

Editor's Desk

The September 2018 issue of *Thinking Aloud* focuses on "economic growth". The first page article titled "Does institution matter for the quality of growth?" presents an index of quality of economic growth (IQEG) which is constructed for 156 countries for 16 years between 2000 and 2015. In South Asia, in 2015, the highest IQEG of 56.46 was of Sri Lanka's and the lowest value of 22.32 was Afghanistan's. Bangladesh, Bhutan, India, Maldives, Nepal, and Pakistan had index values of 42.70, 37.33, 44.45, 48.31, 33.77, and 41.88 respectively. Analysis of the article shows that there is a positive association between the institutional quality and the IQEG, and the institutional quality matters more at the higher level than at the lower level of IQEG. The second page article titled "Effectiveness of fiscal policy in stimulating growth in Bangladesh" explores the effects of fiscal policy on economic growth using time series data of real GDP, government current consumption, capital stock, labor, and tax revenues for the period 1980-2017. The article looks into both short run and long run effects of fiscal policy instruments on economic growth using the Vector Error Correction Model (VECM) and Johansen cointegration technique. The findings indicate that while government consumption has an insignificant and government tax revenue has a negative and significant effect on real GDP growth in the short run, in the long run, there is a positive and significant causal relationship between real GDP growth and government consumption, and between real GDP growth and government tax revenue. The article suggests that fiscal policy is more effective in stimulating growth in the long run than in the short run, and points to the importance of increasing government consumption and tax-GDP ratio for stimulating economic growth in Bangladesh. The third page includes two articles. The article titled "Monetary Policy: Where Are We Headed?" reviews the recent monetary policy statement. The article titled "Climate change threat to the Bangladesh economy" discusses the potential threats and emphasizes that the amount of financial and technical support received by Bangladesh will determine how well Bangladesh deals with climate impacts and their subsequent effects. The fourth page draws attention to the events that took place in the month of August.

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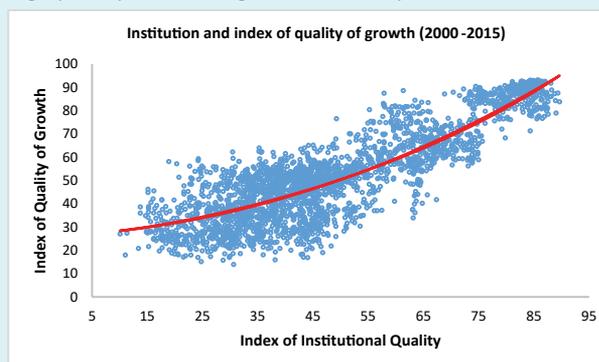
Sk. Ashibur Rahman

Does institution matter for the quality of growth?

Selim Raihan

In the recent decade, the focus of the discussion on economic growth has been shifted from the 'quantity' of economic growth to the 'quality' of economic growth. This shift has happened with the growing understanding that a mere increase in economic growth rate is not sufficient to achieve much larger social development goals. In this article, we have suggested an 'index of quality of economic growth' (IQEG) which takes into account the very fundamental 'quantity' of economic growth as well as the qualitative changes that have happened in the livelihood of the people through that process of growth.

The IQEG has been constructed for 156 countries for 16 years between 2000 and 2015. The index has three major components: 'economic base', 'economic strength' and 'social development'. The economic base index is constructed using the normalized values of the real per capita incomes of the countries. The economic strength index is based on four indicators: per capita income growth, volatility of the per capita income growth, export as a capacity to import, and export diversification index. The per capita income growth measures the quantity of economic growth. With a high per capita income growth, a country is able to



raise its per capita income level in a shorter time. The economies of countries with lower volatility of per capita income growth are more stable than others. A higher capacity of exports to finance imports shows a country's strength in international trade. Finally, the more diversified the export basket of a country is, the higher the country is capable of handling external shocks. A more diversified export basket also, in general, indicates a country's higher degree of economic diversification. These aforementioned four indicators have equal weights in constructing the economic strength index.

The social development index is based on two subcomponents. The first one is the education index which is represented by the average years of schooling. The second one is the health index, which is constructed by averaging two indices: health infrastructure and health outcome. Health infrastructure index is constructed using four indicators with equal weights. These indicators are the percentage share of people with access to safe water in the rural area, the percentage share of people with access to safe water in the urban area, the percentage share of people with access to sanitation in the rural area, and the percentage share of people with access to sanitation in the urban area. The health outcome index is constructed using three indicators with equal

weights. These indicators are life expectancy at birth, maternal mortality rate, and child mortality rate.

