



# REVISTA INCLUSIONES

NUEVOS AVANCES Y MIRADAS DE LA CIENCIA

Revista de Humanidades y Ciencias Sociales

Número Especial Julio / Septiembre

2019

ISSN 0719-4706

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**THE RELATIONSHIP BETWEEN THE PROPER SIZE OF GOVERNMENT  
AND CENTRAL BANK INDEPENDENCE USING GROUNDED THEORY**

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**Fecha de Recepción:** 04 de marzo de 2019 – **Fecha Revisión:** 19 de abril de 2019

**Fecha de Aceptación:** 29 de junio de 2019 – **Fecha de Publicación:** 01 de julio de 2019

**Abstract**

The purpose of this study is to investigate the relationship between the proper size of government and central bank independence using the grounded theory since they are considered as important factors in the economic stability of a country. Cukierman and Army Curve indexes are used in order to test central bank independence and the proper size of government. The central bank independence and the proper size of government are completed through the banking network.

**Keywords**

Grounded Theory – Central Bank Independence Index – Proper Size of Government Inde

**Para Citar este Artículo:**

Khosravi, Reza y Zayandehroodi, Mohsen. The Relationship between the Proper Size of Government and Central Bank Independence Using Grounded Theory. Revista Inclusiones Vol: 6 num Esp Jul-Sep (2019): 56-69.



## Introduction

The history of economics reveals that before the establishment of the central bank, governments took the responsibility of supplying money. Having the privilege of money supply, governments spurred inflation with a sharp rise in the volume of money in circulation, whenever they faced reduced revenues or shortages of liquidity in the treasury. Since governments are the executive power and manage the budget expenditures, they tend to spend more resources than the amount of revenues. Therefore, they constantly force the central banks to receive loans and do not pay much attention to the effects of inflation. Although, according to the empirical and theoretical considerations of macroeconomics, the regulation of monetary policy, including the volume of liquidity, must be made in line with the goals such as economic growth and the stability of the general level of prices, the financial problems of governments have overcome those considerations. The efficiency of monetary policy, therefore, has seriously been jeopardized. This historical experience of the relationship between the government and the central bank has led to the formation of the independence theory, in terms of the relations between the government and the central bank.

Independence of the central bank does not mean that the central bank has absolute freedom and should not pay attention to the government policies, but rather, the central bank, according to the economic conditions and developmental stages of the country, must have effective monetary policies to control inflation without causing stagnation and unemployment and create the necessary motivation and mobility in the economy of the country as well. To achieve this crucial goal, therefore, the existence of an efficient Islamic banking system is essential.

Concerning the proper size of the government, there is no consensus between different schools and economic perspectives. Governments, in terms of the economic interventions, can be set in a wide range, from a classical government to a centralized planning government. The legislature government, the welfare government, the policy maker government, and the local planning government are among this wide range of governments. However, most scholars highlight the need to build the necessary infrastructure by the government, including institutions for the protection of property rights, policymaking, the obligation to implement commitments, and a system of financial stability, to serve the market better. Furthermore, providing the core services based on the above-mentioned institutions, which provide security, and a level of social welfare is considered essential.

The relationship between the government expenditure and economic growth is not clear in economic theories as well. Nevertheless, it is assumed that the government will contribute to the economic growth by building the necessary infrastructure and providing the optimal and efficient basic services. There is evidence of the performance of some developed and developing economies in recent decades indicating that exceeding the extent of the government from the limits required to provide basic services will lead to a decline in economic growth. In cases of market failure (negative external effects and public goods supply), however, one cannot ignore the indispensable tasks of the government in the development of the institutional and legal infrastructure, the redistribution of income and wealth, and the supply of public goods, among others. Accordingly, the study of the relationship between the independence of the central bank and the proper size of the government is the main purpose in the present study.

## Statement of problem

The central bank independence plays an important role in effectiveness of economics policies and can helps to achieve prices and financial stability.

The central bank independence is a critical issue in modern central banking. Therefore, we can rarely find countries in which the inflation can be controlled successfully without an independent central bank.

