

# Problems on Reforming Macro Economical Institutions in Post-crisis Period

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The paper is discussing performance of major macroeconomic institutions in the course of the world economic crisis. In particular, analyzed are various aspects of monetary policy, including various regimes of exchange rates. Approaches to measuring independence of central banks are considered exemplified by estimation of independence of the Central Bank of Azerbaijan. Amendments to the area of responsibility and policies of central banks are suggested with account of the crisis lessons.

*Key words: macroeconomic institutions, financial crisis, monetary policy regime, central bank independence.*

The definition “macroeconomic institutions” is utilized in economic literature in various meanings. In a number of cases it is used to designate entities affiliated to executive power, the activity of which (decisions taken, regulatory measures taken) changes the structure of gains and losses of the considerable number of economic agents or the economic agents owning in sum significant – from the standpoint of economy scales – volumes of resources. Key macroeconomic institutions are the ministry of finance (budgeting-tax authorities) and regulatory bodies (the agency on supervision over financial system etc). Another definition of “macroeconomic institutions” implies a set of rules under which authorities responsible for development and realization of macroeconomic policy are obliged to align their activity.

Importance of formation of macroeconomic institutions is illustrated in particular through the classic challenge of inconsistency of measures of macroeconomic policy depending on timing. This topic was first highlighted by the Nobel prize winners F.Kydland and E.Prescott in 1977 [1] who showed that in short-run monetary authorities not constrained with commitments to maintain low level of inflation are seduced to decrease unemployment through increase of inflation. However, since to decrease level of unemployment lower than equilibrium level is only possible in a short-run, the result in a long-run is a higher inflation with the same level of unemployment. The problem of rules observance may be described as the problem of moral risk and unreliable promises. The analogue situation occurs in the taxation area: today a government may promise tax easing aiming at investment attraction, but tomorrow – high tax rates may be applied to immobile capital. The problem of sequence

in application of rules has been touched upon in subsequent works in macro economy and found its decision through introduction of rules limiting freedom of actions of economic authorities.

The Ministry of Finance as a macroeconomic institution pursues a budget policy. In periods of economy boom budget income is high and government expenditures are accelerated. In periods of economic downturn observed is a reverse picture: expenses sharply decrease, enhancing negative consequences. One of the means to soften negative consequences of pro-cyclical fiscal policy is creation of transparent rules on resources spending that have to prevent reservation of excessive debt commitments for future generations. Presently, many countries introduced constraints to the size of budget deficit and the size of governmental debt.

The specifics of budgeting rules in oil producing countries are mechanisms of formation and use of oil funds. In some countries all revenues of government are directed to such funds, in others “excessive” oil revenues are generated from override of oil prices from a certain standard level. Currently, all leading oil producing countries including Azerbaijan, Venezuela, Iran, Kazakhstan, Russia, Saudi Arabia have such funds. At the end of 2009 total accumulated funds of these funds equaled to USD 3.8 billion.

Effective performance of macroeconomic institutions is one of the key conditions of successful economy growth and its stability. The world financial-economic crisis revealed fundamental problems of these institutions. Despite withstanding the crisis test, there is a task to identify which lessons may be learnt from it the purpose being improvement of these institutions.

***Directions of macroeconomic policy.*** Key direction of macroeconomic policy of central banks is exchange rate policy. Thus, e.g. the policy of free floating rate and fixed exchange rate do not leave any space for a central bank to take own decisions against currency correlations. By contrast, interim regime – regulated floating rate provides flexibility of exchange rate policy of the central bank, makes it advantageously discrete (frequently the actual regime differs from formally announced regime of exchange rate).

Recently inflation targeting has been widely applied. Its application closely connected with selection of exchange rate regime. On the one hand, required is rather high flexibility of exchange rate, on the other hand, denial of its regulation leads to importance of an alternative anchor – this function is implemented through purpose

benchmark of price dynamics within the framework of inflation targeting highly prioritized by economy players. Thus, one may consider that, currently selection of the regime of monetary policy on an aggregated level is made up from three key options: regulated exchange rate, floating exchange combined with inflation targeting and discrete policy at which the central bank is not constrained in activities on achieving goals of maintaining low inflation and full employment.