The IQEG is constructed by averaging the aforementioned economic base index, economic strength index and social development index, and is scaled between 0 and 100. The results of the aforementioned exercise produce some interesting insights. In 2015, Sweden was the country with the maximum value of IQEG of 93.01. In contrast, Guinea-Bissau was the country with the least index value of 21.13. In South Asia, in 2015, the highest IQEG of 56.46 was of Sri Lanka's and the lowest value of 22.32 was Afghanistan's. Bangladesh, Bhutan, India, Maldives, Nepal, and Pakistan had index values of 42.70, 37.33, 44.45, 48.31, 33.77, and 41.88 respectively. Compared to 2000, in 2015, except Afghanistan, all the other South Asian countries improved their index values. India, Bangladesh, and Bhutan experienced 12.8%, 8.5% and 5.5% rise in index values respectively, while Nepal and Pakistan and Sri Lanka saw 2.3%, 2.7%, and 0.9% rise in index values respectively. The South Asian average IQEG in 2000 was 37.32, which increased to 40.90 in 2015. For the Southeast Asian countries (ASEAN countries), the average increased from 50.12 to 54.83 during the same period.

Does institution matter for the quality of growth? We have explored the association between an index of the quality of institution and IQEG as shown in the scatter-plot. This scatter plot is generated by using the pooled data for 156 countries over the period 2000-2015. The index of the quality of institution is constructed by averaging normalized values of six indicators of World Governance Indicators, namely voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of

corruption. It appears that there is a positive association between the institution index and the IQEG as indicated by the upward trend line. The trend line is non-linear and at the higher level of institutional quality, IQEG of countries converge to the trend line. A simple conclusion can be drawn from here is that the institutional quality matters more at the higher level than at the lower level of IQEG.

To see the association between quality of institution and IQEG in a more systematic way, we have run a cross-country panel regression by considering IQEG as the dependent variable. After controlling for the size of the population, ratio of government consumption to GDP, ratio of foreign direct investment to GDP, and the ratio of remittance to GDP, the cross-country fixed effect model suggests that the index of institution is positively associated with IQEG with statistical significance.

The aforementioned analysis points to the importance of the better institutional quality in ensuring the quality of economic growth. The countries at the lower level of institutional quality will always face the steep challenge of converting the 'quantity' of growth into 'quality' growth until these countries invest on improving their institutional performances.

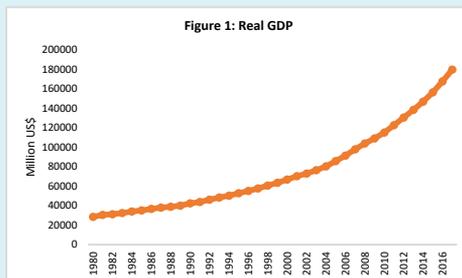
Effectiveness of fiscal policy in stimulating growth in Bangladesh

Selim Raihan and Iffat Anjum

Public sector's role is vital in pursuing the development goals in national as well as global contexts. The global development agenda of Sustainable Development Goals (SDGs) highlights the role of public sector in financing and implementing the 17 goals within 2030. One of the most important tools the government has at its disposal to play its role in the economy is the fiscal policy. The key instruments of fiscal policy include government expenditure and taxation through which government exerts influence over various indicators of macroeconomic performance of the economy such as aggregate demand, inflation, money supply, unemployment, economic growth etc. There are two types of fiscal policy-expansionary fiscal policy, which refers to increasing government expenditure, lowering taxes, increasing transfer payments etc. aimed at boosting economic activities; and contractionary fiscal policy, which refers to lower government expenditure, higher taxes, decreased transfer payments etc. to stabilize the economy.