Despite the importance of central bank independence, the current money and banking laws and regulations don't deal with in a suitable manner. As an example, although the chapter 4 of non-usury banking operations law deals with central bank and monetary policy, but the important issue of central bank independence was neglected. Also, this governmental procedure for banking system and central bank can be observed in other parts of this law which can be due to banks' nationalizing policy at the beginning of Islamic revolution era.

As an example, in the first chapter of this law, the second goal of banking system is as follows:

Taking required actions for satisfying the purposes, policies, and economical plans of Islamic republic of Iran government using credit sand monetary tools. The central bank is a part of banking system, so it should tries to satisfy the economics plans of the government using its available monetary and credit tools which has a serious conflict with the independence of central bank.

It should be noted that the independence of central bank is a prerequisite for any kinds of modern banking models or patterns. Without independence, the central bank can't try to satisfy stable long-term finance and prices. Therefore, the independence of monetary authorities using legal procedures is necessary for making monetary and financial policies effective.

After emphasizing on the importance of central bank independence and its effect on national economy, the size of government will be reviewed:

- The government size in economy is generally measured by calculating the ratio of total governmental expenditures to internal gross domestic production (costs).
- The government size is a real and practical economical index for government performance.

The government size is defined in different ways in Iran's economy. Central government, public government, and public sector are 3 different definitions for the role and position of government in Iran's economy.

The last step of this study deals with investigating the relation between the central bank independence and government optimized size. A goal-oriented banking system for long-term economic goals plays a critical role for this relation. Money creation is one of the most important banking tools in economy.

## Literature review

Many researches have been performed on analyzing the effects of government interference in economy. we have reviews some of the most important ones. In Kinz traditional model, removing economics depression is the cause of government interference increasing. Landau<sup>1</sup> suggested a negative relation between the government size and economics growth.

Additionally, the effectiveness of governmental costs is based on suitable resources allocation. If the government costs increases, then the government will need to increase the taxes to provide its required resources. However, increasing the tax price damages the economy. In Contrast, some others believe that there is a positive correlation between the economical growth and government size. For example, Kormendi & Meguire<sup>2</sup> have used GDP as an index for economics growth and understood that developing the size of government is similar to the role of insurance for private sector assets and public cost motivates investing in private sector and consequently led to economical growth. The authors specially emphasized that governments can improve investment environments by investing on public goods and services.

Barro<sup>3</sup> have considered GDP as a criteria for economics growth and suggested a negative significant correlation between the government size and economics growth.

Fisher, as one of the advocates of “100 % reserve procedure”, believed that extra debt and depression was a common reason for almost all previous economical growths and downturns<sup>4</sup>. In his book “100 % reserve: new banking plan for eliminating attack to commercial banks”, he suggested that government should create sufficient assets to achieve 100 % monetary reserve so that a similar growth rate is established for official money , current deposits or credit money and economics improvement is achieved.

He believed that after suitable creation with 100 % reserve rate, the monetary policy should be so that stabilizes the total and per capita money creation. In this framework, asset is a prerequisite for monetary support. Ensuring that the created money has reserve and support and this monetary support should ensure all monetary value through 100 % reserve is a unique note stated by Fisher.

This credit reserve in an economy in which most money creation is done by banks will make problems foe economical system performance. Henry Simons believes that fast cash flow and high borrowing in a short period for financing with long term installments is the reason for economic instability. This instability can led to reducing public trust and consequently moving toward liquidity. From Simons points of view, each person can separately maintain its properties as assets or in cash, but this is not the case for macroeconomic.

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<sup>1</sup> Daniel Landau, “Government and Economic Growth in the LDC’s: An Empirical Study for 1960-1980”. Economic Development and Cultural Change Vol: 35 num 1 (1986): 35-76.

<sup>2</sup> R. C. Kormendi and P. G. Meguire, “Macroeconomic Determinants of Growth: Cross-Country Evidence”. Journal of Monetary Economics. 16 (1985): 141-163.

<sup>3</sup> R. Barro, A Cross-Country Study of Growth, Saving and Government. NBER Working Paper. 1989.

<sup>4</sup> I. Fisher, 100% Money: A New Banking Plan Designed to Eliminate Runs on Commercial Banks; Largely to Cure or Prevent Depressions. Hardcover. 1935.

