COORDINATION OF FISCAL AND MONETARY POLICIES IN MONGOLIA IN ANTICIPATION OF LARGE-SCALE CAPITAL INFLOW

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Abstract

Upcoming large-scale mining and infrastructure development projects are expected to produce a massive capital inflow which is going to have a profound implication for the national economy. Institutions responsible for macroeconomic policies such as Bank of Mongolia, Ministry of Finance, and the National Development and Innovation Committee concerned about suitable macroeconomic policies that enable the country to properly absorb the incoming resources without causing financial instability and structural imbalances. The paper studies current macroeconomic policies in the framework of a small open economy.

Keywords: Macroeconomic Policy, Capital Inflow, Resource Economics

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1. Introduction

Mongolia is a natural resource abundant country and is highly dependent on resource in which mineral export comprises 62.9 percent of total export and the revenue from mining sector constitutes more than 40 percent of government budget on average in the last five years. In the future, mining sector is expected further to expand enormously.

This intensive expansion of the mining sector, the expected revenue from this sector and anticipated massive capital inflows in Mongolia are challenging the economic stability of a small open economy. From international experiences, the academia, decision makers, politicians and public are aware of resource curse phenomena, and thus, revenue management has become a hot topic in Mongolia.

Upcoming large-scale mining projects provide fine prospect for budget revenue and makes fiscal policy less prudent. Due to the anticipated increase in budget revenues, the government tends to increase the spending. In 2010, the government established the Human Development Fund to fulfill its cash transfer policy for the whole population.

Implementing a monetary policy in this new environment is a challenge for the Bank of Mongolia. Massive capital inflow will put an upward pressure on exchange rate of togrog[2] and it may cause Dutch disease. According to recent practice and international experiences, in this environment, the Bank of Mongolia has to make a hard choice between exchange rate and price stability.

Monetary and fiscal policy both aim at macroeconomic and financial stability. However, it is a well-known fact that a change in one will influence the effectiveness of the other and thereby the overall impact of any policy changes.

This paper focuses on coordination between monetary and fiscal policy when there is an anticipation of massive capital inflow in a small open economy with a large scale mining sector.

The paper is organized as follows. First, we show background information of the economy. Second, we describe the coordination of fiscal and monetary policy in Mongolia. Finally we analyze policy challenges and look at international experiences.

[2] Mongolian currency, in short, MNT

2. Country Background

Mongolia is a small landlocked country located between China and Russia with population of 2.7 million. Mongolia had a socialist system for almost 70 years and in 1990 a transition from centrally-planned to market-oriented economy had taken place. During the last two decades, Mongolia has implemented major socio-economic and institutional reforms. According to the National Statistical Office, in 2009, real GDP and real GDP per capita were 3564.3 billion MNT and 1315.2 thousand MNT.[3] The average growth rate in the last five years was 6.4percent, but in 2009, GDP has fallen by 1.6percent due to an economic recession.

Mongolia is an open economy in terms of external trade and capital flow. A ratio of total trade turnover to GDP accounts for 129.7 on average in last five years. Due to its geographically landlocked location, shipping cost is high which makes international trade expensive. It has been estimated that the cost of shipping is 3.4 times higher than that of the other East Asian countries. As a result, China and Russia are Mongolia's main trading partners in which China is accounting for more than 70 percent of the total exports. Imports from China and Russia comprise more than 60 percent of the total imports on average.

Mongolia is a country with vast amount of natural resources. It is estimated that there are over 6000 known mineral deposits of about 80 different minerals. In 2007, the government of Mongolia announced fifteen of them as large strategic mineral deposits. The two biggest mining deposits are Oyu Tolgoi (OT) with copper and gold and Tavan Tolgoi (TT) with coal. As of 2010, OT deposit is measured at 81 billion pounds of copper and 46 million ounces of gold. The copper deposit at OT is so large that experts say that Mongolia may rank 3rd in the world in its copper resource after Chile and the United States. As of 2009, Ivanhoe Mines and Rio Tinto made an investment agreement with the government of Mongolia for the construction and cooperation of the OT. According to the agreement, the government of Mongolia will acquire 34percent interest in the project and Ivanhoe Mines will control 66percent interest in OT. Rio Tinto joined Ivanhoe Mines as a strategic partner three years ago holding 42.1percent interest in Ivanhoe Mines.

TT's coal deposit is measured at 6.4 billion tons out of which 1.4 billion is coking-coal and 4.6 billion is thermal coal. Last year the government of Mongolia decided to issue 15 billion shares for TT, out of which, 10 percent will be distributed to citizens as vouchers, another 10 percent to domestic companies at its nominal price and 29percent will be sold at domestic and international stock markets. The remaining 51percent of interest will be retained by the government.

Mongolia's abundance in natural resources makes it increasingly reliant on these natural resources. Ore and mineral exports compose 62.9 percent of the total exports and the mining sector constitutes more than 40 percent of government budget revenue on average in the last five years. Exploitation of OT and TT is expected to begin in 2013. At that time, Mongolia's dependence on natural resource is expected to increase substantially.

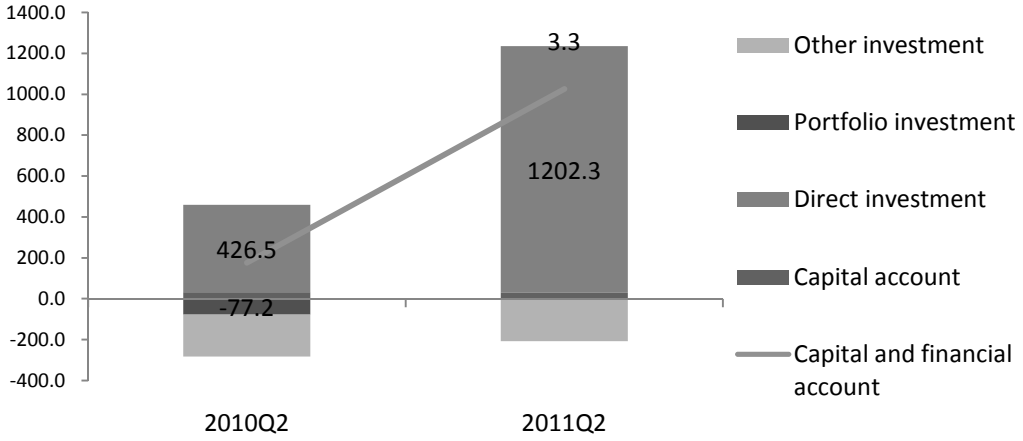
Therefore, Mongolia has a fairly open economy largely dependent on its mineral revenues.

[3] Real GDP was computed at constant 2005 prices. Current exchange rate of togrog to US dollar is 1USD:1225MN□.

