Cranfield University

Yassar Nasser

The influence of the banking sector on Central Bank Independence and inflation control: the case of Lebanon between 1985 and 1991

Cranfield School of Management

Doctorate of Business Administration

Cranfield University

School of Management

DBA Thesis

Academic Year 2007-2008

Yassar Nasser

The influence of the banking sector on Central Bank Independence and inflation control: the case of Lebanon between 1985 and 1991

Supervisor: **Professor Joe Nellis**

January 2008

© Cranfield University, 2008. All rights reserved. No part of this publication may be reproduced without the written permission of the copyright holder.

ABSTRACT

A substantial amount of prior research has focused on the relation between Central Bank Independence (CBI) and inflation control. However, this research is mainly theoretical or conducted using cross-country statistical regressions and correlations in the developed world. Little attention has been given to understanding this relation in emerging nations or the influence of interest groups on CBI and inflation in a specific context. This thesis addresses both gaps by conducting an in-depth observation and analysis of this relation in a single country (Lebanon) and the influence of the banking sector on both CBI and inflation during a period of high inflation.

This empirical evidence in the case of Lebanon shows that Central Bank Independence from the government – even though abundant and complete – was not enough to control inflation. The influence of the banking sector on both CBI and inflation was more important.

This work makes a contribution to knowledge through highlighting the importance of national contexts when evaluating the CBI-inflation relation. Furthermore, this research extends our understanding of the literature and its gaps, and presents a new way to conduct in-depth studies in the field. Finally, it provides practical insights that are of importance to central bankers, especially in emerging nations.

Keywords:
Central Bank Independence; inflation; Lebanon; interest groups; Financial Sector Opposition to Inflation (FOI); Political Economy; Banks.

ACKNOWLEDGEMENTS

My sincere thanks and unlimited gratitude go to my lead supervisor, Professor Joe Nellis who believed in my work and gave me the chance to develop as a researcher. He paved my way with his guidance, patience and continuous support. Joe is an amazing person and a great teacher, I am so glad my path crossed his. Without Joe's friendship, mentorship, knowledge, and the many solutions he provided me with over the past years, this final product would not have been possible.

I am also thankful and obliged to my Supervisory Panel: Professor David Parker and Dr. Veronique Ambrosini who challenged, assisted and made my work better at every step. A special mention is due to Veronique's friendship, empathy and endless care as an outstanding cohort leader and an extraordinary guide since the day I met her.

I cannot thank Barbara Birtles, our programme manager, enough. Her consistent help, organisation and kindness were exceptional. She was always there making every process easy. Barbara made the whole experience as efficient and smooth as possible.

My recognition goes to the DBA Programme Directors (previous and current). The DBA is an amazing opportunity allowing professionals to join the wonderful world of Academia. The spark of genius founding this programme cannot go un-noticed.

I am grateful to my Systematic Review Panel especially Dr. David Denyer and Professor Thoarinn Petursson from Iceland's Central Bank; also to Heather Woodfield and Anita Beal, from the Library. They were always present to answer emails, provide articles, and help in any way possible. My gratitude is also extended to everyone in Lebanon (and its central bank) who helped me collect needed data and sent me documents and research material timely, even in very difficult circumstances.

I also thank Chris Bailey, Mariano Garrido-Lopez, Sara Holmes, Thoranna Jonsdottir, Yi Mien Koh, Bill Patterson, Halla Tomasdottir, Roman Ukhov and Tina Xu for their friendship and encouragement; a special appreciation to Andreas Birnik, who provided me with insights, ideas, feedback, and acted as a sounding board on many occasions.

This thesis, and all other achievements in my life, could not have happened without my parents (Adel and Zahie) and my brothers (Bilal, Kamal and Nabil). I owe my family everything. I can never be able to compensate them in any way for what they have given me over the years. Words can never be kind enough, powerful enough or eloquent enough for me to express my love, devotion and unlimited gratefulness.

Finally, Dearest Mother: I dedicate this thesis to you as a tiny token of gratitude for your never ending care, boundless love, countless sacrifices and continuous prayers. This work belongs to you!

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

NOTATION

AB	Association of Banks in Lebanon
BDL	Banque du Liban, the official name of the Lebanese central bank
CBI	Central Bank Independence
CMC	Code of Money and Credit, the bible of financial regulations in Lebanon
FOI	Financial Sector Opposition to Inflation
Fed	Federal Reserve of the United States
FX	Foreign Exchange
GNP	Gross National Product
LP	Lebanese Pound
SR	Systematic Review
TBs	Treasury Bills
TOR	Turnover Rate of the governor of the central bank
PV	Political Vulnerability index of the central bank
USD	United States Dollar

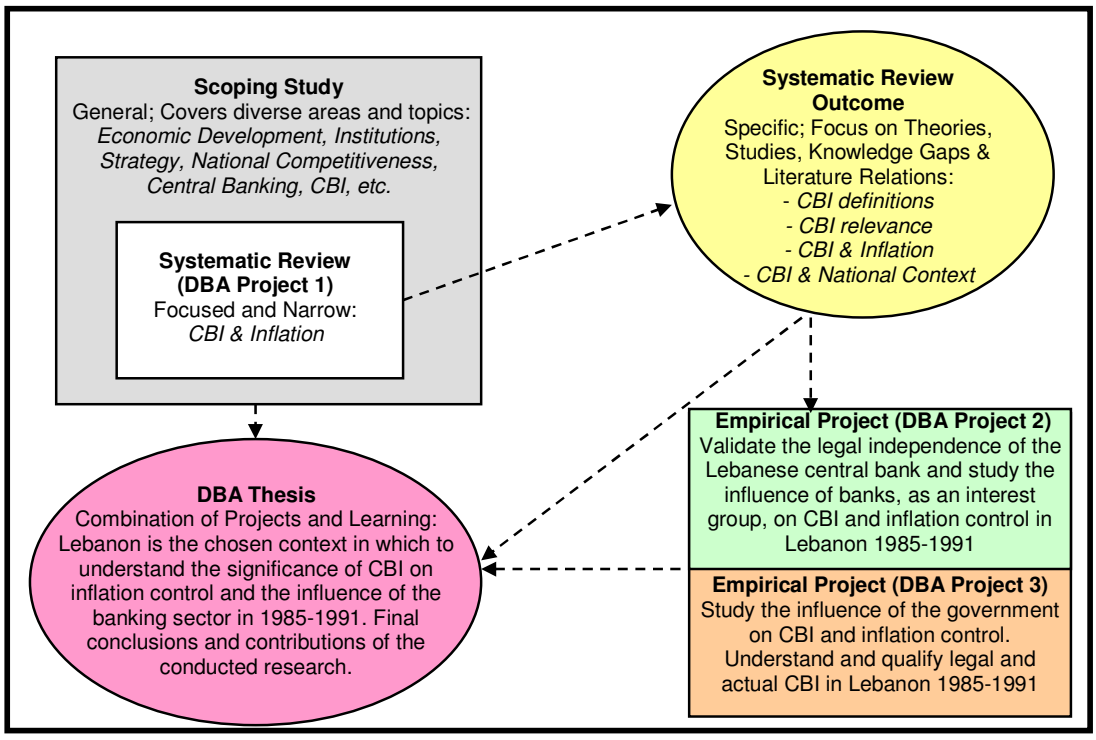
1 INTRODUCTION

The DBA is a degree equivalent to a PhD with additional emphasis on knowledge in the context of practice development and propagation. While finishing my DBA, I have focused on using my banking knowledge and aimed to arrive at a final product that can be beneficial for both academia and practice.

The DBA has four main components. The first is a Scoping Study that is meant to be a journey through many knowledge topics and areas before focusing on a specific research interest. The Systematic Review, the second component, is a more focused literature review leading to specific gaps and potential empirical projects to address them. Two empirical projects are the remaining components before a final thesis is produced. At the end of each project, a formal review and defence process by a supervisory panel is set up to provide quality and accuracy checks prior to moving forward.

Figure 1-1 shows the different components of the DBA and the journey I have undertaken to finalise this thesis.

