ECONOMIC RESEARCH INSTITUTE

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2015 ANNUAL REPORT

2016

Economic Research Institute

Introduction

Economic Research Institute (ERI) was established in 2010 as an independent policy studies center at the School of Economic Studies of National University of Mongolia (NUM) in collaboration with IRIS center of the University of Maryland. ERI aims to ensure flow of high quality, peer reviewed analysis on policy issues, and methods for conducting research and to provide research information to a broad range of audience. We look for useful ways to identify and understand the demand for policy research and develop ways to tie academic skill and fundraising together, with the support of potential contributors by our rigorous operations and high quality works in key areas of interest with independence and focus.

Partners:

- Bank of Mongolia, Ministry of Finance, Ministry of Labor and other government organizations
- Golomt bank, Oyu Tolgoi LLC, MCS group and other companies
- World Bank, Asian Development Bank, United Nations, JICA and other donor organizations

Research projects implemented in 2015

Inflationary Pressure on Households

This study, commissioned by the Bank of Mongolia, investigates the effect of price inflation on households by examining the data from Household Socio-Economic Survey conducted by the National Statistical Office. We calculate the monthly, annual and cumulative CPI inflation rates between 2009-2012 for individual households and for each 5 household quintiles.

We estimate the effect of inflation on various types of households with different levels of consumption. Different households face different price inflation depending on their consumption profile. The difference could change from the short to the long run. In the short-run, the difference could be large, but there could be mechanisms that reduce the difference in the long-run.

Main findings:

- Monthly CPIs were volatile due to seasonal changes in the prices of goods such as meat, milk products and vegetables.
- Households with high share of food items in their consumption faced inflationary pressure from food price increases, while opposite is the case for households with low share of food items in their consumption.
- Households with high share of food items in their consumption face lower CPIs during summer months compared to households with lower share of food items in their consumption. However, they face relatively higher CPI inflation in other months.
- Although there were differences in the monthly and annual inflation rates across households, the cumulative general inflation rate between 2009 and 2012 were more or less similar across the representative households of each quintiles.
- The real consumption of representative households of each quintiles grew at a rather questionable rates over the period.
- The real consumption grew the most for the richest and poorest quintiles during 2009-2012.

The research report was published on Volume 10 of the Bank of Mongolia “Working paper” 2015

Methods for Calculating Housing Price Index

Housing Price Index (HPI) is one of the most important macroeconomic indicators because it largely indicates business activities in the economy. Almost all major crisis in the global financial markets stemmed from failures in real estate markets. It is important to calculate the HPI properly. Based on this indicator, policy makers are able to forecast economic trend and develop policy measures in a timely manner to prevent and alleviate any imbalances in the market. The main objective of this study is to evaluate calculation methodologies and to provide theoretical basis for the measures and activities taken by the Bank of Mongolia to create and regularly update HPI. In this study, we reviewed popular methods for calculating HPI, and highlighted their advantages and disadvantages. And then we presented in detail two methods most suitable for the real estate market in Ulaanbaatar: stratification method and hedonic regression method.

- Stratification method finds a weighted mean of housing prices for each subcategories of houses sold in the market. It is straightforward and easy to explain for public. However, it can't explain price differences when there is no housing specific detailed information in some subcategories. And if subcategories are defined too narrowly, it may lead to a biased estimation.
- Hedonic Regression methods estimate the index by controlling housing specific characteristics such as size, location and number of bedrooms etc. The main advantage of this group of methods is that it fully utilizes collected data. However, it is not easy to explain and it requires extensive data on housing characteristics.

Following this study, HPI is now being regularly calculated in line with international standard. "Tenkhleg Zuuch" LLC, assigned by the Bank of Mongolia, calculates and announces the HPI for the Ulaanbaatar city through public media on a monthly basis.

The report of this study was published on Volume 10 of the Bank of Mongolia "Working paper" 2015

Survey of Transaction Costs for Small and Medium Enterprises

It is important to calculate transaction cost faced by SMEs in Mongolia that arise out of the relationship between private and public sector by using micro data from surveys as it constitutes big share in the total cost of the SMEs. Transaction cost is divided into market and non-market costs. In developing countries, non-market transaction cost is found to be high. Non-market transaction costs include direct and indirect costs related to regulatory barriers to SMEs such as costs in terms of time, human resource and money to get business license and permits from government agencies and to overcome bureaucratic barriers.

This study, commissioned by the Bank of Mongolia, aims to investigate in detail the non-market transaction cost faced by SMEs in Mongolia through sampling survey in addition to overviewing international studies on policies and best practices for SME development, as well as reviewing the regulatory framework for operating small and medium businesses in Mongolia.

