mobilize the resources to capital formation and improve the repayment capability of the country. Apart from economic mismanagement, dependence on external assistance creates a cultural transaction including unproductive demonstration effects which acts as a major deterrent to rely more on local resources.
3. *Lack of bank soundness*: Bank soundness can be assessed by evaluating the bank's solvency or capital adequacy, quality of their loan portfolio and the liquidity position. By each of these standards, we find the banking system in the country unsound and achieving very little improvement in recent years. Almost all banks suffer from highly

inadequate capital and provisioning measures, low quality assets, and unsatisfactory management and operating environment (IMF, 1998).

4. *Large spread between deposit and lending rate:* Van Der Geest (2001) has shown that the direct efficiency losses due to non-performing loans in Bangladesh have kept the spreads between deposit and lending rates artificially high. Interest rate in Bangladesh have been characterized by low deposit rates on bank accounts, high interest rate on loans, and a high but relatively stable margin between loan and deposit rates (Table: A-5). The large spread has a negative impact on both saving and investment in the economy. Low deposit rates discourage private savings whereas the high real commercial lending rates discourage investment. The spread is the result of the oligopolistic role played by nationalized commercial banks that are burdened with non-performing loans and other operating inefficiencies. Spread made domestic saving instruments very expensive, and hence unattractive and discouraged financial intermediation, thus depressing both savings and lending volumes.

IV. Methodology and Data¹

The focus of this study is on growth in real gross domestic product (real GDP) as a key determinant of savings. Due to the simultaneity between saving and growth in real GDP, a simultaneous equation model has been established. The unidirectional cause and effect relationship is not meaningful in this case as saving rate and growth rate are mutually dependent or endogenous variables. Since both variables are stochastic, using single equation techniques will lead to have estimates which will be not only biased but also be inconsistent. Growth in real GDP in the simultaneous equation system is to be regressed on the saving rate, foreign direct investment (FDI), and adult literacy rate. The other function in the system is a semi-logarithmic function, where the savings rate is regressed on the growth in real gross domestic product (GDP), real rate of interest, population per branch of scheduled banks, and a dummy variable. The two-stage least squares (2-SLS) has been followed for the estimation purpose which is a simultaneous equation technique. Different computer software packages like SPSS, SHAZAM have been used during estimation.

Data used in this study are secondary time series (annual), covers the period from 1974/75 to 2004/05, and are collected from Economic Trends, Statistical Year Book of Bangladesh, Statistical pocket Book Bangladesh, and Internet Publication of Board of Investment (BoI) of Bangladesh. The nominal GDP series has been converted into a real one using 1995/96 as the base year.

V. Empirical Study: The Models

Based on the theoretical framework with special reference to Bangladesh economy an empirical saving function can be derived for this study. Specifically, natural log of financial savings ($\ln Fs_t$), savings rate, can be modeled as a function of growth in real GDP (GR), real rate of interest on deposits (RRI), population per branch of scheduled banks (PPB), and a dummy variable (D) with the value of 0 up to 1982/83 and 1 for otherwise. As different commercial

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banks and post office collect a greater portion of savings, we consider here the financial savings, which includes Bank Deposits and post office savings, for calculating the savings rate. Thus,

$$\ln Fs_t = \alpha_0 + \alpha_1 GR_t + \alpha_2 RRI_t + \alpha_3 PPB_t + \alpha_4 D_t + u_{2t} \dots \dots \dots (1)$$

And the growth function is,

$$GR_t = \beta_0 + \beta_1 \ln Fs_t + \beta_2 FDI_t + \beta_3 LR_t + u_{1t} \dots \dots \dots (2)$$

Where, growth in real *GDP* is a function of saving rate ($\ln Fs$), Foreign direct investment inflow (*FDI*), and adult literacy rate (LR).

The log-lin model is used to show the constant proportional/relative change in Fs_t for a given absolute change in the values of regressors. The other major reason for using log is to avoid unit-root. The lin-log model shows the absolute change in GR_t as a result of relative/percentage change in Fs_t .

Rationale for including various regressors

A healthy growth rate is considered as the primary and most important determinant of savings in a low-income country like Bangladesh. First, savings and economic growth have been highly correlated over long time horizon as well as for many region and stages of development (Dayal Gulati and Thiman, 1997). Second, saving is directly associated with output growth through investment. However, the impact of growth in income on savings rate has been inconclusive. According to permanent income hypothesis, forward looking consumers, expecting their permanent income to rise, dissave against their future income. Thus higher economic growth reduces private savings hence savings rate. In contrast, the life cycle model suggests that individuals save mainly to smooth the consumption path over time in accordance with their anticipated life-time income and also for bequest motive and for unexpected expenses suggesting a positive relationship between income and savings. But in a developing country like Bangladesh, growth can positively affect savings. Most of the cross country empirical studies find that permanent increase in income has a positive impact on private savings (Maddison, 1992 and Bosworth, 1993). Ogaki et al (1995) have shown that savings in low-to-middle income countries are positively affected by the per capita income relative to that of the USA.