Figure 1-1: DBA Journey



1.1 Personal Statement

Some of the world's smaller nations have managed to create highly successful, developed and growing economies, competing globally with those of bigger, resource-rich countries. This economic success is demonstrated by a comparatively high per

capita national wealth. These nations have managed to become true examples of market liberalisation, displaying considerable social advancement and high standards of living. The reasons behind their success lie in an elaborate set of economic, political and social goals they have managed to achieve over a period of time. Moreover, most of these countries have highly stable financial systems which has allowed or facilitated their economic success.

Taking the above into consideration, I always had an inclination to bring educational and practical experience one day to my country of Lebanon. Therefore, I was interested in investigating the role of central banks – as institutions – behind the economic success of nations. I was convinced that my research needed to revolve around what would shape the economic future of a small country like my own. I started reading especially on national strategies, national competitiveness and banking. The initial research proposal I sent to Cranfield had a very ambitious and wide-ranging agenda. It consisted of making a comparison between the national strategies of economic development, taking the role of the financial centres in Singapore and Switzerland as a base, and trying to formulate an action plan of success actions and components that I could apply in Lebanon. I heard encouraging remarks on the topic but also warning signs and constructive criticism such as: "the topic is too broad." "Your ideas are good but there is a need to sharpen them." Or "comparing many countries might not be feasible…"

I consequently realised the importance of reducing the scope while focusing on the main concept of having a beneficial practical and theoretical outcome. I was under the impression that choosing one country with which to compare Lebanon in terms of economic success (and the role of the central bank and financial sector within that success) would be the way to go. Again, I needed to correct my direction following the meetings I had with my supervisor and the feedback provided by the cohort and professors. The reading I was doing before focused on the practical side of strategy; my panel discussions, however, showed how much I needed to broaden my horizon and read on other fronts and topics.

The scoping study (first literature review) allowed me to read many papers and articles in several disciplines and research areas. However, it made me realise that I needed to focus more and narrow my research question and interest towards reaching a better and more manageable study. There are many variables that could affect the economic prosperity of nations. My DBA cannot cover them all. Therefore, I needed to focus on some and aim to verify the existence of a certain gap or contribution that I could bring to the literature and practice. I read many articles on political economy with specific reference to central banks and economic development. Immediately, the link among these topics was quite obvious to me – especially from a national institution perspective. They all directed my attention to the macroeconomic fact that central banks provide the foundation for a stable financial climate that could generate economic growth. That changed the way my research interest was structured. I did not need to go through the comparison route any more since the study of the role of central banks in the economic development of a small nation was more rewarding from both the theoretical and practical points of view.

Within the institutional economics field, I read on the role of central bank independence and political cycles. From these topics emerged a very important relation between central bank independence and inflation control (hence, economic development); I then realised that I had reached a manageable research topic.

My focus always goes back to the starting premise that I need to produce a thesis that would help me bring valuable experience and insight to emerging nations, especially if I wish to return to Lebanon in the future[1]. Studying the Central Bank Independence/inflation relation in a Lebanese context seemed to be the natural way forward to meet many of my initial hopes for the DBA. Moreover, I was hoping that this study would help me to identify what must be done to ensure a better economic future for Lebanon (via improvements in the role and functioning of its central bank), and develop a set of recommendations that would be useful at both theoretical and practical levels to other developing nations.

I would like to mention finally that since I am doing my research independently from any company, I have no professional conflicts of interest or particular biases while conducting my research. The only biases I can identify are those pertaining to subjective choices arising from personal, national and work experiences. However, I counted on the rigorous approach used during the Systematic Review and Panel reviews to eliminate or reduce these biases to the minimum.

1.2 Research purpose and context

The papers reviewed for the Systematic Review (literature search and review) show that the relation between Central Bank Independence (CBI) and inflation is not settled or clearly established; the field has many strong opinions on the topic but lacks a unified view. Some authors strongly back the idea that CBI is the solution to all inflation worries while others attack this premise – and both sides are using the same tools: empirical studies, theoretical arguments and cross-country reviews. In the middle, we have a group that advocates no final answer on the topic but mainly conveys a clear message: our knowledge is still not complete due to many economic variables to control for, measurement issues and subjectivity attached to them, differences in national contexts and between countries, and the different theories that lead to economic stability and inflation control.

The Systematic Review revealed some important gaps in our knowledge concerning the relation between CBI and inflation. One of these gaps revolves around the fact that CBI can bring some improvements (towards controlling inflation) in theory, but practice can be very different. The law versus actual practice debate is important and deserves details on discrepancies and how to deal with them. Specifically, legal independence is negatively correlated to inflation in developed nations where legal and actual independence go hand in hand due to strong respect of the law. Legal independence and inflation are not correlated in developing nations. Actual independence in these nations

[1] This focus was much stronger prior to the political turmoil that hit Lebanon since early 2005 and the devastating effects of the 2006 war. In fact, the situation in Lebanon remains extremely tense and difficult even while writing these lines in January 2008.

seems to be more important since the more the central bank can be politically manipulated (lower actual independence), the higher is inflation and its variability. Therefore, CBI could be a good solution to developed nations but is a harder choice for smaller nations with a weak rule of the law, or those where government depends on seignorage[2] to cover deficits. In fact, we lack a proper understanding of the role and impact of CBI on inflation in transition and developing economies when compared to industrial nations (Hermes & Lensink, 2000). This should be done in combination with other political and structural factors that determine inflation in a certain economy (Heylen & Van Poeck, 1996; Forder, 1998) and could qualify the net or potential benefits from CBI when it comes to inflation control.

Moreover, the Systematic Review concluded that our knowledge is not complete concerning the influence of political and interest groups on CBI, monetary policy and inflation (Posen, 1995; Posen, 1998). This point highlights the importance of detailed research and analysis done in single countries since national context has not received the attention it deserves in the field (Berger & Woitek, 2005). Actually, the severe criticism of CBI and its link to inflation can be surmounted by undertaking additional historical analysis concerned with the long term impact of national institutional arrangements on economic outcomes (Alesina & Summers, 1993).

The choice of conducting single country research helps to bridge some of the gaps identified in the literature, and overcomes the many criticisms marring the CBI field's insistence on the traditional cross-country approach. It also avoids cross-country CBI measurements' reliability issues, and addresses the lack of detailed information stemming from emerging nations. A major benefit in using this approach would be the ability to study in relevant detail the national context, influence of interest groups, elements of legal and actual CBI, and potentially other factors that could have escaped detailed scrutiny so far. Single country research facilitates a more detailed analysis of central bank stabilisation behaviour and looks like a good testing ground for the role of CBI in controlling inflation (Berger & Woitek, 2005).

1.2.1 Lebanese context

Any research needs to take the conclusions and gaps identified above into consideration to ensure a valid contribution to advancing the field. Therefore, I have chosen Lebanon as the national context for my DBA research, concentrating on the period of high inflation from 1985 to 1991. The aim is to understand the influence of the banking sector in Lebanon on CBI and inflation. This work verifies the legal and actual independence of the Lebanese central bank and looks into the relation between banks (and their Financial Sector Opposition to Inflation – FOI), CBI and inflation as identified in the literature. The Systematic Review hinted that the FOI theory could have existed in other countries. This research helps us understand whether this relation also holds in the Lebanese case. The end result answers the questions as to why inflation and depreciation occurred in Lebanon during the study period, and the reasons

[2] Governments sometimes benefit from inflation by printing additional money; the amount of real purchasing power extracted by the government in this case is called seignorage.

why a traditionally independent central bank was not able to control the bad economic situation using the instruments at its disposal.

The reasons for this contextual choice can be summarised as follows:

1. Personal affinity due to the fact that Lebanon is my country of origin and the place where I was born and raised until I left it to start my international experience of studying and working abroad.
2. Lebanon's model has always consisted of an open economy with a traditional anti-inflationary stance and solid economic fundamentals. This model includes a well established banking sector and free capital movements. Lebanon has actually been the Middle East's regional economic centre for a long period.
3. The presence of an independent central bank.
4. Low levels of inflation for most of the historical period between the independence of Lebanon and until 1985.
5. High levels of inflation for a determined period of time namely from 1985-1991.

Therefore, Lebanon constitutes a very interesting case study to understand the impact and importance of CBI in a specific, developing nation. Furthermore, the Lebanese case could pave the way towards some prescriptions about the best way to approach CBI, its pitfalls in a practical sense, and what central banks face in terms of political power in order to safeguard their independence.

