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SKETCH OF AN ECONOMY : AN ANALOGY AND MANAGEMENT ISSUES

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Introduction

This paper attempts an analogy of an economy with human body and provides some useful measures in the context of macroeconomic management. An economy primarily comprises two fundamental units; the anatomy or the structure and the physiology or the process through which the economy works. This is akin to the human body which consists of innumerable cells and likewise, the economy contains infinite number of decision making units [generally the households, the businesses and the government]. The constellation of cells makes the tissue, the tissue constitute an organ and a set of organs conjoined a system, say for example, the alimentary system or the respiratory system. This location specific system performs an assigned function that supply nourishment and proper stimuli to the various parts for effective co-ordination throughout the body. Likewise, the constellation of several identical units with the same function constitute several organ of the 'body economic'. Thus, the anatomy basically describes the constituent elements in the economic structure.

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Agriculture, manufacturing, trade and services are some of the elements of the structure. Agriculture provides food and supports the smooth flow of industrial raw materials. Trade and services organize and facilitate the transaction of wares between the producers and the consumers, between savers and investors through an institutional arrangement such as financial infrastructure.

Interface : Different Dimensions

The interfaces among various organs are essential for human body. Likewise, various organs of the economy need support from other elements. The mapping between the different systems in the body is intricate and need careful scrutiny for proper diagnoses of a malfunctioning. This is equally true in case of an economy. Money supply beyond the safe level create inflationary pressure in the economy. The inflation put pressure on the interest rate. A higher interest rate discourage investment. The malfunctioning of an economy has thus a linkage effect. On the other hand, augmentation of export earnings will have a salutary effect on foreign exchange reserves. A comfortable level of foreign exchange reserves helps stabilize the exchange rate of the currency. A stable exchange creates congenial environment for foreign direct investment.

The physical body undergoes various transformations generally referred to as the growth and experiences a decaying stage after a specified period of time. This transformation process depends on the robustness and adaptability of the body in different environment. On the other hand, the economy also experiences transformation in structure and composition. The traditional economy is reasonably agro-based. Agriculture dominates major economic activity, output and employment are concentrated in the agriculture sector. The share of agriculture may be in the range of 50-70 percent of the total size of the economy. As the economy grows, it graduated from one stage to another, from less developed to developed. The relative size of the agriculture declines and the economy emerges as an industrialized one. The contribution of agriculture sector in the U.S. economy is less than 5 percent. The structure of the Bangladesh Economy is undergoing changes in the recent past. The service sector is assuming importance in this transformation phase.

Growth Scenario : Structural Aspect

There are many discernible features in the state of developed and less developed economy. The developed economy is more robust, can sustain and support the various internal and external shocks commonly known as contagion effects. The developed economy is also endowed with a host of institutional arrangements those supports the multifarious working systems and helps in sustaining growth. Excellent physical infrastructure, well knitted telecommunication system, sound financial system and skill labor force enhance productivity of the investment.

1 The human body in the growth process is transformed from childhood to adulthood. The chemistry at each stage is different because input vector requirement for nourishment and sustenance varies. Like a child, the young economy requires various infrastructures both physical and institutional for transformation into adulthood. Imp Spontaneous growth and a spur in the process is attainable when supported by a conducive investment climate and practise of good governance. Investment feeds the body economy in the generation of new assets, which helps in the growth process.

The spacing of different stages in the growth process of an economy, however, is rudimentary. On the other hand, the graduation phase in human body is time bound. There is a definite pattern in the growth process in the human body and a normal sequence is observed in most of the transformation. The life-cycle is well-paced from childhood to statehood. We are not yet sure whether DNA [Deoxyribonucleic acid] or completion of the first map of the entire human genome will bring any spectacular change in history of evolution of human species. We may envision a far reaching effects in the life cycle through this invention but time will dictate the ultimate outcome.

Growth Scenario : Intertemporal Aspect

The early history of economic transformation was time paced. A sequence in the development pattern envisaged in the Stage Development by W.W. Rostow is no more appealing to young economist who are more oriented to observe the rapid transformation embodied in the technological evolution. Technological diffusion, the speed of information explosion and the irreversible process of globalization genuinely displacing the origin from where an economy may launch the development drive. The swiftness and the flirtations with which world production structure is evolving makes the process risky and the growth process hazy. Definitely, there are certain preconditions for growth. Decision making units in an economy may be considered as residents of fragmented markets which requires co-ordination by a unit. It is important that government initiate projects for infrastructure, institutional development so that the economy is poised for a successful take-off.

