Central Bank Independence and Central Bank Conservatism: Theory with an Application to Iran

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New monetary literatures widely concentrates on the importance of institutional arrangements in the effectiveness of monetary policy. The debate regarding the optimal institutional design of central banks, independence and conservatism are usually considered to be the most important ingredients for a stable and successful monetary policy. Therefore, the purpose of this study is to deal with the institutional arrangements of monetary policy especially Central Bank Independence (CBI) and Central Bank Conservatism (CBC). Indices used by Grilli et al. (1991), Cukierman (1992), Mathew (2006) and Dumiter (2009) were applied to calculate the CBI during 1961-2016, and CBC in Iran using a dynamic optimal solution under commitment in Barro-Gordon and New-Keynesian forward looking Philips Curve models. Results show that the relative concern on inflation is smaller than that on output gap for the central bank of Iran. Also results regarding the calculations of CBI based on different indices reveals the fact of insufficient independence of central bank in Iran.

Keywords: Central Bank conservatism, Inflation averse, Loss function, Central Bank independence
JEL Classification*:* C57, E42, E58

1 Introduction

During 1970s, with the generalized increase in inflation after the end of the Bretton Woods agreements under which fixed exchange rates worked as nominal anchors, several proposals to achieve price stability were put forward. One of the first came from Milton Friedman. Friedman argued that price stability could be achieved by allowing the central banks to pursue a monetary policy based upon a fixed rule announced every year. It can be shown; however, that commitment to such a rule is not an optimal strategy because it makes central banks too inflexible to face unanticipated shocks, particularly supply-side shocks (Meisel & Baron, 2010). Another approach to achieve

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price stability is the one that postulates an autonomous central bank. In fact, since 1980s, the idea of an independent central bank has gained support (Cukierman, 2006). Part of this support stems from the success of the Bundesbank (one of the most independent central banks in the world) in achieving a relatively low rate of inflation for decades.

Moreover, building on earlier work by Kydland and Prescott (1977) on time-inconsistent policies, Barro and Gordon (1983) inspired a large literature on how to overcome the time inconsistency problem of monetary policy. One ways is to delegate the responsibility of monetary policy to an independent central bank. However, central bank independence is only a necessary but not sufficient condition to ease the inflation bias. This is due to the fact that delegating monetary policy to an independent central bank sharing the same objective function as the government would not lead to a reduction of the inflation bias. Rogoff (1985) noted that the inflation bias can be mitigated by appointing a conservative central banker, who puts less relative weight on the output target than the government itself (Berlemann & Hielscher, 2013).

Rogoff (1985) indicated that, dynamic inconsistency theories of inflation of the type developed in Kydland and Prescott (1977) and Barro and Gordon (1983) make it plausible that more independent central banks will reduce the rate of inflation. Delegating monetary policy to an agent whose preferences are more inflation averse than society's preferences are, serves as a commitment device that permits sustaining a lower rate of inflation than would otherwise be possible. However, Rogoff also noted that too much conservatism could be harmful because then the central bank would be inactive to output disturbances.

Alesina and Grilli (1992) develop this argument by showing that the "median voter" would want to appoint a central banker more inflation averse than himself. The "median voter" wants to be "time inconsistent" and recalls the central banker, who, ex post, is being too conservative on the inflation front. Insulating monetary policy from political process avoids this problem and helps enforce the low inflation equilibrium. Without some degree of political independence, it would be impossible to appoint a central banker more inflation averse than a majority of the voters, which is a socially desirable goal. So, it is argued that delegating monetary policy to an independent and conservative central bank will improve its credibility and deliver, on average, a lower and less volatile rate of inflation, albeit at the price of higher output variability.

In the literature about monetary policy delegation, most papers treat central bank independence and conservatism as a joint variable. Both institutional

features are usually modeled by a unique parameter representing the relative weight attributed to inflation stabilization in the central bank's objective function. Yet, independence and conservatism (henceforth, CBI and CBC) are two different concepts: independence refers to the central bank's ability to determine monetary policy without facing pressures from the government, while conservatism refers to the fact that the central bank assigns a higher relative weight to inflation control than society and the government do (Hefeker & Zimmer, 2011).