Not going into details of discussing all advantages and disadvantages of each regime of monetary policy and approaches for their selection we will note overall conclusion from a number of empiric researches carried out on the eve of the crisis [2]. In the countries with “markets under formation” inflation targeting will bear positive results, allowing slow down its growth and stabilize production indicators. In developed countries inflation targeting does not bear visible effect since these countries least of all undergo external shocks and money authorities enjoy high confidence that allows them maintain low inflation. At the same time, the issue on how inflation targeting acts under shocks has not been explored.

The modern crisis has become a serious testing for steadiness for macroeconomic institutions. In some cases it showed necessity for their reforming, in other, by contrast, confirmed their vitality, it mainly was connected with inflation targeting regime.

One might have expected that the countries pursuing inflation targeting will be less affected by the crisis, as during the world economy growth they more decidedly increased interest rates. Scotching inflation they softened overheat of their economies meanwhile decreasing their susceptibility to crisis shocks.

Confidence to declared benchmarks formed within inflation targeting enabled to avoid danger of deflation and liquidity trap in the course of the crisis (as it helped to control price hike in the previous period [3]). Due to this in a sharper period of the crisis the countries utilizing inflation targeting avoided increase of real interest rates whereas in other countries these rates sharply increased that sharpened negative consequences of the crisis. Besides, the policy of interest rates increase created possibility for their more active decrease in the peak period of the crisis acceleration. As a result the countries utilizing the regime of inflation targeting (including developed) faster overcame slump of industrial production.

In the course of the crisis fixed exchange rate regime revealed rather serious disadvantage: it excepts possibility to use exchange rate change to adapt economy to external shocks. It is of primary importance especially under sudden abortion of capital inflow. Many countries found themselves in such a situation during the crisis – in particular the Baltic countries, which resulted in acceleration of industry downturn.

Some conclusions may be made regarding budgeting-tax institutions. The crisis seriously changed conceptions on the role of various macroeconomic tools. Despite diffused conceptions on the fact that a key role in maintaining stability should be played by the tools of monetary-credit policy, actually leading role was designated to measures of fiscal policy during the crisis. The following data provide ideas on scales of these measures: during the crisis budget deficit in more developed countries increased by about 8 basis points of GDP, in the countries with developing markets – by about 5 basis points of GDP. Only within two years the size of country debt in developed countries increased by 18 basis points of GDP reaching threatening sizes in many countries. On the other hand, many developing countries had no chance to pursue anti-cyclic policy during the crisis, since during the rise period accumulated neither reserves nor confidence of investors who would help them finance increased budget deficit. Such countries incurred additional losses due to weaknesses of their fiscal institutions. A more important conclusion to draw from this experience is that provision of macroeconomic safety requires maintenance of significant “reserve of steadiness” of fiscal policy in the form of balanced budget and moderate country debt, i.e. review of budget rules to the favor of tightening quantitative constraints. Another more often occurring lesson is in necessity to enhance activity of automatic budget stabilizers since discrete measures of fiscal policy are frequently taken with significant delay.

Up to now the matter was about enhancement of effectiveness of widely applied rules. Meanwhile the crisis revealed a number of problems. First of all it concerns prevention of re-production and re-crediting of economy. Existing rules and mechanisms of formation of credits increase leverage in rise phase of economy, contributing to its overheat, and reduce it at the phase of downturn, thereby enhancing its depth. The latest innovations in banking regulation - Basel II, as it is clear now, also promote re-crediting. Credit boom, built on upsurge of prices of collateralized securities, turned out to be especially threatening. Negative consequences of this case led to spiral of prompt sales, further price fall of securities, liquidity shrinkage etc.

Central Banks as well contributed to this problem. Their policy was concentrated at scotching inflation and maintenance of full employment, however inevitability of systemic risks accumulations was disregarded. Thus, in the course of a number of years, the Federal Reserve of the USA found it possible to maintain negative in a real expression interest rates since inflation at that period remained low enough. Such a policy was one of the primary reasons for decrease of the quality of mortgage loans triggered the crisis growth.

