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INFLUENCE OF THE BRETTON WOODS INSTITUTIONS ON ECONOMIC GROWTH: LITERATURE SURVEY FOR TRANSITIONAL ECONOMIC SYSTEMS

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ABSTRACT. The countries with the economies in transition to market system are usually treated the same as the other countries with different institutional systems. The same case is with the Bretton Woods Institutions that, while offering their financial assistance, impose advices commonly considered as identical to the approaches they use to other countries. This idea led to the discussion whether International Monetary Fund, World Bank and World Trade Organization really have positive effect on the economic growth of the countries in transition. This paper offers detailed literature survey on the discussion and suggests the methodological framework for the actual estimation of the Bretton Woods Institutions' influence on the economic growth of the transitional countries.

JEL Classification: F43, P2

Keywords: transitional economies, economic growth, Bretton Woods institutions, methodology, literature survey.

Introduction

There is a general consensus in the economic literature about the positive dependence between the liberalization and the economic growth. However, there is no unanimity in the questions of the more specific characteristics of the liberalization, such as particular levels of economic openness and free capital flow, market and government institutions' role, its outcomes in the democratic and authoritarian societies. Even more discussions arise about the efficiency of the Bretton Woods system, which is believed to regulate the global liberalization processes.

Transitional economic systems that emerged after the collapse of the Soviet Union and the fall of the Berlin Wall are classified as developing countries with open economy. In the first years of their economic sovereignty they decided to become the members of the Bretton Woods institutions (BW). The nature of their economic systems is quite different from the systems of other developing countries, even though the main macroeconomic characteristics look similar, for instance, to ones in the Latin America.

The evolution of the BW itself shows the changes of the global market philosophy. The last two decades also known as a period of Washington Consensus (1989-2009), proved the need of the deep changes in their organizational form and the principles of their operation.

Difficulties in the WTO Development round negotiations as wells as the recent attempts to reform IMF and WB by G20 are the examples of the Bretton Woods institutions' response to the new global challenges.

There are no reasons to reject the shortcomings of the contemporary global market regulation system formed by BW. The critics of the system developed fundamental arguments in their works. Maybe the most prominent critic Joseph Stiglitz in his works accuses IMF in Russia's failed conversion to the market economy (Stiglitz, 2002). On the other hand there is no reason to blame "market fundamentalism" led by IMF and WB for the all "things that have gone wrong" (Dawson, 2002). Indeed, some results of the empiric analysis prove that the effect of the liberalization, promoted by the BW, is not the crucial one and the power of government and market institutions are the determinant factors of the economic growth in the countries with transitional economies (Popov, 2007).

In addition to the direct influence of the conditionalities that have actual effect on the countries' economic policy, there are other ways of the BW's influence: technical and financial help or loan, work of the missions and advisors, results of the bilateral and multilateral negotiations with other countries within institutions, 'moral hazard' effect, geopolitical 'games' etc. The basic framework of the IMF and WB influence is shown on the *Figure 1*.