Accordingly, from 1980 that importance of central bank independence and conservatism as institutional arrangements in decreasing inflation and stabilizing the economy have been revealed, an extensive theoretical and empirical literatures have been developed on measurement the amount of these institutional variables. Of course, most of this studies focuses on the central bank independence (see Bade & Parkin, 1988; Grilli et al, 19991; Cukierman, 1992; Alesina & Summers, 1993; Kimber & Wagner, 1998; Cukierman, 2006; Mathew,2006; Dumiter, 2009), and central bank conservatism receives less attention.

Since, the existing monetary literature emphasize on the importance of central bank institutional arrangements such as central bank independence and central bank conservatism in decreasing the inflation and stabilizing the economy, measuring the degree of independence and conservatism of central bank of Iran and its role in stabilizing the economy is investigated in this study. So the next chapter includes the review on theoretical literature and introduces the model. Section 3 presents the data and methodology while the results are presented in section 4 and conclusion in section 5 of the study.

2 Theoretical Literature

In the debate about the optimal institutional design of central banks, independence and conservatism are usually considered to be the most important ingredients for a stable and successful monetary policy. Since CBI and CBC are qualitative phenomena, first we must quantify them and then investigates the situation of Central bank by these variables.

2.1 Measuring CBI

As Rogoff (1985) notes, dynamic inconsistency theories of inflation of the type developed in Kydland and Prescott (1977) and Barro and Gordon (1983) make it plausible that more independent central banks will reduce the rate of inflation. Delegating monetary policy to an agent whose preferences are more

inflation averse than society's preferences serves as a commitment device that permits sustaining a lower rate of inflation than would otherwise be possible.

Central bank independence might improve real economic performance for several reasons. First, an independent central bank that is free from political pressure may behave more predictably, promoting economic stability and reducing risk premia in real interest rates. More specifically, an independent central bank may serve to insulate the economy from political business cycles either by preventing pre-election manipulation of monetary policy as in the models of Nordhaus (1975) and Rogoff and Sibert (1988), or by reducing partisan shocks to policy following elections as in the models of Hibbs (1987) and Alesina (1988, 1989). Second, to the extent that high inflation has adverse effects on economic performance either by creating distortions, encouraging rent seeking activity, or by raising risk premia, one would expect central bank independence to improve economic performance. If, as is often suggested most U.S. recessions result from the Federal Reserve cracking down on inflation after it has been allowed to increase too much, one might expect that more consistently inflation-averse policy would be associated with less variable economic performance (Alesina and Summers, 1993).

Nowadays, Central bank independence (CBI) has become one of the central concepts in monetary theory and policy and has been applied in many countries to control inflation and stabilize the economy. In addition to the theoretical literature, empirical literature is an important factor that affects the development of the idea of the central bank's independence. From 1980 there has been a large empirical literature about the impact of central bank independence on macroeconomic performance. Since the Central bank independence is a qualitative phenomenon the major problem of this studies is to measure the independence of central banks. Accordingly, to calculate the degree of independence of the central banks several indicators have been developed. These indices focus on the different aspects of independence and so results to different degree of independence of a central bank.

Calculating the degree of CBI is the next step. From 1980 with growing of literature of CBI, there has been large empirical literature about the impact of central bank independence on macroeconomic performance. Since the Central bank independence is a qualitative phenomenon the major problem of this study is to measuring the independence of central banks. Accordingly, several indices have been developed to calculate the degree of independence of the central banks. These indices focus on the different aspects of independence and so results to different degree to independence for a central bank.

Measuring central bank independence is mainly based on the interpretation of central bank laws and therefore concerns legal independence only. The construction of so called legal indices is done by structuring those criteria which are regarded as being relevant and valuating the compliance with them on a numerical scale. Actual central bank independence can be different from legal independence. For example, some central banks in the transition countries are confronted with problems of an adequate implementation of the central bank law and its possibly deviating public assessment (Radzyner & Riesinger, 1997). The personal characteristics and abilities of central bankers as well as informal relations between the government and the central bank and subtle methods of political influence may also lead to a deviation of actual from legal independence. Furthermore, the extent with which legal independence becomes actual independence may also be characterized by historical experiences which lead to specific "stability cultures" and a general readiness to comply with valid laws or to a respect for laws in general (Kimber & Wagner, 1998).

