# **Editor's Desk**

The August, 2016 issue of Thinking Aloud focuses on 'dynamics of economic growth'. The first article titled "Transitions between growth episodes: Do institutions matter and do some institutions matter more?" investigates the role of economic and political institutions in determining the likelihood of a country transitioning from one growth episode to another. The article, using a cross-country panel data for 125 countries over the period between 1984 and 2010, finds that, while better economic and political institutions matter in taking a country from growth collapses to stable growth, economic institutions matter more than the political institutions for switching from stable growth to rapid growth. The second article "Dynamics of economic growth in Bangladesh" explores the major determinants of the real GDP growth of Bangladesh. Using a time series analysis over the sample period from 1972 to 2015, this article investigates the impacts of trade policies, fiscal policies, FDI, interest rate, inflation, infant mortality rate, enrolment in secondary education, infrastructure and institution on GDP growth of Bangladesh. Analysis shows that, further economic growth acceleration in Bangladesh will require reforms in economic policies and institutions, investment in infrastructure, and making most of the demographic dividend through investment in public health, education, and human capital development. In this issue, SANEM interviews Dr. Faisal Ahmed, the Senior Economic Advisor to the Governor of Bangladesh Bank, where he talks on growth performance, prospects and challenges for Bangladesh. Finally, the fourth page covers a call for papers and participation at the Second SANEM Annual Economists' Conference on "Managing Growth for Social Inclusion" to be held in February 2017.

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Associate Editors:

Farazi Binti Ferdous Sunera Saba Khan Mahtab Uddin

# Thinking Aloud

# Transitions between growth episodes: Do institutions matter and do some institutions matter more?

Selim Raihan, Sabyasachi Kar and Kunal Sen

A large literature has examined the role of institutions in explaining economic growth. While the earlier literature has examined the role of institutions in determining long-run per capita income, a new literature examines the determinants of growth accelerations and deceleration episodes which are large discrete changes in medium term growth rates that are common in developing countries. Some of these studies examine the onset of growth accelerations while others examine the onset of growth decelerations. However, these studies look at only the timing of the shift in the growth rate (either as an acceleration or a deceleration), and the econometric methodology they use are probit models (where the year of the break is taken as one, with other years as zero) to study the likelihood a growth break occurring in a given year, for a set of correlates. An important limitation of these studies is that they do not differentiate between the different growth episodes that a country is transitioning from or to. For example, when a country moves from a growth collapse to rapid growth, it is a different growth transition qualitatively than when it moves to an episode with slightly positive but slow growth rates.

In this paper, we investigate the role of economic and political institutions in determining the likelihood of a country transitioning from one growth episode to another. In contrast to the previous literature, in this paper, we provide a richer characterisation of the growth process where a country may move between six different types of growth episodes, ranging from growth collapses to rapid growth episodes. By doing so, we are better able to capture the episodic nature of growth and that many countries tend to switch frequently between growth collapses to slow growth episodes to rapid growth episodes.

We differentiate between six types of growth episodes - from growth collapses (where the episode specific per capita real GDP growth rate, g, is -2 per year), to negative growth (g between -2 and 0), stagnation (g between 0 and +2), stable growth (g between +2 and +4), moderate growth (g between +4 and +6), and rapid growth (g over +6). Using multinomial logit models, in the context of a panel dataset of 125 countries from 1984 to 2010, we examine the likelihood of switching from one growth episode to another growth episode. We examine the role of contract viability (as a measure of the quality of economic institutions) and the role of democracy and bureaucratic quality (as measures of political institutions) in explaining the switches that countries experience between different types of growth episodes. The data on contract viability, democracy and bureaucratic quality are derived from the ICRG database (www.prsgroup.com).

We find that though bureaucracy quality has a positive effect while switching from negative growth episode to positive growth episodes, it doesn't matter in most of the cases while switching from

lower order growth episodes to higher order growth episodes. Both contract viability democratization can explain the switching from negative growth episode to positive growth episodes. Contract viability and democracy can also explain the movements from lower positive growth episodes to higher positive growth episodes. However, while contract viability is important for moving from stable growth episode to rapid growth episodes, democracy is not important in explaining this switch. This suggests that while better economic and political institutions matter in taking a country from growth collapses to stable growth, economic institutions matter more than the political institutions for the switching from stable growth to rapid growth.