2.1. Capital Flow

In recent years, mining sector development and exploration of big mining deposits significantly increased capital inflows and foreign direct investments. Capital and financial account has had a surplus since 2005 (third quarter of 2006) and its surplus is increasing. Foreign direct investment is the largest component of the capital inflows, while portfolio investment is the smallest component.

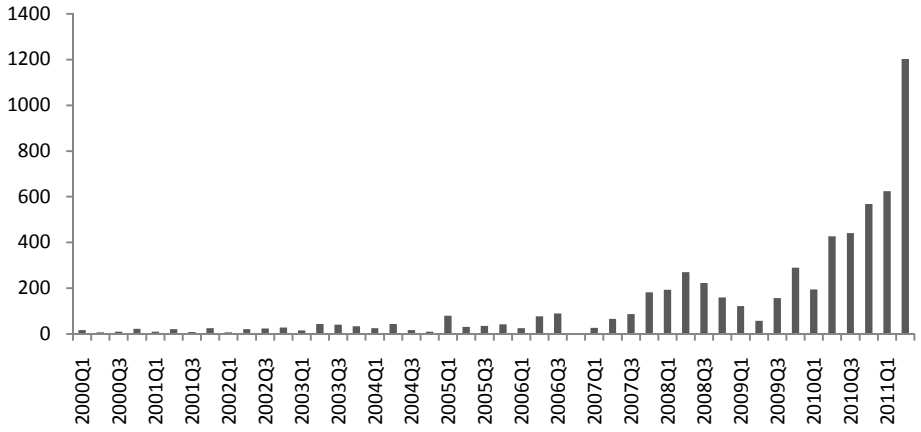
Figure 1. Composition of capital and financial account (mln. USD)



Source: Balance of Payments Statistics, BOM, 2000-2011

In the last five years, net foreign direct investment grew 8.7 times from USD191.1 million in 2006 to USD1573.6 million in 2010. As of first half of 2011, incoming foreign direct investment has increased 2.9 times year-over-year.

Figure 2. Foreign Direct Investment (mln. USD, quarterly)



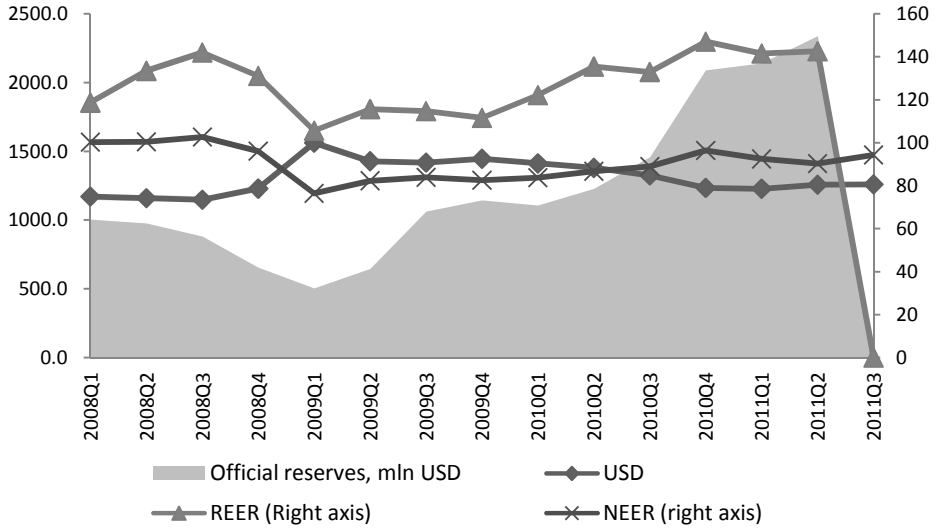
Source: Balance of Payments Statistics, BOM, 2000-2011

The mining sector is the largest recipient of FDI. As of June 2011, the share of investment in mining sector consists of 85.3 percent of total FDI. Compared to the same period of previous years 2008 and 2010, FDI inflows in mining sector increased by 8.4 and 3.9 times, respectively (BOM, 2011).

In near future, massive foreign capital inflows are expected in Mongolia due to upcoming large scale mining projects and economic growth. Currently, there are no controls and barriers on international capital movements.

This high growth in capital inflows has made upward pressure on exchange rate of togrog. Appreciation of togrog may in turn reduce competitiveness of Mongolian exports. The following graph shows real effective exchange rate index, official reserves of Bank of Mongolia and exchange rate of USD. From the graph it can be seen that official reserves are increasing significantly in the last two years and it has reached USD2339.0 million by the first half of 2011.

Figure 3. REER, Nominal Exchange Rate and Official Reserves



Source: Balance of Payments and Exchange rate Statistics, BOM, 2000-2010

The mining sector has grown into the largest sector which produces one third of economic production, generates 40 percent of national budget and occupies 60 percent of total export. The country's economy is affected by the extent of changes and movements occurred in this sector.

Although the mining sector has become a major economic sector, it is poor in diversification and directly depends on world mineral and metal markets. Majority revenue of the mining sector is generated by five minerals, only: copper concentrate, gold, coal, raw oil and zinc concentrate. By the third quarter of 2011, copper and coal have produced 65.4 percent of export revenues. Mining sector plays an exclusive role to generate budget revenue. In 2010, mining sector constitutes 40 percent of budget revenues. Despite its significant contribution to the budget revenue, mining sector makes the national budget vulnerable to world economic shocks as mineral prices are determined in the world market and frequently fluctuates due to unpredictable shocks.

Implementing a monetary policy in this new environment is a challenge for the Bank of Mongolia. On the one hand, massive capital inflow will make an upward pressure on exchange rate of togrog. This will weaken competitiveness of exports, specifically exports in non-mining sectors and may cause Dutch disease. International experiences show that Dutch disease is one of the major impacts of the large mining sector.

Large scale capital inflows in the mining sector can have both positive and negative impacts on the economy in the long run. On the one hand, an increase in capital stock and spill-over impact of investment could increase the potential output of the economy and hence promote the long run economic growth. On the other hand, massive capital inflows in the mining sector could decrease the potential output of the economy due to impacts of Dutch disease, reliance on natural resources and poor governance. However, long run impacts of FDI analysis is out of scope of this paper and we will focus only on the short run policy mixture of fiscal and monetary policy.

2.2. Legal Environment

In Mongolia, the government of Mongolia and the Bank of Mongolia are the institutions responsible for fiscal and monetary policies, respectively. In Mongolia, fiscal policy is regulated by the "Law on Public Sector Management and Finance" and the "Law on General Budget". Moreover, the Parliament of Mongolia adopted a new law, "Fiscal Stability Law" on June 24, 2010. Fiscal Stability Law is a big step towards fiscal stability as it establishes stability fund and will become effective in 2013. The law contains the following complementary rules:

- Ceiling on the "structural" deficit: Structural fiscal surplus or deficit must not be higher than 2 percent of GDP in that year.
- Ceiling on the expenditure growth: Growth rate of total government expenditure in that year should not exceed the growth rate of non mineral GDP of that year or the average growth rate of non mineral GDP of previous 12 years (which is the highest).
- Debt ceiling: Present value of government debt should not be higher than 40 percent of the GDP at current price in that year.

