Rational Expectations Economics Society

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Saving For a Sustainable Growth

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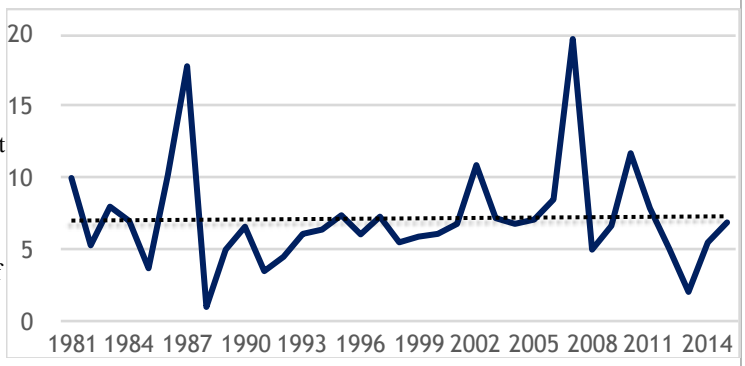
Although pursuance of higher growth rate of GDP has not been a central element of development philosophy of the country, the growth figures are too important to be overlooked. Higher growth is a necessary condition to expand the range of choices available to the citizens and help them achieve what they value highly. Nevertheless, it is only a necessary condition and not a sufficient condition. More than the growth rate per second, the growth process is far more significant and thus requires an assessment. The goodness of growth process can be assessed using three criterion– ***the rate itself (more the merrier), its sustainability*** and ***inclusiveness.*** In this article, I will take up the first two issues and leave aside the issue of inclusiveness for the future discussion.

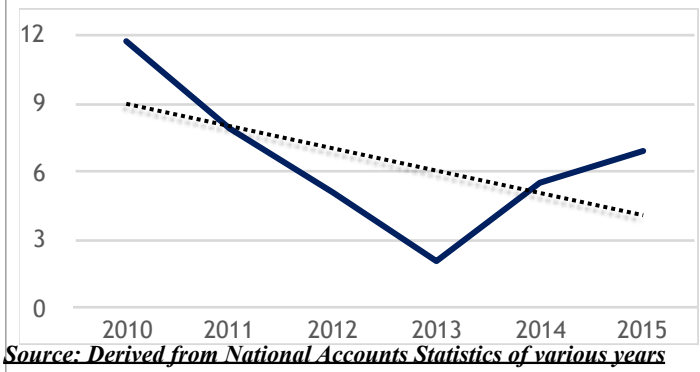
Figure 1: GDP growth rate in Bhutan since 1981 (in %)



Source: Derived from National Accounts Statistics of various years

It is quite evident from the figure 1 that long term growth rate of GDP in Bhutan has been fairly high. The growth process in Bhutan meets the first criteria of rapid growth. Long term growth rate of GDP in Bhutan is very impressive by any standards. The Bhutanese economy has grown at a rate of 7.2% per annum in last 35 years, which is much higher than the world average (2.9%), higher than the South Asian average (6%) and small countries average (5.1%). Hidden behind this long term trend is a recent undercurrent of deceleration (refer figure 2). In the first decade of this century, the Bhutanese economy grew at an average annual rate of 8.8%, but since 2010, the average annual growth rate has shrunk to 6.4% and more so since 2012 the fall is even steeper as the average annual growth rate has reached 4.8%. One can view this deceleration as a part of a short term cyclical fluctuation or alternatively it can be seen as a more serious structural issue related to the sustainability of the growth process. I tend to lean more towards the second option.

