AMERICAN UNIVERSITY OF ARMENIA

CENTRAL BANK INDEPENDENCE AND DEMOCRACY: DOES CENTRAL BANK INDEPENDENCE HINDER DEMOCRATIC DEVELOPMENT OF THE COUNTRY?

A MASTER'S ESSAY SUBMITTED TO

THE FACULTY OF THE GRADUATE SCHOOL OF

POLITICAL SCIENCE AND INTERNATIONAL AFFIARS

FOR PARTIAL FULFILMENT OF THE DEGREE

OF MASTER'S OF ARTS

BY

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Fall 2011

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Fall 2011

Acknowledgments

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LIST OF ABBREVIATIONS

CB – Central Bank

CBI – Central Bank Independence

CoE – Council of Europe

EU – European Union

ECB – European Central Bank

ABSTRACT

The aim of this research is to study the condition of independence of the central bank, to what outcomes it brings, what conflicts can arise, and does the independency condition violates democratic governance principles.

After general introduction literature, findings and analyses follows. They represent the analyses of the research questions and hypothesis separately. At first, the term central bank independence is described for precisely understanding the topic. What stages of development the modern central banks have passed and where they have occurred nowadays. The research is accompanied with the examples on Armenian and American central banks.

The paper aims to find out whether the independence of the central bank is a necessary condition for the states to adopt, is it necessary for achieving best possible outcomes, what potential conflicts can arise between politics and economics and how that conflicts can be solve in favour of the state. The paper discusses how the condition of independency can violate the democratic governance, in what circumstance and is it possible to avoid the violation of democratic principles or not.

Finally the paper comes up with conclusions and some recommendations, the fulfilment of which will contribute to the elimination of current drawbacks and will promote further development of the system.

Introduction

"The central bank is an institution of the most deadly hostility existing against the Principles and form of our Constitution. I am an Enemy to all banks discounting bills or notes for anything but Coin. If the American People allow private banks to control the issuance of their currency, first by inflation and then by deflation, the banks and corporations that will grow up around them will deprive the People of all their Property until their Children will wake up homeless on the continent their Fathers conquered."
Thomas Jefferson

The Central Bank is playing a role of utmost importance in almost all countries throughout the world. Among the important functions delegated to the Central Bank are the conduct of the monetary policy, the determination of the exchange rate regime, influence over the interest rate and inflation targeting. All these tools are influencing the employment, consumption and, as a whole, the overall economic growth of the country. There is a hot debate among the economists and political scientists all over the world on the issue of granting independence to the Central Bank. According to Walsh (2005, 1) "Central bank independence refers to the freedom of monetary policymakers from direct political or governmental influence in the conduct of policy." The opponents of the Central Bank Independence (CBI) consider the monopoly of Central Bank in the above-mentioned issue a "disaster" for a democratic society. Moreover, having direct influence on the economic growth and overall well-being of the country, it appears that the governors of the Central Bank can indirectly affect the politics and political sphere of the state.

On the other hand, the proponents of the CBI argue that the policies which are the primary issue of the Central Bank are adopted in laws, so the Central Bank cannot conduct any policy in violation of the laws. The officials of the Central Bank are appointed by the elected representatives of the population, thus, are indirectly representatives of the electorate. Moreover, the laws very often require transparency of the Central Bank, which implies that they cannot conduct any policy harming the state. Finally, the functions of the Central Bank

cannot be performed by any other state institution because of the political crisis that can be faced during the adoption of any such kind of a decision that is vital for the state.

While discussing the context of Central Bank Independence, we should distinguish between two types of Independence: goal and instrument independence. The goal independence implies that the Central Bank has discretion over deciding what the most important aim to achieve is. In this case the Central Bank decides the most urgent issue to be regulated and designs policies for achieving its goal. An example of goal independence can serve the US Federal Reserve System (Debelle and Fisher, 1994).

The instrument independence means that the Central Bank has only discretion over choosing the instrument for reaching already pre-assigned goals. An example of instrument independence can serve Armenia. According to the Article 83.3 of the Constitution of RA (1995) "The main objective of the Central Bank of the Republic of Armenia shall be to ensure stability of prices in the Republic of Armenia. The Central Bank shall develop, approve and implement monetary policy programs." Thus, we can see that the price stability is defined as the primary goal, and the means of achieving the goal is to be sought by the Central Bank officials.

This paper is going to be concentrated on the role of the Central Bank Independence. Is a Central Bank Independence necessary and sufficient condition for economic efficiency? Firstly the notion of CBI will be analyzed in order to give clear picture about the CBI concept. Then, the concept of CBI will be analyzed in terms of democratic governance: whether the Independence condition violates the democratic governance of the country or not.

Another important aspect of this paper will be the examination of the interaction of monetary and fiscal policies carried out correspondingly by the Central Bank and the

Government. The focus will be on the potential conflicts as a consequence of the interaction of above-mentioned policies and what can be the possible solutions.

The role of the Central Bank will be analysed in the context of the monopolist in carrying out the monetary policy in the country. The Central Bank as an institution can choose between being committed to the policies of the government or carry out discretionary policies.

The Central Bank is considered as a strong policymaker when it chooses commitment and its targeted inflation corresponds to the actual one by the end of the fiscal period. Commitment implies sequential implementation of a contingency plan that was chosen at an earlier date to be applied indefinitely. The weak Central Bank is the one who chooses discretionary policy and formulates its target after the expectations within the privates sector are formulated (King et al. 2007). Under discretion, the central bank re-optimizes its loss function period-by-period, taking expectations of future policy actions as given in the determination of current policy. Here an issue of managing the expectations rise. In this paper the management of expectations will be analysed within the context of the credibility issue of the Central Bank. After understanding the "strong" and "weak" policymaking procedures in terms of carried out monetary policies of the Central Bank, modelling will be suggested for clear imagination of the private sector's expectations depending on the credibility issue of the Central Bank. And finally, the political implications of the Central Bank to the economy will be presented.

Hypothesis and Research Questions

Hypothesis: The independence of Central Bank does not hinder the democratic governance of the country.

RQ1. Is the CBI a necessary condition for achieving best possible outcomes?

RQ2. Is Pareto Efficiency feasible only under CBI condition?

RQ3. Does interaction between fiscal and monetary policies of Government and Central Bank accordingly causes conflicts?

RQ4. What are the political implications of the CBI to the economy?

RQ5. What are the conflicts between political decision-making and economic efficiency?

Literature Review

The issue of central bank independence has generated considerable debate all over the world in recent years. We are all familiar with the much publicised reforms to the Reserve Bank of New Zealand. In Europe, a key element in the European Monetary Union is the formation of an independent supranational central bank. Many of the 'transitional economies' of Eastern Europe also have adopted reforms aimed at making their central banks more independent. In what is something of a rarity these days, the issue has attracted attention from both practitioners and academic economists (Frazer 1994).

There has always been some kind of a relationship between central banks and governments. Given that central banks are created by government legislation and derive their powers from such legislation, they cannot be completely separate from the government. The debate today is about the appropriate degree of separation (Beetsma, Jensen 2002).