Our results suggest that, democratic episodes do not necessarily witness transitions to rapid growth episodes from moderately positive growth episodes. However, democratic episodes do witness a transition from negative to positive growth episodes, indicating that democratization does prevent the worst type of growth episode that a country can experience. We also find that improving state capacity in the form of the quality of the bureaucracy can help in taking a country out of negative growth episodes but that higher state capacity does not increase the likelihood of rapid growth episodes. This finding suggests that previous research that has found a positive role of bureaucratic quality in fostering economic growth needs to differentiate between phases of growth, and that the relationship between bureaucratic quality and economic growth may not be monotonic.

We find that the most important institutional determinant of switching to higher order growth episodes from lower ones, and in particular, to rapid growth episodes, is the nature of property rights institutions – that is, the extent to which investors trust the viability of contracts. In contrast to the previous literature on the determinants of growth accelerations, we find that not only does institutional quality matter in bringing about a growth acceleration, it is the case that the greater the quality of property rights institutions, the higher is the likelihood of a transition to a rapid growth

Our findings have clear policy implications. For a country in a growth decline or collapse, it is important to stress improvements in both political and economic institutions, such as bureaucratic quality, viability of contracts and democratization to move into an episode of positive growth. However, once the country is in a stable or moderate positive growth episode, further movements into rapid growth episodes need larger emphasis on improving the quality of property rights institutions than enhanced democratization or state capacity. Economic institutions trump political institutions in bringing about rapid growth episodes, though they both matter in reversing growth collapses.

Selim Raihan (Department of Economics, Dhaka University, Bangladesh), Sabyasachi Kar (Institute of Economic Growth, Delhi, India), Kunal Sen (IDPM, University of Manchester, UK)

Volume 3 Issue 3 August 1, 2016

# Dynamics of economic growth in Bangladesh

## Selim Raihan and Wahid Ferdous Ibon

Rapid and sustained economic growth is very critical for Bangladesh economy in its way towards a middle-income country. In this article, we have investigated the major determinants of economic growth in Bangladesh using time series data for 44 years (1972-2015). We start with a production function approach, which incorporates the features of neo classical and new-growth theories. Subsequently, we have investigated the impacts of trade policies, fiscal policies, FDI, interest rate, inflation, infant mortality rate, enrolment in secondary education, infrastructure and institution on growth in Bangladesh's real GDP (gross domestic product). A new database (World Economy Database, version 9.1) has been used, which is complemented by data from the Penn World Table (PWT8.1) and World Bank's World Development Indicators (WDI). Most of the variables under consideration are found to be non-stationary (integrated of order one). Two non-stationary time series may lead to a spurious relationship between them if they are not co-integrated. Therefore, we checked for the possibility of a co-integrating relationship, using the Johansen co-integration test, and found at least one co-integrating relationship in all the regressions, which confirms that the long run estimates show causal relationships. We ignore bi-directional causality in the regression model, as this is not what we want to explore in this analysis.

#### The basic production function

With the aim of identifying the determinants of economic growth in Bangladesh, we start with a Cobb-Douglas production function. Along with employment and physical capital stock, we have incorporated human capital into the production function. We multiply the data on human capital with employment data to create the human capital adjusted employment variable. The regression results suggest that, in the long run, on average, one percent increase in the human capital adjusted employment leads to 0.25% increase in the real GDP. Furthermore, on avaerage one percent increase in the physical capital stock leads to 0.12% increase in the real GDP. As the variables of the production function are co-integrated, there must be an Error Correction representation which shows the short run adjustments of the variables under consideration if there is any deviation from the long run equilibrium relationship. Error Correction term is -0.0197 which is statistically significant, negative and less than unity, as expected. About 1.97% error is thus being corrected each year following any deviation from the long run equilibrium.

# Secondary school enrolment helps

There is both theoretical and empirical literature, which provides evidence that the educational level and its quality are important causal determinant of income, both at the individual and national levels. A highly educated labor is more productive relative to his/her less educated counterpart, and this increased labor productivity helps a nation grow faster. Education is a key component of human capital. In terms of the net secondary school enrolment, though Bangladesh made a progress during 1972 and 2015 from around 16% to 52%, still there is a need for substantial improvements. Here,

we have investigated the effect of the net enrolment in secondary school on real GDP and have found a positive effect, as expected. One percentage point rise in the net secondary school enrolment ratio leads to, on average, 0.013% increase in the real GDP.