Figure 2: GDP Growth rate in Bhutan since 2010 (in %)



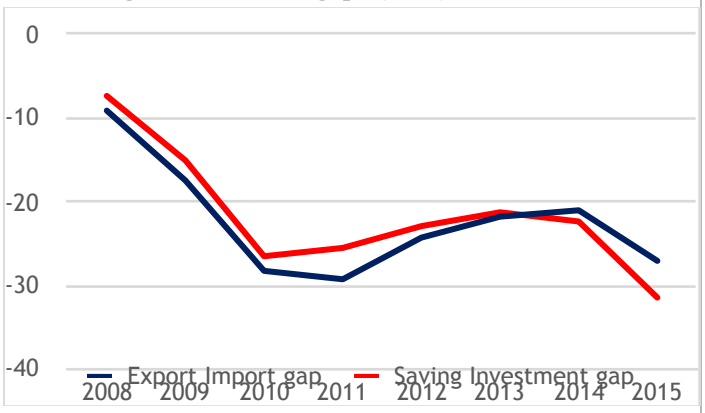
Source: Derived from National Accounts Statistics of various years

To understand the idea of sustainability of the growth process, we have to know the fundamentals of growth dynamics. Saving is critical to economic growth because it determines the size of domestic resources available for investment. All the major growth models are formulated around this simple idea. For this reason, a country should save and invest a larger fraction of its income in order to grow faster. It is obvious that size of national saving is important for growth. In last five years, the national saving in Bhutan has declined by half from about 44% of GDP to 22% of GDP. Steep fall in the private saving has triggered this crisis, as private saving constitutes 85% of the national saving.Whilst the rate of national saving declined, investment rate has remained more of less constant. In 2015, the saving rate in Bhutan was just 22% of GDP, whereas investment rate was 54% of GDP. In last Figure 2: GDP Growth rate in Bhutan since 2010 (in %) years, on average, the rate of investment is about 34 percentage point more than domestically available resources.

Large investment-saving gap has a significant implication- growth is stimulated by debt financed consumption.The gap between investment and saving is financed by external resources including external borrowing. These borrowings will definitely raise repayment burden in future, but, if the saving rate remain low, the country will not have sufficient resources to repay and invest. Where Bhutan stands? Let me illustrate the point with some statistics. Currently, the external debt stands at 118% of GDP, assuming that amortization burden is equivalent of 8% of the debt stock, the country will have to spare 42% of its national saving for debt servicing. Which leaves saving available (assuming that saving rate remains at 22% of GDP) for investment purpose at a dangerously low level, i.e. 13% of GDP. In this scenario, Bhutan would have two options and none of them look good. Option one- use saving for repayment, lower the investment target and do not borrow from external sources.

This would reduce debt burden over the period of time. The second option would be to keep on borrowing to repay as well as to fuel economic growth. Option one would require greater sacrifice in terms of low growth rates and reduced ability of the government to maintain and expand social services and infrastructure. The second option would have an implicit danger of sovereign debt crisis. In short, the current growth is not sustainable unless private saving rises. For low saving, blame goes to rising consumerism. In last 5years the private final consumption has increased by 116%, which makes up almost three fourth of the total consumption expenditure.On the other hand, the government consumption expenditure has gone up by 62%. Low saving rate create another devil-trade deficit. Trade deficit (Import export gap) of a country runs parallel to the investment saving gap. If we invest more than we save, we import more than we export. Over investment causes trade deficit. Figure 3 conveys that these two gaps have been running parallel. It is easy to conclude that these two macroeconomic problems are intertwined. Current macroeconomic crisis that Bhutan faces is handmaiden of the rising consumerism. Unless people start saving a larger fraction of the increased income, the growth process is likely to remain unsustainable and the trade deficit is unlikely to decline. Now, the onus rests on us.

Figure 3: The two gaps (in %)



Source: Derived from National Accounts Statistics of various years

SAVING

1. Statement of Theory

Keynesian stated saving as the amount left over when the cost of a person's consumption expenditure is subtracted from the amount of disposable income of a person in a given period of time (Keynesian economics).

In short saving is that part of income which is not spend on consumption. Saving is largely determined by the level of income of an individual. Higher level of income will result in higher saving and lower level of income will result in lower saving. Marginal propensity to save (MPS) measures change in the saving when income changes for an individual. Higher MPS means higher saving for an individual and lower MPS means lower saving for an individual. The value of MPS lies between 0 to1. Interest rate and Inflation rate also determine the saving of an individual.