The concept of “banking based on partial reserve principle” is a solution for society for seeking liquidity through money and credit creation and borrowing development based on demands which can in turn led to banking crisis and consequently economical crisis, Simons emphasized that a capitalization system which is based on partial reserve banking system is like a potential factor for economics depression.

### Theoretical sampling

Theoretical sampling is the process of data collection for theorizing by which analyzers can collect, codify, and analyze their data simultaneously.

And make decision what data should be collected and where can find them in future for improving his theory until it emerges Theoretical sampling is based on comparing.

Comparing means to seek places, individuals, and events that maximizes the possibility of discoveries and creates rich concepts.

For theorizing, Researcher samples a background of events and items not only for the individuals and organizations.

The focuses of sampling is changed based on the type of applied coding (open, axial, or selective)

As the research progresses, the sampling will be more goal-oriented and concentrated.

Sampling will be continued until all concepts will be saturated Saturation means that no new and important data will not be achieved and concepts will be well developed based on their dimensions and aspects (Figure 1).

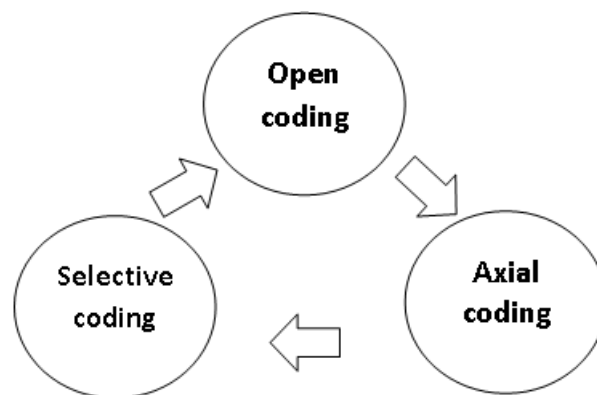


Figure 1  
Data coding

### Open coding

Open coding is analytical process for detecting concepts and discovering their aspects and dimensions in data.

### **Axial coding**

Axial coding is the process of relating categories and concepts to each other. The term axial is used because coding is performed based on a category.

In this step, the grounded theorist selects a concept from open coding step and places it in a verifying process and then related the other concepts to it.

### **Selective coding**

Selective coding is a process of categories improvement and integration to form a theory.

In this step, the grounded theorist writes a theory using the relations between the available categories in axial coding.

### **Data micro analyzing**

Micro analyzing is a row by row data analyzing which is necessary at the beginning of a study for concept creation (with its aspects and dimensions) and determining their relations with each other

Micro analyzing is a combination of open and axial coding Using accurate and close verification of data (row by row), researcher can reveals new concepts and relations and makes disciplines for their aspects and dimensions.

### **Theoretical comparison**

Comparison is necessary for detecting and developing concepts and categories.

Theoretical comparison ensures the abstractive concepts and categories comparison with either similar or different ones.

From data to theories.

### **Data**

Data is a real event or activity as it is reported or observed.

Concepts: concepts are the basic or sub analytical units Since that theories are formed by data conceptualization not only by data itself Concepts are defined as labels for events and other separated phenomenon (Figure 2).

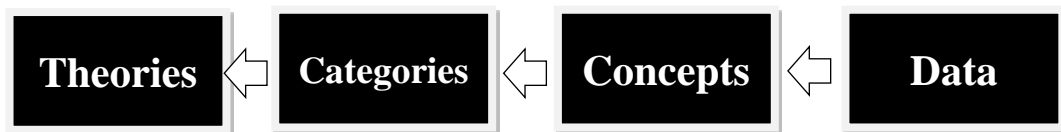


Figure 2  
Categories

Categories are more abstractive than concepts and suggest a higher level

Categories are the foundation of theorizing

Categories are the classifications of concepts

**Theories saturation**

A point in categories formation process at which more analyze doesn't result in finding new aspects, dimensions or relations.

**Modification & Validation of a theory**

After forming a theoretical plan, researcher will be ready for modifying the theory Finally, theory validation is done by comparing with initial data or presenting them to repliers for getting feedbacks Grounded theory should be confirmable by the participants systemic approach (Figure 3).