In this study, we reviewed theoretical and empirical studies on the development of SMEs and survey on non-market transaction costs was conducted from around 800 SMEs operating in Ulaanbaatar, Darkhan-Uul and Orkhon cities through a structured face-to-face interviews with directors, top managers, and finance officers. We also conducted in-depth interviews with experts and officials of government agencies, international and non-government organizations responsible for SME development to evaluate transaction costs that exist in each step of business activities listed below:

- Starting and registering a business
- Getting licenses and permits
- Paying and reporting tax
- Dealing with customs organizations
- Accessing infrastructure and urban services
- Dealing with financial organizations
- Making and enforcing business contracts
- Dealing with government agencies such as general and local inspection authorities, property registration offices, local administrative offices.

Main findings:

- In the last 20 years, the legal and regulatory environment for SMEs has been constantly improving. This is shown by the development of numerous government programs and relevant regulatory framework that support SMEs. However, due to the constant change of government agencies responsible for SMEs, there have been changes and uncertainties regarding continuity of government programs and its implementation.
- Many programs and projects for SME development have been implemented by various stakeholders. Those are found to be more complementary than competitive since they focus on different target groups. These programs and projects may be effective because SME sector itself includes diverse set of businesses in terms of economic activities, ownership type and size.
- SMEs in Mongolia face multiple challenges related to finance, credit, collateral, office room, rent, tax, renewing technology and equipment, skilled labor, entrepreneurship skills, market, especially foreign market, as well as challenges related to government regulations.
- SMEs borne more costs on above mentioned activities than the costs reported in other surveys. For instance, to start a business, SMEs participated in our survey spend MNT 1.2 million, on average, which is 15 times greater than the costs reported in the Doing Business Survey.
- In most activities, the share of indirect cost, the opportunity cost (such as time costs of SME staffs to deal with the activity) in total non-market transaction cost constitute more than 90 percent.
- Shares of informal payment (bribe) to government officials constitute less than 2 percent.

Competitiveness in Agricultural Products and Livelihood of Rural Population

Agriculture sector has a great potential to alleviate poverty than other sectors. This study has two aims. First, it determines competitiveness of the agriculture sector in Mongolia and second, it examines the livelihood of rural households to identify factors affecting rural livelihood and provides policy recommendations.

During the last 5 years, the agriculture sector contributed 13 percent of the real GDP and employed 30 percent of total labor force. As 36 percent of total households are living in rural areas, competitiveness of the sector is vital for their livelihood and income. There is a clear sign that competitiveness of the agriculture sector in Mongolia is deteriorating not keeping up with the rapid economic growth in recent years.

Main results:

- Competitiveness of the agriculture sector is estimated by the RCA index, which is widely used in trade analysis. Results show that Mongolia has comparative advantage in producing horse meat, beef, cattle skin, raw cashmere, and cashmere products. To increase export of these products, the government needs to focus on cooperating with partner countries on making trade agreements, dealing with hygiene standards for meat products and decreasing import tariff on livestock products.
- According to our empirical analysis, increase in the number of animals, in the price of livestock products and in the amount of loan to agriculture sector has a considerable positive effect in real income of rural households. The amount of loan in rural businesses and investment in the livestock sector are too small. Increase in public and private investment will improve the productivity of the sector and, consequently, will increase income of rural households permanently while other factors are insufficient on their own to increase real income permanently.
- International practices show that development of the agriculture sector depends directly on innovation. Innovation in agriculture sector, in turn, depends not only on technological advances, but also on skill of workers and institutional environment. The government recently paid more attention and increased its investment in the sector. However, there are some important steps to be taken:
    - Extend the scope of researches in the field of agriculture and move research findings into practice
    - Make research topics narrower and more focused on local potentials

- Make information and research findings accessible through advanced information technologies
- Improve coordination among policies and programs in the sector and strengthen monitoring and evaluation framework.

The report of this study was published on Volume 10 of the Bank of Mongolia “Working paper” 2015.

Analysis on Long Term Prospect of the Economy: MON-CGE Modelling

ERI uses static and dynamic Computable General Equilibrium (CGE) models for various macro-economic impact assessments. Currently, the static and dynamic CGE model, MON-CGE, has been developed based on the ORANI-G model of Australia.

The MON-CGE model is based on the Supply Use Table (SUT) compiled by the NSO. The SUT contains economic structure, and as the MON-CGE model exploits the SUT, the model allows us to estimate the impact of any major project more accurately. Moreover, this model can be modified in relation to the research objective. In addition to its application in forecasting, the CGE models have been used in many countries to evaluate policy changes such as:

- Government tax and expenditure
- Import and export prices and tariffs
- Technological innovation
- Households' utility
- Improvement in the education and health
- Foreign direct investment (FDI)
- Exploitation of new mine fields
- Changes in the law …

Changes in any of these policies have some impact on economy which can be measured by several indicators. Such as:

- National and regional macro indicators: GDP, GNI, consumption, investment, exports, imports, unemployment, exchange rate, prices etc.
- Sectorial and regional output and prices of goods and services
- Employment and wage (by sectors, gender and profession…)

MON-CGE model applications:

Using the MON-CGE model simulation, we assessed the impact of big projects such as oil shale project as well as coal-to-liquid project on the economy until 2050, following inquiries from Genie Oil and MCS companies. Moreover, ERI developed static and dynamic ORANI-G models in cooperation with Gerege Partners to be used by National Centre for Employment Services, Research and Information under the Ministry of Labor. Within the scope of this work, we have completed following tasks:

1. The research team assessed the long-term economic impact of a project which plans to produce oil from shale and to supply it to the domestic market, on the request by Genie Oil LLC. In order to estimate the impact until 2050, the team extended existing database from 32x32 matrix to 33x33 matrix (32 commodities + oil shale, 32 sectors + oil shale sector), and used project specific quantitative data.
2. The team assessed the long-term economic impact of a major project which is expected to supply 3 types of energy commodities both for domestic and foreign markets, on the request by MCS LLC. Consequently, database extended to 35x33 matrix (32 commodities + 3 new energy commodities of DNA, naphtha and diesel and 32 sectors + new energy sector). Based on the database, the research team estimated the project impact between 2015 and 2050.
3. The team of Gerege Partners and ERI developed a static ORANI-G model for the usage of the National Center for Employment Services, Research and Information under the Ministry of Labor. Furthermore, the static model was extended by adding dynamic equations to build a dynamic model, and introduced for the usage of the center. In general, dynamic CGE models are widely used internationally. Using the dynamic model with a labor market, policy makers in the Ministry of Labor are now able to assess the impact of a sudden shock (policy and or external) occurred in the economy on labor market.
4. The ERI team has also been developing a static and dynamic MON-CGE model with a monetary sector in cooperation with the Bank of Mongolia. The model will help determine the optimal short-run monetary policy. The research work on developing dynamic MON-CGE model with a monetary sector is still ongoing.

Policy Room Index

The aim of this project is to determine the extent of overheating of the economy as well as the extent to which policy makers will be able respond to various negative shocks in the economy. Overheating occurs when production capacity falls short of increasing demand. A fluctuation created by any shock is magnified as households decrease their consumption and entrepreneurs scale down their investment. The policy room on the other hand, shows the capacity of the Government to stabilize the cyclical movement in the economy.

Main result:

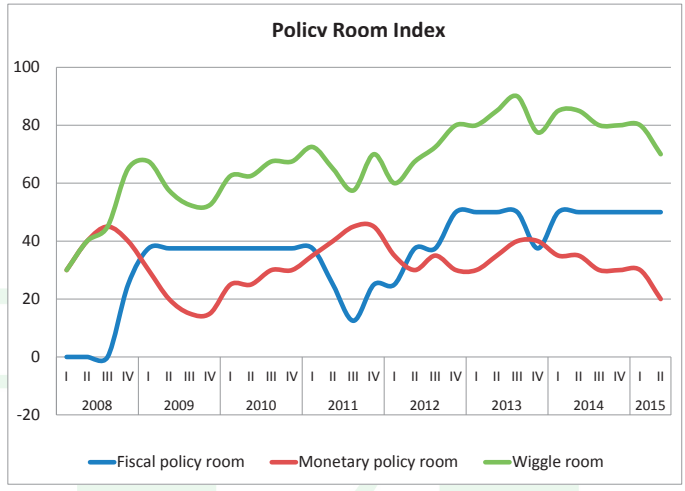
Compared to 22 countries whose growth is strongly correlated with exports of mining commodities, the Mongolian economy rapidly overheated between 2010 and 2012, and started to cool down since 2013. In the graphic on the left, countries of interest are ranked from the lowest to the highest in terms of overheating. Economies of most countries experienced abrupt cooling in 2014. Among these economies, Argentina still remains as the one experiencing highest overheating. The Mongolian economy has sharply cooled in 2014 in a similar manner to the Australian economy. Countries with an overheated economy often experience higher inflation which resulted in real interest rate to turn negative in those countries. In addition, they also experienced high deficit in their current account, and an unemployment rate that is significantly lower than their long term average.

When there is a high risk of overheating, a country should have enough policy space. Unfortunately, the policy room for Mongolian economy has been very limited for the last few years.

Main reasons include:

- Increase in government debt
- Sustained budget deficit of the central government
- High inflation

- Large current account deficit
- Growth in private sector loan exceeding growth of Nominal GDP (but growth of loan has slowed down in the past one year)
- Depreciation of domestic currency



The policy room for the Mongolian economy shrank significantly since 2008 and it remained limited during 2009 when the economy was cooling down. Since then, the policy room was further squeezed. Although, the policy room has slightly been expanding for the last few years, it is not satisfactory. While the room for monetary policy is expanding, there was almost no room for fiscal policy to expand. Compared to other developing countries, policy room index for the Mongolian economy has been deteriorating year after year and Mongolia is now among the countries with least policy room.

The report of this study was published on Volume 10 of the Bank of Mongolia "Working paper" 2015