1.2.2 Chosen period of study

Between 1943 and 1975, Lebanon enjoyed a period of political stability allowing it to become the regional trade centre and refuge of money and peoples from surrounding countries. Beirut was the regional centre for banking, trade, education, services and tourism. Lebanon was named the Switzerland of the East because of its mountains, strong banking industry, secrecy laws, and stability in a region that was ripe with revolutions, military coups and a lack of democracy.

The war in Lebanon broke out in 1975 and lasted until a peace agreement was signed in 1989. However, for many years during this war, the Lebanese economy remained under control. In fact, and regardless of the volatile political situation until 1986, the GNP was healthy, reserves held at BDL covered 108% of GNP, while total debt did not exceed 26% of GNP for the complete period (Sanan, 1987). Lebanon's GNP grew to USD 5.2 billion in 1985; for reference, the GNP in 1974 (the best year in economic terms since the independence of Lebanon) was USD 3.4 billion (Qorm, 2001). The reason for this growth has been the vitality of the Lebanese economy and transfers usually made by Lebanese expatriates to their families in Lebanon. One can thus conclude that the big financial meltdown in Lebanon started between the end of 1985 and 1986. More precisely, inflation remained controlled until prices started to climb at a three-digit rate in 1986 as shown in Table 5-1 on page 105.

This research will, thus, concentrate on Lebanon during the period of high inflation. It will start in 1985 and end in 1991. However, for completeness of arguments and presentation of some important facts, this study will refer to valid events and indicators pertaining to a longer period, i.e. 1982-1992.

One can challenge the choice of the country and period as special, specific or atypical. However, I am confident that this period and the Lebanese context represent a valid case study since Lebanon is a developing nation, and what developing nation did not (or continues) to pass through special or abnormal situations (political troubles, economic volatility, upheavals, etc.)? This study has actually much to offer in terms of studying how an independent central bank (BDL in Lebanon) acted to safeguard its independence and meet its objectives even in the difficult situations that many developing nations face constantly. In addition, the war in Lebanon, in itself, had a limited effect on inflation. Otherwise, how could we explain the fact that for more than 10 years after the start of the war, the value of the Lebanese currency was still maintained, inflation was limited and economic activity was to a large extent stable, even growing[3]? Finally, the macro economic environment in Lebanon would not be enough on its own to explain the reason behind the high inflation rates nor the rapid depreciation in the value of the Lebanese Pound (LP) during the period of this study. Something must have been done correctly before 1985-1986 in terms of the relation between the central bank, banks and the government since the LP remained strong for almost 40 years. The Lebanese economic system has always been built around a strong anti-inflationary stance, stable financial environment and a strong currency (Awad, 1988). So, why did inflation occur during the study period? What were the main causes of the depreciation of the LP as a store of value and the increasing dollarisation in the economy? What was the role of the banking sector (central bank included) during these turbulent years? What was the role of the government? Why did the independence of BDL not allow it to control the situation and halt the monetary slide? These are some of the questions that my DBA will try to address and explain.

It is hoped that my DBA journey (and its outcomes) will help to shed more light on the identified gaps in the literature around CBI, its relation to inflation, and our understanding of the field. Lebanon during the chosen study period constitutes an excellent example to verify some of the literature arguments and enable a more detailed study of the importance of the national context on the CBI-inflation relation.

1.3 Introduction to Lebanon

Lebanon is a small country situated at a crossroads between Asia, Europe and Africa. It is inhabited by around 3.5 million people with many other millions of Lebanese descent scattered around the world. The political system in Lebanon is that of a parliamentary democracy based on a confessional distribution of powers among the major religious divisions forming the population. The aim of this system is to ensure that all inhabitants have a representation in the legislative and executive branches. The president of the republic is a Maronite Christian; the prime minister is a Sunni Muslim while the head of parliament is a Shiaa Muslim. Other religious groups are represented on a pro-rata basis in the government and the parliament. The parliament is elected every 4 years directly by the people. The president is elected every 6 years by the parliament, while the prime minister is nominated by the parliament and is confirmed by the president. The real

[3] Gaspard (2005) refers this back to the dynamic economic sectors in Lebanon who were always able to re-invent themselves and regain their vitality even during unstable situations.

executive powers in the nation are in the hands of the council of ministers headed jointly by the president and prime minister.

The Lebanese judicial system is independent and follows the Napoleonic code. Religious courts are also available for civil law issues such as marriage, births, inheritance, etc.

Lebanon's history has been marred by a series of occupations, bloody events and wars. Lebanon was a part of the Turkish Empire until 1918. The area of Lebanon, Syria and Palestine was then ruled under a British/French mandate. In 1920, the current Lebanese state was born under the name of Greater Lebanon – when Mount Lebanon was joined by the Bekaa valley in the east and other geographic parts in the north. The Lebanese Republic was proclaimed in 1926 but was still part of the French mandate of Lebanon and Syria. Real Lebanese independence from France was won in 1943.

Between 1943 and 1975, Lebanon enjoyed a period of relative political stability allowing it to become the regional trade centre and refuge of money and peoples from surrounding countries. The major event in that period was the flooding of Palestinian refugees into Lebanon (many still live in camps and await a solution allowing them to return to the occupied territories as per United Nations resolutions). Beirut was the regional centre for banking, trade, education, services and tourism. It was known as the Paris of the Middle East while Lebanon was named the Switzerland of the East because of its strong banking industry, secrecy laws, mountains and stability in a region that was ripe with revolutions, military coups and lack of democracy.

The war in Lebanon broke out in 1975. Many players were involved: local, regional and international. This devastating war lasted for 15 years. The Taif agreement signed in Saudi Arabia (1989) put an end to in-fighting and heralded a period of rebuilding. Lebanon was gaining a lot of its lost lustre until 2005 when the political situation changed for the worse after the assassination of prime minister Rafic Hariri. This situation further deteriorated by a ravaging war across the border in 2006.

A summary of the recent history and major events in Lebanon (political and financial) is enumerated in Table 1-1:

Table 1-1: Review of Lebanon's recent history

Date	Event
1918	Ottoman empire's rule over Lebanon ends. Turkish notes expire
1919	British and allies occupying force impose the National Bank of Egypt notes as legal tender in Lebanon
1920	Syria was endowed by power to issue money to replace Egyptian notes; Greater Lebanon was declared as a nation in September. Syrian notes were the legal tender in Lebanon
1924	Bank of Syria and Lebanon was born with a sole mandate to issue currency for 15 years: the Lebanese-Syrian Pound which had a set value of 20 French Francs.
1925-1943	Lebanon continues to be under the French direction. Lebanon has its own pound issued by the Bank of Syria and Lebanon

Date	Event
Nov 1943	The Lebanese people revolt against the French army and force the independence of the country
1946	Last foreign soldier leaves Lebanon
1948	Palestinian refugees arrive in Lebanon
1950	End of the customs union with Syria
1956	The Parliament approves the Bank Secrecy Law (still in effect)
1958	Brief period of instability in the country
1959-1963	Due to political instability, assets flee Syria and Egypt to be safely invested in Lebanon
Aug 1963	The Code of Money and Credit was promulgated by Legislative Decree N° 13513 establishing Banque du Liban as the central bank of Lebanon having the privilege to issue the local currency
1965-1968	Closure of Suez Canal makes Beirut the regional transit point of goods from and into the region
1968	Israeli warplanes attack the International Airport of Beirut
1970-1974	Petro-Dollars flood Lebanon after the Oil boom in the Gulf
Apr 1975	Official start of the civil war in Lebanon
Jun 1976	President Suleiman Franjieh asks for Syrian intervention
Oct 1976	Syria accepts the Arab League mandate to send 40,000 troops into Lebanon. Civil war thought to have ended
1977-1978	Atmosphere in Lebanon remains tense and clashes were constant
Mar 1978	Israel invades the south of Lebanon
1978-1982	Continuous clashes and fighting in many areas of Lebanon
Jun 1982	Israel invades again and occupies Beirut
Aug 1982	A multinational force is sent to Lebanon
Sept 1982	President elect Bashir Gemayel is killed by a car bomb; The parliament convenes and elects Amine Gemayel as the new president. Clashes and in-fighting in the country continue
Aug 1983	Major fighting happens in the Mountain area – many are displaced
Oct 1983	Car bombs kill US and French soldiers of the multinational force
Feb 1984	Multinational force leaves Lebanon. Lebanese army is divided
1985-1986	War of the camps between Lebanese and Palestinian militias
Jan 1986	Lebanese Forces Militia headed by Samir Geagea revolt against the Tripartite agreement that was supposed to end the civil war; Widespread fighting happened in “East” Beirut (Christian dominated)
Sept 1986	Elie Hobeika, one of signatories of the Tripartite agreement tries to retake Christian regions but fails against Samir Geagea’s forces
Jun 1987	Prime Minister Rashid Karami is assassinated by a plane bomb
1987-1988	Major sectarian fights in “West” Beirut (Muslim dominated)
Sept 1988	Term of President Gemayel expires without electing a new president. General Michel Aoun is declared Prime Minister ad-interim while current Prime Minister Salim Hoss remained in power. Two governments shared power at the same time in Lebanon. However, many institutions such as the Central Bank remained united and fully operational
1989	General Aoun launches war of liberation against the Syrian army