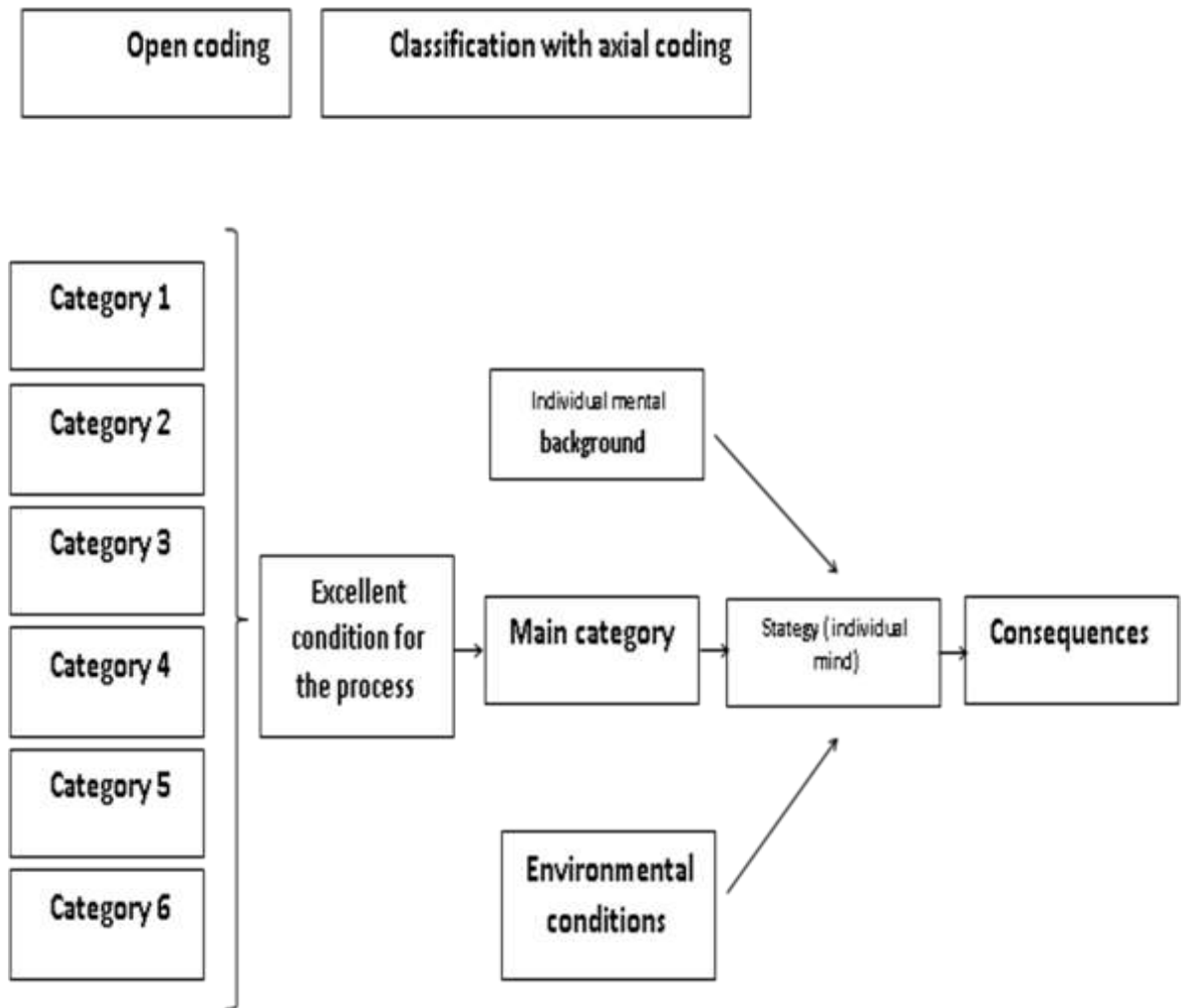


Figure 3  
Theoretical plan, researcher will be ready for modifying the theory Finally



## Findings

A brief review is made on the central bank independence index and optimized size of the government in national development plans before analyzing the final model. After studying the findings for the optimized size of the government and central bank independence indexes, and the national banking system performance, a model is presented in this section based on grounded theory in order to find that what tools should be used to achieve the optimized governmental size.