In the academic literature, governments that are unable to make credible promises are regarded to be hindering economic development and effective policymaking. Political systems characterized by checks and balances and the delegation of authority to independent agencies (such as an independent central bank) have been promoted as an institutional solution to this problem (Bandura et al. 2006).

Many authors discuss central bank independence in two main dimensions. The first dimension—political autonomy—is the ability of the central bank to select the final objectives of monetary policy. This first dimension is also known as "goal independence." This includes if the governor and board of directors are appointed without government involvement and for more than five years; there is no mandatory participation of government representatives in the board; no government approval is required in formulating monetary policy; there are requirements in the charter forcing the central bank to pursue monetary

stability amongst its primary objectives; and there are legal protections that strengthen the central bank's position in the event of a conflict with the government (Blinder 1996).

The second dimension—economic independence—refers to ability of the central bank to select the monetary instruments necessary to the achievement of the goals. Hence the name "instrument independence" (Blinder 1996).

Methodology

The research will examine several articles and scholarly literature discussing the issue of Central Bank independence and democracy and bringing both arguments for Central Bank Independence and criticizing it. Some of the researchers are former Central Bank officials who know the issue from within.

The paper firstly will focus on examining the studies whether the Central Bank Independence is a necessary condition for the overall standards of living and social conditions of the population and whether Pareto Efficiency is only achievable under Independence condition of Central Bank.

Finally, the stress will be put on the examination of the articles and researches of whether there are conflicts between political decision-making and economic efficiency and whether the Independence principle of the Central Bank violates the democratic governance of the country.

Findings and Analysis

What is Central Bank Independence?

The history shows that the Central Banks have existed since the seventeenth century in different countries of the world with different functions and responsibilities. While throughout the time many of their obligations have been reformed and subject to evolution. Nowadays, the notion of Central Bank Independence has come into place with two different methods applied by various states and governance regimes: goal independence implying the goals of the Central Bank to be decided by the Central Bank "technocrats" and instrument independence meaning that the goals are directly set and the Central Bankers need to choose the instruments to achieve the set goals and standards.

According to Debelle and Fischer (1994) the trend throughout the world is to enhance the independence of the central bank following the examples of Chile, France, Mexico, Venezuela etc. And this trend is based on three main arguments: 1) the success of the German Bundesbank during the last 40 years, 2) the academic literature on the inflationary bias of discretionary policymaking and 3) empirical academic literature on central bank independence.

Eijffinger and De Haan (1996) add some reasons they consider important in the trend of making central banks more independent: 1) the Maastricht treaty requires independent central bank as a precondition for becoming a member of European Monetary Union while in future creating a system of European central banks comprising of the ECB and national central banks of the EU member states; 2) after successful period of economic stabilization the leaders of Latin American countries are seeking methods how to avoid further high level of inflation through institutional arrangements; 3) literature suggesting that central bank independence and inflation are negatively related.

According to Friedman (1962) central bank independence refers to the relationship between the central bank and the government: how much influence the government has on the decisions made by the central bank. The central bank independence relates to three areas where the influence of the government should be eliminated or reduced to the minimum level: personal, financial and independence in making policy (Hasse 1990). The personal independence means the influence of the government to the issues of appointment of the central bank officials. Although it is not feasible to exclude government from the appointment procedures, it is important to limit the impact of the government on subsequent issues.

Financial independence means the access of the government to the central bank credits. If direct access exists, it implies that the monetary policy carried out by the central bank is subordinated to the fiscal policy of the government. In case of indirect access the central bank manages the government debt. In both cases we can observe negative consequences for the welfare of the state, thus the overall access of the government to the central bank credits should be eliminated.

Policy independence implies two situations that are mentioned above: goal independence and instrument independence. When multiple goals are set for the central bank, the central bank can choose which one is final destination and choose instruments for achieving its goals (e.g. achieve low inflation or low unemployment). When a single goal is set for a central bank it has only instrument independence and only needs to find effective instrument to achieve the already set goal.

However, while the central banks are becoming more independent another principal issue arises: the issue of transparency and accountability. The issues of independence and accountability are of primary factors for democracy. Taking into consideration that the central bank has to carry out the monetary policy and the politicians can use this instrument

for their personal objectives, the responsibility for conducting monetary policy has been delivered to the Independent central bank. Moreover, delegating this power to the central bank in a democratic society means to keep them accountable to the society or to their directly elected representatives.

Thus, we saw and understood what central bank independence is, and to what concepts it can relate, what advantages and disadvantages can be and what potential benefits and threats the society bears while delivering an independent central bank.

Is CBI a necessary condition for achieving best possible outcomes?

Several instruments exist for achieving price stability. One of these instruments is the condition of central bank independence. While many scholars argue that CBI is a sufficient and even necessary condition for achieving price stability, others argue that CBI is neither necessary nor a sufficient condition for achieving set goals.

By examining research and empirical evidence via the interactions of monetary and fiscal policies the answer to this research question will be developed.

It is considered that governments delegate the monetary power to the central bank which has instrument independence and is conservative. The conservative central bank means that the central bank's output and/or inflation should be lower than the socially accepted ones and that the central bank should put more effort on inflation stabilization and less on output stabilization than the society does (Kydland and Prescott 1977). Independent and conservative central bank helps to eliminate the risk of inflationary bias of monetary policymaking, i.e. the surprise inflation which will result in the raise of the output from its natural level which can be assumed as inefficiently low.

It is very important to underline the importance of fiscal policy on the overall price stability. Not only monetary but also fiscal policy has its impacts on the level of prices. A

monetary commitment to a low inflation target is not enough and must be accompanied by a fiscal commitment in relation to the fiscal solvency. The authorities and procedures for the making of fiscal and monetary policies interact in reality, and these interactions can lead to very different macroeconomic outcomes than those, predicted by the analysis of one policy in isolation. The fiscal authorities may not share the conservatism of the central bank. Moreover, one or both of these policies may have full discretion to respond to economic shocks, or may be committed in advance to specific response rules. If one policymaker follows a response rule while the other has discretion, then the latter's preferences may lead him to use his discretion to undermine the former's commitment; the former will foresee this discretionary response and that will affect its own choice of commitment. Kydland and Prescott (1977) assumed that the fiscal authority's objective is the social welfare function, and that the monetary authority has instrument independence in pursuing its delegated conservative objective. Each chooses its action individually; therefore their interaction becomes a non-cooperative game. Depending on the structure of the game, this may yield Nash or leadership equilibrium, either with commitment to a policy rule or discretionary actions after economic shocks are realized. These non-cooperative equilibriums can be suboptimal. Modelling of an economy with monopolistic competition and nominal rigidities takes place. Monopoly power over the produced good makes output inefficiently low and gives policymakers an incentive to use their policies to raise production in equilibrium. Fiscal policy, in the form of a production subsidy, increases the supply of goods and can achieve the efficient level of output (Hayo, Hefeker 2001). If fiscal policy creates deadweight losses, it would not be socially optimal to subsidize production to its efficient level. This leaves an output gap that policymakers wish to close with unanticipated policies (Blinder 1983). An unanticipated monetary expansion raises output and the price level because of staggered prices; an unanticipated supply-side fiscal policy, such as a production subsidy, increases the

supply of goods and it may also lower private demand and prices if financed by per-head taxation. These economic effects interact through the strategic choices of the two authorities.