Date	Event
Oct 1989	Taif agreement puts a political end to the civil war
Nov 1989	The Parliament elects Rene Mouawad as president of the republic.
Nov 1989	President Mouawad assassinated 16 days after his election. The Parliament elects Elias Hrwai as the new president. He remained as president of the republic until 1998
1989-1990	General Aoun refused the outcome of these elections and dissolved the parliament. Major fights happen in "East" Beirut and the Matn – Kessrewan area (Christian dominated)
Oct 1990	General Aoun was removed by force and pushed to exile in France
1991-present	Militias started disarming and the army was rebuilt; Lebanon started to rebuild itself. Israel and Syria remained in large parts of the territory until Israel was pushed to withdraw in 2000, while Syria left in 2005. Prime minister Hariri was assassinated in February 2005 leading to a situation of political instability. 2006 saw a ravaging war across the country between Israel and Lebanon. The current situation in Lebanon remains bad and unstable

Sources: Hoss (1991), Saliba, (2002), Oughourlian (1982), Makdissi & Sadaka (2003), internet, various newspapers sources, and author.

1.4 Introduction to the Lebanese Central Bank (BDL)

The Central Bank of Lebanon (Banque du Liban – BDL) was established on the first of August 1963[4]. The Code of Money and Credit (CMC – the reference for financial regulations in Lebanon), voted in August 1963 by the parliament, gave BDL full financial and administrative independence (Nsouli, 2003). BDL is the sole issuer of Lebanese notes and has as its main goal the preservation of the value of the currency. Its mission, as per the CMC, consists of:

- Preservation of monetary and economic stability
- Maintaining the soundness of the banking sector
- Developing financial markets
- Developing and regulating of the payment systems and instruments
- Development and regulation of the clearing and settlement operations relative to different financial and payment instruments and marketable bonds

BDL has full liberty, according to the CMC, to use all methods and instruments it considers suitable to fulfil its mission and objectives. BDL can intervene in the markets to sell or buy currencies, can adjust discount rates, participate in the open markets, control liquidity, determine credit facilities to the financial sector, and regulate volumes (and types) of the credit given by commercial banks (The Republic of Lebanon, 1963). BDL controls credit ceilings, imposes reserve requirements, penalties and grants licenses for the establishment of all types of financial institutions and intermediaries (The Republic of Lebanon, 1963).

BDL coordinates with the Association of Banks in Lebanon (AB) regarding the issuance of circulars regulating the banking industry and the relations between

[4] BDL started its official operations on the first of April 1964.

commercial banks and clients (BDL, 2007b). Furthermore, there is coordination between BDL and the government regarding the general macroeconomic environment in the country. BDL provides the government with advice concerning the state of the economy and suggests policies to promote growth.

The Lebanese central bank is managed by a governor and four vice governors forming the board of the bank[5]. The governor is the chief executive of the bank with wide ranging powers to enforce the CMC. The governor is appointed by a decree sanctioned by the council of ministers for a renewable six year term. The vice-governors are appointed also by a similar decree for renewable five year terms.

The central council of BDL is the extended management committee that sets the monetary policy of the bank. Furthermore, the council handles all issues related to the procedures governing the staff and general operations. The council is chaired by the governor who is responsible for implementing the council's decisions (Le Commerce du Levant, 1979a). Members of the council include two government officials: the director general of the ministry of finance and the director general of the ministry of economy. However, both do not represent the government on the council. They act as sworn members and independent participants of the council.

1.5 Overview of Chapters

The following chapters start with a full literature review, both a wide scoping study and a complete Systematic Review aiming to synthesise the knowledge around the topic and setting the academic stage for the empirical projects. The Systematic Review section includes the protocol used to complete this review.

Chapter 3 follows by introducing and framing the methodology used for the empirical research ranging from positioning to data collection and analysis. The chapter also provides some examples of how collection and analysis were completed.

Chapter 4 verifies the independence of the Lebanese central bank on both the legal and actual levels. It uses the definitions of independence provided by the literature to validate the legal independence of the central bank in Lebanon. For the actual independence verification, I used the depth of the available data to explain and present the instances of conflict between the government and the central bank.

The next empirical chapter (Chapter 5) introduces Financial Sector Opposition to Inflation (FOI) in Lebanon during the study period. It starts by understanding whether the government financing caused inflation, before introducing the Lebanese banking system and its impact on the independence of the central bank and inflation between 1985 and 1991.

The thesis ends with final conclusions, contributions, limitations and proposals for future research.

[5] On April 1, 1985 Article 17 of the Code of Money and Credit was amended to create the position of the fourth vice-governor. Prior to that, the board consisted of three vice-governors.

2 LITERATURE REVIEW

This chapter presents the full literature review that was conducted for the purpose of this DBA. It consists of two parts: a Scoping Study, which is a broad review of many topics and fields aiming to find a specific research interest; and a Systematic Review which is a more focused and detailed review of the chosen topic.

This process allows the flow of the literature from a more general and wide perspective into one that is narrow, focused and specific. The Scoping Study allows the grounding, justification and formulation of the research question guiding my Systematic Review and DBA in general. The Systematic Review will focus on a slice of the intersection among the identified literature areas since it needs to be more focused and tightly narrow to provide a good outcome.

2.1 Scoping Study

The first part of this chapter is dedicated to the Scoping Study. This study explores the literature areas informing our knowledge on central banks, economic development, national competitiveness and Central Bank Independence (CBI). The aim is, after consideration of the different topics and the many embedded variables affecting economic development (and institutions), to identify a focused research question suitable to undertake an appropriate Systematic Review.

Figure 2-1: Mapping the Field

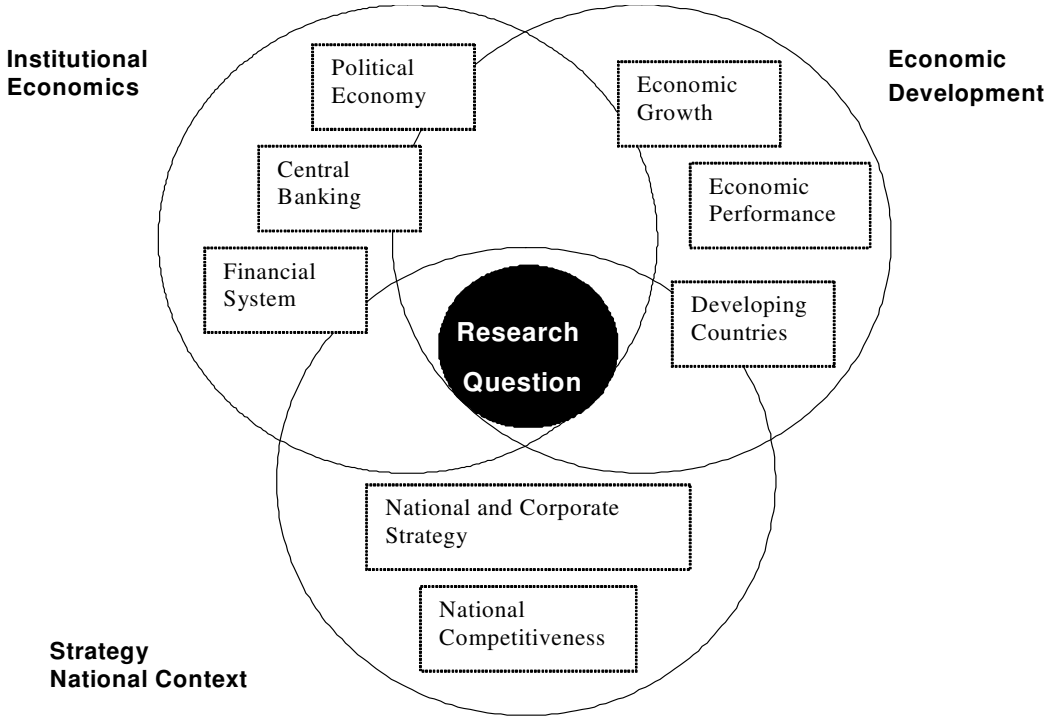


Figure 2-1 portrays the areas of the literature that have been identified as relevant for this study. The decision on the areas to include followed many readings in broader