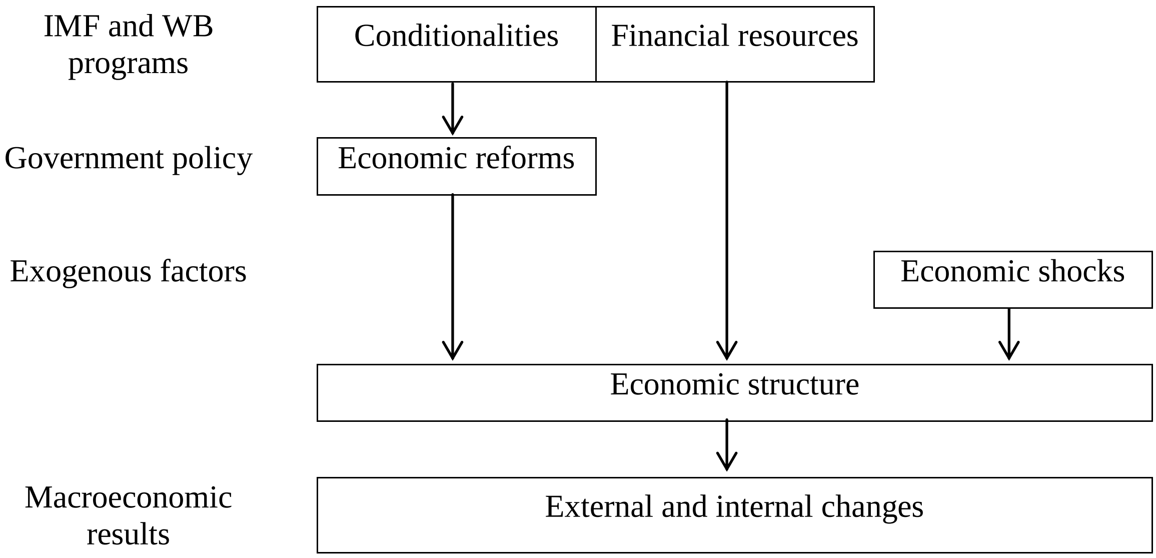

Figure 1. General framework of the IMF and WB influence on the country's economy

There are a lot of studies that analyse the effect of the IMF and WB on the economic growth of countries. Many of these are focused on the problems of economic policy change and the efficiency of the different types of liberalization processes ('shock therapy' vs. 'gradualism'). The results of the recent works concerning countries with transitional economies are quite alike and there is no place for further discussions. However, number of studies, which considers general effect of the IMF and WB on the economic growth, gives no unanimous answer for the question whether BW do really have positive or negative effect on the member countries. For this reason and because of the new developments connected to the 2008 global economic crisis we want to examine the changes in the results structure of the recent studies of the IMF, WB and WTO influence on the transitional economies, and particularly on the dynamics of their economic growth.

To be more precise, we want to determine the main framework that can be used to study the influence of BW on the dynamics of the economic growth of the countries with transitional economies during the period of Washington Consensus (1989-2009). The object of our research is the studies' general framework to analyse the influence of the BW on the dynamics of the economic growth of the transitional economic countries.

Some early studies could not find statistically significant influence of IMF on the growth, therefore we want to examine their particularities too. Also one can suggest separating influences of each organization in three different research framework and we shall do the same in this paper.

The results of our research can have a direct impact on the economic policy. We believe that the governments of the transitional economic countries for the populist reasons are evading carrying out "socially unpopular"[1] recommendations of the BW, – and this can be the main reason of the deepening of the fundamental economic problems. In this case more intensive and strict obedience of the IMF, WB and WTO experts' recommendations has to be emphasized in the future programs of the economic reforms. However, if the above statement is wrong, e.g. if BW will have statistically significant negative effect on the economic growth, an alternative policy can be recommended, based on the experience of South America countries that moved away from the IMF and WB institutions: they rely on the construction of South-South cooperation mechanisms together with Arab countries in the problem of the economic improvement after the crisis of 2008 (Romero, 2009).

Our study, surveying the previous researches and giving some new insights, will provide the framework for the study of the BW influence on the transition economies.

1. Conceptual Issues

The problem of the Bretton Woods institutions influence on the group of countries (usually Latin America and South East Asia) and the global economy in the whole is vastly researched in the world economic literature. However, there are much less open sources referring to this problem in the cases of the transitional economic systems. The majority of these studies examines either Russia or countries of the Eastern Europe and almost do not concern North Caucuses and Middle Asia. Only few works use econometric analysis for the purpose of the research.

We made a summary of some studies of the IMF and WB influence on the economic growth. One can note that despite the use of comprehensive estimation procedures there is no consensus on the 'sign' of BW influence.

Whether there is negative influence of the BW on the transitional countries at this time continues to be a matter of debate based more on the analytical framework than on estimations. Evidences from Stiglitz (2002) show that the instruments of commodity and capital market liberalization, as well as the intensive privatization, had a harmful influence on the economic system of Russia. Proponents of the negative influence often point out the IMF

[1] In general "socially unpopular" recommendations are based on the fiscal discipline concept and aimed to increase tax revenues and decrease government expenditures, including socially important: education, health care, social security etc.

There are other examples of the so called "unpopular" recommendations of BW institutions. In the notion of the IMF conditionalities one can note some recent recommendations related to the Stand-by Arrangement requested by Ukraine in 2010 **Invalid source specified**. Ukrainian society expressed its resentment regarding the following conditions:

- Increase gas tariffs for all households and utility companies by 50 percent (Memorandum of Economic and Financial Policies, paragraph 12).
- Enactment of legislation on pension reforms consistent with commitments in the Memorandum of Economic and Financial Policies, paragraph 10.
- Pass legislation to revoke the Law "On Temporary Ban to Levy Penalties on Ukraine's Citizens for Overdue Payments of Utility Bills" so that any arrears on utility payments accumulated after October 1, 2010 are subject to penalties (Memorandum of Economic and Financial Policies, paragraph 12).

failure in 1998 when the implementation of Russia's economic policy formed with the recommendations of the IMF experts led to disastrous currency devaluation and debt moratorium (Cohen & Schaefer, 1998).