2. Specification of Mathematical Model.

$Y_S = \beta_1 + \beta_2 X_Y + \beta_3 X_{IR} - \beta_4 X_{INF}$

Where,

Y= Saving

X_Y = *Income*

X_{IR} = *Interest rate*

X_{INF} = *Inflation rate.*

This mathematical equation shows the relation of saving with income, interest rate and inflation rate. A positive relation between saving and income indicates that as income of an individual increases saving also increases, on the other hand decrease in income results to fall in saving. There is a direct relation between saving and interest rate on saving. When the interest rate is high, people save more and with lower interest rate people tend to save less. However, there is an inverse relationship between saving and inflation rate. If the inflation rate is high, people will be discouraged to save leading to lower saving but if the inflation rate is low, people will save more.

3. Specification of econometric model of saving.

$Y_S = \beta_1 + \beta_2 X_Y + \beta_3 X_{IN} + \beta_4 X_{INF} + U$

The mathematical model assume an exact relationship between economic variable. However in reality, the relation between economic variables are inexact. Besides income, interest rate and inflation rate other variables such as family size, gender, wealth, geographical region and level of education also affect the dependent variables saving. For example: if the family size is large, saving would be less because maximum of the income would be spend on consumption. Female tends to spend more than male, so saving for female would be less than male. However, it is not possible to add this variables separately since it does not hold any quantitative information.Therefore in econometric model we introduce the variable "u" which is the error term to represent all those variables that affect saving.

Khandu

BA in Development Economics, 2nd Semester

Regression Model - The growth impact of FDI

Foreign Direct Investment (FDI) stimulates growth by providing access to foreign savings, technology, establish linkages with the global market, generating employment, and promoting competition. Many researchers have explored the growth impact of FDI. Direction of the causality, whether FDI affects growth or growth affects FDI, has been a major issue. Some research established that causality runs from growth to FDI (Chakraborty & Basu, 2002) (Chowdhury & Mavrotas, 2003). Some researchers found that FDI is not an important source of growth (Mwlima, 2003) ,(Carkovick & Levine, 2002) , (Herzer, Klesen, & Nowak-Lehmann, 2007). Researchers (Li & Liu, 2004) found endogenous relationship between growth and FDI, while many others found that the causality runs from FDI to growth.

The primary objective of this econometric model is to determine the impact of FDI on GDP. In order to remove the size effect of the economy the ratio of **FDI to GDP** has been taken. Based on literature review nine variables have been shortlisted as explanatory variables for the regression model. GDP growth rate has been taken as the dependent variable. :-

1. **FDI to GDP:** The primary objective of this econometric model is to determine the impact of FDI on GDP. In order to remove the size effect of the economy the ratio of FDI to GDP (FDIGDP) has been taken

2. **Human Capital**: Human Capital is represented by two proxy variables Gross enrollment rate (GER) and Life Expectancy (LE). A higher literacy rate and a greater life expectancy positively affects human capital.

3. **Strength of financial sector**: Financial sector needs to be capable of providing adequate financial assistance with a lower lending rate, especially to the private sector. In order to benefit from the linkage effects created by FDI, private sector requires greater share in the credit allocation. A growth in private sector will correspond to a growth in GDP. Two variables, Credit to Private Sector (CRPVt) and Lending Rates (LR) have been identified to measure the strength of financial sector.

4. **Macroeconomic strength**: A country with greater macroeconomic strength and stability will tend to have a higher growth rate. There are three variables identified for measuring macroeconomic strength: Gross Domestic Saving (GDS), M3 Growth rate, Budgetary Deficit (BD).

   GDS: Refers to how much resource country generates for investment.

   M3 Growth Rate: It is defined as growth rate of broad money which reflects changes in the overall liquidity position of the economy.

   BD: It reflects fiscal position of a country. Although higher budget deficit tends to adversely affect GDP growth rate, yet its impact on growth cannot be similar in all the countries.

5. **Linkage Effect**: The variable, Agricultural value addition (AGVA) measures the economic contribution of the sector which employs largest segment of the labor force in South Asian countries. Larger share of agriculture sector in GDP tends to stimulate inclusive growth.