Development Economics, the discipline which deals with the process of economic development is now a diffused field and new

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empirical research reining over the orthodox theories. The economy may now grow under various configurations instead of a single unique path prescribed by conventional wisdom. Technological diffusion sometimes helps countries leap frogs the previous system. Review of the development history of East Asian economies manifest different path of growth. Outward orientation or export led growth was the basic philosophy of development in those countries but the extent of state patronization was different. There is, however a crucial difference in the growth process. The body dies but an economy is eternal and undergoes transformation in an infinite time and space experiencing a diverse socio-economic set up.

Monitoring Instrument : A Comparison

The effective functioning of the body is monitored through different parameter and for each parameter there is a range of values that specify proper state of the body. The body requires certain medication when the range of values goes beyond a certain limit indicating malfunctioning which needs to be corrected. Likewise, there are certain parameter for an economy which needs to be monitored on a periodic basis for an assessment and appropriate prescription [policy measures] for correction so that it is on an even growth path for the successive years.

The normal systolic pressure for human body range between 120-140 and the diastolic pressure range between 60-90. The Erythrocyte Sedimentation Rate through Wintrobe Method range 0-8 mercury for male and 0-14 for female. Likewise, the status of the health of an economy may be monitored through certain norm. For example, the extent of budget deficit or debt-GDP ratio. There must be a limit to which extent government may borrow from the banking system to meet shortfall in revenue earnings. Temporarily, the government may contain inflationary pressure by deficit financing but there will be mounting debt and the economy will experience inflationary pressure if additional spending failed to generate real resources. Many Asian economies including Japan are staging strong recoveries through borrowing. Very often, massive fiscal deficit clocked up in the process may not be sustainable and any rapid adjustment to balance the budget risk derailment of the economic recovery. Any budget deficit must be accommodated in the process within a definite time period. This bears an analogy to blood transfusion which needs to be assimilated in the body of the recipient. There are certain intricacies and specific requirements to be fulfilled before this infusion. Likewise, there are several prerequisite, those need to be addressed before domestic borrowing or deficit financing is resorted. The growth through routine metabolism is sustainable in an economy as well as in the human body.

This analogy between an economy and the state of the human body is rudimentary and provides a partial picture. Nevertheless, it sheds some important lessons for the policy makers. The economy need nurture and medication in certain situations. The diagnoses for the malady and proper prescription is required to steer the economic activity in the right direction.

Macroeconomic Management : A Guided Tour

Macro economic management underscores the importance of taming major macroeconomic variables in the attainment of an even growth path free from major economic fluctuations, crisis or shocks both internal or external. Recent financial crisis and partial recovery of the East- Asian economies manifests the necessity of sound macro economic management. Major macro economic variables are intertwinned. There is a tacit relationship between growth in money supply and inflation, currency depreciation and the interest rate and inflation and the interest rate. Any mismatch between government revenue and expenditure, savings and investment, export and import may trigger disruption in the overall functioning of the economy resulting in a loss of employment, bearish performance in the stock market, foreign exchange loss and collapse of the financial system through failure of banking system. Macroeconomic management, therefore, is a prerequisite for sustainable growth. Growth is indispensable to break the poverty net.

The objective of macroeconomic management is to restore internal and external balance when the economy experiences disruption. The internal balance addresses adjustment in revenue earnings and revenue expenditure whereas the external balance embodies equity in the export earnings and import payments. A set of variables interact in the process. So, any objective and logical analysis on macroeconomic management starts with a set of multifaceted preconditions. These preconditions are very often quantifiable. The quantifiable entity is generally referred to as variable which embodies the concept of change. We observe certain entity assumes different values at different points of time. The child weight undergoes a sequence of change with reference to time. The total output of an economy measured at different points of time indicates different levels. On the other hand, there are certain entity which assumes a fixed value irrespective of the environment. These are called constant. An analysis always assumes a fixed value for a constant. One obvious example is the acceleration due to gravity [g] which is fixed for all the environment.