a. If neither type of policy has commitment or leadership, the interaction between a conservative central bank and a fiscal authority that maximizes social welfare leads to suboptimal and extreme outcomes: output is lower and the price level higher than what either authority wants. Time inconsistency makes fiscal policy too tight and monetary policy too loose, resulting in output being lower and prices being higher than optimal.

b. The time-consistency problem of monetary policy can be solved by commitment to a rule specifying how the actual policy choice will respond to all possible realizations of the stochastic shocks. But with discretionary fiscal l policy chosen by a strategic fiscal authority, the ex post reaction function of the fiscal authority acts as a constraint on the monetary rule. Thus fiscal discretion eliminates the gains of monetary commitment. Fiscal commitment, on the other hand, removes the excessive tightness of fiscal policy stemming from the desire to reduce deadweight losses and surprise expectations. Even though the ex post reaction function of the monetary authority constraints the fiscal rule, monetary discretion does not completely eliminate the gains of fiscal commitment.

c. Commitment achieves the second best only if it can be extended to both monetary and fiscal policy.

d. If commitment to a policy rule is not an option, the second best can be achieved by appropriately assigning goals to policies so as to avoid any conflict of objectives. Two alternative assignments are possible. First, the two authorities should have identical targets, the output target being the social optimum and the price target being conservative. Second, the two authorities should have separate targets, with the

monetary authority caring only about the price level and the fiscal authority caring only about output net of deadweight losses.

It is assumed that distortions create short-run benefits from unexpected inflation and studies the equilibrium that rise under different institutional arrangements and their welfare properties. The first-best equilibrium can be achieved by eliminating the distortions; the second-best equilibrium can be achieved by commitment to a monetary policy rule; discretionary monetary policy leads to a fourth-best equilibrium (Gwartney et al. 2003).

For better understanding the interactions of monetary and fiscal policies we will examine the Taylor rule. A simple economy is modelled.

$Yt=a-brt+Gt$

where,

Yt is the real output, a and b are parameters, and Gt is the government expenditure.

The inflation mechanism is described by:

$(\Pi t-\Pi t-1)=\beta(Yt-Yn)$

where,

β is the parameter that measures the influence of the output gap in inflation.

Two types of rules are taken into consideration: monetary

$r=r t-1+\alpha(\Pi t-1-\Pi o)$ (3)

where,

α is the parameter that measures the strength with which the Central Bank applies its policy, and

$Gt=Gt-1-\gamma(\Pi t-1-\Pi o)$

where,

γ is the coefficient that sizes the intensity with which the fiscal authority modifies the expenditure to reduce inflation.

An economy of central bank acting according to the Taylor rule will be

$r_t = r^* + \alpha_1(Y_t - Y_n) + \alpha_2(\Pi_{t-1} - \Pi_o)$

After summing up all the above-mentioned equations we can observe that

$\Pi_t - 2\Pi_{t-1} + \Pi_{t-2} = -\beta b(r_t - r_{t-1}) + \beta(G_t - G_{t-1})$

where the inflation path depends on the fiscal and monetary policy rules applied. This means that the inflation target desired by the economic authorities will be achieved, despite any shock that the economy could suffer, thanks to the performance of the fiscal and monetary policy rules (Gonzalez, Martinez 2004).

Thus, we can see that although the monetary policy is not the only component for achieving the best possible outcomes because there is a necessity of interaction of fiscal and monetary policies for achieving the first or second best possible outcomes. Moreover, the interaction should be designed in a way that both policies choose commitment policy. In case one chooses commitment and the other discretion, it can create a mess in the economy of the country.

Thus, we can conclude that the interactions of fiscal and monetary policies can cause conflicts in case the two choose different paths.

Answering the research question whether the CBI is a necessary condition for achieving best possible outcomes or not, we can conclude that although it is not the single element for achieving efficiency, the independence condition should be in place in order for the best possible outcomes be feasible.

Central Bank Independence and Pareto Efficiency

At first we should distinguish what we mean by saying Pareto efficiency. Let's recall the definition of the Pareto Efficiency: "An allocation of goods, either input or output goods, is said to be Pareto Efficient if we cannot find a reallocation of those goods such that we can produce more of something (utility or output) without producing less of something else" (Sims 2001). In this paper the issue of interaction of CBI with Pareto Efficiency condition is discussed in terms of price stability and budgetary efficiency, e.g. whether the condition of independence of the central bank brings to Pareto efficient outcome in terms of both price stability and budgetary efficiency.

For understanding the above-mentioned interactions the modelling done by Doi (2006) will be examined. When the fiscal authority does not have independence from the fiscal authorities and the fiscal policy is determined before the monetary one is done, the public goods are oversupplied, because the fiscal authorities have confidence to finance the gap by the means of the central bank. Absence of CBI is one of causations that the government increases public expenditures and fiscal deficits, since the central bank can easily monetizes fiscal deficits at the request of the government implicitly and explicitly. In the other words, in order to equilibrate the government budget constraint, not budget cut or tax hike but seigniorage is used. Meanwhile, when the central bank is independent and the monetary policy is predetermined, the expenditure is on an efficient level, because the government cannot anticipate seigniorage in favour of financing his deficit. In case of an independent central bank, the government cannot depend on monetization of fiscal deficits by the central bank. Thus, independent central bank cuts the inefficient level of expenditures (Glenn 2008).

The model is a two-country model with cash-in-advance constraints. The household in this model consumes a private good and a public good which the government provides. So

this is appropriate for the analysis of fiscal and monetary policy in an international economy. There are two countries, home country (country h) and foreign country (country f). They are symmetric and large: each one affects the other. The households are homogenous, live infinitely, and cannot migrate. Both countries produce a single private good, whose amounts of period t are yt (>0) and yt* (>0) units (Givens 2009).

The utility functions of representative households in both countries are given as follows:

$$u = \sum_{t=0}^{\infty} \beta^t (\log c_t + \log g_t), \quad 0 < \beta < 1$$

$$u^* = \sum_{t=0}^{\infty} \beta^t (\log c_t^* + \log g_t^*), \quad 0 < \beta < 1$$

where c_t and g_t are respectively consumption of a private and a public good per capita. β is a discount factor (the same in both countries). The two countries' goods are perfect substitutes and have no trade costs. Hence the exchange rate between both currencies at period t, e_t, is satisfied as follows:

$$p_t = e_t p_t^*,$$

where pt and pt* are home and foreign currency prices of the private good. Households face cash-in-advance constraints. They need a home currency when they purchase the home good and a foreign currency when they purchase the foreign good: they cannot purchase the foreign good with a home currency or the home good with a foreign currency.