The effectiveness of fiscal policy in stimulating the economic activity and maintaining macroeconomic stability of a country has received considerable policy and research interests. There are two contrasting economic schools of thought regarding the role of fiscal policy in economic development - one asserts that different forms of government spending on social as well as physical infrastructures have positive effect on economic development, while the other school of thought highlights that government regulations and taxation create distortions in the market. The debate between these two views has been fueled by mixed empirical evidence offered by different studies on the relationship between public expenditure and economic growth. While some studies concluded that government consumption has negative and statistically insignificant impact on growth, other studies found evidence of positive and significant effect. Empirical studies conducted to analyze the relationship between tax revenue and economic growth reveal that different types of taxes have differential impact on economic growth. This article explores the effects of fiscal policy on economic growth in the context of Bangladesh economy using time series data of real GDP, government current consumption, stock of capital in the economy, labor (number of persons engaged in economic activities), and tax revenues for the period 1980-2017. Data for above mentioned variables have been obtained from Penn World Table (PWT) version 9, World Bank's World Development Indicators (WDI) database, and Statistical Yearbooks of Bangladesh for different years. All variables have been converted into log form to conduct the analysis. Figures 1 and 2 show the trend in real GDP, government real current consumption and real government tax revenue in Bangladesh during the period under consideration. The study looks into both short run and long run effects of fiscal policy instruments on economic growth using the Vector Error Correction Model (VECM) and Johansen cointegration technique. The vector error correction model is used in various literatures to investigate the short run dynamics and long run causal relationship among variables. If there exists at least one cointegrating relationship

among the variables, a vector error correction model can be applied. The error correction term in VECM shows the speed of adjustment from the short run state of variables to their long run equilibriums. A negative and significant coefficient of error correction term indicates that the model is converging to its long run equilibrium, while a positive and significant coefficient of error correction term may imply structural change in the variable. An insignificant coefficient of error correction term, on the other hand, indicates to the insignificance of the short run disequilibrium. The individual coefficients serve to capture the short run effects.



Data Source: World Bank

We employ the production function approach of the growth model as depicted in equation 1.

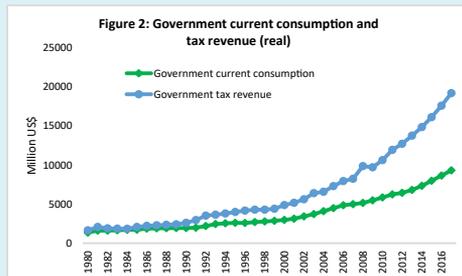
$$\ln GDP = \alpha_0 + \alpha_1 \ln K + \alpha_2 \ln L + \varepsilon \quad (1)$$

Where, $\ln GDP = \log$ of real GDP

$\ln K = \log$ of capital stock

$\ln L = \log$ of labour

$\varepsilon = \text{error term}$



Data Source: World Bank and Authors' calculation

In the augmented models 2 and 3, two fiscal policy variables have been added to equation 1.

$$\ln GDP = \alpha_0 + \alpha_1 \ln K + \alpha_2 \ln L + \alpha_3 \ln govcon + \varepsilon \quad (2)$$

$$\ln GDP = \alpha_0 + \alpha_1 \ln K + \alpha_2 \ln L + \alpha_3 \ln govrev + \varepsilon \quad (3)$$

Where,

$\ln govexp = \log$ of government consumption

$\ln govrev = \log$ of government revenue

The VECM model of equation 2 is used to capture the association between real GDP and government consumption and VECM model of equation 3 is used to capture the relationship between real GDP and government tax revenue.

There is a possibility of equations 1, 2 and 3 exhibiting spurious relationships due to the nonstationary characteristics of the variables. To check that possibility, we conducted Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests to check the stationarity properties of all variables. Upon finding all variables to be non-stationary in level form, tests have been conducted on their first difference form. The results indicate that all variables are $I(1)$, that is, integrated of order one, as they are found to be stationary in first difference form.

We also investigated whether there is existence of cointegrating relationship in the long run among the variables. Johansen cointegration technique has been employed for this purpose. Before

conducting the Johansen cointegration test, lag order selection test has been conducted to determine appropriate lag length for cointegration test and VECM. After considering the final prediction error (FPE), Akaike's information criterion (AIC), Schwarz's Bayesian information criterion (SBIC), and Hannan-Quinn information criterion (HQIC) statistics, lag length of two has been used for cointegration and VECM. The result of the cointegration test reveals that there is existence of at least two cointegrating relationships, implying that VECM can be applied and meaningful long run conclusion can be drawn from the analysis.

The VECM results reveal a negative and significant error correction term for all three models. The individual coefficients show that in the short run the effect of government consumption on economic growth is found to be negative and insignificant. However, in the short run, government tax revenue is found to have a negative and significant effect on real GDP growth. To examine the long run association among the variables, Johansen cointegration technique has been used. The result of the Johansen test reveals that there is a positive and significant long run causal relationship between real GDP growth and government consumption, and between real GDP growth and government tax revenue.