In this analysis, the following Table 1 which contains the result of factors coding is used.

Periods	Average size of the government (%)
Pre-revolution	36.2
Imposed war	28.0
1 <sup>st</sup> Development Plan	17.8
2 <sup>nd</sup> Development Plan	22.0
3 <sup>rd</sup> Development Plan	20.5
4 <sup>th</sup> Development Plan	23.0
5 <sup>th</sup> Development Plan	25.0

Table 1  
Average size of government during development plan periods (%)

Similar to most performed studies in this field, the total value of government costs in each level is considered as the size of government in the current study. GDP of production during 1973-2005 period was studied. The performed studies suggested that the size of government had the higher value during the petroleum incomes boom period (1973-1978). For revolution and war period (1979-1988), an economic depression was experienced which led to reduce the government cost and size significantly.

For 1<sup>st</sup> development plan period (1989-1992), the central and public government size was reduced considerably in comparison with the previous period, but the size of public sector was unchanged despite the significant growth of gross domestic production. This can be due to the establishment and development of governmental companies during this period.

The size of government was increased in all levels during the 2<sup>nd</sup> development plan period (1993-1998) despite the reduction of governmental costs. The size of government was decreased in central government and public government levels during the 3<sup>rd</sup> development plan period (1999-2003) despite the high growth of government costs.

However, the size of public sector was increased during this period due to significant increase of current costs in governmental companies, banks, and governmental institutions. On 2005, all current and civil costs of the government were considerably increased in comparison with the previous year so the government size was increased for all three levels. Totally, our results reveal a concerning image of budget, non-budget control (policies and regulations) and government involvement in national economy during recent years. Also the obtained results suggest the lack of effective supervision on 5-years plan regulations executing, efficient management and controllable budgeting system (Table 2).

1 <sup>st</sup> Development Plan	0.325
2 <sup>nd</sup> Development Plan	0.38
3 <sup>rd</sup> Development Plan	0.52
4 <sup>th</sup> Development Plan	0.54
5 <sup>th</sup> Development Plan	0.55

Table 2

In relation with the central bank independence, we should mentioned that the maximum value for the index of central bank independence is 1 (cukierman index) the cukierman index for the development plan periods

The average index of central bank independence during 1989-2014 period was about 0.46. In accordance with new calculations for oil producer countries, the Cukierman index for Iran and Saudi Arabia was 0.25 and 0.18, respectively. Iran has a low ranking of central bank independence among the oil producer countries.

In the same period, the average annual inflation rate was greater than annual growth (26.4 %). this can be due to budget deficit providing policies through borrowing from central bank as well as monetary expansion.

After studying the index of central bank independence and optimized size of the government, the national banking network performance for money creation will be discussed.

### Banking experience overview

The Iran's banking experience can be used as an example for studying the theoretical issues presented in previous parts. However, experimental data are not in the scope of current study and only 4 examples are presented:

Example 1: the ratio of banking network creditors of governmental and non-governmental companies to real national income was 3 folds based on 2014 statistics which shows an increasing trend.

Example 2: the ratio of total banking network credits to liquidity was greater than 1 within recent years. For example , the ratio was 1.08 on 2014 in accordance with the published statistics. This means that the total national liquidity is not sufficient for settling owes to banking network.

Example 3: the ratio of total banking network credits to investment reserve was 0.64 on 2014. This means that the banking network credits was equals more than half of national investment reserve. however, this ratio have an Increasing trend . For example, the ratio was 0.5 and 0.53 for 2010 and 2011 respectively.

Considering the increasing trend of banking credit (due to money creation operation) in comparison with investment reserve growth in Iran, we can find that the ratio will become more than 1 in next years.

Example 4: the deposits share in total liquidity was increasing from %68 (1978) to % 95 (2014) in (Table 3).