6. **Quality of Infrastructure**: A better infrastructure correlates to a higher growth rate. The quality of infrastructure is measured using the infrastructure index (INFRA).

Mathematical/Deterministic Model

$$Y=\beta_0+\beta_1 FDIGDP+\beta_2 GER+\beta_3 LE+\beta_4 CRPVT+\beta_5 LR+\beta_6 GDS+\beta_7 M3+\beta_8 BD+\beta_9 AGVA+\beta_{10} INFRA$$

Stochastic/Econometric Model

$$Y=\beta_0+\beta_1 FDIGDP+\beta_2 GER+\beta_3 LE+\beta_4 CRPVT+\beta_5 LR+\beta_6 GDS+\beta_7 M3+\beta_8 BD+\beta_9 AGVA+\beta_{10} INFRA+U$$

This model can be used to predict the impact of FDI on GDP growth rate. The error term U is a proxy to all the variables such as Trade Liberalization and Technological spillovers that are not included in the regression model due to unavailability of data and poor proxy variables.

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The developing countries should be promoting Development rather than Growth

Development is all about wellbeing. It is a multidimensional concept which aims at income growth, escape from poverty and food security, equality and equity, provision of basic needs, removal of venerability to shocks, environmental sustainability and quality of life. While growth is the mere increase in the productivity that is real increase in GDP and GDP per capita which is essential for development as a basic pre-requisites but it does not mean development. So in my opinion developing countries should focus on promoting development rather than growth only.

According Amartya Sen's capabilities approach. ***"Development is a process of expanding freedom and choice"***. Therefore, development is qualitative growth which is inclusive, which gives justice to people, improves their quality of life, freedoms of choice and selection. Whereas growth is a mere increase in size of production without considering its quality. Suppose an increase in national income takes place and only few benefit, will you call it as development? Growth, in many countries has created an inequality and an increased poverty, there has been instances of jobless growth, regional imbalance increasing, would you support this kind of growth? Growth will be there if war time goods, alcohol, tobacco, etc are being produced while basic essential are being neglected will it satisfy any people or will it improve the wellbeing of people?

Therefore, in this 21st century every country must focus on development to reduce inequality and to provide quality life to all human beings. Development is important for developing countries as development is linked to sustainability where dilemma between growth and environment is being settled through man nature harmony, responsible use of resources and care for future generation. Not every growth can provide such development. There are bad growths and good growths. Producing too much of alcohol, harmful substances, bombs etc. are bad growth. For example, look at Delhi, there is a huge problem of air pollution. If they have focused on sustainable development, the people would not have worn the masks on their faces. Don't you think this problem in Delhi is due to over production and over utilization of vehicle? Share greed I say.

Growth can increase inequality, poverty, growth can divides societies into classes of haves and have-not which can create gaps between rich and poor. But development take into account of goods and services that have been produced are good or bad and also take into account of equal distribution of national income amongst the societies. In that way the problem of poverty and inequality are being solved but growth is the only quantitative concept that does not look the containment of the people.

Growth is not a good concept for the developing countries as the too much of emphasizes on growth may leads to over utilization of resources leading to environmental damages and high social cost. Have you read the tragedy of commons? The issue pertains to the free vivid of few individuals against the goods that is for the benefit of the common. If not please read it and then emphasis on growth. I am sure you will be forced to support concept of development and forget growth alone. Best wishes for my friends.

Suppose GDP and GDP per Capita both are increasing by 13times in 10 years times. Will this figure conclude that countries has developed? No, this is only spurious growth because we do not know whether this growth is due to price increase or production increase. Growth does not come from air, growth is the blessing of the development. Because growth will happen when there is technological advancement, better utilization of resources, acquired knowledge and skills by the people and distribution of income in the society. These all are the results of the development.

If development talks about the quality of life and people are asked whether they are happy? The answer should be yes because they are judging their satisfaction on many parameters such as getting equal opportunities, getting basic essential of life, fully employed, reduction in poverty and inequality, increase in their capabilities and safety so that this can only happen if we emphasizes on development.

Therefore, the developing countries should focus on promoting development rather than growth only.

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