To investigate the direction of the causal relationship among the variables, we carried out Granger causality test. Granger causality test examines whether there exists any uni-directional or bi-directional causality between variables under the null hypothesis of no Granger causality against the alternative hypothesis of existence of Granger causality. The findings of pairwise Granger causality test suggest that government consumption and government tax revenue have uni-directional causal relationships with economic growth.

The study also attempted to explore the nature of impulse response functions resulting from the vector autoregression analysis. The purpose of impulse response function is to find the response of one variable to a shock or impulse in another variable, in a setting involving other variables as well. While looking at the impulse response function in VECM model 2, it was found that in the short run, real GDP decreases responding to a change in government consumption; however, once it recovers from the said shock, real GDP remains stable in the long run. The impulse response functions of real GDP also exhibit similar pattern in response to government tax revenue.

The aforementioned analysis suggests that fiscal policy is more effective in stimulating growth in the long run than in the short run in Bangladesh. The quantitative analysis points to the importance of increasing government consumption for stimulating economic growth in Bangladesh. Moreover, efficiency of government spending must be ensured to obtain desired impact on economic development, as has been emphasized in various literatures. Tax revenue also has positive impact on economic growth in the long run, implying that increased tax-GDP ratio will prove to be beneficial for Bangladesh economy.

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Monetary policy: Where are we headed?

Sunera Saba Khan

If we take a look at the Bangladesh Bank's monetary policy outcome for the fiscal year 2018, we observe that in FY18 GDP growth momentum was fueled by sturdy domestic and external demand. A surge in exports, remittances and private credit raised consumption and public and private investment. The central bank claims a rise in private investment. However, economists feel private investment is rather sluggish. The current account deficit was further stretched and liquidity conditions deteriorated as a result of an increase in imports. Capital and infrastructure related imports increased significantly. In addition, the floods from last year caused food and oil prices to soar, which further drove import growth. The GDP growth rate surpassed the targeted rate and core inflation remained satisfactory. However, overall CPI inflation was above the target. Broad money and domestic credit growth was well below the target, whereas, private credit growth was slightly above the target.

The central bank has formulated the Monetary Policy Statement (MPS) with the aim of achieving the targeted GDP growth of 7.8 percent and simultaneously keep inflation under control. The CPI inflation target has been fixed at 5.8 percent. The repo and reverse repo rates remain unchanged at 6.0 and 4.75 percent respectively. The unchanged repo rate may act as a disadvantage for commercial banks in terms of loan disbursement as this repo rate will also deteriorate and shrink loan disbursement if CRR (Cash Reserve Ratio) and SLR (Statutory Liquidity Ratio) are not synced accordingly. Bangladesh Bank aims to curb excessive lending. Private credit, domestic credit and broad money growth ceilings have been fixed at 16.8, 15.9 and 12.0 percent respectively. In the second half of FY18 domestic credit and broad money growth targets were fixed at 15.8 percent and 13.3 percent respectively. The central bank has been steadily reducing the target program growth rate of broad money, ever since FY2012 (from 18.5 per cent to 12.0 per cent). The broad money rate being slightly lower than the previous MPS may tighten the money supply. However, the MPS emphasizes on the need for reviving the bond market which will aid long-term investment financing and help plummet growth rates. The central bank aims to ensure more and better jobs by facilitating credit flows in the priority sectors which include agriculture, manufacturing and SMEs. Credit supply to less productive sectors will be discouraged. Domestic liquidity will be improved by a reduction in interest rates. The bank will be prepared to step in for demand management when necessary by dealing with interest rate instruments.

The increasing current account deficit driven by investment and food related imports, capital machinery imports and low export growth has created pressure on the foreign exchange rates. The volatile exchange rate has escalated the cost of doing business. The sharp decline in the overall Balance of payment situation and negative growth of Net Foreign Assets (NFA) have further added to the liquidity shortage. This weak balance of payments situation needs immediate attention and correction. Although the MPS states inflationary expectations and mentions that food inflation is expected to rise, no measures have been suggested for combatting food inflation.

The MPS claims to have had stable interest rates in the call money market which ranged from 2.0-4.5 percent during FY18. However, Aggregate NPL (Nonperforming Loan) is frighteningly high and rose to 10.8 percent in March 2018. The repetitive scams in the banking sector have also contributed to the rise in NPL. The scams are a result of the sloppy role of the central bank in regulating the banking sector. Let us hope that the monetary policy will be able to reduce the NPL. As the Bangladeshi Taka was under pressure, measures to gain public trust in currency are essential.