Index of Bade and Parkin (1988) is the first attempt to measure CBI. This index differentiates between political independence and financial independence. Eijffinger and Schaling (1993) place greater emphasis on the significance of policy independence in the Bade and Parkin index.

In this study indices from Grilli et al (1991), Cukierman et al (1992), Mathew (2006), and Dumiter (2009) have been used. Therefore, these indices are introduced as follows.

Grilli, Masciandaro and Tabellini (1991) have developed a legal index for measuring CBI. This index distinguishes between political and economic independence. To measures the political independence they designed 8 criteria. These Criteria focuses on the circumstance of governor and broad member of central bank, condition of central bank in pursuing monetary policy and conflict between monetary and fiscal policies. The economic independence focuses on the ability of central bank to choose monetary policy instrument without interference of government; time, interest rate and amount of direct credit facility to government; determining discount rate; participating central bank in primary market for public debt and banking supervision.

Cukierman, Webb and Neyapti (1992) introduce an index for calculation CBI. Indices LVAU (Unweighted index of legal Independence) and LVAW (weighted index of legal Independence), take into account 16 characteristics for central bank independence which are divided into 4 clusters. LVAU and LVAW differ from each other through their different weighting of some components. The main groups cover characteristics of the personal

independence of the chief executive officer (CEO) (term of office, appointment, reasons for dismissal), aspects of the central bank's policy independence (policy formulation, resolution of conflicts - PF), the final objectives (OBJ) laid down in the central bank statute and the legal restrictions on the ability of the government to borrow from the central bank (LL).

Mathew (2006) and Dumiter (2009) introduce composite indices to measuring CBI. These indices investigating de jure and de facto independence, transparency and responsibility of central banks.

The index introduced in Mathew (2006) investigates the central bank independence in monetary policy, personal or political and financial independence. Monetary policy independence that refers to ability of central bank to determine objects and tools contains 6 criteria. These criteria examine the ability of central bank to determine monetary policy objectives, select momentary tools, determine exchange rate, the condition of conflict between monetary and fiscal policy, and supervision of financial market. Personal independence investigates the circumstances of central bank governor and board member and has 6 criteria investigating the appointments and dismissals terms of governor and board member of central bank, and dependence of board members on government. The financial independence refers the financial relationship between central bank and government. Conditions of lending, restriction of lending, duration, interest rate and restriction in the amount of lending to government and condition of central bank to buy government bonds in primary market are investigated in this area.

Dumiter (2009) introduce an index for measuring Central Bank Independence. This index investigating CBI in 3 areas including central bank legal and political independence, central bank governor and conduct of monetary policy, and central bank transparency and accountability. Central bank legal and political independence examine the term of office for governor, legal power to appoint the governor, legal power to dismiss governor, turnover rate of governor, political vulnerability of governor, members of the management board of the central bank, appointment and term of the board members. In the central bank governance and conduct of monetary policy criteria contains the position of objectives, monetary policy strategy, and independence of central bank in choosing the targets and instruments monetary policy, how interest and exchange rate are determined, general conflict between monetary and fiscal policy, foreign exchange rate market regulation and intervention, financial supervision, lending to government and its terms, maturity and interest rate for lending. The central bank transparency

and accountability investigate the transparency of the decisions, policies and performance of central bank.

The criteria in this section are: (a) is there a formal statement of the objective(s) of monetary policy with an explicit prioritization in case of multiple objectives; (b) is there a quantification of the primary objective; (c) are there explicit contracts in the similar institutional arrangements between the monetary authorities and the government; (d) is the basic economic data relevant for the conduct of monetary policy available: money supply, inflation, GDP, unemployment rate and capacity utilization; (e) does the central bank disclose the macroeconomic model(s) it uses for policy analyses; (f) does central bank regularly publish its own macroeconomic forecasts; (g) does the central bank regularly provide an evaluation of the outcome in light of macroeconomic objectives; (h) does the central bank regularly provide information on macroeconomic disturbances that affect the policy transmission process; (i) does the central bank disclose on explicit policy inclination after every policy meeting on an explicit indication or likely future policy acts at least quarterly; (j) does the central bank provide an explanation when it announces policy decisions; (k) are decisions about adjustments to the main operating instrument or target made promptly; and (l) are the central bank activities audited; (Jafari Samimi et al, 2015).

