

“Macroeconomic aspects of a an economy in transition”

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Motivation

The project is a direct continuation of several more specific projects, which have been lead by us during the last five academic years. Those projects were dedicated to the analysis of the real exchange rate behavior, optimal monetary and fiscal policy, and capital flows, as well as estimation of important parameters for the Russian macroeconomy. Although these projects resulted in about 25 master theses already, we feel that the projects raised more questions than have been answered.

The questions that remain unanswered concern a wide range of macroeconomic issues, and therefore the title of the proposed project has such a broad scope. The basic idea is to continue work towards better understanding of the structure of the Russian economy, and optimal policies that need to be implemented in order to achieve faster long-term growth. The structure of the Russian economy is particularly interesting in several respects, most notably, due to its heavy dependence on the natural resource sector, and poorly developed financial markets. These particularities deem many results obtained for other countries unsuitable for Russia or, at least, they demand that all such results be re-checked. Among the issues that have been addressed already by us are the primary driving forces behind the real exchange rate movements, the optimality of central bank’s reaction to these movements, the inflationary consequences of real exchange rate targeting, the equilibrium current account, etc. Among the most important empirical investigation that have been performed are estimations of the monetary policy rule, of elasticity of substitution between major categories of goods and services, and the decomposition of the real exchange rate movements into those explained by non-traded goods and those explained by deviations from the law of one price.

Description of the project themes

Remedies for the Dutch disease: long-term policies

The natural resource orientation of the Russian economy has been long-recognized as a problem that needs to be dealt with. At least two reasons exist why excessive dependence on export of raw

materials may create structural long-term problems. First reason is that oil and other raw materials may eventually end. This means that the wealth of the nation can suddenly dwindle, leaving the country in search of new methods of earning income. What is worse, during the time of oil-dependence a country can actually lose skills of manufacturing production, which take time to develop. Hence, after the oil revenues run out, the country can enter a phase of a long and painful depression with the need to spend a lot of scarce resources on creation of own manufacturing industry. This brings us to the second and, perhaps, the more severe problem associated with excessive oil-dependence. Exports of raw materials create a wealth effect, which pushes up the real exchange rate and real wages. As a result, tradable goods sectors of the economy suffer and the non-oil sector converges to one based on services. An economy of this kind does not generate demand for education and research and development, and therefore will have slower technological progress. As a result, economic development will be slow.

These problems have been recognized for some time now, and certain remedies have been proposed, including creation of a stabilization fund, and corrective taxation in order to make manufacturing industries more appealing. These treatments, however, need to be studied further. Namely, a great deal of work can be done in regards to development of an optimal taxation structure for an economy sick with Dutch disease. One option is to give tax incentive to innovating firms. A standard criticism of this approach is that it creates possibilities for corruption and tax evasion, as companies will pay bribes to be enlisted as “innovating” firms. This problem needs to be investigated further, both in terms of theoretical modeling and international experience. Possibly, such research can help quantify such risks.

If one accepts the point of view that targeted tax incentives are implausible from the point of view of administration, it then makes sense to study the optimal structure of the tax system within the list of conventional taxes. For example, there has been a recent debate on the topic, which tax should be cut if the government decides to reduce the tax burden on the economy: value added or profit tax. Again, a model of a resource dependent economy can help answer this question.

Short-term policy issues

Besides being prone to long-term structural problems, an oil-dependent economy has a task of dealing with short-term shocks, associated with fluctuating price of raw materials. Although much

of these fluctuations can be neutralized through a stabilization fund, monetary policy is typically expected to deal with them as well. A big problem in determining the optimal monetary policy, however, has to do with the lack of a clear picture of what the objective function of a central bank should be. This problem exists both in the general economic framework, and in the framework of an oil-dependent economy in particular. A typical approach in the literature has been to assume that the central bank is supposed to minimize a weighted average of the variance of inflation and output. Such a choice is plausible empirically, and theories have been developed to derive such an objective as part of an optimal policy. However, this rule ignores a number of aspects, which have been recognized in the literature as well. Namely, the objective ignores fluctuations in the real exchange rate, while it has been recognized that fluctuations of this variable can be harmful. Furthermore, it has been documented that many central banks, including the Bank of Russia, do pay attention to the real exchange rate. Therefore, it seems appealing to derive an objective function for the central bank from first principles, in which several additional variables can enter.

Such a task can be accomplished by writing down an endogenous growth model along the lines of the models introduced in a series of papers by Philippe Aghion and co-authors, in which fluctuations in a variable can lead to financial distress of firms, leading to reduced investment in the long-term. Such models can unify the explanations for the importance of heeding fluctuations in inflation, output, and the real exchange rate, and give optimal weights for these variables in the central bank's objective function.

Another theoretical (and partially empirical) exercise that needs to be done in regards to the monetary policy in such setting is the derivation and evaluation of the short-term trade-off between inflation and the real exchange rate. The long-term trade-off has been assessed by us in previous projects, but in the short run the sacrifice ratio can be lower. This trade-off will give a constraint faced by the Bank of Russia, which is necessary to know in order to perform maximization of the objective described above.

Empirical studies on monetary policy

Several intriguing questions regarding monetary policy demand an empirical investigation.

First, it is interesting to find out how exactly monetary policy decisions make their way through the Russian economy. This is especially interesting in light of the fact that the Russian inter-bank loans market is very thin and the Russian banking system overall is very small. Hence, standard stories about the change in the cost of lending may be much less appropriate. This is mostly an empirical question, and quantification of the effects of the changes in monetary policy stance seems to be very important.

Second, as the amount of available data grows with time, it may become possible to investigate the real effects of monetary policy empirically. Namely, it would be interesting to identify monetary movements unassociated with reactions to observed economic development, and see what kind of exogenous effect they may have on some real variables, most notably the real exchange rate.

Additional possible topics can be found below.

Possible paper titles.

Within the project, students can write theses on a wide variety of topics, both empirical and theoretical.

Potential theoretical questions include:

- 1) Derivation of the objective function of the Bank of Russia
- 2) Optimal taxation policy for a natural resource based economy
- 3) Targeted tax incentives and tax evasion
- 4) The short-term trade-off between the real exchange rate and inflation

Potential empirical questions include:

- 1) Monetary policy transmission mechanism
- 2) Effect of monetary policy on the economy
- 3) Monetary policy transmission across countries of the former Soviet Union
- 4) Determination of inflation sources in Russia
- 5) Are Russian shocks national or regional?

6) Arguments for and against a monetary union between Russia and Belarus?

Bibliography.

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