**Final model analysis**

		Categories
Political independence	Grillil index	Central bank independence index
Economical independence		
Central bank chief appointment and deposal	Cukierman index	
Compiling monetary policies		
limitations of borrowing to government		
Banking system performance		
long term presidency period of CEO and central bank chiefs	variables of central bank independence index	
having legal authorities for executing national monetary policies		
price control as the main goal of central bank		
role of central bank in budget policies		
role of executive power in monetary policies		
discipline of budget and financial policies		
reduction of determined and ordered credit policies	Preventive variables of central bank independence index	
political pressure		
economic pressure		
short term central bank chief period of office		
reduction of investments due to unreliability of central bank policies		
increasing of draft transactions		
Providing government budget deficit through borrowing from central bank	Performance of national banking system	
increasing legal reserve rate		
Not providing government budget deficit		

Table 3  
Concepts & categories resulted from coding

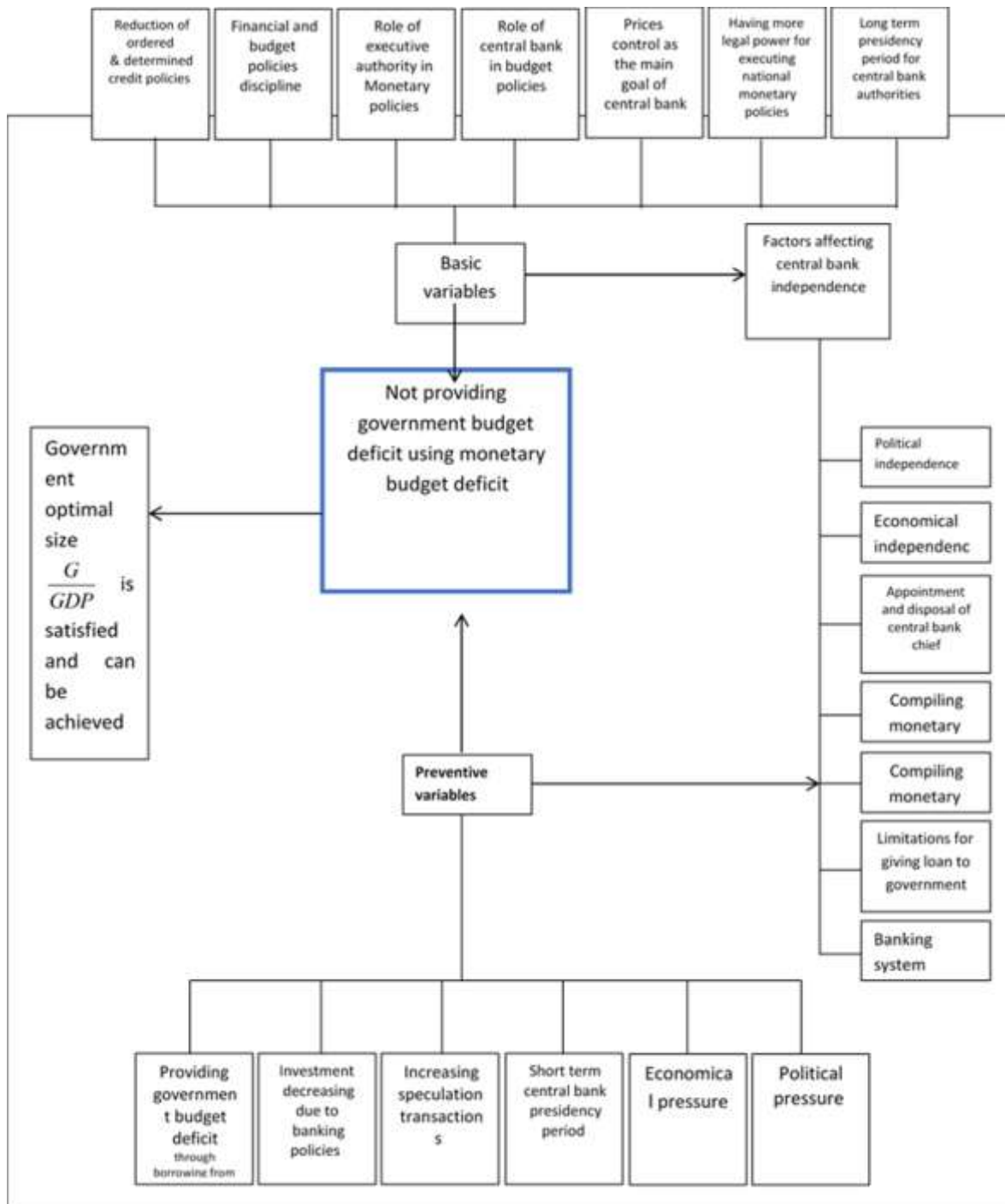


Figure 4

The final model of the concepts and categories of the independence of the central bank and the optimal size of the state