2.2 Measuring Central Bank Independence

Since CBC refers the concerns about the inflation for central bank, its calculation is more complicated than CBI. CBC is defined as the relative concerns on inflation to output gap, or relative sensitivity of central bank to inflation; so it can be extracted from central bank loss function. Therefore, we must first design the central bank loss functions and then calculates the weights of inflation and output gap.

With general consensus on the forward-looking nature of macroeconomic models, Jensen (2002), Walsh (2003), Svensson and Woodford (2005) and Vestin (2006), tackles the inconsistency issue in a new Keynesian model. In each case, the proposed solution imposes two assumptions: the central bank in practice operates with discretion and the central bank loss function must differ from the social one to mitigate or eliminate the inconsistency of optimal policy (Yuan & Miller, 2009). So, in this study we impose these two assumptions, and focuses on designing the central bank loss function. That is, the central bank loss function may differ in functional forms with different variables and parameters from those of the social loss function. The

methodology of this section is based on the Eijffinger & Hoebrichts (2008); Hefeker & Zimmer (2011); and Yuan et al. (2011).

For society as a whole, the welfare theoretic loss function is of the form:

$$W = E_0\{\sum_{t=0}^{\infty} \beta^t L_t\} \tag{1}$$

Where β is the discount factor and the per period loss function is given by:

$$L_t = \frac{1}{2}[(\pi_t - \pi^*)^2 + \lambda^g (x_t - x^*)^2] \tag{2}$$

where π^* and x^* are respectively optimal level for the inflation and output gap and λ^g is the weight attached to output gap stabilization relative to inflation stabilization. Woodford (2003) justifies the convenient and widely assumed specification of the quadratic loss function by showing that it represents a second-order Taylor series approximation of the representative household's expected utility. Woodford (2003) also derives an optimal weight on output stabilization λ that depends on the structural parameters of the model.

Aggregate supply has been modeled as an expectations-augmented Phillips curve with purely forward-looking expectations.

$$\pi_t = \kappa x_t + \beta E_t \pi_{t+1} + u_t \tag{3}$$

Where β defined as in pervious the discount factor and κ is the sensitivity of inflation rate to the output gap, and u_t is a cost push shock following AR(1) process.

$$u_t = \rho u_{t-1} + \hat{u}_t \tag{4}$$

Where $0 \leq \rho < 1$, and $\hat{u}_t$ is a white noise residual. The consolidated first-order condition of optimal policy under the social intertemporal loss function (1) with period loss function (2) subject to the Phillips curve (3) equals:

$$x_0 - x^* = -\frac{\kappa}{\lambda^g}(\pi_t - \pi^*) \quad \text{for t=0} \tag{5}$$

$$E_0 x_t - E_0 x_{t-1} = -\frac{\kappa}{\lambda^g}(E_0 \pi_t - \pi^*) \quad \text{for t} \geq 1 \tag{6}$$

Combining the first-order conditions (5) and (6) and the Phillips curve (3) leads to the socially optimal solution:

$$(\pi_t - \pi^*) = \frac{\lambda^g}{\kappa}(1 - \delta)(x^* - \bar{x}) + \frac{\delta}{(1-\delta\beta\rho)} u_0 \quad \text{for t=0} \tag{7}$$

$$(x_0 - x^a) = \delta(x^* - x^a) - \frac{\kappa\delta}{\lambda^g(1-\delta\beta\rho)}u_0 \quad \text{for t=0} \tag{8}$$

$$(\pi_t - \pi^*) = \delta(\pi_{t-1} - \pi^*) - \frac{\delta(1-\rho)}{\rho(1-\delta\beta\rho)}u_t \quad \text{for t} \geq 1 \tag{9}$$

$$(x_t - x^a) = \delta(x_{t-1} - x^a) - \frac{\kappa\delta}{\lambda^g(1-\delta\beta\rho)}u_t \quad \text{for t} \geq 1 \tag{10}$$

Where δ (0<δ<1) is the smaller root of the characteristic equation

$$\beta\delta^2 - b\delta + 1 = 0 \tag{11}$$

$$b = 1 + \beta + \frac{\kappa^2}{\lambda^g} \tag{12}$$

$$x^a = \frac{1-\beta}{\kappa}\pi^* \tag{13}$$

The parameter x^a defines the implied output gap target. Equations (7), (8), (9), and (10) suggest that the socially optimal solution is time inconsistent.