The real rate of interest defined as the difference between the nominal rate of interest and the rate of inflation is supposed to have a positive effect on savings rate. But the theoretical literature is ambiguous about the effect of a change in interest rate on savings because the income and substitution effects of such a change work in opposite directions.

The population per branch of scheduled banks is viewed as a proxy for financial deepening in the sense of increased access of the people to the banking system that has strong policy significance in mobilizing financial savings.

A dummy variable is used to see the impact of financial sector reform programme initiated since the late 1980s, which involves the elimination of credit controls, deregulation of interest rates, easing of entry into the financial services industry, development of capital markets, increased prudential regulation and supervision, and liberalization of international capital inflow.

According to Harrod-Domar growth theory, if the national savings rate can be increased from a lower level to higher one, growth in *GDP* will also increase. The mechanism of economic growth and development, therefore, is simply a matter of increasing national savings and investment. So, a positive relationship between savings rate and growth in real *GDP* is expected.

It is expected that foreign direct investment (*FDI*) helps growth and development of the *LDCs* economy by implementing effective rapid technology transfer, management and organizational skill, greater flow of idea and knowledge, marketing know-how, production of quality goods and services as well as exchange of culture etc. So we can say that *FDI* inflow affects economic growth positively.

It is generally assumed and supported by evidence that more highly educated workers can produce more goods and services in an hour than can less educated workers. The level of education and training embodied in a nation's labour force is often referred to as its stock of human capital and conceptually, an increase in human capital has the same effect on productivity as does an increase in physical capital or an improvement in technology. Empirically it was found that the positive relationship exists between human capital and growth in output for cross-section of countries (Barro, R. and Lee, J., 1993). In our study, adult literacy rate serves as a proxy of human capital.

Unit Root Tests

The following table reports tests of stationary around a non-zero constant to investigate the presence of unit roots in the level variables as well as in their subsequent differences.

Table: Stationary Test Results

Levels	τ_e	Type	$I(d)$
$\ln FSt$	-2.73	Stationary	$I(0)$
GR_t	-2.72	Stationary	$I(0)$
RRI_t	-9.60	Stationary	$I(0)$
PPB_t	-10.38	Stationary	$I(0)$
FDI_t	-2.65	Stationary	$I(0)$
LR_t	-0.28	Non-stationary	–

First Difference	τ_e	Type	$I(d)$
$d(LR_t)$	-1.86	Non-stationary	–

First Difference	τ_e	Type	$I(d)$
$d^2(LR_t)$	-4.01	Stationary	$I(2)$

Where:

- ◆ τ_e means estimated Dickey-Fuller test statistic. The critical values are given in Mackinnon (1991). The 10, 5, and 1 percent critical values are -.58, -2.89, and -3.50 respectively.
- ◆ d denotes the first difference of a variable.
- ◆ d^2 denotes the second difference of a variable.
- ◆ $I(d)$ denotes integrated of order d .

As shown in the table above, most of null hypotheses of a unit root can be rejected for the levels save the adult literacy rate. The adult literacy rate series exhibits random-walk with drift for both the level first difference. After taking second difference, the null hypothesis of unit root can be rejected in the literacy rate series. Therefore, all the variables, but literacy rate, are treated as integrated of order zero. And the literacy rate has been found integrated of order two.

Findings of the Study

The estimated results of our equation 1 and equation 2 are noted below:

Equation 1:

$$\ln Fs_t = 11.5239 + 0.0503GR_t + 0.1067RRI_t - 35.5071PPB_t + 1.5462D_t$$

t	(7.585)	(1.170)	(2.135)	(-0.698)	(2.421)
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$R^2 = 0.70396$

Equation 2:

$$GR_t = 0.5323 + 0.3356 \ln Fs_t + 0.000021385 FDI_t + 1.1780 LR_t$$

t	(0.038)	(0.278)	(0.803)	(2.954)
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$R^2 = 0.28463$