Functions of Bank of Mongolia (BOM) are regulated by the Law on the Central Bank, the Law on Currency Regulation and the Law on Treasure Fund. According to the Law on the Central Bank, the main objective of the BOM is to maintain stability of national currency, togrog. Moreover, BOM promotes balanced development of national economy through provision of stability for financial markets and banking system. According to the law, directions of BOM activities are the following:

- Issuing currencies into transaction;
- Formulating and implementing monetary policy ;
- Holding and management of the State's reserve of foreign currency;
- Acting as the Government fiscal intermediary;
- Supervision of banking activities;
- Organization of interbank payment and settlement

According to the Law on Currency Regulation, the Bank of Mongolia has the right to buy and sell foreign currencies and gold from domestic and foreign banks, companies, organizations and citizens in order to increase and manage the State's reserve of foreign currency. The BOM buys

and sells foreign currencies in order to provide stability of national currency. According to the Law on Treasure Fund, the BOM registers changes in the treasure fund, allocates the portfolio optimally, develops plans to purchase or sell treasures and takes it into action.

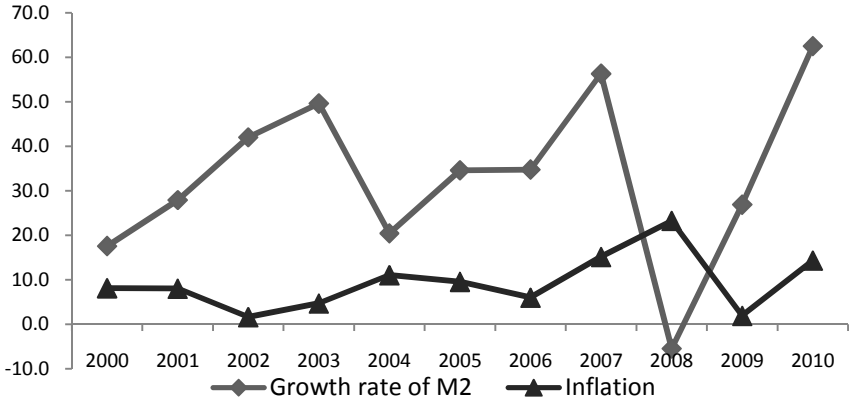
3. Overview of Fiscal and Monetary Policy in Recent Years

In this section, we will analyze fiscal and monetary policies in recent years and examine if they provided macroeconomic and financial stability in Mongolia.

3.1. Monetary Policy in 2000-2010

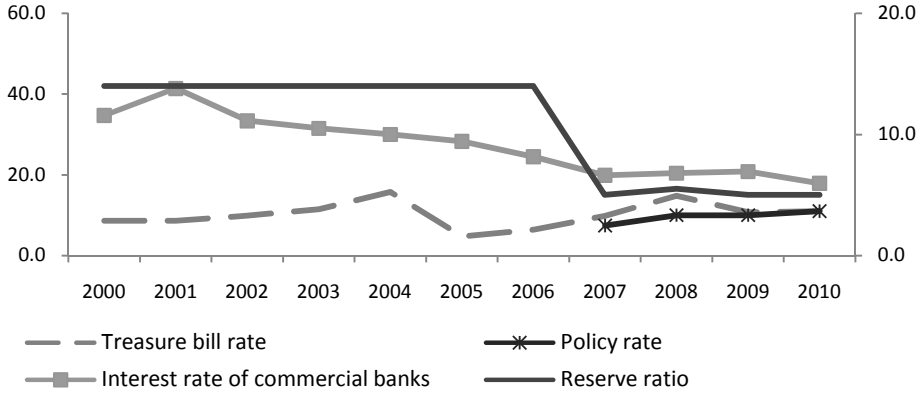
In 2000-2003, growth rate of money supply steadily increased from 20 percent to 50 percent without making inflationary pressure. During this period, main instruments of monetary policy such as, the Central Bank's bill's rate and the required reserve ratio have been stable. In 2004, an inflationary pressure had increased compared to the beginning of 2000s. Therefore, the BOM had increased the Central Bank's bill's rate and reduced growth rate of money supply to 20 percent.

Figure 4. Inflation and Growth Rate of M2



Source: Statistical Yearbook, NSO, 2005-2010; Monthly Bulletin, BOM, 2005-2010

Figure 5. Monetary Instruments



Source: Monthly Bulletin, BOM, 2000-2010

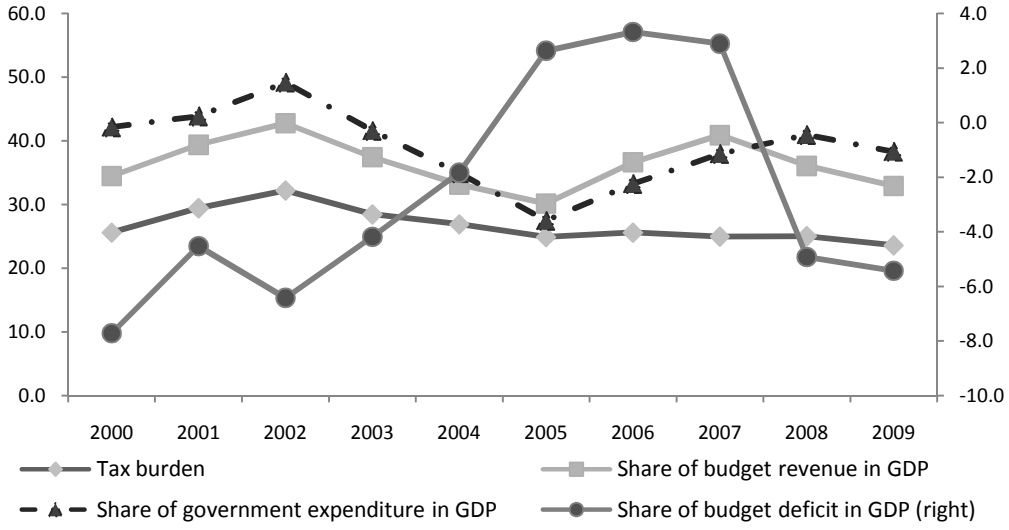
In 2005-2006, the Central Bank's bill's rate reached its lowest level (4.75-6.4 percent) and the growth rate of M2 remained constant at about 35 percent. In 2007, the required reserve ratio had declined from 14 percent to 5 percent and money supply went up by 56.3 percent. In 2008, the policy rate rose from 7.4 percent to 10.0 percent and the Central Bank's bill's rate went up from 9.9 percent to 14.8 percent. Therefore, money supply had fallen by 5.5 percent. In 2009-2010, the BOM implemented expansionary monetary policy in order to stimulate the economy. The Central

Bank's bill's rate dropped to 10.8 percent, while the policy rate remained same as before. An annual increase of the money supply was 62.5 percent and inflation went up to 14.3 percent. In February 2011, the BOM declared to increase the required reserve ratio from 5.5 percent to 9 percent in order to fight inflation.