subjects and various panel discussions. As a result, there was a need to refine and narrow my "funnel" of interests to the presented map which sets the essential boundary on the important literature subjects that will inform my research.

This Scoping Study examines existing research drawn from the above pictured subject areas to examine the two premises that follow.

Premise 1: Central banks, as national institutions, have a role in the economic stability, growth and development of any nation.

Premise 2: Central banks have two major responsibilities:

a. Managing the national financial industry through actions, regulations, participation and supervision. This has a direct effect on the credit policy and quality of loans extended to all industries in the economy. Thus, it directly affects economic variables such as inflation.
b. Directing monetary policy by setting interest rates, controlling inflation and ensuring the stability of prices (in some countries we can add the setting of national economic development strategies).

If we add both premises together, the role of the central bank might revolve around the creation of a stable economic and monetary environment (controlled inflation mainly). A stable monetary system is among the basic prerequisites of an economy that needs to develop and grow (Chandavarkar, 1987; Thiessen, 1997; Romer, 1993). Central banks, as the keepers of the monetary system and monetary policy tools, could help to send the appropriate signals to companies and individuals willing to invest in the country and prevent any perception of bad economic environments. Furthermore, central banks can help channel investments to different sectors of the economy through their control of the banking system and interest rates. They can encourage foreign direct investments through successful competitive bidding and confidence building measures.

One is inclined to think that any central bank would operate on a two mode basis. The first would be to sustain stability and order in the economy when times are bad. The second is concerned with the development of national economic competitiveness when times are normal. However, there might be a case to think that both objectives go hand in hand most of the time.

The findings presented here offer the main theoretical arguments needed to justify the research question and prepare for the Systematic Review that will provide the basis of rigour to this research (Tranfield, Denyer, & Smart, 2003). Furthermore, the sections below will follow the basic map of literature shown earlier.

2.1.1 Central Banks

How could the role of central banks be best described? Hetzel (1988) states that the essence of central banking lies in the responsibility to limit the money stock and tie down the price level. Moreno (2003) argues that central banks have a primary purpose to achieve macroeconomic and financial stability while building the national financial sector. In the opinion of De Grauwe (2002), central banking is an "art" and central

bankers should be able to read the markets and feelings of investors to push for economic development and prosperity when the objective of price stability is not endangered.

Foremost and above all, a central bank's main responsibility is the deployment of monetary policy, ensuring a healthy domestic financial system and supporting the economic growth and development of the national economy. Central banks alter the monetary policy to ensure that capital reallocation in the national economy takes place at an acceptable pace (Dugger & Ubide, 2004).

Available empirical work suggests that central banks should be transparent in actions they take since this is likely to benefit national economies by reducing uncertainty in the private sector (Geraats, 2002). Transparency allows depository institutions to understand the monetary policy execution framework (Bartolini & Prati, 2003) and helps central bankers to counter economic shocks and reduce the volatility of economic growth (Geraats, 2002). In addition, central banks will always be able to announce what economic indicators they would like to see (interest rates, inflation, output, etc.) and all private economic agents will continue to listen and pay attention (Friedman, 1999).

Central banks supervise and control the domestic financial system. Masciandaro (2004) and Barth, Nolle, Phumiwasana & Yago (2003) show that there is no optimal financial supervisory design to ensure an effective and efficient structure. Any such design should be fully dependent on the national economic and institutional features. However, this supervisory function affects monetary policy through forecasting of economic variables, and does so in the correct direction. Therefore, complementarity between supervisory responsibilities and monetary policy should be an important consideration since the conduct of monetary policy and its ramifications requires full access to supervisory information (Peek, Rosengren & Tootell, 1999).

Finally, central banks are also *lenders of last resort* to the national financial system. This role is closely associated with the prevention and mitigation of financial crises (Fischer, 1999). Central banks do not need large amounts of capital for their operation and in general prefer not to lend to the government (Hawkins, 2003) since this limits their ability to deploy their monetary policy tools fully and efficiently (Fan, Ha, Leung & Peng, 2003).

Since monetary policy is important and has substantial real effects on economic activity (Romer & Romer, 1994), it would be useful to discuss it in some detail and to discuss its effect on the national economy.

Monetary Policy

The effect of monetary policy is transmitted mainly through short-term money rates. These rates are steered by the central bank to signal the monetary policy stance and to help it to manage the liquidity situation in the money market (Bindseil, Weller, & Wuertz, 2003). Hence, central banks control monetary policy via interest rates and have a monopoly on the financial system's supply of capital reserves. This position allows

central banks to exert significant influence over all real economic activities such as output, employment and growth at least in the short to medium term (Friedman, 1999).

Monetary policy supports economic growth through the use of short and medium policy tools to keep economic aggregates and key relative prices on a stable path. Periods of macro instability (inflation, financial crises and rates volatility) tend to defer the long term economic agenda and affect incentives for investments and savings in the national economy (Machinea, 2004).

Collyns (1982) stipulates that monetary policy should make a major contribution by establishing a monetary environment conducive to long term economic growth. He gives the example of Singapore's Monetary Authority which is clearly involved in the development of Singapore's financial supermarket.

In conducting monetary policy, the central bank's main objective should be to help the economy achieve its full potential in terms of full employment and higher standards of living. This objective is pursued through a policy aimed at keeping inflation low and stable while helping to create a climate of confidence in the monetary policy. This is a prerequisite for taking advantage of improved potential for economic growth and sends a strong reassuring signal to investors, businesses and consumers. Monetary policy must correctly gauge the amount of monetary stimulus when putting interest rates and exchange rates together while ensuring that inflationary pressures do not emerge. However, with monetary policy actions taking one to two years to have their full effects on the economy, central banks must always look ahead and ask what sort of monetary support the economy needs at any point and what steps would ensure that the economy reaches full capacity at a sustainable cruising speed (Thiessen, 1997). Furthermore, Krugman (1996) argues that since countries, unlike corporations, do not go out of business, the constraint on the number of jobs in a country is not linked to the ability of the economy to generate demand (Krugman, 1994a). But rather, it is related to the level of unemployment that the central bank thinks the economy needs in order to keep inflation under control (Krugman, 1994b).

Finally, any monetary policy that either encourages high inflation or permits large scale financial collapse can inflict severe damage on productivity and growth (De Long & Summers, 1992). Moreover, an efficient monetary policy would also act as a good counter recession policy (Lucas, 1986).