Monetary-credit policy should be of a more complex nature – along with solution of traditional tasks it is crucial to consider possible distant consequences of credit booms, not to allow appearance of “bubbles” on financial markets, prevent accumulation of systemic risks. However, it is still questionable, through which funds macro prudential regulation should be realized. One approach is expansion of the circle of targets, which was achieved through utilization of the key tool of central banks – interest rates. However, it is considered that in this case great number of goals will harm the primary task – price stability. To this extent it is preferable to first of all use active and flexible regulation of prudential norms for financial stabilization. In order to decrease leverage, one should increase capital requirements, liquidity may be increased through decrease of reserve requirements etc. It is crucial to change overall ideology of regulation: it has to be built not on assessment of the current situation, but on expected conditions within the business cycle. To this extent the approach should comply with the IMF requirements on budgeting policy: maintain stable size of structural fiscal balance.

*Macro economical problems of organizational structure.* One of them is connected with segregation of authorities on realization of monetary-credit policy and macro prudential regulation. Recently an idea has been disseminated that combination of monetary-credit policy with prudential supervision by one and the same institution leads to conflict of interests and accordingly there is a tendency to segregate them through transfer of prudential supervision to an independent authority. However, the crisis demonstrated that the tasks indicated are practically inseparably interconnected and necessity to coordinate measures between various authorities will inevitably lead to both decrease of effectiveness of regulation and threat to delay with serious decision making. Segregation of functions should be replaced with combination within regulation of systemic risks and macro prudential supervision. Absolute nominee to act as a joint

macro regulator is the central bank which has an experience of macroeconomic analysis and monitoring to resolve the tasks of managing systemic risks.

Rating agencies were seriously criticized as a result of analysis of the reasons for the crisis. They assigned AAA credit ratings to head tranches of derivative securities on the basis of mortgage loans that led to underestimation of real risks by market players and became a key element of the crisis mechanism. Such derivative securities in lieu of decreasing risk through its diversification, were the facility to its maximum broad expansion. It is important to reform performance of rating agencies, since the principle of advantageous financing of their activity by issuers leads to obvious conflict of interests. Moreover, it is important to make the criteria used by agencies to assess reliability of financial tools more transparent: they practically did not consider high correlation between various sources of risks, i.e. their systemic nature. Possibly, there should be a matter of mandatory licensing of rating agencies activities.

International financial institutions were criticized as well (first of all the International Monetary Fund) which, according to majority of experts, did not in full scale implement the task to detect signs of gathering crisis at early stages. It is considered that in future it is necessary to enhance this area of the IMF activity, using experience of other organizations (such as the Financial Stability Council). Moreover, it is necessary to provide additional resources to enable the IMF to render timely support for the countries encountering financial problems, potentially capable of developing into the source of global destabilization.

The crisis once more *necessitated central bank independence* as one of the key factors of macroeconomic stability maintenance. This is as well a crucial precondition of utilization of inflation targeting regime. Researchers recognize two types of independence of central banks: *de jure* and *de facto*. The first is defined in terms of analysis of authorities and constraints of central bank performance, specified in the legislation of various countries. The second, as a rule, is assessed under indirect indicators. For this purpose used is, in particular, frequency of takeovers of central bank governors as well as the indicator of political vulnerability of a central bank that is measured through frequency of central bank governors takeover in cases when this takeover occurs within a short period upon change of political head of the country.

A number of works show that for the countries with developed economy the level of inflation and legal independence of the central bank are negatively interrelated [4, 5, 6]. By contrast, for the group of developing countries neither the level of inflation nor growth rates are related to legal independence of the central bank. It is due to the fact that within the researched period (launch of 1990s) lack of significant connection between legally fixed and actually existing independence of central banks was inherent for the group of developing countries. At the same time when using indicators of actual (but not legal) independence there was captured negative interrelation between its level and the level of inflation [7].

It should be mentioned that a number of researchers raise a question on availability of cause-effect relation between the level of inflation and level of independence of central banks. In particular, it is assumed that, not the degree of independence promotes decrease of inflation level, but vice versa. Such a standpoint does not lack foundations, if to build on resignation of the head of the central bank (decrease of independence measured through indicator of the frequency of leadership of the central bank) resulting from allowed acceleration of inflation rates [8]. At the same time, there are arguments on availability of both direct relation and feedback between inflation rates and the level of central bank independence [9]. For the group of developed countries the relation between the growth of real GDP and indicator of central bank independence has not been established [4, 5].