3.2. Fiscal Policy in 2000-2010

Average annual shares of the Government total expenditure in GDP and budget deficit in GDP were 44 percent and 5.7 percent respectively. The average tax rate was already too high (28.9 percent) and the Government had to finance its deficit by foreign loans and debts. Therefore, the main goal of the Government was to reduce fiscal deficits to a target level. Since 2004, fiscal indicators improved significantly, for example the share of budget deficit in GDP declined to 1.8 percent. Between 2005 and 2007, the government had budget surpluses and annual average share in GDP was 3.0 percent. Moreover, the average tax rate had decreased to 25.6 percent. In 2005, the share of government expenditure in GDP and the average tax rate were at their lowest levels and the government had budget surpluses. Since 2006, government budget revenues had grown sharply and following the revenues government expenditures had also increased.

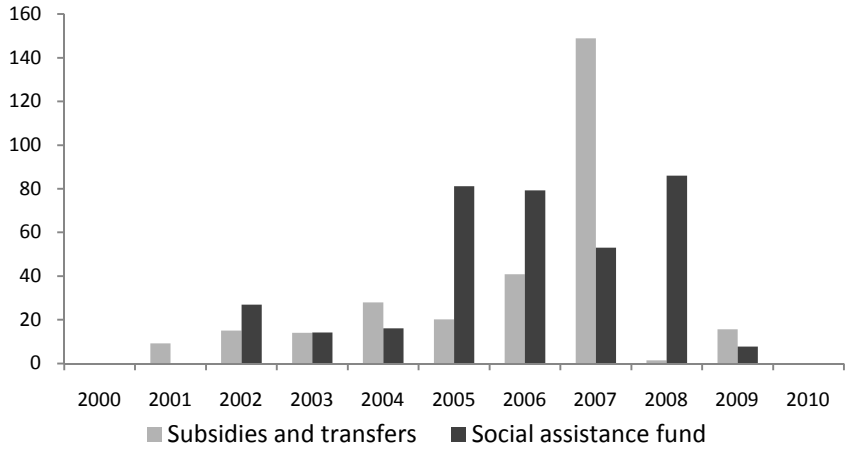
Figure 6. Fiscal Indicators



Source: Statistical Yearbook, NSO, 2005-2010

In 2007 and 2008, the government revenues increased 2.2 times and 2.6 times respectively compared to 2005. In the same years, government expenditures increased 2.3 and 3.2 times compared to 2005. This sharp increase in the government revenues was due to newly introduced windfall tax (2006) and a higher copper price. Subsidies and transfers as well as wages salaries of the government rose sharply during this period (see Figure 7.) However, in 2009, the government expenditures had decreased by 6.0 percent.

Figure 7. Annual Growth Rate of Subsidies and Transfers



Source: Statistical Yearbook, NSO, 2005-2010

3.3. Overview of the Coordination of Fiscal and Monetary Policy in Recent Years

In recent years, Mongolia has experienced expansionary fiscal policies followed by a restrictive monetary policy. During the intensive economic growth period (2006-2008), the government took measures to introduce various new subsidies, welfare programs and sharply increased wages and salaries of public servants. Expansionary fiscal and monetary policy during this period increased the aggregate demand and pushed the economy beyond its long-run equilibrium.[4] In 2007 and 2008 the inflation rate was 15.1 percent and 23.2 percent respectively. Inflation rate was substantially higher than 10 percent, the average of the last decade. At the end of the 2008, the global economic crisis had impacts on Mongolian economy. During the world economic crisis, the price of copper, key strategic product of Mongolia fell almost three times down to USD3000 per ton from its historically highest level of USD7850 per ton. The economic activities of Mongolia became slow and the economy went into a recession.[5] During this economic downturn the government needed to increase the expenditure and take measures to stabilize economy by promoting the aggregate demand.

However, the government could not expand its expenditures as budget revenues went down due to copper price decline. According to the monthly economic report of Mongolia which is issued by the World Bank, the first half of 2009 saw a reduction of 7.2 percent in total budget expenditure and net loan.[6] Therefore, fiscal policy has become a pro-cyclical policy instead of being countercyclical.

In late 2008, there has been a downward pressure on the exchange rate of togrog due to capital outflows following the economic recession. The Bank of Mongolia has tried to stabilize the exchange rate of togrog and it has intervened in the foreign exchange market. From 4th quarter of 2008 to 1st quarter of 2009, State's reserve of foreign currency has declined almost twice. Intervention without sterilization has resulted in a sharp fall in money supply growth. Therefore,

[4] "A Look into Mongolia's Inflationary Situation," Policy Note, Economic Team of the World Bank; B.Ariun- Erdene, D.Bayarmaa "Study on Overheating of Mongolian Economy" 2008.
[5] "Impacts of Global Economic Crisis on Mongolia's Economy" OSF, ETD of NUM, 2009.
[6] Mongolia Monthly Economic Update, July 2009, World Bank.

in the beginning of the recession the Bank of Mongolia has implemented tightening monetary policy instead of expansionary one. The tightening monetary policy in the beginning of the recession worsened the situation. However, allowing togrog's depreciation made monetary policy more effective and the BOM was able to increase money supply in the following quarters.

Currently Mongolia is experiencing a combination of expansive fiscal policy and restrictive monetary policy. In 2011, the planned government budget expenditure is 4084.1 billion MNT, which is 32.8 percent larger than last year. The forecasted government expenditure share in GDP is 52.1 percent. In February 2011, the Bank of Mongolia implemented restrictive measures increasing bank reserve requirement from 5percent to 9percent. Despite this restrictive monetary policy, money supply has been increasing annually by 62.5 percent in end of last year and 66.6 in last March.

4. Coordination of Monetary and Fiscal Policy in Anticipation of a Massive Capital Inflow

Monetary and fiscal policy both aim at macroeconomic and financial stability. However it is well-known fact that a change in one will influence the effectiveness of the other and thereby the overall impact of any policy changes. There is a vast literature on coordination of fiscal and monetary policies. This is not a new issue for Mongolia too as it has been discussed a lot in last few years. Analysis of coordination between fiscal and monetary policy often is based on a game theoretic view. When fiscal and monetary authorities operate independently disregarding each other, they tend to choose a policy, which maximizes their own objectives. When they play non-co-operatively, the result of the game is Nash equilibrium with high interest rate and deficit. In this type of models, co-operation strategy is Pareto dominating the Nash equilibrium outcome. But discussion of game theoretic view is out of scope of this paper. Instead our analysis of macroeconomic policy coordination will rely on the Mundell-Fleming model. We will analyze fiscal and monetary policy in the framework of the model and determine the best policy combination when massive capital inflows are anticipated. The combination of monetary and fiscal policy is the best if it provides macroeconomic and financial stability.