## Reduction in the infant mortality rate helps

Bangladesh has shown its capacity to reduce infant mortality rate rapidly over the past four decades. Among 1000 live births, the rate came down from 148 in 1972 to 30.7 in 2015. In the regression, the infant mortality rate appears with a negative and significant coefficient. On average, one point reduction in the infant mortality rate contributes to the rise in real GDP by 0.01%.

## Greater trade-orientation promotes growth

Theoretically, trade liberalization results in productivity gains through increased competition, efficiency, innovation and acquisition of new technology. Trade policy works by inducing substitution effects in the production and consumption of goods and services through changes in prices. These effects, in turn, change the level and composition of exports and imports. In particular, the changing relative prices induced by trade liberalization cause a re-allocation of resources from less efficient to more efficient uses. Trade liberalization is also thought to expand the set of economic opportunities by enlarging the market size and increasing the effects of knowledge spill

Since its independence, Bangladesh underwent a variety of trade policy reforms, which resulted in the rise in trade-GDP ratio, import-GDP ratio and export-GDP ratio from 10.6%, 6.5% and 4.1% respectively in 1972 to 41.7%, 23.3% and 18.4% respectively in 2015. To identify the growth effects of these three trade-orientation variables, we incorporated them into the production function through three separate regressions. The regression results indicate that, these variables are statistically significant with positive signs. One percentage point increase in trade-GDP ratio, import-GDP ratio, and export-GDP ratio account for, on average, 0.014%, 0.023% and 0.029% increase in the real GDP respectively.

# Larger FDI-orientation propels growth

Foreign direct investment (FDI) is another driver of economic growth, particularly for a least developed country (LDC) like Bangladesh. FDI contributes to transfer the technical knowhow from advanced countries to the less developed countries. In 2015, the FDI inflow in Bangladesh was only US\$ 2.2 billion which was about 1% of the GDP, whereas government, as stated in the 7th five year plan, aims to achieve a level of FDI inflow of US\$ 9.6 billion by 2020. In the regression, the coefficient of the FDI-GDP ratio is found to be statistically significant and positive, as expected. One percentage point increase in the FDI-GDP ratio leads to the rise in real GDP, on average, by 0.12%. In order to attract more FDI, there is a need to maintain political stability, improvement in infrastructure and reduction in the cost of doing business. The planned 100 special economic zones, if they are implemented successfully, can be helpful in attracting FDI.

# Positive effect of government transfer payments

The regression result confirms a positive significant impact of government transfer (social security

payments, safety net programs, pension payments etc.) on the rise in real GDP in Bangladesh economy. On average, one percentage point rise in the ratio of government transfer to GDP leads to a rise in real GDP by 0.05%.

# Reduction in lending interest rate helps

Interest rate is the price of fund that private investors borrow from banks. Therefore, more private investment takes place following a reduction in lending rate, which in turn promotes economic growth. This is evident from our regression analysis that one percentage point reduction in the lending rate, on average, increases real GDP by 0.03%.

#### Inflation hurts growth

Rise in the general price level hurts Bangladesh's growth. An increase in the price level decreases the real wage earned by the laborers. This lower real wage is followed by a lower aggregate private consumption demand, which in turn affects national income badly. Our regression analysis suggests, one point increase in consumer price index accounts for, on average, 0.001% reduction in real GDP.

#### Infrastructure promotes growth

Infrastructure is a key ingredient for high and sustained economic growth. Better infrastructure helps total factor productivity to rise by lowering transaction cost and a more efficient use of inputs of production. Due to the lack of time-series data on different dimensions of infrastructure, here we consider total number of mobile and fixed line telephone subscriptions as a proxy for infrastructure. In the regression analysis, we find that one percent increase in total telephone subscription results in, on average, 0.12% rise in real GDP.

# **Quality of institution matters**

We have considered an index of institution in the regression. We have constructed the index of institution using the data of six major ICRG (www.prsgroup.com) variables. bureaucracy quality, control of corruption, investment profile, democratic accountability, government stability, and law and order. As values of these six ICRG variables have different scales, we have rescaled them between 0 and 10. The aggregate institution index is the average of these six indicators with the range between 0 and 10, where 0 and 10 respectively indicate the lowest and highest levels of quality of institution. In 1980, the index value was 2.15, which increased to 5.5 by 2015. The regression suggests a positive significant role of institution on real GDP in Bangladesh. On average, one point rise in the institution index leads to the rise in real GDP by 0.05%.