Although there are a number of risks and challenges in implementing monetary policy, let us hope that the monetary policy will keep pace with the changes that take place in the economy. And contribute to job creation and achieve inclusive growth in line with the SDGs (Sustainable Development Goals). A sound monetary policy along with inflows of large volumes of foreign direct investment, enhancements in portfolio investment in the capital market, a diversified export basket, enhanced competitiveness, a rise in remittance inflows and investment in physical and social infrastructure will allow Bangladesh to sustain its development process.

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Climate change threat to the Bangladesh economy

Zubayer Hossen

Bangladesh, as an economy, has performed remarkably well in the recent decade regardless of socio-political obstacles. It has maintained an average economic growth of 6% per annum and performed well in reducing the poverty rate to 24.3% and extreme poverty rate to 12.9%. Bangladesh desires to reach upper middle-income status and eliminate extreme poverty by the fiscal year 2031. Although the stable growth rate and positive outlook of the future make us optimistic about the targets Bangladesh is aiming at, climate change challenges may impede such growth aspiration. Ganges-Brahmaputra-Meghna (GBM) Bangladesh delta is one of the largest deltas in the world and is highly vulnerable to natural disasters because of its geographical position, population density, illiteracy and lack of institutional setup. Evidence suggests that the regular occurrence of natural disasters such as flood, cyclones, salinity intrusion, rise in sea level, river bank erosion, rising temperatures, high humidity, etc. has been a real threat to the overall economic development scenario of Bangladesh. Due to the deltaic formation of the country, natural disasters and climate change, Bangladesh has been ranked as the 6th most suffered country from extreme weather events for the period 1997-2016. During this period, Bangladesh lost 0.68% of GDP annually and experienced an average 0.44 deaths per 100,000 inhabitants each year (Global Climate Risk Index, 2018). Climate change and global warming data of NASA depicts that the sea level rises by 3.4 millimetres per year with the increasing global temperature of 1.7°F each year. Such climatic changes will make it further difficult for Bangladesh by damaging food security, hurting the economy's growth and harming the poverty reduction effort unless they are managed comprehensively.

The climate factors affect several sectors and lead to economy wide substantial losses. Agriculture is the most vulnerable sector. In the future, climate change, especially, high temperature, humidity and radiation could reduce yields of high-yielding varieties of rice at a significant level. The increase in soil salinity will also contribute to the contraction of agricultural production. Agriculture will also suffer because of the frequent flooding caused by climate change. The forestry and ecosystems of the country will also be affected. The sea level rise (SLR), higher temperatures, an increase in cyclone intensity will damage the forest resources and the diverse ecosystem. Additionally, the SLR will result in permanent inundation of a significant part of dryland. The land quantity shock will lead to the fall in production in all sectors and ultimately, would lead to a fall in real GDP. The climate change could affect the economy of Bangladesh adversely by incurring an average loss of 2% of GDP per annum by 2050 and it may increase to 9.4% by 2100 (ADB, 2014). The majority of the working age population from the South West region of Bangladesh earns their livelihood by working in the agriculture, forestry and fishing sectors. Therefore, the overall unemployment rate may increase due to the reduction of agricultural production. There is a positive correlation between the intensity of natural disasters and poverty rate. Hence, climate change will play a role in deteriorating the poverty status, especially, of the disaster-prone areas since majority of the coastal districts that are most exposed to natural disasters show poverty rates that are higher than the national average.

Adapting climate actions such as developing the resilience capacity of communities, building emergency cyclone shelters, enhancing the capacity of government agencies to respond to emergencies, intensifying river embankments and coastal polders, reducing saline water intrusion in agriculture-dependent areas, executing the early warning and emergency management systems, etc. could be a possible way to avoid the worst impacts of climate change on the macroeconomic indicators. The diversity and universality of the problem will make the task trickier in future. The successful implementation of well-coordinated long-term adaptation and mitigation policy measures will be the key in the way of ensuring the sustainability of agriculture, food security and livelihoods. Moreover, the amount of financial and technical support received by Bangladesh will determine how well Bangladesh deals with climate impacts and their subsequent effects. Therefore, the incremental financial support from private sector and innovative alternatives (i.e. carbon tax) for climate financing will be crucial to accommodate the total demand of financing the climate projects.