4.1. An Optimal Policy Mix

As described earlier, Mongolia has a free capital flow. Thus, our analysis mainly relies on the Mundell-Fleming model of a small, open economy where capital mobility is perfect. The economy is too small to affect on world price which is safe assumption to use for developing countries. In the model, macroeconomic equilibrium is established when there is simultaneous equilibrium in the goods and monetary markets and balance of payments. Anticipated massive capital inflows will increase supply on foreign exchange market, hence giving an upward pressure on the exchange rate of togrog. As mentioned earlier, the optimal mix of monetary and fiscal policy should be consistent with goals of macroeconomic and financial stability.

Massive capital inflow due to large scale mining projects will make upward pressure on exchange rate of togrog. According to the Law on Currency Regulation and Central Bank, Mongolia has a managed float exchange rate system. In this system, small changes in the exchange rate of togrog (within an accepted range) are allowed. However, if changes in the exchange rate of togrog are large enough to bring it outside the accepted range, then the Bank of Mongolia intervenes in the foreign exchange market.

Therefore, the analysis of macroeconomic policy impact will be divided into two cases: large change or small change in exchange rate.

Case 1: Capital inflows with moderate pressure on exchange rate of togrog

When pressure on exchange rate is moderate, the Bank of Mongolia will allow exchange rate to appreciate. The appreciation of togrog will reduce net exports and aggregate demand. In a flexible exchange rate system, monetary policy is more effective than the fiscal policy in terms of their impact on the aggregate demand.

Fiscal contraction will lead to lower domestic interest rate, hence, discouraging foreign capital inflows. This in turn will reduce upward pressure on domestic currency. As a result, fiscal contraction will reduce upward pressure on domestic currency and will promote net exports. However, there will be no change in the aggregate demand. On the other hand, expansionary monetary policy will reduce interest rate further discouraging foreign capital inflows, while increasing the aggregate demand. Restrictive fiscal policy along with expansionary monetary policy will minimize destabilizing impacts of large scale capital inflows and hence promote macroeconomic and financial stability.

Case 2: Capital inflows with large pressure on exchange rate of togrog

When large capital inflows give an upward pressure on the exchange rate of togrog, the Bank of Mongolia will react to this change by intervening in the foreign exchange market in order to stabilize the exchange rate of togrog. Without sterilization, this will result in increased money supply and hence expanded aggregate demand. Therefore large scale capital inflows will make monetary policy completely ineffective. However, in the fixed exchange rate system, fiscal contraction will lead to lower domestic interest rate, hence, discouraging massive foreign capital inflows. Moreover, fiscal contraction will reduce inflationary pressure due to expansionary monetary policy.

Therefore, according to the model, the optimal mix of fiscal and monetary policy for the anticipated massive capital inflows will be a mix of a restrictive fiscal policy and expansionary monetary policy.

4.2. Policy Challenges

According to our previous analysis a mix of restrictive fiscal policy and expansionary monetary policy is suitable, when large scale capital inflows are anticipated. However, increasing revenues from the large-scale mining projects tend to weaken prudence and tend to lead to bad decision making. Thus, weak fiscal discipline further complicates coordination of fiscal and monetary policies.

The government has been taking measures with anticipation of increased revenues from large scale mining projects such as Oyutolgoi and Tavantolgoi. The Parliament of Mongolia has adopted series of new laws: a Law on Development Bank (January, 2011), a Law on Budget Stability (June, 2010) and a law on Human Development Fund (November 2009). In February 2011, the government announced to issue bonds worth of 800 billion MNT to finance certain investment projects.

If we look at these policy changes there are two types of responses to anticipated increase in budget revenues due to large scale mining projects: government’s increasing temptation to fiscal expansion and improving fiscal discipline. Upcoming large scale mining projects provide fine prospect for budget revenue and makes fiscal policy less prudent. Due to the anticipated increase in budget revenues, the government tends to increase its spending. In 2010, the government established the Human Development Fund with purpose of cash transfer policy for whole population. Now every Mongolians are entitled to receive 21,000MNT (17.5USD) on a monthly basis. In 2011, the budget expenditure has increased dramatically reaching more than half of the forecasted GDP.

On the other hand, the government has established a set of regulations related to improving fiscal discipline in this new environment: the law on Development Bank and the Fiscal Stability Law. Moreover, the government is drafting a law on budget and a law on development policy planning. Major objectives of these laws and draft laws are to limit fiscal expansions with political reasons and to improve fiscal discipline by setting detailed rules for budget planning. According to these rules, budget spending must be constrained by long term-development planning.

According to the macroeconomic forecasts of the Government institutions, average annual anticipated capital inflows will be around 3 billion USD, which is almost 5 times larger than the level in 2009. Therefore, we can expect huge pressure for exchange rate appreciation of togrog due to these massive capital inflows. In the managed float system, the Bank of Mongolia is expected to intervene in foreign exchange market to stabilize exchange rate. In this environment, current mix of fiscal and monetary policy will lead to higher inflation and larger foreign reserves increasing a risk for overheating. This implies that continuation of current policy mix will be undesirable as it will destabilize the economy.

There are two better options for macroeconomic policy. First, managed floating exchange rate system with restrictive fiscal policy will prevent overheating. But current fiscal policy experiences and election in near future indicate that this policy option is impractical due to political reasons. Second, the Bank of Mongolia could give its priority to inflation and choose flexible exchange rate system. This system will neutralize fiscal policy impact on the aggregate demand. On the other hand, monetary policy can maintain price level stability[7].

On the other hand, fiscal policy has an ever increasing trend in the last decade except recent economic downturn. Recent huge fiscal enhancement mentioned above makes an upward inflationary pressure in the economy. As mentioned earlier, there are no barriers over international capital movements in Mongolia.[8] According to recent practice and international experiences, in this environment, the Bank of Mongolia has to make a hard choice between exchange rate and inflation. IMF economists suggested choosing inflation targeting over exchange rate during their recent visit[9].