#### What do we learn?

The analysis in this article suggests that, for further economic growth acceleration in Bangladesh, there is a need for reforms in economic policies and institutions, investment in infrastructure, and making most of the demographic dividend through investment in public health, education, and human capital development. All these will require increased domestic private investment and FDI targeting broader economic and export diversification. Reform of economic and political institutions for efficiency gains is critically important.

Dr. Selim Raihan. Email: selim.raihan@gmail.com Wahid Ferdous Ibon, Research Associate, SANEM. Email: ibon0032@gmail.com



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# ...sustained high growth is only feasible if we can keep a lid on inequality and maintain social cohesion...

Dr. Faisal Ahmed is the Senior Economic Advisor to the Governor to support Bangladesh Bank's financial market development and reform agenda. Prior to his appointment, he served as the IMF Resident Representative in Cambodia during 2011 - 2015 and previously worked as a senior economist at the Monetary and Capital Markets Department at the IMF. Dr. Ahmed specialized in macro-financial issues and was a core member of the IMF's emerging market surveillance team and led IMF Technical Assistance missions on reserve and debt management. Dr. Ahmed holds a Ph.D. and an M.A. in Economics from the University of Minnesota, an M.Fin. in Quantitative Finance from Princeton University and is a CFA charter holder. Prior to joining the IMF, he worked in numerous international organizations and institutions like Central Bank of Turkey, U.S. Federal Reserve Bank, Royal School of Administration in Cambodia, the University of Minnesota, and at the South East Asian Central

Banks Research and Training Centre (SEACEN). While talking to SANEM, Dr. Ahmed expressed his views on various issues regarding growth, economic diversification, financial inclusion, etc.

**SANEM: Bangladesh aims** to become a developed country by 2041. Achieving 8 percent growth rate is also a major agenda. What the kev macroeconomic issues that should be addressed in this regard?

FA: It is hard to meaningfully talk about

projections twenty five years out in the future. But on a medium-term horizon, an 8 percent growth would require extra push, especially in a slowing world. On investment, we all are familiar with the usual suspects - infrastructure, energy, land, skills, and education. At a strategic level, we have to join the Asian production network, especially if we want to move beyond garments and up the value chain. We also should focus on productivity - both at the micro (plant or industry)and at the macro (TFP) level. There is a lot of discussion on how investment has stalled in recent years but not much on its productivity. Ultimately, productivity is the key. Last but not least, sustained high growth is only feasible if we can keep a lid on inequality and maintain social cohesion, especially in a crowded country like ours. Just look around the world to see what inequality can do to societies and politics.

**SANEM: Generating employment is not sufficient** for ensuring 'inclusive growth'. How can we create more employment opportunities and also increase the quality of employment?

FA: We are lucky in that our major growth drivers

- agriculture, garments, remittance - have been relatively job-rich and thus structurally inclusive. Quality job remains the single most important channel of inclusion. For that, education, skills training, and investment are essential to increase productivity, especially as we mature as a lower-middle income economy. Going forward, labor-intensive manufacturing will have to play the lead role. In terms of sectors, the more we can meaningfully nurture SMEs, though easier said than done, the more jobs we will see generated in the economy.

# SANEM: How can we encourage more private sector investment as well as attract more FDI?

FA: At one level, when viewed through the lens of risk-return, domestic and foreign investment are correlated, as they both are exposed to many similar considerations. The bar, understandably, is higher for FDI. The good news is Bangladesh has enjoyed a relatively stable macro-economic backdrop, which should help. We need to make progress in the usual suspects of bottlenecks we talked about little earlier. For FDIs, given our local realities, several well-functioning SEZs would be

> helpful. FDIs generally work through demonstration one good experience by a Japanese company can help bring others. It can work the other way around, too. If we bungle one deal, it deters many future ones. Foreign investors talk to each other. We need to create some manufacturing FDI success stories in industries where we want to move up to automobile, (e.g., electronics). For private domestic investment in SMEs, there is no single magic bullet but we need to continue working

financial access, and regulation.