At period t:

$$m_{ht} \geq p_t c_{ht}, \quad m_{ft} \geq p_t^* c_{ft},$$

$$m_{ht}^* \geq p_t c_{ht}^*, \quad m_{ft}^* \geq p_t^* c_{ft}^*,$$

where mht and mft are respectively t the home households' home and foreign currency demand for private consumption at the beginning of period t per capita, cht and cft are respectively the

households' home and foreign good consumption per capita. Households can purchase the bonds issued by both governments in cash. The home bond is traded by only the home currency and the foreign bond is traded by the foreign currency. The bonds issued by both governments are perfect substitutes. In the bond market, both households and governments behave as price takers. Similarly, the good market clearing condition in both countries becomes:

$$c_{ht} + c_{ht}^* + g_t = y_t, \quad c_{ft} + c_{ft}^* + g_t^* = y_t^*.$$

Combining:

$$c_t + g_t + c_t^* + g_t^* = y_t + y_t^*,$$

In the good market, both households and governments also behave as price takers. The equilibrium conditions of the money market are:

$$M_t = m_{ht} + m_{ht}^* + m_{ht}^g,$$

$$M_t^* = m_{ft} + m_{ft}^* + m_{ft}^g.$$

Thus,

$$M_t = p_t y_t,$$

$$M_t^* = p_t^* y_t^*.$$

So the government budget constraints are:

$$g_t + r_{t-1}d_{t-1} = h_t y_t + \tau_t + d_t,$$

$$g_t^* + r_{t-1}d_{t-1}^* = h_t^* y_t^* + \tau_t^* + d_t^*,$$

and the household budget constraints are:

$$c_t + b_t + \tau_t = (1 - h_t)y_t/2 + (1 - h_t^*)y_t^*/2 + r_{t-1}b_{t-1},$$

$$c_t^* + b_t^* + \tau_t^* = (1 - h_t)y_t/2 + (1 - h_t^*)y_t^*/2 + r_{t-1}b_{t-1}^*.$$

As the example of two symmetric countries is taken into consideration, the optimal solution is:

$$c_t = g_t = c_t^* = g_t^* = (y_t + y_t^*)/4 \,.$$

Let's now consider the case we the central bank is follower, while the government is the leader. The consumption of the home household is:

$$c_t = \beta r_{t-1} c_{t-1} \,.$$

While the foreign household chooses:

$$c_t^* = \beta r_{t-1} c_{t-1}^* \,.$$

The central bank's problem is:

$$g_t = 2c_t \,,$$

$$g_t = \beta r_{t-1} g_{t-1} \,.$$

whereas the foreign central bank's problem is:

$$g_t^* = 2c_t^* \,,$$

$$g_t^* = \beta r_{t-1} g_{t-1}^* \,.$$

Since both countries are symmetric, the consumption is:

$$c_t = c_t^* = (y_t + y_t^*)/6 \,,$$

$$g_t = g_t^* = (y_t + y_t^*)/3 \,.$$

Whereas the policies of the central bank are:

$$h_t = (y_t + y_t^*)/3y_t \,,$$

$$h_t^* = (y_t + y_t^*)/3y_t^* \,.$$

In the case when the central bank is independent, the problem of government arises, which is:

$$g_t = c_t.$$

for the home government and

$$g_t^* = c_t^*.$$

for the foreign one.

In this case the consumption becomes

$$c_t = g_t = c_t^* = g_t^* = (y_t + y_t^*)/4$$

Where the central bank chooses

$$h_t = (y_t + y_t^*)/4y_t,$$

$$h_t^* = (y_t + y_t^*)/4y_t^*$$ (Doi 2006).

Summing up the analysis of the above-mentioned model, we can see that while the central bank is independent and thus is the leader and not the follower, it brings the cut of inefficient expenditures to the Pareto efficient level, whereas the opposite case when the central bank has some form of dependency from the government and is monetizing the government debt, some Pareto Improvement solution can be found. The notion of the leader and the follower is described by the Stackelberg competition model which is used in microeconomics game theory model to describe the preferences of the competing firms (Borrero 2001).

As we could examine earlier, the independence of the central bank is a necessary condition for achieving price stability. Thus, assuming that central bank independence brings to price stability and while interaction of fiscal and monetary policies, when the independence condition is in place, brings to curtail of the inefficient government expenditures, it becomes apparent that in terms of both budgetary efficiency and price stability, only the CBI condition brings to Pareto Efficiency.

Political implications of the CBI to the economy

Although the central bank is an institution that is considered to be out from politics because technocrats are appointed to govern thereof, it has many things to deal with politics. In previous chapters the important interactions of monetary and fiscal policies accordingly carried out by the central bank and the government was highlighted bringing to the best possible outcome to achieve the budgetary efficiency.

The independent central bank has discretion over variety of issues which can directly or indirectly affect the overall economic and thus political situation of the country. The technocrats governing the central bank are appointed by direct representatives of the population: although they have terms in office prescribed in the legislation so as to become independent enough, the representatives of the population are directly responsible for their political will and appointment for the exact persons in office in case the central bank fails to deliver its responsibilities.

In case when the central bank is not independent it directly is linked with the policies carried out by the government and is subordinate to it. In this case the central bank is also the debtor to the government and carrier of every failure the government can make. This situation best describes how the central bank is directly linked to the politics. When monetary policy lacks credibility, private sector actors write contracts that build in high inflationary expectations; when utility rate-setting is not credible, private actors do not invest in the expansion of electricity generation capacity. However, it is also well-known that credibility is difficult for governments to acquire (Keefer, Stasavage 1998).

However, the central bank has also to deal with the private sector. As it was mentioned, the price stability is one of the main tasks that the central bank has to accomplish.

While the targeting of the inflation takes place, the private sector forms its expectations about the correspondence of the targeted inflation to the final outcome.

In this part of the paper modelling of the expectations by the private sector will be done in order to show what participation the central bank has in political life cycle in regards to the private sector.

The expectations of the private sector on the announced targeted inflation and the final inflation is dependent on the credibility of the central bank. In its turn, the credibility of the central bank depends on the policy that the central bank chooses: commitment and discretion.

Under the policy of commitment the central bank stays committed to the rules and procedures adopted and thus, has more credibility (Nelson 2000). In contrast, the central bank under the discretion policy chooses between mimicking, which means behaving like under the low-inflation central bank, or departs from the announced inflation plan and looses its credibility. The central bank under the commitment policy is the strong type central bank with credibility, while the other one with discretion is the weak type of central bank. The private agents do not know the underlying nature of the central bank and, in particular, whether it will take the actions necessary to produce low and stable inflation in the longer run. Thus, it is necessary to differentiate between the long-term credibility and short-term one. The long-term credibility of the central bank is the private sector's likelihood that the central bank is of such a strong type. The private agents also are uncertain about whether near-term central bank actions will be those consistent with the central bank being of a strong type, thus the short-term credibility is the private sector's likelihood that that the central bank will take such actions (Cukierman 2009). Short-term credibility is generally higher than long-term credibility because of mimicking, the possibility that the central bank will take the same near-term actions as a low-inflation central bank even it is of a weak type. The announced

inflation plans of a strong central bank will influence inflation expectations and that the central bank will use its plans to manage inflation expectations at a point in time as well as the evolution of its long-term credibility (Blinder 2000).