To assess independence of the Central Bank of Azerbaijan (CBA) there was conducted a specific research, utilizing weighted index LVAW and unweighted index LVAU [5, 6]. LVAW index is derived on the basis of subjective aggregation. Thus, 16 diverse features of legislative independence of a central bank are aggregated in 8 subgroups and later they are aggregated to the LVAW index. Every variable in LVAW and LVAU weighs from 0 through 1, where 0 stands for full dependency of a central bank, 1 – for full independency.

To assess independence alternative indices LVES and LVESX are used as well, narrower as compared with the first two. LVES identifies just allocation of power authorities between a central bank and state structures regarding monetary-credit policy, procedure to resolve conflicts between a central bank and the government and the level of monetary policy direction at achievement of price stability weights being 0,4, 0,4 and

0,2 accordingly. For this strategy features of legislative independence of the central bank is more important to fight inflation than others [10, 11].

The LVESX index is the weighted index from LVES and indicator of all constraints lending of the central bank weights being 0,6 and 0,4 accordingly. The variable “all constraints of central bank lending” is a weighted average of eight variables responsible for severity of central bank lending [9].

Correlation between LVAW and LVES equals to 0,92, between LVAW and LVESX – 0,90 and between LVES and LVESX – 0,96. The LVESX index is directly calculated from individual behavior of legislative independence of central banks of every country.

De jure independence of the Central Bank of Azerbaijan was evaluated in 2008 on the basis of study of three editions of the law on the central bank – 1992, 1996 and 2004 with the following findings:

The level of the Central Bank of Azerbaijan independence in accordance with the 1992 year law was 0,42. At that time Azerbaijan lagged behind many countries with transitional economy. After adoption of the law of 2004 independence of the CBA increased to 0,85. The following reforms contributed to this increase:

- Maintenance of price stability became key target of the CBA;
- The Central Bank became independent in pursuing monetary policy;
- Procedures on appointment and displacement of the CBA Governor;
- The Central Bank became independent on issuing loans to the government;
- The new system of the Central Bank of Azerbaijan accountability introduced.

Comparison of obtained findings with the analogue evaluations for other transitional economies (Table 1) displays that under the effective legislation the Central Bank of Azerbaijan has one of the highest levels of independence.

**Conclusion.** Azerbaijan quite successfully withstood the international financial crisis. The GDP growth was high, being 10,8% in 2008 and 9,3% in 2009. The population confidence to the banking sector was fully preserved: as at 1 July 2010 the volume of bank deposits of the population increased by 10% since the beginning of the year. It provided conditions to maintain growth rates of lending: growth of loans for the similar period made 5,2%.

## Indices of Independence of Central Banks for Post-Soviet Countries

Country	The year of adoption of the law on central bank	The year of refusal from rouble*	LVAW	LVES	LVESX
Albany	1992		0,51	0,47	0,49
Georgia	1995	1993	0,73	0,68	0,62
Belorussia	1992	Used up to 2000	0,73	0,75	0,67
Bulgaria	1991		0,55	...	0,65
Hungary	1991		0,67	0,79	0,61
Kazakhstan	1993	1993	0,32	0,63	0,56
	1995	1995	0,44	0,92	0,79
Kirgizia	1992	1993	0,52	0,55	0,55
Latvia	1992	1992	0,49	0,96	0,73
Lithuania	1991	1992	0,28	0,37	0,25
	1996		0,78	0,96	0,58
Macedonia	1995		0,41	0,68	0,55
Moldova	1991	1993	0,38	0,84	0,54
	1995		0,73	0,96	0,94
Mongolia	1991		0,43	0,96	0,61
	1996		0,55	0,92	0,68
Poland**	1991		0,46	0,49	0,32
	1997		0,89	0,92	0,95
Russia	1995		0,49	0,47	0,38
Romania	1991		0,34	0,51	0,32
Slovakia	1992		0,62	0,92	0,73
Slovenia	1991		0,63	0,72	0,52
Tajikistan	1993	1995	0,36	...	0,29
Turkmenistan	1992	1993	0,26	0,25	0,19
Uzbekistan	1991***	1994	0,41	...	0,71
	1995	1994	0,56	0,92	0,92
Ukraine****	1991	1993	0,42	...	...
Croatia	1992		0,44	0,60	0,49
Czech Republic	1991		0,73	0,96	0,73
Estonia	1993	1992	0,78	0,96	0,58
On average			0,52	0,74	0,57
On average on the countries with two laws on a central bank					
<i>The first law</i>			0,35	0,65	0,47
<i>The second law</i>			0,63	0,94	0,76

"..." means lack of sufficient data on the country to come up with the relevant index.