In the face of such criticism, proponents of the IMF and WB positive role in the Russian economy reforms and specifically their role in the crisis of 1998 have responded in a number of ways. Odling-Smee (2004) links IMF failure in 1998 with the G-7's concerns that weakened the IMF strength during the negotiation of the Russian economic reform. However he underlines, that the IMF played a major role in the positive changes in the Russian economic system. Martin Gilman, the head of the IMF in Moscow in 1998, notes that the IMF pressure on the government without a political will of the Russian authorities could not achieve any good result (BBC.co.uk, 1999). In this manner Martinez-Vasquez, *et al.* (1999) suggests that "to some extent the disagreement arose because the IMF is focused on changing steady states somewhat ignoring the transition path, while the Russian government is preoccupied with transitional dynamics without a clearly defined steady state concept".

Particular influence of the 'post-soviet' economic reforms on the economic growth of the countries with transitional economies attracted attention of some prominent experts. Basically, their analyses are focused on the economic policy adopted under the influence of the BW. Evidently this approach provides best approximates of the real effects of the BW, however it disregards other factors of their possible influence.

At first glance it seems that the results of these studies depend on the econometric methods used in the estimations. Thus, Havrylyshyn, *et al.* (1998) defines macroeconomic stabilization, structural reform and reduction of the government expenditures as a key to achieving sustainable growth. Additionally, analysis confirmed that although adverse initial conditions hurt growth, their effect is small compared to other factors. On the contrary, Popov (2007) for the similar period found out that the main factors of economic recovery and growth of countries with transitional economies were initial conditions, macroeconomic stability and institutional capacity of the state, while speed and level of liberalization had an adverse effect. It can be noticed that only the influence of macroeconomic stability (i.e. inflation) on the economic growth is indisputable in both mentioned works.

The only (to the extent we know) econometrical study of the general IMF influence on the transitional economies (Mercer-Blackman and Unigovskaya, 2000), with sample of 19 countries for the 1994-1997 period, showed the positive influence of the Index of Fund Programs Implementation on the economic growth. However, this study had estimation problems, which authors expected to correct in their further studies.

The lack of IMF, WB and WTO influence analysis focusing on the transitional economies growth problem resulted to populist debates of the policy-makers and some Soviet Era economic experts.

Russian and Ukrainian scientists are less tolerant to the question of the IMF, WB and IMF influence on the transitional economic systems. Khoroshkovskyy (2002) refers simultaneously to the arguments of Milton Friedman, Robert Mundell, and George Soros to criticize the free flow of capital and argue to implement restrictions on the capital. However, he was more modest in his statements about IMF activities earlier (Хорошковський, 1998).

"To whom the government owes, to those it serves" was used as the argument against the IMF help in Ukraine in Ivanenko (2003) and Russia in Petrenko (Петренко, 2007), Libman (Либман, 2008) and even more sharply in Glazyev (Глазьев, 1999). This idea shows the attempts to politicize the role of the BW in the countries with transitional economies. The same conclusion makes Polkhalo (2003) arguing that the programs of the IMF, WB and WTO are widely used in the social opinion manipulations.

It is thus, important to note the limitations of the continuous debates by the economists on the problem of the real influence of the IMF, WB and WTO on the transitional economy countries, until they are not reinforced by the results of the thorough empirical investigations.

2. Methodological Framework

The methodological framework of the study of BW influence thus has to combine two stands of the literature: on economic growth of the transitional countries and on the IMF (WB and WTO[2]) programs' influence on the countries. There are two major researches for transitional economies, which developed the model of the economic growth of these countries. We consider elaborating of two economic growth models developed by Havrylyshyn, *et al.* (1998) and Åslund and Jenish (2006) into one model, taking into account also the reservations provided by Popov (2007).

Havrylyshyn, *et al.* (1998), analyzes the determinants of growth in 25 transition economies during 1990-97 using the following model of the economic growth:

$$Gr_{it} = \alpha_i + \beta_0 LNP_{it} + \beta_1 LNP_{i(t-1)} + \beta_2 LNP_{i(t-2)} + \gamma_0 Rl_{it} + \gamma_1 Rl_{i(t-1)} + \gamma_2 Rl_{i(t-2)} + \delta_0 EXP_{it} + \delta_1 EXP_{i(t-1)} + \delta_2 EXP_{i(t-2)} + \varepsilon_{it} \qquad (1)$$

$$GR_{it} = \alpha_0 + \beta_0 LNP_{it} + \gamma_0 Rl_{it} + \gamma_1 Rl_{i(t-1)} + \gamma_2 Rl_{i(t-2)} + \delta_0 EXP_{it} + \mu_0 INCOND1_i + \mu_0 INCOND2_i + \varepsilon_{it} \qquad (2)$$