The expectations of the private sector is denoted e. The inflation targeting of the central bank is done for a one year time-period. In this model we are going to examine the expectations of the private sector in 3 different time periods a year: March, June and September. We will see what happens to the expectations in case of two different scenarios of behaviour of the central bank.

$$e_t = p + k\eta W(\rho) + k(1-\eta)\gamma W(\rho) + k(1-\eta)(1-\gamma)V(\rho) \tag{1}$$

where e_t is the expectations for the March, p is the targeted inflation level, k is constant, η is the possibility of non-replacement of the current central bank's government, while $(1-\eta)$ is the possibility of replacement of it, W is the momentary objective of the strong central bank, ρ is the credibility of the central bank, γ is the possibility of replacement with a strong type of central bank, while $(1-\gamma)$ is the possibility of the replacement with a weak central bank, and V is the momentary objective of the weak central bank.

Two possible scenarios are possible while observing the behaviour of the central bank in March. One is that the central bank goes in line with the targeted inflation which means that it strengthens its credibility in the eyes of the private sector, thus the possibility of replacement is reducing, bringing the equation in form:

$$e_{t+1} = p + k\frac{2}{3}\eta W(\rho) + k\frac{1-\eta}{3}\gamma W(\rho) + k\frac{1-\eta}{3}(1-\gamma)V(\rho)$$

$$\tag{2}$$

e_{t+1} is the expectations of the private sector formed in June, when the actions of the central bank were in line with the announced plans. The possibility of replacement now is lower than the possibility of non-replacement due to the fact that the

$$e'_{t+1} = p + k^{\frac{\eta}{3}} W(\rho) + k^{\frac{2}{3(1-\eta)}} \gamma W(\rho) + k^{\frac{2}{3\left(\frac{1-\eta}{3}\right)}} (1-\gamma)V(\rho)$$

(3)

where e'_{t+1} is the expectations of the private sector in June, while the actions of the central bank did not correspond to the announced plans in March. The possibility of the change of the current central bank has risen, while the possibility of non-replacement has reduced.

Now we have two possible variations in June depending whether the central bank has behaved in accordance with the announced plans. These two variations also have two different possibilities each.

$$e_{t+2} = p + k^{\eta} W(\rho)$$

(4)

where e_{t+2} is the expectations of the private sector in September, while both in March and in June the central bank has acted according to the announced plans. From the equation we can that the possibility of the change of the current government of the central bank is now zero, which is due to the fact that acting 9 months according to the targeted plans do not remain any doubts about the last three months for the private sector. Thus, the credibility of the central bank is on the top. The private sector believes that the central bank is of a strong type and is committed to the rules and procedures. Although there is a risk that the current central bank is just mimicking the policy carried out by a low-inflation central bank, the private sector does not take that risk into account in September.

$$e'_{t+2} = p + k^{\frac{\eta}{3}} W(\rho) + k^{\frac{2}{3(1-\eta)}} \gamma W(\rho) + k^{\frac{2}{3\left(\frac{1-\eta}{3}\right)}} (1-\gamma)V(\rho)$$

(5)

where e'_{t+2} is the expectations of the private sector in September in case when in March the expectations of the private sector were justified and the acts of the central bank where in accordance with the targeted plans, however in September something went wrong and the

central bank could not justify the expectations of the private sector. Now the private sector has two variations: the central bank was mimicking in March and it is not of a strong type, or some exogenous variables could hinder the actions of the central bank. In either case the credibility of the central bank is reduced in the eyes of the private sector, thus increasing the possibility of the change of the governance of the central bank. However, the fact that the central bank was in line with its target in March leaves hopes for the private sector that the central bank can still maintain its credibility by the end of the fiscal year. Thus, the central bank has to maintain its credibility in order to be able to manage the expectations of the private sector.

$$e''_{t+2} = p + k\eta W(\rho) + k(1-\eta)\gamma W(\rho) + k(1-\eta)(1-\gamma)V(\rho) \tag{6}$$

where e''_{t+2} is the expectations of the private sector in September, when the actions of the central bank were not appropriate and did not correspond to the announced plans in June, however up to September the central banks begins to work appropriately and its actions begin to correspond to the announced plans. In this case the expectations of the private sector come to the initial position, because there is an equal opportunity of both replacement and non-replacement of the central bank. Now also two variations are possible: some problems occurred during the first three months which the central bank could not conquer and now it has fixed its problems and can work appropriately, or the central bank after not meeting the target in June, began mimicking as it realized that is losing its credibility.

$$e'''_{t+2} = 0 \tag{7}$$

where e'''_{t+2} is the expectations of the private sector in September when the central bank could not meet the target twice: in March and in June. The private sector does not shape its expectations according to the announced plans of the central bank, as the latter could not justify the expectations of the private sector twice. In this case the central bank has lost its credibility and cannot manage the expectations of the private sector.

Now let's examine how the strong and weak central banks manage the expectations of the private sector. A strong central bank chooses its inflation action before expectations are formed and a weak central bank chooses its inflation action after expectations are formed. Strong and weak central banks are assumed to differ in terms of how they discount the future. The strong bank has a fixed discount factor of, which is known to all participants in the economy. The weak central bank has a fluctuating discount factor. Weak monetary authority is one that does not have the internal organizational capital to announce and carry through an inflation plan within a period. When actual decision-makers have such difficulties, they appear to make trade-offs between the present and the future that are short-sighted and vary sharply through time (King et al. 2008).

The strong monetary authority maximizes welfare taking into account the influence that its inflation plan has on the likelihood and nature of discretionary policy. The Bellman equation for its decision problem is

$$W(\rho) = \max_{p}\{w(p,e) + b\eta W(\rho') + b(1-\eta)\gamma W(\gamma) + b(1-\eta)(1-\gamma)V(\gamma)\}.$$

The weak central banker has two levels of his decision problem. First, he decides on an optimal rate of inflation to set if he behaves in a discretionary manner, d. Second, he decides whether it is desirable to behave in a discretionary manner. The Bellman equation takes the form

$$
\begin{aligned}
V(\rho,\beta) &= \max_{\delta,\pi}\{(1-\delta)M + \delta D\} \\
M &= [w(p,e) + \beta\eta V(\rho') + \beta(1-\eta)\gamma W(\gamma) + \beta(1-\eta)(1-\gamma)V(\gamma)] \\
D &= [w(\pi,e) + \beta\eta V(0) + \beta(1-\eta)\gamma W(\gamma) + \beta(1-\eta)(1-\gamma)V(\gamma)]\}
\end{aligned}
$$

The central bank whether strong or weak maximizes a social welfare function

$$u(\pi,x,e) = u^* + \omega_1[x - x^*] - \frac{1}{2}\{\pi^2 + \omega_0[\pi - e]^2 + \omega_2[x - x^*]^2\}$$

in which π is inflation, x is the level of output and x* is the first best level of output.