In interpreting the estimated regression equation-1, we find that it has a moderate explanatory power but results are not evenly satisfactory as per as significance is concerned. Growth in real *GDP* has a positive impact on savings rate as the theory suggests. That is, over the period 1996/97- 2005/06, the financial savings in Bangladesh grew at the rate of **5.03%** percent per annum due to one percent increase in growth in real *GDP*. However, it is not significant at an accepted level. Several reasons might work behind poor significance of the variable *GR*. Firstly, in Bangladesh, the propensity to consume is high and hence low propensity to save. According to macroeconomic theory, people in the lower income brackets have a higher propensity to consume than those in the higher income group. In 2008 per capita income was \$1,500 (adjusted by PPP). In addition, if we exclude the people with exceptionally high income we find the rest of the people having per capita incomes ranging from \$350 to \$450 only. This being the fact, it is unlikely for the people with income below subsistence level to save any portion of their income. Secondly, the expenditure is alarmingly increasing relative to income in this country. Wage level has increased by 15 to 20 times but price level has increased more than that over the last three decades. That is, the opportunity to save has been decreasing day by day.

The real rate of interest exerts a statistically significant positive impact on savings rate. Over the study period, financial savings grew at the rate of **10.67** percent per year due to one percent increase in real rate of interest. This means that the positive substitution effect of an increase in real rate of interest outweighs the negative income effect. This result is different from several other studies using pooled time series country data that could not pin down a positive effect of an increase in the interest rate on savings (Bandiera et al, 2000).

From an analytical point of view, the financial sector reform has a direct effect that works through price and quantity channels. The price channel reflects the impact of savings through changes in the real interest rate. Fry (1978, 1995) reports that, across a sample of fourteen Asian countries, the gross national savings rate is positively affected by higher real interest rate. However, the positive response is small and diminishes in later years. Reynoso (1989) finds that savings increase rapidly as *RRI* moves from sharply negative to just below zero, but that the effect levels off at low positive real interest rates.

Population per branch of scheduled banks is found having a negative relationship with savings rate indicating that if there were more branches of banks, it could have positive effect of savings rate. However, it is found insignificant in determining savings rate. Perhaps, it was significant up to when the number of branches of banks was below sufficient level as we found so in Rahman's (2001) study. However, after permitting the commercial banks to operate freely, now the accessibility of people to banking system is no more a problem in Bangladesh.

We use the period 1982/83 as the base category for the dummy variable, because financial liberalization has taken place from this period. The variable D_t is found significant at an accepted level indicating that savings has been increased following financial liberalization. Beginning in the late 1980s Bangladesh became one of the countries in south Asia to embrace the reform first. To expedite the overall improvement of financial sector in Bangladesh 'National Commission on Money, Banking and Credit' was set up in 1984. On the basis of its report and World Bank's recommendation the government inaugurated the 'financial sector reform programme (*FSRP*)' in 1990. It has performed a number of reforms and even then they have failed to achieve a mentionable improvement. Consequently, government initiated the 'commercial banking restricting projects (*CBRP*)' in 1997 to continue the reform programmes. However, in many studies (e.g. Chowdhury's discussion paper, no. 2001/78) it is found that financial sector has a negative impact on savings in Bangladesh. But, Chowdhury's concluding remark was "It, however, doesn't eliminate the possibility of at least reducing the less productive use of loanable funds in these countries through reforms than strengthen the market discipline and provide more autonomy to financial institutions." With this remark we can add that as the reform has been continuing we are getting its fruit at least after a long period since the reform has begun.

Again in interpreting the estimated growth function (*equation – 2*), we find that though it has low explanatory power, the significances of different factors are of different levels. The role of savings in determining growth rate has been found positive but insignificant suggesting that because of political and social turmoil that Bangladesh experienced in several times, investors have no incentive to invest the savings in the banks to accelerate the capital formation. Also, because of lack of investment in power plant, infrastructure development and social overhead capital it seems to be true that investment in new capital good for rapid growth cannot be made. As a result, we have seen over many years, though generations have been sacrificing their current consumption for future generations their savings have been remaining as idle money in the banking channel reflecting very poor significance on growth.

The variable *FDI* also has a positive impact on growth exerting a poor significance. Good governance, macroeconomic stability and skilled labour force should be ensured for attracting

the *FDI* inflow. But Bangladesh has not performed well on none of these. Moreover, sound democracy ensures a congenial environment for investment and then *FDI*. For example, since 1991, when democracy restored in Bangladesh, *FDI* inflow has been showing a positive trend while up to 1990 we see volatile fluctuations in it. However, the uninterrupted democratic system is yet to be developed in Bangladesh. Therefore, political environment should be kept sound for higher level of *FDI* inflow, which affects economic growth directly and financial savings indirectly.