Optimal solutions in equations (9) and (10) suggest that the implied targets are the best long-run outcomes, and they emerge in the long run according to the persistence parameter. Thus, we delegate state-contingent targets to the central bank. That is, we set the systematic evolution paths in the optimal solutions in equations (9) and (10) as the targets of the central banker to direct target variables to evolve along the optimal paths. That is,

$$L_t = \frac{1}{2}\left[\left(\pi_t - \pi_t^b\right)^2 + \lambda^b\left(x_t - x_t^b\right)^2\right] \tag{14}$$

$$\pi_t^b = \pi^* + (E_t\pi_{t+1} - \pi^*)/\delta \tag{15}$$

$$x_t^b = x^a + \delta(x_{t-1} - x^a) \tag{16}$$

The consolidated first-order condition of discretionary policy under the loss function (14) with targets in equations (15) and (16) subject to the Phillips curve (3) equals

$$\kappa[(\pi_t - \pi^*) - (E_t\pi_{t+1} - \pi^*)/\delta] + \lambda^b\{[(x_t - x^a) - \delta(x_{t-1} - x^a)] - \beta\delta[(E_tx_{t+1} - x^a) - (x_t - x^a)]\} = 0 \tag{17}$$

Combining the first-order condition (17) and the Phillips curve (3) generates discretionary policy under the delegated targets in equations (15) and (16). Using equations (9), (10) and $E_t u_{t+1} = \rho u_t$ in equation (17) produces:

$$\lambda^b = \frac{1-\rho}{\delta(1-\delta\beta\rho)}\lambda^g \tag{18}$$

Where λ^b is positive and feasible.

Like most developing countries, in Iran the central bank is not completely independent from government. And government interferers in monetary policy making. So policy making is performed between central bank and government. Therefore, monetary policy is implemented by the central bank, but the central bank is not completely independent in the way it sets policy. The central bank faces pressure from the government about the weight that should be given to the objective of output stabilization.

There are few papers that have allowed for a formal distinction between CBI and CBC. Important studies are the papers by Eijffinger and Hoeberichts (1998, 2008), Hughes Hallett and Weymark (2005) and Weymark (2007). These authors introduce an explicit parameter for independence in a monetary policy model with a conservative central banker. The idea of government influence on monetary policy is captured by the fact that the objective function that effectively governs monetary policy is a weighted average of the central bank and the government's objectives. CBI is then defined as the strength of the central bank in the negotiations with the government about monetary policy. The strength of the central bank in the negotiations with the government, or her independence from politicians, is captured parameter γ, with $0 < \gamma \leq 1$. The loss function that effectively governs monetary policy is a weighted average of the central bank's loss function and the government's loss function with weights γ and $(1 - \gamma)$ attached to the central bank and to the government, respectively. Based on the loss function of government and central bank, monetary policy maker loss function is expressed as below (Hefeker & Zimmer, 2011).

$$L_t^P = (1 - \gamma)L_t^g + \gamma L_t^b = \frac{1}{2}\left[(\pi_t - \pi^*)^2 + \left[\gamma L_t^b + (1 - \gamma)L_t^g\right](x_t - x^*)^2\right] \tag{19}$$

Therefore, the relative weight of output gap to inflation for monetary policy maker can be calculated by $\left[\gamma\lambda^b + (1 - \gamma)\lambda^g\right]$ that γ is the degree of central bank independence. By replacing equation 3-14 the policy maker relative weight can be expressed as:

$$\lambda^P = \gamma \frac{(1-\rho)}{\delta(1-\delta\beta\rho)}\lambda^g + (1 - \gamma)\lambda^g \tag{20}$$

Where the L^p and λ^p are respectively monetary policy maker loss function and relative weight of output gap to inflation.