# SANEM: How can the Central Bank play a role in diversifying the economy as well as the export basket of Bangladesh?

FA: By risking a macro cliché, let me sympathize with the view that the most important thing a central bank can do it is to support macro-financial stability, create a predictable regulatory and supervisory environment. That said, in a developing country like ours, there might be some need and scope for targeted and time-bound high-impact policy interventions, e.g., bridging credit market failures, expanding financial inclusion. Developing markets that lengthen financing nature can have catalytic effects on the type of investment. Equally important for the central bank is also to know its limits; to be mindful that monetary, financial, and exchange rate policies can only do so much. Some of the deeper issues that often stifle export diversification have structural factors at play, i.e., fiscal or tariff policy.

SANEM: What are the policies of Bangladesh Bank for achieving greater financial inclusion?

FA: Financial inclusion needs a multi-pronged approach. The Bangladesh Bank, with support of the government, has prioritized the financial inclusion agenda for some years now through a host of policy supports, initiatives, and regulations. The goal has been to take finance to as many people as possible without creating stability risks and at reasonable costs, by including leveraging technology (e.g., mobile money). The regulations and the initiatives have tried to bridge past gaps that came from geography (urban-rural), gender, and the excluded (e.g., poor farmers). Many of these programs would hopefully mature over the coming years as we learn about their strengths and challenges, redesign them. Financial inclusion agenda has to be iterative.

SANEM: In progressing towards a middle-income country, Bangladesh has done well in the previous decades. What are the future challenges for Bangladesh in its aim towards a middle-income country?

FA: We are entering a new phase - relative to our past journey and in terms of the tepid global growth environment. Many of the growth bottlenecks we have now, even we address some, are likely to get more binding. We will have to keep working on them. There is no fixed list of challenges or constant solution. Given our demographics and density, our focus should be on more and quality jobs, inclusion, social cohesion. Growth is important but more important is how we manage our inequality over the coming years. Both monetary and fiscal policies will have to play their roles.

SANEM: Thank you very much for your time.

FA: You are most welcome.

# Review

Pritchett, L., K. Sen, S. Kar and S. Raihan (2016). "Trillions gained and lost: Estimating the magnitude of growth episodes". Economic Modelling. Volume 55, June 2016, Pages 279-291.

An increasingly large literature in the empirics of growth has viewed economic growth as an 'episodic phenomena'. The authors propose a new technique for measuring the total magnitude of a growth episode: the change in output per capita resulting from one structural break in the trend growth of output (acceleration or deceleration) to the next. This method allows to quantify the amount of income gain and loss during growth accelerations and growth decelerations. The authors show that the income gains and losses are staggering in magnitude, often multiples of the level of income at the start of the growth episode. The top 20 growth accelerations have a net present value (NPV) magnitude of 30 trillion dollars-twice the US GDP. The top 20 growth decelerations account for 35 trillion dollars less in NPV of output. What explains such 'staggering' gains and losses in income over relatively short periods is the key question that future research on economic growth should try and address.

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# SANEM Annual Economists' Conference 2017 "Managing Growth for Social Inclusion" 18th February, 2017, BRAC Centre Inn Auditorium, Mohakhali, Dhaka

#### **ABOUT THE CONFERENCE**

SANEM is announcing its competitive call for papers and participation for the Second SANEM Annual Economists' Conference 2017 on "Managing Growth for Social Inclusion" to promote quality economic research among academicians, researchers, policy advocates, students and young aspiring economists. While there is no denying the fact that rapid pace of growth is necessary for substantial poverty reduction, for this growth to be sustainable in the long run, it should be broad-based across sectors and should also ensure social inclusion.

## **CALL FOR PAPER SUBMISSION**

#### Themes:

Papers should be relevant to any of the following categories:

- · Growth, poverty and inequality
- Trade and regional integration
- Sustainable development and environmental management
- Finance and development

- Political economy and institutions
- Labor market, remittance and migration
  - Human capital formation

It is expected that the paper will have some relevance with South Asia and/ or Bangladesh. The paper should be submitted following the format provided below. Any reproduction/ extension of previous study is eligible for submission. However, in case of pre-published papers, consent of the publishers should be provided. SANEM reserves the right to edit and publish the selected papers as chapters in an edited volume and/or as journal articles

#### **Important Dates:**

Last date of abstract submission : 15 September, 2016
Selection of abstracts : 07 October, 2016
Last date of first draft submission : 30 November, 2016
Feedback by SANEM : 31 December, 2016
Revised/final paper submission : 31 January, 2017
Power-point presentation submission : 10 February, 2017
Conference : 18 February, 2017

#### Format of the abstract:

The abstract should be an extended one which should include the following:

- Objectives and research questions
- A brief description of the methodology
- An outline of the paper

The abstract should be in Calibri 12 font with single spacing and must not exceed 4 pages.