Lastly, adult literacy rate, as a proxy of human capital, has been found with a positive significant impact on growth as the endogenous growth theory suggests. If the country is able to raise its literacy rate and standard of education, its economy will grow rapidly and undoubtedly.

VI. Conclusion and Policy Implications

During the last several decades, development economists have emphasized the importance of savings and investment in the growth dynamics of the less developed countries. However, as the empirical findings delineate, saving rate and alternatively the growth rate are less significant in Bangladesh economy. We believe, the economic environment detrimental to long-term planning, political instability are responsible in this connection. Less significance of *FDI* can also be explained by the same factors. Our findings also suggest that we should emphasize on the deregulation of interest rate and continuation of financial reform so that competitive efficiency within the financial market can be achieved. To sum up, the single most critical challenge confronting Bangladesh is low literacy rate (less human resources). Bangladesh needs to raise literacy rate remarkably. The country should emphasis on making a highly educated, properly trained up and rightly motivated labour force to accelerate its economic growth.

Based on the above discussion and analysis the following policy implications may be noted.

Creation of mass consciousness: Ricardian equivalence assumes that individuals' consumption choices fit a life cycle model of consumption that they are forward looking and effectively infinite-lived through a bequest motive that is inspired by each generation's concern about the welfare of the next generation. However, Ricardian equivalence may not hold if individuals are not conscious enough about the safe future livelihood of them and their heirs. The key factor in this respect is the overall literacy rate that must be raised sharply. However, a few people are educated and almost 50 percent adult persons are yet to be literate in Bangladesh. Concerted efforts are to be taken to increase country's literacy rate that will in turn increase growth rate.

Continuing the financial reform (FRS): Financial sector reform in Bangladesh has been an ongoing process, and it has accelerated during the last decade. In absence of any such reform, the cost to the economy in terms of lower savings and investment due to and increasingly impaired financial system will continue to grow. This would jeopardize the widely held expectation of rising economic growth rates in both the short and medium term. Therefore, financial sector development through sustainable and effective reform is strongly suggested to expedite saving mobilization and channel funds for loans.

Efficient public policy: Capital formation is of strategic importance in the wake of rapid economic development as the country suffers from capital deficiency. It is therefore, necessary to achieve a higher ratio of savings to national income. A well conceived scheme of taxation, especially progressive taxation, for reducing conspicuous consumption, is an effective way of raising the ratio of savings to national income which is one of the crucial determinants of rate of economic growth.

Restricting consumption: The consumption of imported goods must be restricted. To this end, set up of import substitution industries should get priority to maintain overall well being of the population. This would boost up domestic employment, income, savings and growth.

Inspiration of insurance: Insurance can make a considerable contribution to the mobilization of savings for financing the development. At present 62 insurance companies (general & life) are performing in Bangladesh, but they are not sufficient compared to developed countries. Moreover, most of them are yet to achieve the trust of people. Therefore, government has to take initiatives so that a well-developed insurance industry may develop.

Before concluding the analysis, it should be noted that the above-mentioned ways for boosting savings are not exhaustive. To add more to this list mention may be made of the role of agriculture, dependency ratio, a well-developed security market and above all a sound fiscal and monetary policy.

Limitations

The paper has some limitations which are believed to be the main causes of low significance level of the variables. A major limitation is the lack of sufficient data on national income accounting. Only a few research works in this field have been done that are insufficient for providing a guideline to work in this respect. We have failed to consider more other regressors such as religion, geographical region, income distribution, dependency ratio, etc. for their low significance as well as for data constraints. Nonetheless, we have 31 observations that are enough for a time series analysis.

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APPENDIX

Table: A-1

Major Indicators of National Income Accounts of Bangladesh, 1993-2005

Year	GNS at current market price (million Taka)	GDP at current market price (million Taka)	GNI at current market price (million Taka)	GNS as percent of GDP	GNS as percent of GNI	Investment as percent of GDP
1993/94	254480	1354120	1396460	18.79	18.22	18.40
1994/95	291660	1525180	1571690	19.12	18.56	19.12
1995/96	335540	1663240	1712780	20.17	19.59	19.99
1996/97	389890	1807010	1865470	21.58	20.90	22.72
1997/98	435870	2001770	2066740	22.77	21.09	21.63
1998/99	490140	2196950	2272500	22.31	21.57	22.19
1999/00	547610	2370860	2457990	23.10	22.28	23.02
2000/01	568090	2535460	2623870	22.41	21.65	23.09
2001/02	640380	2732010	2857440	23.44	22.41	23.15
2002/03	747520	3005800	3171630	24.45	23.57	23.41
2003/04	847190	3329730	3505260	25.44	24.17	24.02
2004/05	976110	3684760	3894660	26.49	25.06	24.43