where
Gr – is the growth rate of real GDP in of the *i* country in period *t*,
LNP – is the natural logarithm of inflation representing macroeconomic policies,
RI – is a structural reform index representing the level of structural reforms achieved (it can be changed in some specifications to the IFI (Mercer-Blackman and Unigovskaya, 2004)),
EXP – is the size of government, measured by general government expenditures as a percent of GDP, representing factors such as crowding out, distortions through high taxation, and large bureaucracies;
INCOND1 – the cluster of initial conditions capturing macroeconomic distortions and unfamiliarity with market processes;
INCOND2 – is respectively second cluster capturing the level of socialist development and its distortions.

Åslund and Jenish (2006), analyzed determinants of growth in 20 transition countries during 1999-04 facilitating the following model:

(3)

where
$GDP_{i(t-1)}$ – lagged per capita GDP (in logs), to control for the "catch-up" effect;
$\left(\frac{I}{GDP}\right)_{it}$ – fixed investment as a share of GDP, a measure of physical capital;
Oil – dummy for oil-producing country, to account for the effect of surging energy exports;
Corrup – corruption index, a proxy for the quality of political institutions;
CIS – regional dummy;

[2] WTO's influence will be evaluated in a more simplified way because of the nature of this institution.

I – fixed year effects variable to control for common shocks reflecting global and regional economic conditions.

Åslund and Jenish (2006) also give a short review of a huge literature on the causes of the output changes evolved. However, we are not considering this problem here.

Considering that the depended variable has to be the real annual GDP growth,all regressions, in addition to defined growth variables, have to include similar to Barro and Lee (2003) and Dreher (2005) covariates: Government consumption expenditures in percent to GDP and its lagged values; Natural logarithm of per capita GDP and its lagged values; Natural logarithm of the rate of inflation; Measures for human resources (secondary school enrollment, life expectancy, fertility rate); The growth rate of the terms of trade; Index of globalization and corruption index; Dummy for each country and each annual period, oil-producing country and CIS region.

IMF effect can be measured facilitating the following proxies: Dummy variable equal to 0 for years without program and 1 for under the program (at least 4 months of a year); IMF loans disbursed in percent of GDP; In order (0) to proxy the degree of implementation of conditionality: Index of Fund Program Implementation (IFI) developed in Mercer-Blackman and Unigovskaya (2000); Alternatively (1): number of conditions included in the IMF program Dreher (2004); Alternatively (2): dummy for suspension of IMF program constructed by Edvards (2001); Alternatively (3): share of the agreed money actually disbursed, introduced by Killick (1995); Alternatively (4): dummy equal 1 if at most 25 percent of the amount which would be available for a certain year under equal phasing remain undrawn and 0 otherwise, developed in Dreher (2003).

WB influence can be measured using (Butkiewicz and Yanikkaya, 2003; Easterly, 2005) IBRD loans disbursed in percent of GDP.

WTO effect can be measured using dummy variable equal to 0 for years before the access to WTO and 1 for years after. Also we can estimate its influence by means of separate empirical study using "Before-After" approach (Haque & Khan, 1998).

Measuring the implementation of IMF conditions is not straightforward. Since the 1990th IMF provides data on compliance with conditionality in the Monitoring Fund Arrangements (MONA) database, which contains data on the implementation of performance criteria and structural benchmarks that have been implemented under its programs. Mercer-Blackman and Unigovskaya (2000) use MONA data to give evidence on compliance in countries in transition to market economies and show the positive relationship between the index of compliance with performance criteria and growth. Of the 33 countries analyzed, only 17 implemented more than 50 percent of the structural benchmarks included under their program over the period 1993-97.

As possible determinants of programs and loans, the initial regressions have to include a big number of variables that have been suggested in the literature: the rate of monetary expansion, the overall budget deficit, general government consumption, real GDP growth, GDP per capita, the share of foreign short-term debt in total foreign debt, the total level of outstanding debt, total debt service, the rate of inflation, a country's international reserves, the current account balance, openness to trade and the LIBOR on three months credits to US banks (International Monetary Fund, 2010); the following political and social variables: the degree of democracy (Marshall & Jaggers, 2010), economic proximity to the G7, voting agreement with G7 (Barro and Lee, 2003); the degree of democracy (Marshall and Jaggers 2010); fractionalization of the legislature, proportional representation, a dummy for special interest governments, government ideological cohesion, the duration of the political regime and a measure of political instability (until 1995 (Beck, Clarke, Groff, Keefer, & Walsh, 2001)). Since the dependent variable in the program regression is binary, estimation has to be by (random effects) probit. The loan regression is estimated by OLS, with a dummy for each individual country included. To find the reliable covariates and instruments there has to be used, similarly as in Dreher (2005), a general to specific approach, consecutively eliminating the variables with the lowest t-value – and we suggest that only determinants significant at least at the ten percent level have to be employed to the regressions.