Monetary Policy versus Fiscal Policy

Monetary policy has played a larger role than fiscal policy to offset economic slowdown in recent decades (Moreno, 2003). Monetary policy decision and implementation lags are generally shorter than those of fiscal policy and their impact is thought to be more certain. Moreover, interest rates can be adjusted more flexibly than tax and expenditure policies. Monetary policy is generally thought to be more effective when the private sector believes that the government would not resort to inflationary deficit financing which proves a case to coordinate the fiscal and monetary policies (Ruogu, 2003; Matalik & Slavik, 2003; Lozano & Uribe, 2003). Therefore, central banks prefer to study fiscal indicators and strengthen cooperation with the government (Nasution, 2003)

to eliminate any noise that could hamper the effective use of the monetary policy tools (Yung, 2003; Mihaljek & Tissot, 2003). A strong commitment to fiscal sustainability is critical for macroeconomic stability as well as to ensure sustainable long-term growth (Vijayaledchumy, 2003; Vyugin, 2003; Marshall, 2003), otherwise, it would send a warning signal worldwide about the unsuitability of the country's economic situation (Watanagase, 2001). In Singapore, fiscal policy has played at most a passive role with a strong preference towards maintaining fiscal prudence. During a recent slowdown, the government has allowed a fiscal deficit and has used microeconomic policies (tax and expenditure policies) to boost the competitiveness of the economy. The government's strong fiscal position has facilitated flexible conduct of monetary policy: the central bank has actively used its effective exchange rate stance to lower domestic interest rates and strengthen external competitiveness (Mohanty & Scatigna, 2003).

As a conclusion to this section, central banks' objectives could be qualified as a tactical short to medium term monetary stabilisation approach and a strategic long term developmental role. Central banks can achieve these objectives not only through their promotion of the domestic financial sector but also via reliance on foreign borrowings by both the private and public sectors. Hence, we can safely assume that they have a direct contribution to development by helping to monitor and raise needed resources. All central bank activities and techniques used for monetary policy can also be considered as elements of development policy. The central bank is best viewed as a catalyst and innovator, a guardian and curator of the financial system rather than a perennial participant in development finance on behalf of the government (Chandavarkar, 1987).

Central Bank Independence

Central Bank Independence (CBI) can be defined using two theoretical frameworks. The first presents CBI as the autonomy of the central bank to have its own independent goals, the political freedom to reach them and how the central bank controls the level and terms of credit to be extended to the government (Beblavy, 2003).

The second CBI theoretical framework is based on Political and Economic independence. Political independence involves the way the central bank board is appointed, the board's term, having price stability as a main responsibility in the central bank's charter and the degree of interference from the political authorities. The Economic independence hinges on the autonomy of the central bank to fully control the monetary policy and its tools to reach the set monetary goals (Grilli, Masciandaro & Tabellini, 1991; Fischer, 1995a).

In the literature there has been a difference in views about the usefulness of CBI for national economic development and growth. On the one hand, many scholars advocate the need for CBI to control inflation especially in developing countries. On the other, a second group of scholars doubt its value beyond pure politics. A review of both views is summarised in this section.

On the CBI advocates side, we find the following ideas supporting CBI and its positive effects politically and economically:

Loungani & Sheets (1997) argue that CBI contributes to lower inflation and facilitates economic growth by insulating the central bank from the politically strong, economically weak sectors of the economy and helps the central bank resist the financing of the government's budget deficit through cheap fiscal financing (a major source of inflation). Furthermore, Rogoff (1985) finds that economic welfare is increased when an independent central bank is in charge. While Barro & Gordon (1983) argue that CBI reduces the rate of inflation through the delegation of monetary policy to an agent more inflation averse than society as a commitment device towards inflation control. Further empirical evidence shows that CBI limits the political effect on inflation and actually helps to reduce inflation (Alesina & Summers, 1993; Grilli *et al.*, 1991; Hadri, Lockwood & Maloney, 1998). In addition, CBI reduces the volatility of economic output during election periods (Maloney, Pickering & Hadri, 2003) and can serve to insulate the economy from political business cycles by preventing election-related manipulation of the monetary policy (Nordhaus, 1975; Rogoff & Sibert, 1988).

Following the same political economy logic, Dolmas, Huffman & Wyne (2000) present the view that CBI limits the pressure to allow more inflation that could be caused by greater income inequality in a democratic society. Ozkan (2000) continues along the same line of thinking and elaborates that monetary policy is safer in the hands of central bankers who are sheltered from facing the mass electoral body. Finally, Pastor & Maxfield (1999) maintain that CBI is used in democratic societies to enhance private investments and limit the political access to economic policy making by delegating authority to central banks. This signals the commitment to reform, especially in developing countries, in order to attract more private investments and enhance economic growth.

On the opposite side, we can find the following scholars and their ideas contradicting any positive effect of CBI:

Posen (1995) argues that CBI is irrelevant when discussing inflation, since any correlation between CBI and lower inflation is determined by the development of a more deflationary society. Piga (2000) adds that CBI is an erroneous reply to society's need to reduce the negative effects of inflation while keeping the liberty of reacting to economic shocks when needed. He argues that CBI can be modelled according to political will. He quotes Milton Friedman as being very critical about CBI when saying that presidents will always get what they want (from central banks).

Moreover, Goodhart (2002) claims that CBI is a very recent fashion and could be subject to modification because of its fragility. Gartner (2000) took a similar view by presenting a generational analysis of CBI theories as proof. He stated that CBI theories in the 1980s were more conservative as evidenced by the suggestion of Rogoff (1985) to delegate monetary authority to an independent and conservative central banker. However, CBI theories turned to softer views later by mentioning that more conservatism has some undesired consequences on output and hence there is a need for a central bank less conservative than society with a set inflation target to achieve better results. Berger, de Haan & Eijffinger (2001) agreed and concluded that independence

and conservatism are not well distinguished. Hence, various combinations of both would produce the optimal outcome.

On the economic side, Walsh (2000) states that CBI does not safeguard against volatility in real economic activity. While Lippi (1998) argues that CBI benefits depend on the size of the inflationary bias versus the variance of policy targets. A policymaker with stable policy targets would be in a better position to benefit from CBI than one with unstable targets. For Hermes & Lensink (2000), and to a certain extent Ghironi & Rebucci (2001), CBI does not help countries with low levels of inflation to acquire even lower levels; while for transition economies, to establish CBI would be a difficult process and would not be totally reliable unless a dependable judicial and political infrastructure is in place.

Finally, Alesina & Summers, (1993) tried to find a correlation between CBI and variability of growth, unemployment and real interest rates. They concluded that while CBI helps to promote price stability (see also Alesina, 1989), it has no real impact on the economy or on growth.

As a conclusion, a good part of the literature pertaining to central banks in political economy is concerned with CBI. However, the question about the link (positive or negative) between CBI and national economic stability, inflation, development and growth does not have a unified view among scholars. More about CBI and its link to inflation will follow in the Systematic Review part of this chapter.

2.1.2 Economic Development

This section will try to clarify the link between central banks in general and economic development. That could help to clarify the role of central banks on the national macroeconomic level and complete the analysis made thus far.

Inflation and Real Growth

Fischer & Modigliani (1978) presented a variety of channels by which inflation negatively affects real activity including: the need to economise on real balances and making more trips to the bank ("shoe leather costs"), inefficiencies if taxes are not fully indexed thus distorting the incentives to save and invest, and higher economic uncertainties as a result of higher inflation volatility pushing people to make fewer long term commitments and reducing investments. Briault (1995) further suggests that high inflation causes price signal noises that could cause an inefficient allocation of economic resources.

There has been abundant theoretical and empirical evidence presented to support the view that high inflation discourages domestic investment, drives out capital and depresses economic activity (Fischer & Modigliani, 1978). Furthermore, Loungani & Sheets (1997) provided strong evidence of negative correlation between the inflation rate and subsequent economic growth by studying a set of 25 transition economies. The effect of inflation on investments appears to be an important channel to prove this strong and robust relationship. This view is consistent with the works of Barro (1995)

and Bruno & Easterly (1995) suggesting that high inflation rates adversely affect economic growth.

Barro (1995) used data from around 100 countries for the period from 1960 to 1990 to assess the effect of inflation on economic performance. If a number of country characteristics are held constant, then regression results indicate that an increase in average inflation of 10% per year reduces the growth rate of real per capita GDP by 0.2%-0.3% per year and lowers the ratio of investment to GDP by 0.4%-0.6%. These relations reflect causal influences from inflation to growth and investment. Although the adverse influence of inflation on growth looks small, the long-term effects on standards of living are substantial. For example, a shift in monetary policy that raises the long-term average inflation rate by 10% per year is estimated to lower the level of real GDP after 30 years by 4%-7%, more than enough to justify a strong interest in price stability.