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Dissemination event in completion of Economic Dialogue on Inclusive Growth (EDIG) project



A dissemination event to mark the Economic Dialogue on Inclusive Growth (EDIG) project completion was held on 16 August 2018 at The Westin Dhaka. The project was implemented by Overseas Development Institute (ODI) and The Asia Foundation with support from the Department for International Development (DFID). Executive Director of SANEM Dr. Selim Raihan presented the keynote presentation on "Female Employment Stagnation in Bangladesh" and also was a panel discussant in the session titled "The Summary of EDIG activities & Future of Inclusive Growth in Bangladesh" at this event.

11th edition of South Asian Training Program on CGE Modeling held in Pokhara



11th South Asian Training Program on CGE Modeling was held in Pokhara, Nepal on 9 – 13 August 2018. The training was facilitated by Dr. Selim Raihan, Executive Director of SANEM and Professor of Economics at University of Dhaka. Dr. Raihan has extensively worked on applied economics, especially assessing impacts of trade and economic policies, using country-specific and global Computable General Equilibrium (CGE) models, and micro and macro-econometric modelling and estimation techniques. 35 policymakers and young researchers from Afghanistan, Bangladesh, India, Nepal, Pakistan and Sri Lanka participated in this event. South Asia Watch on Trade, Economics and Environment (SAWTEE), together with the South Asian Network on Economic Modeling (SANEM) organized this event. The programme was organized in collaboration with the Centre for WTO Studies (CWS), New Delhi and the Ministry of Industry, Commerce and Supplies (MoICS), Government of Nepal. The objectives of this training are, impart knowledge on theory and applications of computable general equilibrium (CGE) models, enhance policy research capacity, expand network among researchers and institutions for enhanced collaboration

Dr. Selim Raihan participated in the 35th Conference of International Association for Research in Income and Wealth



Executive Director of SANEM Dr. Selim Raihan participated in the 35th Conference of International Association for Research in Income and Wealth (IARIW) in Copenhagen, Denmark on 20 -24 August 2018. Dr. Raihan presented the paper on "How do Education and Skill development affect the Transition from 'Good-enough' Job to 'Decent' Job in Bangladesh?" at this conference. Mr. Mahtab Uddin, Lecturer, Department of Economics, University of Dhaka is the co-author of this paper.

Lecture on Financial reporting council in Bangladesh



Lecture on "The Financial Reporting Council in Bangladesh: a spectacular illusion?" was held at SANEM office on 16 August 2018. Executive Director of SANEM Dr. Selim Raihan chaired this lecture session and Dr. Javed Siddiqui, Senior Lecturer in Accounting and Director of the MSc Accounting programme, The University of Manchester, UK presented the keynote presentation at this event. Academicians, policy advocates, researchers and students of Economics participated in this event.

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SANEM Chairman participated in 12th Global NTA conference



Chairman of SANEM Dr. Bazlul Khondker participated in the 12th Global NTA conference held in Mexico City, Mexico on 23-27 July 2018. The conference was titled as "opportunities and Challenges of the Demographic Transition for Meeting the 2030 Agenda and the Sustainable Development Goals". The global conference was attended by more than 100 participants from countries of all regions. In the third plenary session of the first day of the conference Dr. Khondker presented a paper on Economic Consequence of Population Ageing in Asia.

Lecture on China's problems in the twenty-first century



A lecture session on China's problems in the twenty-first century was held at SANEM office on 18 August 2018. Executive Director of SANEM Dr. Selim Raihan chaired this event and Dr. Tanweer Akram, Director, Global Public Policy and Economics, Thrivent Financial, USA delivered the keynote presentation.

China has made remarkable economic progress after the reforms that started in the late 1970s. Per capita real income has grown markedly and rates of absolute poverty have declined. China is the world's most important manufacturing center and the leading exporter of goods. Most Chinese people now live in urban areas. Infrastructure investment has been astonishing. However, income inequality and various forms of polarizations and stratification have increased. There are serious threats to the environment. The sharp rise in housing prices and increased leverage among corporations and financial institutions pose risks to financial stability. The Communist Party of China retains the monopoly of political power. China's relationship with its neighbors are complex and evolving. The presentation was undertaken in light of Bertrand Russell's remarkably prescient discussion of China's problems published in 1922.