Source: Economic Trends, Bangladesh Bank (November 2005, Vol XXX, No. 11)

Table: A-2

National Savings, National Income and Marginal Rate of Savings in Bangladesh, 1994-2005

Year	ΔGNS	ΔGNI	$(\Delta GNS / \Delta GNI)$
1994/95	37180	175230	21.22
1995/96	43880	141090	31.10
1996/97	54350	152690	35.59
1997/98	45980	201270	22.84
1998/99	54270	205760	26.37
1999/00	57470	185490	30.98
2000/01	20480	165880	12.35
2001/02	72290	233570	30.95
2002/03	107140	314190	34.10
2003/04	99670	333630	29.87

2004/05	128920	389400	33.11
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Source: Economic Trends, Bangladesh Bank (November 2005, Vol XXX, No. 11)

Table: A-3

Export, Import and Balance of Trade of Bangladesh, 1996-2004

Year	Export (fob) (Taka in crores)	Import (fob) (Taka in crores)	Trade Balance (Taka in crores)
1996/97	18835.6	27436.3	-8600.7
1997/98	23466.9	30783.6	-7316.7
1998/99	25546.4	34708.1	-9161.7
1999/00	28869.6	38091.0	-9221.4
2000/01	34905.0	4549.0	-10590.0
2001/02	34037.7	44206.2	-10168.5
2002/03	37587.2	51172.7	-13585.5
2003/04	45534.7	57816.5	-12281.8

Source: Economic Trends, Bangladesh Bank (November 2005, Vol XXX, No. 11)

Table: A-4

National Consumption, Investment and GDP of Bangladesh, 1993-2004

Year	Total Consumption at Current Market Price (Taka in crores)	Total Investment at Current Market Price (Taka in crores)	GDP at Current Market Price (Taka in crores)
1993/94	117668	24919	135412
1994/95	132497	29161	152518
1995/96	141540	33254	166324
1996/97	151963	37447	180701
1997/98	165323	43303	200177
1998/99	180796	48758	219695
1999/00	194691	54587	237086
2000/01	207918	58536	253546
2001/02	223596	63239	273201
2002/03	244570	70352	300580
2003/04	267927	79991	332973

Source: Economic Trends, Bangladesh Bank (November 2005, Vol XXX, No. 11)

Table: A-5

Monthly Weighted Average Rate of Interest on Commercial Lending and Deposit

Period	Commercial lending rates (%)	Deposit rates (%)
1997/98	12.96	8.93

1998/99	13.09	9.54
1999/00	13.03	8.64
2000/01	12.62	8.85
2001/02	13.02	9.12
2002/03	12.24	7.51
2003/04	11.16	6.38
2004/05	10.52	5.51

Source: Economic Trends, Bangladesh Bank, Vol. XXX, No. 11

Table: A-6

Financial Savings, Gross National Income and Their Ratios

Year	FS (mill. Taka)	GNI (mill. Taka)	FS/GNI
1976/77	14201	105367	0.134777
1977/78	16753	131519	0.127381
1978/79	21878	146616	0.14922
1979/80	25965	175920	0.147595
1980/81	32713	239083	0.136827
1981/82	37220	270921	0.137383
1982/83	48160	300057	0.160503
1983/84	68979	362076	0.19051
1984/85	88929	423107	0.210181
1985/86	104800	478104	0.219199
1986/87	123852	553237	0.223868
1987/88	141339	592982	0.238353
1988/89	166547	655267	0.254167
1989/90	193644	733525	0.263991
1990/91	216618	830736	0.260754
1991/92	247222	940353	0.262903
1992/93	274509	986863	0.278163
1993/94	317092	1079002	0.293875
1994/95	368317	1225932	0.300438
1995/96	401287	1712776	0.23429
1996/97	445686	1865472	0.238913
1997/98	489800	2066738	0.236992
1998/99	553972	2272498	0.243772
1999/00	655534	2457991	0.266695
2000/01	767351	2623877	0.292449
2001/02	874607	2815832	0.310603
2002/03	1022870	3171630	0.322506
2003/04	1172858	3505260	0.334599
2004/05	1375525	3894660	0.353182

Source: Economic Trends, Bangladesh Bank, Various Issues.