Bruno & Easterly (1995) found that growth falls sharply during discrete crises of high inflation, and then recovers surprisingly after inflation falls. Lower growth could occur either via a lowering of productivity, or through the depressing effect of uncertainty on investment or through the adverse effect on efficiency of credit allocation. Moreover, Fischer, Sahay & Vegh (2002) conclude that economic growth in emerging economies is maximised at inflation rates below 50% and probably below 10%.

Finally, high and volatile inflation has a negative impact on growth and development since it obscures relative price signals at the microeconomic level (Machinea, 2004). And real economic activity tends to be negatively related to the central bank's degree of effective inflation aversion (Berger, de Haan & Eijffinger, 2001).

This last statement enhances the discussion above about the role of central banks in controlling inflation and how that affects economic development and growth.

Central Banks and Financial Infrastructure

There is a large body of theoretical and empirical research which supports the proposition that an efficient, well functioning financial system is a necessary condition for long term economic growth[6] (Haque, 2000; Hermes & Lensink, 2000). Demirgue-Kunt & Levine (2002) add that countries with underdeveloped financial systems tend to suffer from higher inflation that restricts economic growth. Hence, countries and their national institutions need to promote a policy infrastructure that allows the better functioning of banks and financial markets.

Furthermore, investments – crucial for productive development – are influenced by the way the financial system works or how developed it is. The growth volatility could be reduced by a properly functioning financial system since it helps to smooth out business cycles. Empirical evidence suggests that deep financial intermediation performed by financial institutions, as a result of a better and strong financial system (Yacaman, 2001), and economic growth are positively correlated (Machinea, 2004). Intermediation helps to bridge information asymmetries between lenders and borrowers that support the

[6] It is important to note that other views and research deny any causality between the two.

economic growth process through increase in savings, better funds allocation, monitoring of the usage of funds and risk management (Levine, 1997).
Financial development leads economic growth. Higher levels of financial development are significantly and robustly correlated with faster rates of economic growth (King & Levine, 1993). Jalilian, & Kirkpatrick (2002) support this view by adding that financial development improves economic growth prospects especially in lower income nations. When the financial markets are inefficient and significantly imperfect, the contribution made by these markets towards economic growth is impaired (Stiglitz, 2000). Effective regulation in the financial industry is now recognised as essential to support market-led growth and development (Brownbridge & Kirkpatrick, 2000). This holds especially in low income nations where regulatory skills and capacity are limited (Jalilian, Kirkpatrick & Parker, 2003).

Prudent macroeconomic policies and sound financial sector management are crucial to good economic performance (Thiessen, 1997). One of the developmental roles of central banks is financial liberalisation, ensuring the maintenance of a liberal and stable financial system based on a set of regulatory and prudential policies (Chandavarkar, 1987). Moreover, a stable and strong banking system lowers lending risks and enables better economic conditions (Ahumada & Marshall, 2001).

The need for a better financial system and efficient management was highlighted by Krugman (1995). He gave the example of Mexico receiving capital inflows of USD 30 billion up to 1993; still the real rate growth between 1990 and 1994 was quite disappointing. He traced the reason to inefficiencies in management of the national financial system.

The banking sector remains the core financial intermediary of any economy. The growth of the national economy is closely connected to the development and growth of the financial industry in terms of stability, efficiency, law enforceability and effective regulatory framework. It promotes the trust of investors in the banking sector, and hence, the domestic economy as a whole (Dedek, 2001; Rich, 2000).

The strengthening of the domestic banking sector requires the entry of foreign financial institutions to provide faster and cheaper access to international capital markets and liquid funds, and technology, training and know-how in sophisticated financial instruments and techniques needed in banking. These institutions also encourage other international firms to invest in the local economy and tend to encourage local residents to invest capital domestically thus preventing capital flight abroad. Empirical studies have found that the entry of foreign financial institutions improves the overall competitiveness of the domestic banking sector and by transition the national economy (Hawkins & Mihaljek, 2001). There is a major role for the central bank to enable this entry and provide the needed incentives for these institutions to invest in the country and bring their much needed “ideas” with them.

This last remark leads us to the discussion of national competitiveness theories that highlight the importance of ideas in the economic development of nations – and the consequent role of national institutions.

2.1.3 National Competitiveness

Several issues regarding the economic success of nations have been studied by leading scholars. However, a major part of their research into national competitiveness has concentrated on studying the attractiveness of some countries as bases for leading companies specialising in successful industries. Gavin (1975) gave a wider definition of national competitiveness. He called it national power: the realm of economics with the national economic competitiveness coming from national prosperity, and the strength of currency and balance of payments. Rugman (1987) adds to this definition the welfare of the nation's consumers. Pitelis (1998) viewed national competitiveness as the increase of productivity coming from new ideas, infrastructure and wealth producing resources. He stresses that these are influenced by institutions and macroeconomic policies, which directs my attention to central banks.

This section aims to present the different schools of thought pertaining to national competitiveness theories starting with strategy and ending with the role of institutions. As mentioned earlier, this area of the literature will provide the national context layer for the DBA.

Strategy

Porter (1990a) argues that to find national competitive advantage, we should not focus on the full economic picture but rather on specific industries and industry segments. In many industries, the national environment provides one or two nations with a distinct advantage over their foreign "competitors" and makes them "Safe Havens" (Porter, 1990b). For Porter, the national diamond (factor and demand conditions, related and supporting industries, strategy structure and rivalry of domestic firms and clusters), determines the country's international competitiveness. In general, these variables would be hard to isolate and test individually.

Prahalad & Hamel (1990) stated that companies which have risen to global leadership began with ambitions that were out of all proportion to their resources and capabilities. One could argue that this would apply as well to flourishing nations. In my opinion, central banks could have helped to set the appropriate environment for growth. Competitive advantage is a tight fit between businesses and resources (Campbell, Goold & Alexander, 1995; Collis & Montgomery, 1998). That could be applied to nations and their strategy for economic success. It is, thus, necessary to identify country specific advantages and mobilise them by enlightened management policies (Rugman, 1987). However, leadership is needed to shape the future, set strategic scenarios (Courtney, Kirkland & Viguerie, 1997) and enable the strategy to adapt in a changing environment (Mintzberg, 1994) while making trade-offs (Porter, 1996). In the view of some scholars, central banks could have provided this type of leadership by setting the competition policy to protect and promote the domestic financial system and consequently, the economy as a whole (Pitelis, 2004; Gal, 2003).

New Location Economics

This theory stresses the significance of a geographical location in creating national competitive advantage. The favourable aspects of location generate external economies.

As emphasised by many scholars such as Jacobs (1969) and Lucas (1988), the agglomeration of a large number of heterogeneous people (essentially, professional workers with variable skills and knowledge) in a city or industrial district can naturally be expected to contribute to the diffusion, generation, innovation and accumulation of knowledge, and hence to economic growth. This would certainly be true in the short run. Nonetheless, this is not assured in the long run unless there is a sufficient infusion of new blood, ideas and further innovations (Fujita & Krugman, 2004; Porter, 2000; Krugman, 1994c).

Endogenous Growth Theory

The new Endogenous Growth Theory (Romer, 1994; Arrow, 1962; Lucas, 1988) explains the importance of human resources and technological change in effecting endogenous macroeconomic growth. Economic growth is an endogenous outcome of an economic system, not the result of forces that come from the outside. Each unit of capital investment not only increases the stock of physical capital but also increases the level of technology for all firms in the economy through knowledge spillovers (Arrow, 1962). Finally, people with human capital migrate from places where knowledge (and technology) is scarce to places where it is abundant (Lucas, 1988).

Endogenous growth theory recognises that ideas are of central importance in growth and development. Poor nations suffer from object gaps, idea gaps or both. Ideas are central to the process of economic development (Solow, 1956). The idea gaps theory asserts that nations are poor because their citizens do not have access to ideas that are used in industrial nations to generate economic value. To reduce both gaps, nations need a stable monetary system and an efficient economic environment that sends the appropriate message and gives incentives to multinationals to move into their countries and generate profits while bringing ideas from all over the world and putting them into usage with domestic resources. However, these companies are often wary of policy changes and perceptions of "bad" economic environments (Romer, 1993; Romer, 1986; Lucas, 1988). This link, between macroeconomic instability and participation by multinational corporations, offers one mechanism that can help explain the correlation noted by Fischer (1993) between bad macroeconomic performance and slow growth. If the flow of ideas from foreigners is sensitive to the perception of macroeconomic instability, and since these flows are important for growth, large effects from macroeconomic instability on growth are easier to explain (Romer, 1994).