### How to submit paper:

Abstract and updated CV should be sent to  $\underline{sanem.conference@gmail.com}$ 

# Eligibility for paper submission:

- People engaged in academics / economic research / policy advocacy with an educational background in economics or related fields.
- Masters / 4<sup>th</sup> year students studying in economics or related fields.

SANEM encourages young researchers and students to submit their papers. There will be a separate session for the students/young researchers in the conference.

#### **CONFERENCE PARTICIPATION**

# Eligibility for conference participation:

- People engaged in academics/economic research/policy advocacy with an educational background in economics or related fields.
- Students studying in economics or related fields.
- Any development practitioner, individuals interested in economic and development issues.

# Application for registration for conference participation:

Interested participants are requested to apply for registration. The application form can be downloaded from  $\underline{\text{http://sanemnet.org}} \text{ or by emailing at } \underline{\text{sanem.conference@gmail.com}}$ 

The last date of application for registration: 31 December, 2016

 $\underline{\text{No Registration fee is required for the conference participation.}}$ 

# CONFERENCE COMMITTEE

 Dr. Selim Raihan
 Professor, Department of Economics, University of Dhaka and Executive Director, SANEM. And Conference Convener

 Dr. Bazlul Haque Khondker: Professor, Department of Economics, University of Dhaka and Chairman, SANEM

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 Dr. Atonu Rabbani
 Associate Professor, Department of Economics, University of Dhaka

♦ Dr. Stuart Davies : Senior Economic Adviser, Department for International Development (DFID), Bangladesh

Dr. Farazi Binti Ferdous : Research Fellow, SANEM

# Training on CGE Modelling for Policy Makers held in New Delhi, India



A training program on CGE Modelling for policy makers took place in New Delhi, India during 11 - 13 July 2016. Centre for WTO Studies, IIFT organized the training program for the members of Department of Commerce, India. The training was inaugurated by Mr. Abhijit Das, Head, Centre for WTO Studies, IIFT. Dr. Selim Raihan, Executive Director, SANEM and Professor, Department of Economics, University of Dhaka, conducted the training program. The focus of the training was to familiarize the trainees with the tools like Computable General Equilibrium (CGE) modelling, Social Accounting Matrix (SAM) and GTAP framework. The training ended following presentations and discussions of small group projects using GTAP model.

# 24th European Conference on South Asian Studies held in Poland

A conference titled 'ECSAS-2016: 24th European Conference on South Asian Studies' took place at Warsaw, Poland from 27 July 2016 to 30 July 2016. Dr. Selim Raihan, Executive Director, SANEM and Professor, Department of Economics, University of Dhaka, presented his paper on 'Politics of Economic Growth in Bangladesh', based on his ESID project in panel P37: The politics of inclusive development In South Asia.

# A step forward for SANEM's young researchers

Research Associate of SANEM, Ms. Rubaiya Murshed is going to pursue her MPhil in Education at University of Cambridge. She has been awarded the 'Commonwealth shared Cambridge Scholarship Award 2016'. Cambridge is the world's fourth-oldest surviving university and second oldest university in United Kingdom. Mr. Mahtab Uddin, Research Associate of SANEM as well as Associate Editor of Thinking Aloud, has joined as a Lecturer at the Department of Economics, University of Dhaka. SANEM wishes them a bright future.

e-version: http://sanemnet.org/thinking-aloud/



SANEM is a non-profit research organization registered with the Registrar of Joint Stock Companies and Firms in Bangladesh. Launched in January 2007 in Dhaka, it is a network of economists and policy makers in South Asia with a special emphasis on economic modeling. The organization seeks to produce objective, high quality, country- and South Asian region-specific policy and thematic research. SANEM contributes in governments' policy-making by providing research supports both at individual and organizational capacities. SANEM has maintained strong research collaboration with global, regional and local think-tanks, research and development organizations, universities and individual researchers.