3 Data and Methodology

The purpose of this study is to investigate the situation of institutional arrangements of monetary policy in Iran. Since the most important phenomena of institutional arrangements are CBI and CBC, the focuses of this study is on the calculating CBI and CBC.

Several indices are introduced to calculate the CBI. Since independence has various aspects, each of the indices focuses on the different aspect of independence. So, four indices (index of Grili et al (1991), Cuckerman (1992), Mathew (2006) and Dumiter (2009)), are applicate to have a perfect insight of the situation of CBI in Iran. Calculating CBI is based on the monetary and banking laws, five-year development program especially after 1979 revelation, and other laws and rules such as budget laws, interest-free banking rules and other rules since establishments of Central Bank of Iran up to now 1339-1395 (1961-2016).

CBC could be estimates from the central bank loss function by using equations (18) and (20). To do this, we must calculate CBI, λ^g, ρ, δ, β, κ and b.

CBI is calculated in this study, λ^g and other structural parameters of equations (18) and (20) are extracted from empirical literatures.

Other studies supposed that from 1990s CBI is constant and rarely changes in countries, but in this study with regard to Derakhshani Darabi (2015) CBI is calculated separately for each year. Estimating CBC depends on λ^g and since λ^g could not be calculated yearly, CBC could not either. So, we estimate the average of CBC for the period of 1961-2015.

4 Results

In this study indices from Grilli et al (1991), Cukierman (1992), Mathew (2006), and Dumiter (2009) have been used. To measure CBI indices other studies supposed that monetary and banking laws in countries are stable and rarely change. This assumption is suitable for developed countries, but in developing countries laws are often changed. Furthermore, the change in government affects the implementation of laws. So, it is better that CBI be measured during the time as it has been the case for Iran during 1961-2016 (1339-1394). Figure (1) shows the inflation and degree of CBI based on various indices. The figure shows that decrease in CBI has been associated with increase in inflation. Also. The figure No.1 shows 5 break point for the degree of CBI. These points refer to monetary and banking law reform in 1972, the act of usury-free banking operation in 1983, starting the

developmental plan in 1989, and in decrease in the transparency and responsibility of central bank in 2007. Note that decrease in CBI in 2007 is because of reduction in transparency and responsibility of central bank and just shown in Mathew and Dumiter indices, the changes in the 2013 is because of changes in the monetary and banking laws concerning appointments and dismissals of CEOs and also change in situations of transparency and reporting the economic indicators. The Figure also shows that the trend of inflation changed after any break point[*].
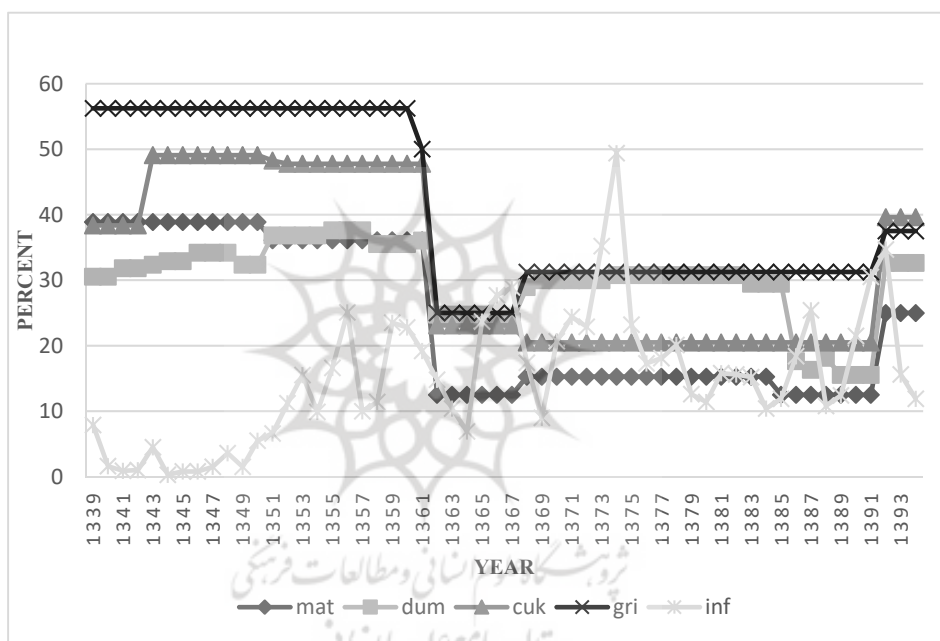