As we can see in the final model, an effective banking network is a link between the central bank independence and optimized size of the government. The performance of banking system relies on observing 2 principles namely increasing legal reserve rate and not providing governmental budget deficit by borrowing from central bank. First we have investigated the increasing of legal reserve rate.

### Increasing legal reserve rate

The financial and monetary policies have not sufficient effectiveness for satisfying government optimized size  $\left(\frac{G}{GDP}\right)$ , whenever the government tried to increase its expenditure for modifying budget deficit in countries in which money creation is done by banking network (Figure 5).

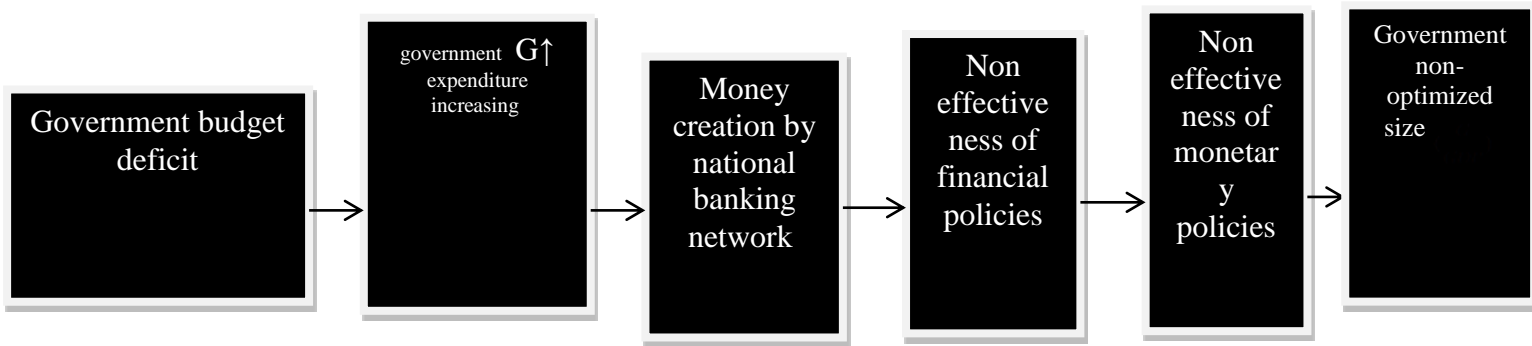


Figure 5

Therefore, this suggests that the legal reserve rate should be increased for preventing money creation and satisfying an optimized size of the government

### Not providing government budget deficit through borrowing from central bank

Governments apply either contraction or expansion financial policies or the following steps for decreasing or increasing their expenditures and consequently satisfying optimized size:

- 1.- Consumption increase: shifting IS curve to right side
- 2.- Monetary demand increase: shifting LM curve to left side

Studying these two paths suggests that in case of crowding in, the GDP index will be increased.

Therefore, as it was mentioned above, there is a direct relation between G and GDP and optimized size of the government depends on increasing G and GDP in a same direction (Figure 6).