We suspect a possibility of a problem with endogeneity of the IMF variables, when estimating the regressions by OLS. Obviously, IMF programs are frequently concluded in times of economic crises. The effect reported for the program variable might thus not reflect the consequences of the program itself but those of the underlying crisis. In other words, there might be a selection problem. The same is true for the amount of money disbursed, which probably rises with the severity of the crisis. In order to solve this problem the instruments for IMF programs and (net) credits disbursed have to be used. Economic literature typically employs variable measuring voting in the UN General Assembly (Dreher and Sturm, 2005).

Following to in line with Haque and Khan survey (1998), we will derive the methological framework of the econometric research in order to get the unbiased estimations of the BW influence on the economic growth. The very first approach used for similar estimationswas called "Before-After" approach, which compares the macroeconomic performance under a policy (or after it has been initiated) and performance prior to the policy. The main problem of the approach is that it assumes all other conditions to remain equal and not yielding an estimate. Therefore one cannot distinguish between policy and non-policy changes of macroeconomic outcomes.

The next method used extensively in the literature in order to estimate the impact of policy changes, called "With-Without" approach, compares the macroeconomic performance in countries with policy in action and performance in a "control group" of non-policy countries. The main problem related to it is that the policy countries can and do differ systematically from non-policy countries prior to start of policy. Countries with economics in transit have very specific institutional structure even though they can be similar in terms of macroeconomic data with the other countries.

The last method vastly used in the recent studies is a regression-based Generalized Evaluation Estimator approach. A researcher, who employs this method, compares performance in policy and non-policy countries adjusting for differences in initial conditions among the countries and controlling for exogenous influences. The main issue of this approach, while it is not easily implemented, is the need of a substantial amount of data in order to analyze empirical relationships.

In order to derive it, we have to assume:

(4)

$$\Delta x_i = \gamma'[y_i^d - (y_i)_{-1}] + \eta_I \qquad (5)$$

Then (by substituting x_i)

$$\Delta y_{ij} = \beta_{0ij} - (y_{ij})_{-1}\,(\gamma'\beta_j + 1) + (x'_i)_{-1}\beta_j + w'\alpha_j + \beta_j^{IMF} d_i + (\varepsilon_{ij} + \eta_i\beta_j) \qquad (6)$$

or same in a reduced form

(7)

where the predetermined, policy and other exogenous variables have been combined into single vector Z'. Θ defines the vectors of parameters that are to be estimated.

We face a problem of nonrandom selection – countries are not randomly selected to participate in the policy program. We assume that countries have continuous and measurable desire to participate in policy program, F_i, that unfortunately is unobservable. We identify a policy program participation function which relates this F_i to observable variables

(8)

(9)

where, W'_{ij} is the vector of country characteristics that determine a country's decision to participate the policy program.

The disturbance terms in the participation and the target variables are assumed to be correlated.

(10)

or using the conditional distribution of the normal density , conditional on participation in the policy programs:

, for policies in action

otherwise

Thus, the difference between the expected values:

(11)

where Φ and ϕ are the standard normal distribution and density function.

The estimation algorithm is rather straight forward. A researcher has to estimate the developed equation by probit. Basing on the results selectivity variable from the probit (λ) can be calculated and added as an additional variable in the generalized evaluation method estimations. The elaborated equation has to be used to estimate the impact of the policy and tested for its significance. Heteroscedasticitycorrection has to be made to obtain the correct variance matrix.

Conclusion

The problem of Bretton Woods Institutions' influence is vastly discussed in the world economic communities. This discussion has its own particularities in the countries with transitional economies:

1. Arguments in discussion are often political and rarely economic;
2. There are virtually no econometric estimations done calculating the actual influence of IMF, WB or WTO on the countries;
3. Main investigations were done for modelling the economic growth of the countries, and they included liberalization or reform indexes as proxies for the BW influence.

The methodology that can be used to estimate the actual influence of the BW institutions is still being under development, however the major concepts are already defined. Recent studies used the general evaluation estimation approach, which is based on the regressions. The main methodological conclusions can be noted as follows:

1. The methodology of the estimation is complicated for implementation and need a comprehensive database;
2. Even though the suggested approach offers unbiased results, the actual estimator has to be interpreted with caution.

The expected next step of this survey is to conduct the actual econometric research based on the developed framework.

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