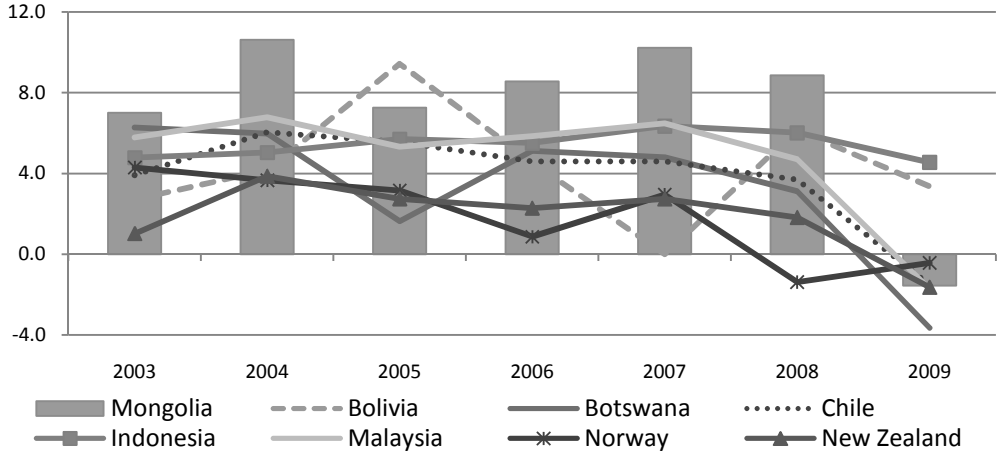
[7] According to the Consumer Confidence Survey (2010), majority of households in Ulaanbaatar are expecting inflation.
[8] Observing fiscal and monetary policy mix and its economic outcome may imply lower degree of sensitivity of capital to interest rate changes.
[9] Steven Barnett, "Mongolia: Macroeconomic Developments and Outlook", Seminar paper, NUM, Jan 2011.

5. International Experiences

There is extensive literature on the effectiveness of and coordination between macroeconomic policies in open economies. Most of studies commonly agree that policy effectiveness largely depends on institutional quality of the country. Therefore, we decided to examine macroeconomic performance and institutional quality of Mongolia comparing with that of some selected countries. We selected the Chile, Indonesia, Bolivia, Botswana, Zambia, New Zealand, Norway and Malaysia for the following reasons: Chile and Indonesia are developing countries significantly relying on copper industry. Bolivia, Botswana, and Zambia are developing countries which are highly dependent on natural resources revenues. New Zealand and Norway are developed countries that use their natural resources effectively with macroeconomic stabilization. Finally, Malaysia is a country that exports minerals with a high trade turnover like Mongolia.

First, we have had a look on macroeconomic performances in terms of economic growth and inflation. Historically, the economic growth of resource-reliant countries highly depends on volatility in commodity prices in the world market and thus, growth rates are more unstable than that of counties with more diversified industries (Sachs and Warner, 1995). In 2003-2009, Mongolia has experienced the fastest economic growth compared to these selected countries with average growth rate of 8.8 percent, except -1.6 percent decline in 2009. From the graph, Bolivia and Botswana's economies are relatively volatile than the other countries.

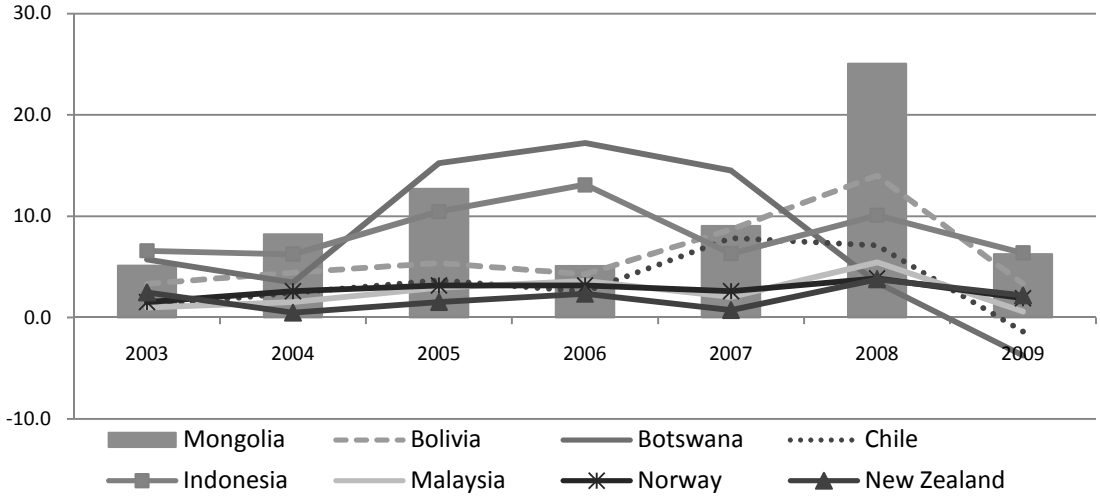
Figure 8. Growth Rates of Countries



Source: World Development Indicators, WB, 2010.

In terms of inflation, Mongolia, Indonesia and Zambia have high and volatile inflations over time. Mongolia's inflation peaked at 23.2 percent in 2008 when overheating was observed in the economy.

Figure 9. Inflation Rates of Countries



Source: World Development Indicators, WB, 2010.

Above graphs show that high inflation and volatile growth rates are common in resource-rich developing countries. With regard to money supply growth rates, budget share in GDP, and official exchange rate fluctuations, they are also instable due to price volatility in the world market of commodities (see Table A.1 and A.2 in Appendix). However, some of these countries such as Chile, Botswana, New Zealand, and Norway are as exemplary countries in the implementation of and coordination between macroeconomic policies with sound macroeconomic performances by establishing and effectively managing stabilization funds. Particularly, macroeconomic performance in resource-rich countries is considerably unstable with volatility in commodity prices. Countries with stabilization funds will be able to use funds to mitigate the effect of commodity price downswings. However, a successful implementation of stabilization funds depends on many things. According to Bagattini (2011), political stability, independence of civil society and policy transparency and accountability are crucial to the functioning of stabilization fund. Moreover, coordination between fiscal and monetary policies largely depends on exchange rate regime, the independency of the Central bank, fiscal policy rules and policy transparency. In the literature, it is widely agreed that countries scoring lower in institutional quality and less transparency in fiscal and monetary policies have encountered with macroeconomic instability and high risk of resource curse (Leite and Weidmann, 1999 and Mehlum et al. 2006). From experiences of countries displaying macroeconomic stability with sound coordination between macroeconomic policies, it can be concluded that fiscal rule is an effective policy tool when macroeconomic long-term development planning has been used together (Lange and Wright, 2002 and Garcia et al. 2005). The rules and objectives of monetary and fiscal policies, exchange rate regimes that countries are maintaining, and transparency of policies of selected countries are summarized in the table A.3 in Appendix. It can be said that countries which are considered as exemplary in terms of macroeconomic performances have flexible exchange rate regimes where price stability is main objective of monetary policy and transparency in fiscal and monetary policies with long- or medium-term planning. Moreover, these countries have experienced improvement in governance indicators over time (see table A.4 in Appendix).

In case of Mongolia, the exchange rate regime is managed float. Fiscal Stability Law and National Development Strategy are together expected to be used in the long-term planning.