\* These data are only for the ex-USSR countries.

\*\*All constraints on central bank lending in 1997 for aggregated index of independence of the National Bank of Poland are weighed through 1,00, since the Polish constitution bans the government to borrow from the central bank.

\*\*\*Initial data.

\*\*\*\*a low indicator for the Ukraine is due to the fact that many data on characteristics of independence of the central bank were not available.

Moreover, the world financial economical crisis allows draw lessons that should be considered in the anti-crisis period.

The first of them is that inflation factor is crucial, but not sufficient. The Central Bank must resolve a wider task of maintaining macro economical stability as a whole. Besides, likely it is not purposeful to establish extremely low benchmarks of inflation, since it may constrain possibilities of monetary-credit policy in a recession period. To fight recession even zero interest rates and mass emissions of central banks failed to help exit the crisis, the fight required considerable expansion of fiscal stimuli.

When analyzing the crisis there arises the following question: why did indicators of the global economy looked so good till its launch? The obvious answer is that up to the current crisis monetary authorities dealt with local economic shocks, the nature of which they understood well and developed adequate policy for this.

However, the current crisis radically changed the situation. It became obvious that macro economical policy should pursue a wide range of goals, selecting individual regulatory tools per target.

We think that macro economical policy of Azerbaijan is to be formed on three levels:

monetary – targets: inflation, investment and external demand;

fiscal – targets: aggregate demand and employment;

financial – targets: systemic stability and mitigation of “bubble” formation.

Total scheme of key elements of macroeconomic policy of Azerbaijan in the post-crisis period is in Table 2.

#### Post-crisis “Design” of Macroeconomic Policy for the Republic of Azerbaijan

<p><b>Counter cyclic macroeconomic policy</b></p>	<p><i>Fiscal level</i> – targets: aggregate demand and employment;  <i>Monetary level</i> – targets: inflation, investment and external demand;  <i>Macro prudential level</i> – targets: systemic stability and level of overheat of financial sector.</p>
	<ul style="list-style-type: none"> <li>• <i>Solid fiscal rules</i>  Full introduction of the principle of oil revenues permanency in budgeting policy;  “golden rule” –peg of oil revenues to investments and expenses on development of human capital;</li> <li>• “built in stabilizers” – flexible tax system</li> </ul>

<p><i>Fiscal policy</i></p>	<p>(progressive scale), flexible system of social transfers, <i>results –oriented budgeting</i>, - planning of expenses in vigorous coordination with national priorities, introduction of the <i>system of strategic planning</i> in budget entities;</p> <ul style="list-style-type: none"> <li>• <i>Tax policy</i> –competitive load, higher tax rates for oil sector, lower rates for non-oil sector, switch of tax load from production to consumption;</li> <li>• <i>Pension reform</i> – transition to a savings system, thus decrease of social load on the state budget and creation of stimuli for development of the capital market – the source of “long money” in economy;</li> </ul>
<p><i>Monetary policy</i></p>	<ul style="list-style-type: none"> <li>• <i>Targeting of overall level of prices</i> in economy (including prices for assets)</li> <li>• <i>Floating exchange rate policy</i> - condition for transition to the system of targeting of overall level of prices;</li> <li>• Conditions for transition to a floating exchange rate regime: strict fiscal discipline; export diversification; decrease of dollarization scales; solution of other structural problems.</li> </ul>
<p><i>Macro prudential policy</i></p>	<ul style="list-style-type: none"> <li>• Counter-cyclic regulatory mechanisms: Leverage norm; Capital requirements; New liquidity norms; Tobin tax on speculative capital inflow; Dynamic provisioning etc.</li> </ul>

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