Figure 1. Central Bank Independence and Inflation Trend in Iran during 1961-2012

Source: Author calculations and Derakhshani Darabi (2015). (Note that Mat, Dum, Cuk and Gri are respectively the indices of Mathew (2006), Dumiter (2009), Cukierman (1992) and Grilli et al (1991).

Table 1 shows the correlation between CBI indices and inflation. Table shows a negative correlation between CBI indices and inflation.

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[*] For more information, look at: Derakhshani Darabi (2015)

Table 1
Correlation between CBI Indices and Inflation

	CUK	MAT	GRI	DUM
INF	-0.533051	-0.253754	-0.457153	-0.516834
	(-4.629696)	(-1.927806)	(-3.777179)	(-4.436398)
	[0.0000]	[0.0591]	[0.0000]	[0.0000]

Source: Author's calculation. (t-student) [prob]

Table 2
Structural Parameters of the Model

Parameter	Value	Reference
β	0.96	Jafari Samimi ea al. 2014.
κ	0.55	Rahmani & amiri, 2012.
ρ	0.45	Authors calculation
b	2.05	Authors calculation
δ	0.76	Authors calculation
λ^g	3.40	Tavakolian, 2013.

Source: Research findings.

Table 3
CBI Indices and Relative Weight of Output Gap to Inflation for Central Bank and Monetary Policy Maker

variables	Description			
λ^g	3.40			
λ^b	1.59			
CBI index	Mat*	Dum*	Cuk*	Gri*
	24.30	30.01	32.53	41.07
λ^p based on the CBI indices	2.92	2.78	2.75	2.67

Source: Authors calculation.

For calculating the relative importance of output gap for central bank and monetary policy maker based on its value for government, we first need to estimate the structural parameters of equations and measure CBI. There are different ways to estimate the structural parameters of an economy. One may use structural equation and estimate them using conventional econometrics methods. But with regard to Lucas Critiques (1976), estimating structural parameters of an economy should use a DSGE model. So in this study

structural parameters are extracted from studies that used DSGE models. The values of structural parameters and their sources are reported in table 2.

The relative importance of output gap to inflation for central bank and monetary policy maker are reported in table 3.

Rogoff (1985) indicated that central delegating monetary policy to a conservative central bank has a greater relative concern about inflation than output gap. Table 2 just reported the relative concern of output gap to inflation and since the relative concern on inflation is reverse of relative concern on output gap. The relative concern on inflation for government and central bank respectively are 0.29 and 0.62.

5 Conclusions

The purpose of this study is to investigate the Central Bank Independence (CBI) and Central Bank Conservatism (CBC) for the central bank and monetary policy maker. To this aim after investigating the existing literature new method was introduced for calculating them for dependent central bank and monetary policy makers.

Results shows that after any break point in the trend of CBI indices, the trend of inflation changed and this shows the importance of stability bin monetary and banking laws. Developmental laws especially after the revolution have the negative impact on CBI. Although, coordinating between monetary and fiscal policy is necessary for development, but this coordination should be in a circumstance that does not affect the independence of a central bank.

Results indicated that both the central bank and government have a greater relative concern on output gap. The relative concern of central bank and government on output gap are respectively 1.59 and 3.40 and relative concern on inflation are 0.62 and 0.29 respectively. These results express that although the central bank concern on inflation is greater than that of government, it is smaller than central bank concern of output gap. And relative concern on inflation is smaller than relative concern on output gap for both central bank and government and thus for monetary policy maker.

In the last 40 years, Iran suffered from high inflation and macroeconomic. According to the results, as CBI has a negative relationship with inflation and growth, it is suggested that monetary laws be previsioned in such a way that they increase the independence of central bank. Also a more inflation averse person that has a greater concern on inflation than output gap should be appointed as the central bank governor.

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