However, from the data on institutional quality and transparency, Mongolia has scored the lowest among selected countries. Thus, without making significant advances in institutional quality and transparency, Mongolia will be having further challenges for effectiveness of and coordination between macroeconomic policies.

6. Conclusion

According to the macroeconomic forecasts of the Government institutions, average annual anticipated capital inflows will be around 3 billion USD, which is almost 5 times larger than the level in 2009. Therefore, we can expect huge pressure for exchange rate appreciation of togrog due to these massive capital inflows. In the managed float system, the Bank of Mongolia is expected to intervene in foreign exchange market to stabilize exchange rate. In this environment, expansionary fiscal policy with ineffective monetary policy will expand the aggregate demand increasing inflationary pressure in the economy. Hence, there is a risk for overheating. This implies that the current policy mix is undesirable as it destabilizes the economy.

There are two better options for macroeconomic policy. First, managed floating exchange rate system with restrictive fiscal policy will prevent overheating. But current fiscal policy experiences and election in near future indicate that this policy option is impractical due to political reasons. Second, the Bank of Mongolia could give its priority to inflation and choose flexible exchange rate system. This system will neutralize fiscal policy impact on the aggregate demand. On the other hand, monetary policy can maintain price level stability.

References

Abdelal, R. and Alfaro, L. “Capital and Control: Lessons from Malaysia”. Challenge 4, Jul/Aug. 2003: vol 46. 36–53.

Ariun-Erdene. B, and Bayarmaa. D. “Study on Overheating of the Mongolian Economy”. Ulaanbaatar. 2008.

“A Review of Environmental and Social Impact in the Mining Sector: Mongolia”. Discussion paper. The World Bank. 2006.

Bagattini, G.Y. “The Political Economy of Stabilization Funds: Measuring Their Success in Resource Dependent Countries”. IDS Working Paper 356. Institute of Development Studies at the University of Sussex Oct. 2011.

“Balance of Payments Statistics”. Bank of Mongolia. 2000-2010.

Charles. H et al. “Mongolia Mining Sector: Managing the Future”. 2003.

“Developing Trend of Mineral Sector”. Mineral Resources Authority of Mongolia. Jun. 2009.

Economic Team of the World Bank. “A Look into Mongolia’s Inflationary Situation”. A Policy Note. 2008.

“Exchange Rate Statistics”. Bank of Mongolia. 2000-2010.

“Financial Standards Report Bolivia”. Financial Standards Foundation. Sep. 2010.

“Financial Standards Report Chile”. Financial Standards Foundation. Aug. 2010.

“Financial Standards Report Malaysia”. Financial Standards Foundation. Aug. 2010.

“Financial Standards Report Indonesia”. Financial Standards Foundation. Nov. 2009.

“Financial Standards Report New Zealand”. Financial Standards Foundation. Apr. 2009.

“Financial Standards Report Norway”. Financial Standards Foundation. May. 2009.

Garcia, M., Garcia. P., and Piedrabuena. B. “Fiscal and Monetary Policy Rules: The Recent Chilean Experience. Working Paper 340. Bank of Chile. 2005.

Kaplan, E. and Rodrik.D. “Do the Malaysian Capital Controls Work?”. NBER Working Paper 8148. 2001.

Khashchuluun.Ch. “Economic Diversification of Mongolia: Drafting a Strategy”, Presentation at the World Bank Conference. 2009.

Kydland, F. and Prescott, E. “Rules Rather than Discretion: The Inconsistency of Optimal Plans”. Journal of Political Economy 85. 1977: 473–90.

“Impacts of global economic crisis on the Mongolian economy”. Open Society Forum and the Department of Economics, NUM. 2009.

“Institutional Aspects of Macroeconomic Policy Co-ordination in MEFMI Member Countries Vol. 2: Illustrative country analyses Botswana, Uganda and Zambia, Harare, Zimbabwe”. Macroeconomic and Financial Management Institute of Eastern and Southern Africa. 2001.

Lange, G-M and Wright, M. “Sustainable Development in Mineral Economies: The Example of Botswana”, CEEPA Discussion Paper 3. 2002.

Leite, C. and Weidmann, J. “Does Mother Nature Corrupt? Natural Resources, Corruption and Economic Growth”. IMF Working Paper WP/99/85. 1999.

Mehlum, H., Moene, K. and Torvik, R. “Curses by Resources or Institutions?”. The World Economy. 2006: 1117–1131.

Mehlum, H., Moene, K. and Torvik, R. “Institutions and the Resource Curse”. University of Oslo, Department of Economics. 2002.

“Mongolia Monthly Economic Update”. The World Bank, Dec. 2009.

"Proposal on Main Principles of Monetary Policy in 2012". Bank of Mongolia. 2011 <http://www.mongolbank.mn/documents/guidelinesproject/2012.pdf>

Rodrik, D.; Subramanian, A. and Trebbi, F. "Institutions Rule: The Primacy of Institutions over Integration and Geography in Development". NBER Working Paper 9305. 2002.

Sachs, J. D. and Warner, A. M. "Natural Resource Abundance and Economic Growth". HIID Development Discussion Paper 517a. 1995.

Sachs, J. D. and Warner, A. M. "The Curse of Natural Resources". European Economic Review 45. 2005: 827–38.

"Statistical Yearbooks". National Statistical Office of Mongolia. 2005-2009.