Thus, we can see that the central bank has to deal also with the private sector and needs to maintain its credibility for being able to manage the expectations of the private sector which in its turn is an important task to complete. In its turn the credibility of the central bank is dependent on its policy conducted (Schaumburg, Tambalotti 2002). Thus, we can observe that the central bank needs not only to conduct appropriate monetary policy, but to take into consideration many political factors in order not to lose its credibility.

Possible conflicts between political decision-making and economic efficiency

The relationship between the political decision-making and economic efficiency is direct. Much of gains in economy depend on the decisions of the central bank of the country. However, the decision-makers of the central bank are appointed by the people directly engaged in political discourse. In this sense, it will be difficult for the technocrats of the central bank to stay away of the politics. That is why, for avoiding the situation when the central bank officials will be delivering the political will of the government who appoints them, the principle was independence was introduced (Aristis, Keith 1995). Also the central bank officials and their appointing governments have different terms in office. In Armenia the Constitution (1995) implies that the president of the central bank is appointed by the term of 6 years in office, whereas the president and the parliament are elected once in a 5 year. Such kinds of manipulations are done in order to minimize the risk of the politication of the central bank, allowing it to conduct monetary policy for maximizing the welfare of the citizens and not individual politicians or business persons.

However, even in this case conflicts between politics and economics arise. Welfare economics provides the basis for judging the achievements of markets and policy makers in

allocating resources. Its most powerful conceptual tool is the utility possibility frontier (Alsina, Summers 1993). This defines the set of utility allocations that can be achieved in a society subject to the constraints of tastes and technologies. Any allocation on the frontier cannot be Pareto dominated and hence would satisfy a rather minimal condition for it to be socially desirable.

Welfare economic approaches to the policy process have been criticized by those operating in the public choice tradition, for failing to consider how actual policy choices are made. The public choice critique of welfare economics says that, by failing to model government, it provides a misleading view of the appropriate role for government (Pollard 1993). Many models in the public choice literature lead to efficient policies which fail to maximize social welfare. In this case politicians extract resources for themselves at the expense of voters. Proponents of probabilistic voting models have sometimes suggested that particular social welfare functions are maximized in political equilibrium (Cukierman 2006). Some economists use the benchmark of social surplus to judge political outcomes. However, this is conceptually problematic and is labelled as an efficiency criterion. The notion of surplus is only defined under restrictive assumptions about preferences. Moreover, the criterion really only makes if there are lump-sum transfers and social preferences weights a dollar in every citizen's hands equally. This would be fine if both the political process and the planner were able to use lump-sum transfers. However, even then, the exact allocation of transfers would enter the calculus of whether the intervention is justified unless the second criterion also holds. But the latter is only one particular distributional preference and not an efficiency criterion.

Policies chosen by the political process may fail to be efficient using second-best efficiency as a benchmark. The idea of market failure comes from observing that, under certain conditions, markets do not result in allocations that are on the frontier. The term

"failure" is justified by the observation that, in principle, all citizens could be made better off. A parallel notion of political failure arises when resources used to determine policy fail to produce a selection from the second-best Pareto frontier so that, in principle, all citizens can be made better off (Cukierman 2006). This welfare economic notion of political failure should be contrasted with the standard approach to political failure rooted in the work of Wicksell. He argued that government intervention is legitimate only if government dominates a status quo point where government is absent. Then a political failure is defined when government fails to select a Pareto dominant point. A government can intervene efficiently in the welfare economic sense and yet still create a political failure. Moreover, the scope for political failure on this definition is vast. The difficulty lies in the need to make sufficient restrictions on the model of political resource allocation to get equilibrium to exist. These often exclude the rich policy space studied in welfare economics. However, the failing is on the side of economists not governments -- the latter struggling with a satisfactory theory of public choice. If the theory of market failure had proceeded in this way, it would have lead to many strange conclusions.

Public-choice analysis is a branch of economics that applies the principles and methodology of economics to the operation of the political process. Public-choice analysis links the theory of individual behaviour to political action, analyses the implications of the theory, and tests them against events in the real world. Economists have used the idea of self-interest to analyse markets, as well as public-choice economists use it to analyse political choices and the operation of government (Willet, Dechsakulthorn 2007). After all, the same people make decisions in both sectors. If self-interest and the structure of incentives influence market choices, there is good reason to expect that they will also influence choices in a political setting. The collective decision-making process can be thought of as a complex interaction among voters, legislators, and bureaucrats. Voters elect a legislature, which levies

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taxes and allocates budgets to various government agencies and bureaus. The bureaucrats in charge of these agencies utilize the funds to supply government services and income transfers. In a representative democracy, voter support determines who is elected to the legislature. A majority vote of the legislature is generally required for the passage of taxes, budget allocations, and regulatory activities.

People have a tendency to believe that support by a majority makes a political action productive. However, if a government project is truly productive, it will always be possible to find a way to allocate the cost so that all voters gain. This would mean that, even if voting rules required unanimity or near-unanimity, all truly productive government projects would pass if the costs were allocated in the right manner.

When voters pay in proportion to benefits received, all voters will gain if the government action is productive, and all will lose if it is unproductive. When the benefits and costs derived by individual voters are closely related, the voting process will enact efficient projects while rejecting inefficient ones. When voters pay in proportion to the benefits they receive, there will tend to be harmony between good politics and sound economics (Cukierman 2008).

Although the political process yields reasonable results when there is a close relationship between the receipt of benefits and the payment of costs, the harmony between good politics and sound economics breaks down when there is not. Inefficiency may also arise from other sources when governments undertake economic activities. A special interest issue is one that generates substantial personal benefits for a small number of constituents while spreading the costs widely across the bulk of citizens. Since their personal stake is large, members of the interest group will feel strongly about such issues. Many of the special-interest voters will vote for or against candidates strictly on the basis of whether they are supportive of their positions. In addition, interest groups are generally an attractive source of

campaign resources—including financial contributions. In contrast, most other rationally ignorant voters will either not know or will care little about special-interest issues. Even if voters know about some of these programs, it will be difficult for them to punish their legislators because each politician represents a bundle of positions on many different issues. While there is little to be gained from the support of the disorganized majority, organized interest groups provide politicians with vocal supporters, campaign workers, and, most important, financial contributions. As a result, politicians have a strong incentive to support legislation giving concentrated benefits to special-interest groups at the expense of disorganized groups. Even if supporting such legislation is counterproductive, politicians will often still be able to gain by supporting programs favoured by special interests.

Does the independence of central bank violate democracy?