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The policy paradigm requires careful assessment of the variables since these are the instruments to be tamed for effective functioning of the economy. An objective analysis tries to see the movement of several variables with reference to time. This is known as trend analysis and represented by line diagram. The policy issue requires careful assessment of the movement of several macro variables. There are a definite pattern in these movements and a cautious step may avert a imponderable disaster.

Dichotomy : Micro *vs* Macro

The set of variables for policy analysis in economics may be bifurcated into two groups : micro and macro. This bifurcation set the stage for economic analysis into two broad categories : micro economics and macroeconomics. Micro economics was the exclusive domain of Alfred Marshall's *Principle of Economics* (1890). Macroeconomics did not exist as a separate discipline during that time. Formalizing macroeconomic analysis to explain the business cycle is a major achievement of this century. The 1930's depression and subsequent recovery boost the image of macroeconomics as a separate discipline and further enrichment is the result of econometric analysis of macroeconomic theory and basic fundamentals of economic reasoning.

Micro economics is the study of the individual economic unit in the decision making milieu. The rationale for consumer's allocation of resources among the competing needs or the individual firm's decision in the allocation or distribution of resources are examples of micro economic analysis. The micro variables in this context is the price of the consumable items or the cost of the business. For example, the price of an apple or a ticket for a local cinema show or the price of labor are the examples of micro variables. Most of these variables are determined in the market i.e., by the uninterrupted interaction of demand and supply forces. When there is intervention by any statutory body in the price setting mechanism, price does not reflect the scarcity value. This price is fiat or administrative price, a languishing symptom of command economy. Market determined price implies determination of price by the free flow of market forces, i.e., the supply and demand forces work without any intervention.

Macroeconomics is the epitome of comprehensiveness. It describes the economy as a whole. The analysis pertains to the aggregate value of major entities in the economy. Gross Domestic Product (GDP) is an example of macro variable. Other important variables are the total manufacturing output or growth of output or total wages and salaries. While prices of individual commodities are in the domain of micro economics, aggregate price levels such as consumer price index, producer price index, rate of inflation and terms of trade are all macro economic variables. Employment by individual business and industries such as jobs in the food processing industry is a micro variable but employment and unemployment in the economy as a whole is a macro variable.

Both micro and macro variables are important to policy planners. Since most of the macro variables are derived, the trend and movement of micro variables influence the macro variables. When the individual prices are high, the consumer price index will definitely show a higher index value in comparison to the base year. The unemployment rate will be higher when most of the people fail to get a job.

Policy Issues : A Layman's Guide

There are situations when policy planner tries to address certain disruption in a micro setting. Scarcity of the baby food may be tackled through import or depressing price of rice owing to glut in the agricultural production may be corrected through public procurement drive. Thus, individual sector may warrants certain policy action for correction of maladies in the economy. However, the overall performance of the economy is embedded in the behavior of certain macro variables. As an illustration, consider the budget deficit. There are various consequences or side effects of enduring a continuous budget deficit. When the budget deficit is financed through borrowing by the banking sector, an increase in interest rate is inevitable and thus may crowd out private investment or enlarge trade deficit through the appreciation of currency. There is limit of enduring fiscal deficit. A rule of thumb dictates that it should not exceed 2 percent of GDP. The European standard sets a limit of 3 percent of each of the EURO currency participating countries. Any country breaching the 3% ceiling could be subject to fines as big as 0.5% of GDP.

There are few options for the government to address the cumulative deficit gleaned over a period of time. The government can monetise the deficit by printing money to buy back government debt. This is not affordable in the long run and may open the floodgates of runway inflation and sharp currency depreciation. The other tardy options is to pull back the expenditure strings by reducing public spending.

A study on the link between budget deficit and trade deficit was published in 1989 which used the annual data on U.S. federal budget deficits and net exports for the period 1950-1980. A bi-directional causal relation between budget deficit and net exports was established. This is known as Twin Deficits in economic literature. But it is to be admitted there may be certain situations when government borrowing is desirable but it should not go beyond certain limit. The policy planner will attempt to monitor those limit for proper functioning of the economy in the interest of stabilization. Stabilization is the term commonly used in economic literature to address different policy measures for correction of macro economic imbalance whereas structural reform centering on the supply side endorses a series of market oriented reforms to get the price right.