Appendix

Table A1. Main Macroeconomic Indicators

	Bolivia	Botswana	Chile	Indonesia	Malaysia	Mongolia	Norway	New Zealand	Zambia
					GDP growth (annual)				
2003	2.7	6.3	3.9	4.8	5.8	7.0	4.3	1.0	5.1
2004	4.2	6.0	6.0	5.0	6.8	10.6	3.7	3.9	5.4
2005	9.4	1.6	5.6	5.7	5.3	7.3	3.2	2.7	5.2
2006	4.6	5.1	4.6	5.5	5.8	8.6	0.9	2.3	6.2
2007	0.0	4.8	4.6	6.3	6.5	10.2	2.9	2.7	6.2
2008	6.1	3.1	3.7	6.0	4.7	8.9	-1.4	1.8	5.8
2009	3.4	-3.7	-1.5	4.5	-1.7	-1.6	-0.4	-1.6	6.4
					Trade balance (percent of GDP)				
2003	0.9	5.7	-1.1	3.5	12.1	-6.8	-3.7	12.3	-14.5
2004	3.8	3.5	2.2	0.6	12.1	3.5	-5.6	12.8	-7.6
2005	6.5	15.2	1.2	0.1	14.5	3.7	-7.9	16.2	-8.3
2006	11.5	17.2	4.9	3.0	16.7	7.1	-8.1	17.3	1.2
2007	12.1	14.5	4.5	2.4	16.0	4.4	-7.7	15.6	-6.1
2008	12.0	3.5	-1.5	0.0	17.5	-13.1	-9.7	17.8	-7.2
2009	4.7	-3.7	2.6	2.0	16.5	-8.1	-2.9	13.1	-3.2
					Trade/GDP				
2003	52.0	79.7	68.9	53.6	194.2	132.5	57.2	67.6	69.8
2004	57.5	81.1	72.3	59.8	210.4	144.1	57.9	70.5	81.1
2005	66.6	85.7	74.1	64.0	212.1	132.5	57.0	72.8	71.5
2006	70.7	77.7	76.5	56.7	210.5	125.0	58.7	74.8	68.8
2007	76.1	82.9	80.5	54.8	199.4	130.0	57.4	76.2	77.7
2008	82.9	83.7	85.7	58.5	183.6	128.7	62.7	77.3	70.8
2009	68.6	78.2	68.5	45.5	171.3	118.5	54.7	69.4	67.8
					Government expenditure (percent of GDP)				
2003	32.0	38.9	n/a	19.7	30.7	37.1	31.2	47.8	30.8
2004	32.3	35.9	n/a	19.9	28.3	35.0	31.3	45.1	26.6
2005	33.2	31.6	21.1	18.8	26.6	27.5	32.6	41.9	26.1
2006	29.8	28.9	19.7	20.1	27.1	26.2	32.5	40.3	23.5
2007	31.8	31.1	20.4	20.3	28.0	35.3	31.1	41.0	24.3
2008	34.6	39.3	22.8	21.3	29.0	37.6	32.9	40.4	23.8
2009	35.5	45.8	26.4	18.3	33.0	35.2	34.4	46.1	21.4

Source: World Development Indicators, 2010, WB

Table A2. Main Financial Sector Indicators

	Bolivia	Botswana	Chile	Indonesia	Malaysia	Mongolia	Norway	New Zealand	Zambia
					Broad money growth				
2003	13.5	14.3	-0.5	8.4	8.6	49.6	9.5	3.4	25.0
2004	-7.3	10.7	9.6	8.4	12.7	20.4	3.5		32.0
2005	17.1	14.4	9.9	16.3	8.8	34.6	9.5		3.3
2006	24.0	9.0	20.6	14.9	13.6	34.8	11.3		44.0
2007	26.2	31.5	18.8	19.3	7.9	56.3	11.1		25.3
2008	22.7	21.5	10.8	14.9	10.5	-5.5	10.4		23.2
2009	11.8	-1.3	1.3	13.0	7.7	26.9	-0.6		7.7
					Interest rate				
2003	10.7	19.1	0.0	10.9	2.9	20.1	6.1	1.7	16.6
2004	6.0	4.1	-2.2	5.1	0.0	12.2	5.7	-1.2	10.1
2005	15.4	5.8	-0.8	-0.2	1.3	8.4	7.9	-4.2	9.4
2006	-1.8	-2.3	-3.9	1.7	2.5	3.1	6.6	-3.5	8.6
2007	0.5	5.3	3.1	2.3	1.4	8.5	6.4	4.2	6.3
2008	3.2	-0.4	12.9	-3.9	-3.7	-1.5	8.7	-2.4	6.8
2009	15.1	20.6	2.9	5.6	12.6	21.3	8.6	8.7	8.3
					Inflation				
2003	3.3	9.2	1.1	6.6	1.0	5.1	1.5	2.5	21.4
2004	4.4	6.9	2.4	6.2	1.5	8.2	2.6	0.5	18.0
2005	5.4	8.6	3.7	10.5	3.0	12.7	3.2	1.5	18.3
2006	4.3	11.6	2.6	13.1	3.6	5.1	3.2	2.3	9.0
2007	8.7	7.1	7.8	6.3	2.0	9.0	2.6	0.7	10.7
2008	14.0	12.7	7.1	10.1	5.4	25.1	3.9	3.8	12.4
2009	3.3	8.0	-1.4	6.4	0.6	6.3	1.9	2.2	13.4
					Official exchange rate				
2003	7.7	4.9	691.4	8577.1	3.8	1146.5	1.7	7.1	4733.3
2004	7.9	4.7	609.5	8938.9	3.8	1185.3	1.5	6.7	4778.9
2005	8.1	5.1	559.8	9704.7	3.8	1205.2	1.4	6.4	4463.5
2006	8.0	5.8	530.3	9159.3	3.7	1179.7	1.5	6.4	3603.1
2007	7.9	6.1	522.5	9141.0	3.4	1170.4	1.4	5.9	4002.5
2008	7.2	6.8	522.5	9699.0	3.3	1165.8	1.4	5.6	3745.7
2009	7.0	7.2	560.9	10389.9	3.5	1437.8	1.6	6.3	5046.1

Source: World Development Indicators, 2010, WB

Table A.3. Rules and objectives of policies, exchange rate regimes and policy transparency

Countries	Rules and objectives of monetary policy	Exchange rate regime and capital flow	Fiscal policy rules and macroeconomic planning	Transparency of policies
Bolivia	Low inflation and stable exchange rate	Fixed exchange rate	No fiscal policy rule	No transparency
Botswana	Low inflation and stable exchange rate	Crawling broad band Capital flow – free	Fiscal rule budgetary mechanism National Development Plan	Partially transparent
Chile	Inflation targeting	Freely float Capital flow – free	Fiscal Stability Law Socio-Economic Development Plan	Transparent
Indonesia	Price stability, Lender of last resort, Regulation and supervision of banking sector	Managed float with occasional intervention Capital flow-light control	National Development Strategy	Less transparent
Malaysia	Price stability	Pegged Capital control	No clear fiscal policy rule National Development Policy	Less transparent
Mongolia	National currency stability (main goal is price stability)	Managed float Capital flow – free	Fiscal Stability Law (will become effective 2013) Medium Term Fiscal Framework National Development Strategy based on MDG	Partially transparent
Norway	Steady inflation and stable exchange rate	Freely float Capital flow – free	Medium Term Fiscal Framework	Transparent
New Zealand	Inflation targeting	Freely float Capital flow – free	Fiscal Responsibility Act	Transparent
Zambia	Low inflation and stable exchange rate	Managed float	Financial Act (control inflation)	Less transparent

Table A.4. Governance Indicators and Open Budget Index

Economy	VA09	PV09	GE09	RQ09	RL09	CC09	OBI
BOLIVIA	46	20	28	18	10	28	13
BOTSWANA	59	80	70	69	67	76	51
CHILE	75	69	86	94	88	90	72
INDONESIA	48	24	47	43	34	28	51
MALAYSIA	31	47	80	60	65	58	39
MONGOLIA	**49**	**55**	**23**	**40**	**43**	**24**	**60**
NEW ZEALAND	97	85	98	99	99	100	90
NORWAY	100	92	95	91	99	95	83
ZAMBIA	39	64	30	36	38	37	36

Source: Governance indicators 2009, WB, and Open Budget Index, IBP