Now let's examine one of the most important questions in the theory of central banking, which relates to the concept of democracy. The arguments whether the central bank independence violates democratic principles of governance has both proponents and opponents. The proponents argue that democratic principles are violated by granting independence to the central bank, because in democracy there is a rule of the population who do not have authority in this case to control the decisions taken by the central bank officials. On the other hand, people question the degree of the central bank independence often marking the need to better insulate the central bankers from the pressure to serve either the political motives of the government officials or the financial interests of private individuals and organizations. They argue that the central bank should be left alone to pursue the only goal of price stability. They fear that the government officials with too much influence over the central bankers or inappropriate laws can undermine the independence of the central bank.

The Federal Reserve Bank enjoys good measure of independence, however many scientists and practicians think that it should enjoy more (Levy 1995). Moreover, here a problem with the democratic governance can arise. A group of people who are not directly elected by the popular vote can gain discretion over deciding on a bunch of issues which affect the life of the citizenry of the state. For example the Governors of the regional Federal Reserve Bank are appointed by the Board of Directors who is elected by bankers and not the citizens. The Governors are appointed by the President and approved by the Congress. The Congress evaluates them as "custodians" of the price stability, economic growth to an extent not realized by the elected officials; they make decisions on a vast array of questions (Ashan et al. 2006).

Now, let's examine two cases when the central bank independence is consistent with democratic principles:

1. The monetary policy have narrow consequences: it affects price stability but does not involve into social tradeoffs. The central bank should not affect the unemployment or other vital aspects of the economy. If they are able to choose among different combinations of unemployment, inflation and growth, it violates the principles of democratic governance. This is why the proponents of central bank independence and central bank officials argue that the monetary policy cannot affect the unemployment rate of the country at least in a long run.

2. The central bank has an objective method of selecting the appropriate policy for meeting its goals: stable currency and healthy financial sector. If the method of selection of the above-mentioned policy is arbitrary, the removal of barriers and granting more independence cannot improve its performance. Moreover, the government (congress) might be able to stop the central bank whenever it is

appropriate and fight against dangerous gambling of the CB officials (Nunes, Da Silva 2007).

However, the reality is different from the above described situations. In fact, the central bank has great effects on many aspects of the economy as well as on the society.

That is the reason democracy requires the central bank as a carrier of the monetary policy to have limited independence in order not to stray away from the people's will as embodied in their duly elected representatives. Moreover, central bankers must be held accountable for all of the ramifications of their policy, and not just the inflation (Levy 1995).

Here a question rises, how central bank officials are different from other officials who are not elected directly and are appointed in terms that they both can de impeached for inappropriate policy design and implementation. On the example of the Fed, we can argue that the governors are more of a representative of the banking industry of the state and not the overall population. Moreover, other appointed officials do not have influence over such a bundle of issues which are of a vital nature for the whole population. Other appointed officials are more of a regulator nature, as they are enforcing rules and not designing policies. The central bank officials are in part regulators, but in other part they are making policy choices for the whole nation, which should be democratically determined and justified. Thus, the accountability of the central bankers should be in place. In this sense not granting more independence but requiring much of accountability can be a correct policy towards the central bank. The government should have greater control over the social and choices implicit in the monetary policy in order to make sure that the policies conducted are in accordance with the will of the population.

In this part of the paper, I am going to examine the research done by Matthew (2002) constructing measure of CBI and comparing the measures of CBI with the rate of inflation in 25 countries.

According to Matthew (2002), the more influential the government is in appointment procedures of a CB Board and the Governor, the more likely that the CB acts in accordance with government preferences. Hence lower CBI could end in inflationary bias (Guiterrez 2003). Both the theoretical economists and the practical central bankers strongly believe that price stability is the best contribution monetary policy can make to balanced, sustainable growth. Furthermore, overemphasis of monetary policy on growth and employment objectives leads to sub-optimal economic outcomes, since monetary expansions are neutral in its real effects and only breed inflation in the long run. The implication of this discussion is that CB should be highly conservative, so that it gains more policy independence in setting the objectives.

The index comprised of several components: the higher the values the higher the independence.

1. **Monetary Policy Independence**

1.1 *The degree of conservativeness of the CB or Independence in setting effective objectives*

a) The objective of monetary policy is only price stability or price stability is the principal and overriding, long run goal of monetary policy

b) The objective of monetary policy includes price stability and other aspects like financial stability-both exchange rate stability and banking sector stability

c) The objective of monetary policy includes price stability, financial stability and other conflicting concerns like stimulating economic growth and employment output stability

d) The objective of monetary policy is directed to stimulate economic growth and employment with little or no concern for price stability

1.2 *The degree of Goal or Target Independence*

a) The CB alone sets the numerical goals or targets for its objectives, for instance, exchange rates, monetary aggregates, interest rates or inflation

b) The CB and the Government jointly set the goals or targets for its objectives, for instance, through a policy targets agreement

c) The Government alone sets the targets for the objectives

1.3 *The degree of Instrument Independence*

a) The CB alone sets the instruments of monetary policy to achieve its objectives

b) The CB and the Government jointly set the instruments of monetary policy

c) The Government alone decides on setting instruments

1.4 *General policy conflicts*

a) The CB absolutely prevails over the Government in case of policy conflicts

b) The Government prevails over the CB, subject to due process and possible protest from the latter

c) The Government absolutely prevails over the CB

1.5 *Exchange Rate Policy Co-ordination*

a) CB formulates and implements exchange rate and foreign exchange policy consistent with objectives of monetary policy, and bank's view prevails over the Government in case of policy inconsistency

b) CB formulates, and implements exchange rate and foreign exchange policy on basis of instructions given by the Government, or Government's view prevail over

2. **Political Independence or Personnel Independence**

2.1 *Appointment of the Governor*

a) The Governor is appointed by the CB Board or two different bodies, which really balance one another, respectively nominate and appoint the Governor, for instance, the board or ministry of finance nominates and the legislature appoints

b) The Government both nominates and appoints the Governor, for instance, ministry of finance nominates and the cabinet appoints the Governor

2.2 *Terms of the Governor*

a) The term is longer than 5 years

b) The term is 5 years

c) The term is 4 years

d) The term is less than 4 years

2.3 *Dismissal of the Governor*

a) The dismissal of the Governor is possible only in the case of breach of qualification, misconduct, or poor performance; the procedures are very transparent, and with the approval of the legislature

b) The dismissal of the Governor is possible only in the case of breach of qualification, misconduct, or poor performance; but the procedures are not transparent, and not with the approval of the legislature

c) Unconditional dismissal of the Governor by the Government

2.4 *Term of the Board Members*

a) The term is longer than five years and staggered

b) The term is 5 years and staggered

c) The term is 4 years and staggered

d) The term is less than 4 years and staggered

3. **Fiscal Independence or Financial Independence**

3.1 *Limitations on advances*

a) CB advances to the Government prohibited

b) CB advances permitted, but with strict limits in terms of absolute cash amounts

c) CB advances permitted with loose and accommodative limits

d) No legal limits on CB advances to the Government

3.2 *Limitations on securitized lending*

a) CB advances to the Government prohibited

b) CB advances permitted, but with strict limits in terms of absolute cash amounts

c) CB advances permitted with loose and accommodative limits

d) No legal limits on CB advances to the Government

3.3 *Specification of the limits of CB lending*

a) CB lending defined in absolute currency amounts

b) *C*B lending defined in shares of Government revenue

c) CB lending defined in shares of Government expenditure

3.4 *Maturity of loans*

a) The maturity of CB loans cannot exceed 6 months

b) The maturity of CB loans above 6 months but cannot exceed 1 year

c) No legal limit on the maturity of CB loans

Now, when the CBI measure is constructed, the ranks of 25 countries can be calculated and the appropriate information can be revealed.