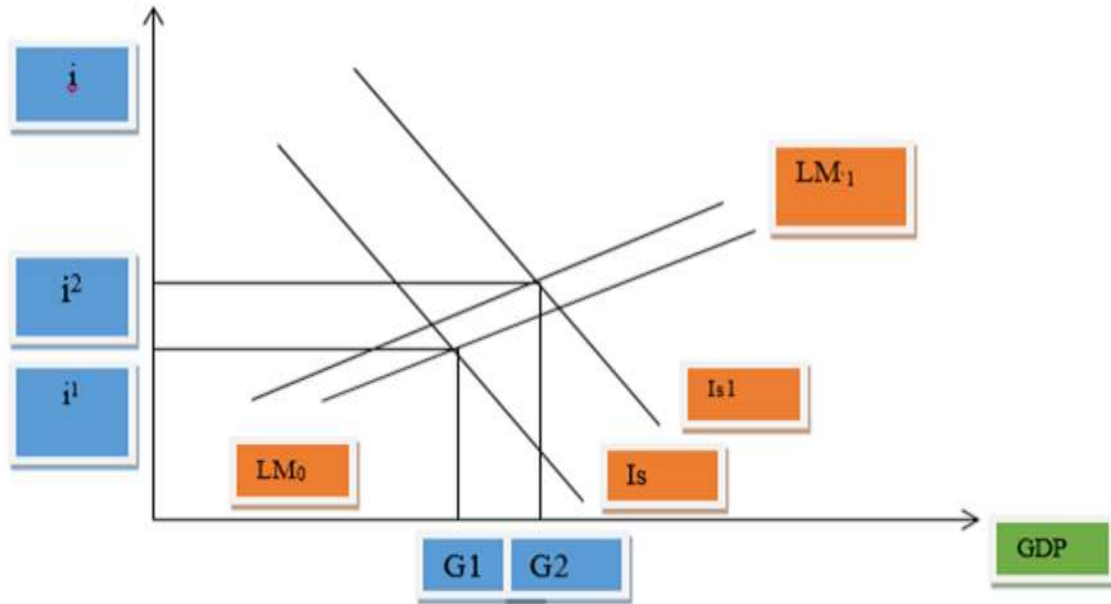
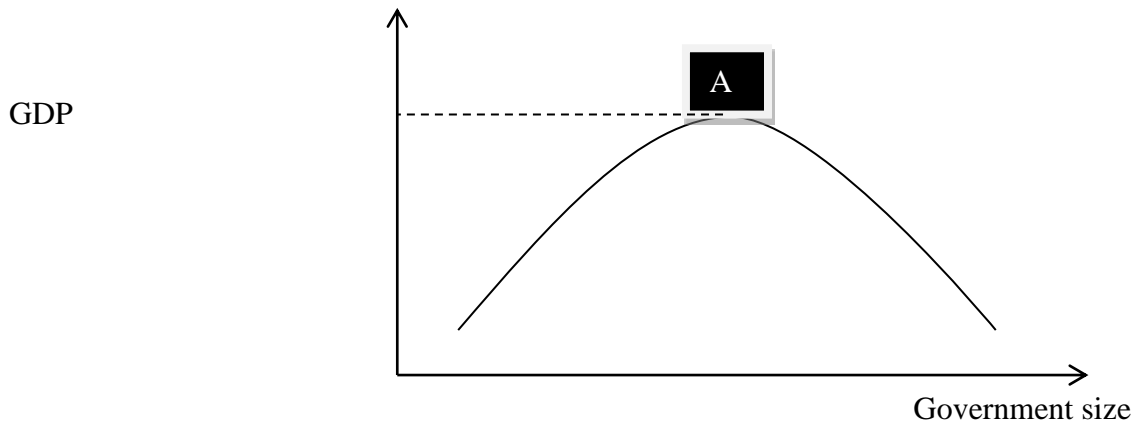


Figure 6

This will be clearer by the following curve

As it can be seen, expansionary financial policy is analyzed using IS and LM curves. if both indexes increases, then GDP will be increased . there is a direct relation between G and GDP which can be shown by Army Curve.



As it can be seen in the U shape curve , point A determines the optimized size of government because the government size and economic growth have a same direction up to this point. After point A, the curve has a decreasing trend. So , point A is an index of government optimized size and suitable economic growth. If the government uses public bonds instead of borrowing directly from the central bank to remove budget deficit, then an optimized size will be achieved for the government.



## Conclusions

Using grounded theory and final model, it is concluded that an effective banking system is a link between the optimized size of government and central bank independence. In the final model, the national banking system should have 2 aspects namely increasing legal reserve rate and non-providing of budget deficit of government through borrowing from central bank. Increasing the legal reserve rate in the proposed model improves the effectiveness of financial policies and consequently national monetary policies in order to satisfy the optimized size of the government.

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