Ratio Measures : A Tool for Judgement

Macrovariables have an absolute as well as a relative dimension. There are several macro variables which sketch the horizon and magnitude of the economy. The gross domestic product, total import payments or export earnings, the foreign exchange reserve, the debt payments or total outstanding debt and net foreign direct investment are such measure. The gross domestic product of Bangladesh ($ 38 billion), USA ($ 8.4 trillion) or Malaysia ($ 68 billion) gives an indication of the size of the economy and sectoral disaggregation of the gross domestic product provides information on the structure of the economy. However, the absolute value of these variable seldom provides guideline for macro economic policy decisions. The policy decisions depends on the ratio of one variable to another. This perspective may be different in the context of openness of the economy, exchange rate regime or soundness of the financial infrastructure. Trade intensity, ratio of export earnings and import payments to Gross Domestic Product and expressed as a percentage indicates the openness of an economy. Generally, an open economy is vulnerable to contagion effects than a closed economy.

Ratio is the relationship between two variables expressed in numbers and very often are expressed in percentage terms. The ratio indicates a relative measure to indicate how much greater one variable is to the other. Standard text outline several of such measures. Most of the ratio measures consider GDP as the yardstick and many macro economic variables are expressed as percentage of the GDP. In certain situations there is a fixed ratio limit which need to be monitored by the policy planner but in other situations, the authority can exercise flexibility with deliberate and well intentioned purpose to get a breakthrough in certain inertia. The rationale of considering GDP as the yardstick of ratio measure rests with the proposition that manoeuvrability and options is an increasing function of the size of the economy, the bigger the size; the larger the scope.

The important ratio to monitor for effective macro economic management are expressed as percentage of GDP. The important measures are; foreign debt as percentages of GDP, current account deficit as percentage of GDP, domestic savings as percentage of GDP, budget balance as percentage of GDP, foreign direct investment (FDI) plus current-account deficit as percentage of GDP, gross domestic investment as percentage of GDP, and interest payments as percentage of GDP. Many ratio measures are not related to GDP but to other macro variables: foreign reserves as percentage of short term debt, stock of foreign reserve to cover import payments (months) and total debt services as percentage of exports.

Foreign debt as percentage of GDP is an important indicator to judge the state of an economy. The figure indicates extent of mortgage of an economy to borrowers, internal and external. The norm stipulates that the Debt GDP ratio should not extend 50 percent. The nature of debt; short term or long term, domestic or external need consideration when we arrives at this figure. Short term debt is more precarious and destabilizing than long term. When investors lose confidence in repayment, they will try to redeem the short term debt into an usable currency. Speculators attack the currency. The currency fails to maintain per value and devaluation erodes the purchasing capacity of the currency in the international market.

The structure of debt determines the repayment schedule with principal and interest. There are several important pertinent ratio measures to assess the economy. Foreign reserves as import payment bill (in months) and total debt service as percentage of export earnings are two important measures. Rule of thumb indicates that debt service payments should not exceed 20 percent of the export earnings. This is more important for an import dependent country. When the bulk of export earnings are spent to finance debt servicing liabilities, the country is not in a position to import bare essentials. On the other hand, the minimum reserve holdings should not be below the import payments bill of three to four months. Beyond this requirement, the economy may invest reserves in short term treasury bond in the international capital market to earn interest.

Most developing countries experience a current account deficit in development endeavor. When deficit is the result of investment [a huge import bill to finance fledgling industrial sector], the economy may sustain the deficit because enhanced industrial base will augment the debt repayment capacity. On the other hand, when the current account deficit, is the result of an increase in consumption, the economy fails to regenerate capacity for repayment and thus squeezing the economy's potentiality.

Lawson Doctrine asserts that a current account deficit is a cause for concern when it reflects a budget deficit i.e., import complements the revenue expenditure. Composition of current account deficit: portfolio investment or FDI is also important because higher the share of FDI, the recipient country is less vulnerable to sudden outflows. A realistic exchange rate expressed as real effective exchange rate index is another indicator to measure the extent of under-valuation or overvaluation of currency.

Conclusion

Macroeconomic management employs several tool kits. Fiscal prudence, pragmatic exchange rate and a sound financial infrastructure are some of the core components in the macroeconomic management. It is to be understood the economy needs to be navigated in a way, a commercial pilot charts a flight. You entomb an economy when you behave like a fighter pilot in managing an economy because the economy cannot adjust a series of bumps like a fighter aircraft in the event of a danger.

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