CBI and Inflation Rates in Developed and Developing Countries

Country/Aspects	MPI	PI	FI	CBI	Ranking of CBI	Annual Rate of Inflation *
United Kingdom	8.5	2	12	22.5	15	1.8
New Zealand	9	5	12	26	9	2.7
Canada	10	5	8	23	14	2.6
Sweden	11	6.5	8.5	26	9	2.4
South Korea	10.5	4.5	7.5	22.5	15	4
United States	10	11	11	32	2	2.8
Australia	7.5	4	12	23.5	13	4.4
Italy	7.5	7.5	10.5	25.5	10	2.7
Spain	10.5	5	12	27.5	6	3.6
Finland	9.5	5.5	11.5	26.5	8	2.5
Switzerland	10	7.5	11.5	29	4	0.96
France	9.5	8	11	28.5	5	1.6
Germany	12	10	11.5	33.5	1	2.3
Brazil	8.5	7	11.5	27	7	6.8
Thailand	11	3	11.5	25.5	10	1.7
Czech Rep	10	4	10.5	24.5	11	4.7
Chile	12	11	8	31	3	3.6
Poland	11	5	8	24	12	5.5
Indonesia	5	8	7	20	17	11.5
Israel	9.5	5	11.5	26	9	1.2
South Africa	9.5	6.5	7	23	14	5.6
Malaysia	8.5	4	11	23.5	13	1.4
Mexico	10.5	5	6	21.5	16	6.3
India	6.5	2.5	8.5	17.5	18	3.6
Peru	10	10	9	29	4	2

(Source: Matthew 2002)

From this table we can observe that the countries with higher level of independence have lower level of inflation, thus proving the argument that the independence of the central bank and the rate of inflation are inversely related. This is a good argument for the proponents of providing more independence to the central banks.

However, discussing this topic many aspects should be taken into consideration. The fact that granting too much independence to the central bank officials can become a reason for temptation for the same officials also needs to be reviewed. The transparency and

accountability of the actions taken by the central bank should be kept in place in order not to lose the democracy principle.

Taking into consideration all the above-mentioned and having in mind the fact that the independence of the central bank is comprised of two categories: goal independence and target independence, we can conclude that for not violating the democratic principles of governance there is a need for target independent central bank and not a goal independent one.

Conclusion

The central bank is an institution which is of utmost importance for every country as it solely conducts the monetary policy of the state. In today's globalized world the importance of the central banks has reached a new level, and the issue is the level of independence granted them by the legislation. Moreover, the fact of granting independence to the central banks raises the issue of democratic governance.

First of all, there is a need to clearly understand why the independence of the central banks is needed. If the central bank is dependent on the government or other state governing entity, it can become a tool in the hands of that entity and used to sustain its financial needs.

The central bank can become a tool in the hands of the political elite, individual influential politicians or even individual business persons. In all the cases the central bank at least looses its meaning as a state economical entity.

Another important factor for independence is the need to separate the fiscal policy from the monetary one. If the fiscal policy prevails over the monetary one, it can use the means of the central bank for financing its budgetary expenses and even deficits by the interplay of the exchange rates, interest rates or issuing bonds. In this case the central banks for covering the deficits of the government which will lead to negative consequences for the population. The population will bear all the costs of the budget deficit. Thus, it is necessary to separate these to policies and conduct them without any dependency from each other. As the Stackelberg's model showed, for an efficient working economy it is necessary to have the monetary policy as the leader and the fiscal one as the follower. This will also help to eliminate the possible conflicts between the fiscal and monetary policies.

Through examination of various researches we tried to find out, does the condition of independence of the central bank brings to best possible outcomes. It became apparent that through interplay of the monetary and fiscal relations it is possible to achieve the best possible outcomes. Although the condition of the independence of the central bank is not a sufficient one, but it is a necessary one, because only with the presence of that condition the interplay becomes possible , thus bringing to the achievement of the best possible outcomes.

For the purposes of the study the term Pareto efficiency was conceptualized as the best possible outcome in terms of budgetary expenditures and inflation. Through examination of models we came to conclusion that the interplay of the fiscal and monetary policies makes the best effort in cutting the unnecessary budgetary expenses and brings to the desired output. Having in mind from the previous discussion that the independence condition of the central

bank is a necessary condition for achieving price stability it becomes apparent that the CBI can bring to Pareto efficient outcome if several conditions are satisfied.

Concluding the above-mentioned we can sum up that the condition of independence is a need for every sovereign state as it is a key for achieving the first or second best outcomes, helping to cut the unnecessary budgetary expenditures and achieve price stability: the ultimate goal of the monetary policy.

The independence also has its political implications to the economy. The issue of credibility of the central banks comes across. Every central bank needs to maintain and keep its credibility as a condition which is an integral part of the central bank. Central banks have to choose between two policies: discretion and commitment. The committed central bank is always following the rules and announced plans, thus has much credibility. In its turn the central bank which chooses discretion, can change the announced plans taking into consideration some circumstances that is why it lacks credibility.

During the research, modelling was done which was to calculate the expectations of the private sector from the announced plans and policies of the central bank. The expectations were dependent on the announced target inflation of the central bank, the momentary object of the central bank, the possibility of the existence of the current government or the change of it, and the possibility of replacement by a strong or a weak central bank. After the expectations were calculated, the management of expectations was examined to understand how the central banks are managing the expectations of the private sector, and how it helps to maintain the credibility.

Finally the accordance of central bank independence with the democratic principles of governance was examined. Many factors were taken into consideration, and finally it was concluded that the central bank with its condition of independence does not hinder the democratic governance of the country, if that independence is not a goal independence one,

but only a target independence, where the central bank is given the goals to achieve and needs to find the correct instruments to persuade those goals.

Thus, we found out, that when certain criteria are met, the central bank independence does not violate the democratic governance.

Recommendations

Taking into consideration all the above mentioned facts and analyses:

- ➤ The monetary and fiscal policies should be separated

- ➤ The monetary policy should be the leader, while the fiscal one the follower

- ➤ The interplay between the monetary and fiscal policies should be on appropriate level, in order o avoid possible conflicts

- ➤ Corresponding policies should be designed to eliminate the possibility of conflict between political decision-making and economic efficiency

- ➤ The central banks should be granted independence in order to conduct the monetary policy

- ➤ The legislations should be designed in a way to keep the principles of accountability and transparency of the independent central banks

- ➤ Goal independence should not be granted to the central banks

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