Transnationals & Deindustrialisation

This theory questions the link between large size and international competitiveness of countries. The main idea is that countries such as the UK suffering from deindustrilisation tendencies are home bases of private successful transnationals. The theory questions the benefits of the country's large size for the case of choosing the transnationals' home base. For this reason, nation states and transnationals could be better seen as complements rather than substitutes (Corden & Neary, 1982; Crafts, 1996; Pitelis, 1993). However, this theory points us to the fact that the name of the game is competitive bidding i.e. attempts by governments to attract direct investments by both home and foreign firms.

Foreign Direct Investments (FDI) and Competitive Bidding

FDI, inward and outward volume, has doubled since 1980 and represents approximately 10% of world output. Major economies, by virtue of their advanced financial systems, have been the major recipients of inward FDI – more than 70% for the period spanning 1980 and 1995 (Brooksbank, Connolly & Morgan, 1999).

In terms of competitive bidding to attract FDI, Maxfield (1997) presents a hypothesis that politicians use changes in central banks authority to signal their credit worthiness to potential investors willing to pump money into the national economy.

De la Torre (1981) points out that FDI flows are affected by the national investment climate that could drive investments out if further risks are added to the normal investment decision process. Blomstrom, Lipsey & Zejan (1992) found that FDI has a strong association with the rate of economic growth. In panel estimates over five-year time intervals, they also report that FDI seems to lead, rather than lag behind, economic growth.

An extensive body of theoretical and empirical work concludes that the impact of economic growth on national welfare depends on the sectors where growth occurs (Krugman, 1995). This shows that there is a need for the national institutions to provide a national strategy for growth. As an example, Colombia and its central bank used a set of tools to channel FDI towards sectors that have been identified as a priority for economic development (Uribe, 2001).

2.1.4 Importance of Institutions

The neoclassical model, a major base of economic reasoning for many scholars, holds only under the severely restrictive assumption of zero transaction cost. Following this model, Arrow & Debreu (1954) have stipulated the existence of a certain equilibrium for a competitive economy where all goods markets clear. This view of the world has no need for institutions, and growth is not an issue since it is guaranteed by population growth and rate of savings. Nevertheless, whenever the concept of transaction costs is introduced, the role of formal institutions becomes important to allow the decrease of such costs. Moreover, the increasing specialisation and division of labour necessitate the development of national institutions to facilitate economic exchange, growth and development (North, 1989; Pitelis, 1992). Institutions affect the business climate and the economy as a whole and could constitute the main explanatory factor for the development and underdevelopment of countries (Pitelis, 1998; North, 1991).

Nielson (1984) sees a need for an institutional strategy in order to improve national economic competitiveness. He seems to be impressed by the successful involvement of some Asian institutions in developing effective national strategies. As an illustration, one can refer to the recent incentives given by Singapore's monetary authority (central bank) to foreign banks to grow their private banking activities and use the country as a base for their Pan-Asian operations.

Porter (1990b and 2001) defines the roles of national institutions in economic development as focusing to establish a stable and predictable macro, political and legal

environment; improve the availability, quality and efficiency of general inputs and infrastructure; set overall rules of incentives governing competition and productivity growth; and convene and actively support a long-term process for economic upgrading.

However, Pitelis (2000; 1998; 1992) argues that there has been an *Insufficient consideration of the role of the institutions* within national contexts. North (2005; 1991) supports this argument and adds the need to understand what kind of institutional framework has been responsible for the rapid growth in some developing economies since efficient markets are structured by institutions to have low transaction costs and provide incentives for economic competition. Finally – and to support the major idea behind my research proposal – Jordan & Carlson (2000) stress that the analysis of the importance of institutions such as central banks (and consequently, monetary policy) is more evident today than ever.

2.1.5 Argumentation Leading to the Systematic Review

As shown above, there is a large body of literature concerned with finding the roots of economic success on a national scale. Scholars have tried to approach the subject with different starting assumptions, methodologies and perceived outcomes. National competitiveness theories might not have given enough importance to the role of national institutions – central banks for the aim of my research – in generating sector and overall national economic success.

The following relations can be deduced from the presented review:
Relation 1 (R1) from the Institutional Economics area: central banks, in general, control monetary policy and inflation, ensure the stability of prices, and can coordinate actions with the fiscal policy.

Relation 2 (R2) from the Economic Development, Stability and Growth field: inflation control and an efficient financial system are prerequisites for stability, development and growth. They allow the nation to become a fertile ground for investments (and FDI), reduce unemployment, increase GDP per capita, and control shocks to the economic system.

Relation 3 (R3) from the National Competitiveness and Strategy area: a nation will succeed economically and grow if its institutions support its stable and global competitive presence, help to attract new ideas and investments into the country, and assist to capture share of mind for visitors, business leaders and investors.

The Scoping Study further supported the following statements and links:

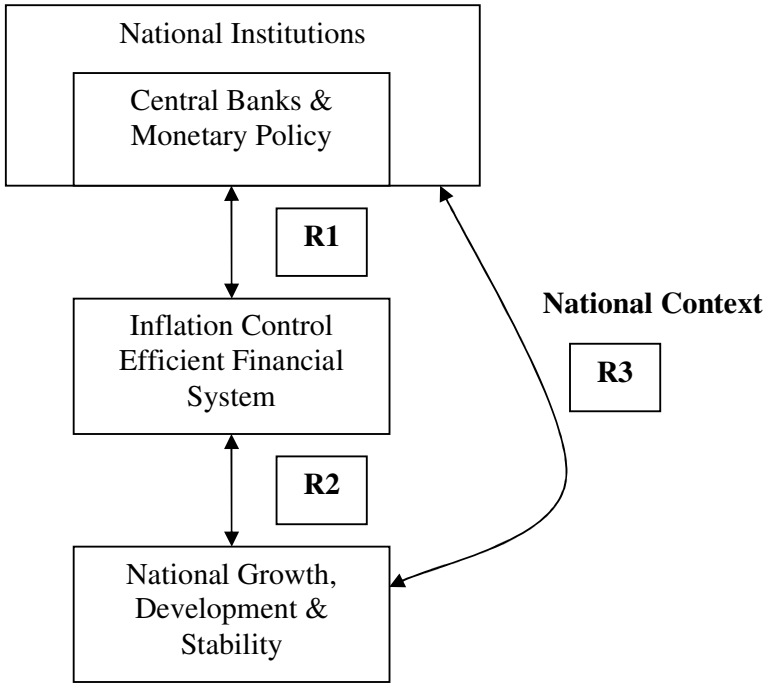
Link between R1 and R2:
a) Efficient monetary policy leads to stability.
b) Low inflation and price controls lead to growth.

Link between R3 and R2:
There is support suggesting that countries can enjoy economic growth through actions and policies planned and followed by national institutions.

R1 and R3 are mutually supportive for countries to reach and maintain economic growth, stability and development. The relation is obvious but not studied or covered sufficiently (theoretically and practically) in terms of the role of national institutions and, specifically for the aim of this research, the role of central banks.

Figure 2-2 depicts this connection in a visual way. It is worth noting that the depicted relations are not necessarily linear but could reciprocally affect each other.

Figure 2-2: Visualisation of the Scoping Study outcomes



Based on the above points, it will be beneficial for the Systematic Review to focus on the connection among these relations from a central bank perspective. In addition, what the literature did not inform us completely is how these relations would look when the central bank is independent. Therefore, the theoretical argument leading to the systematic review question can be summarised as:

- We know that national competitiveness theories study why some countries are more successful than others on the economic scene in terms of stability, growth and development (Porter, 1990a and 1990b; 2001; Romer, 1986; 1993; Lucas, 1988).
- There is an emphasis on the role of national institutions in economic development and growth. However, institutions have not been studied appropriately or there has not been enough consideration concerning their role (Pitelis, 2000; 1998; 1992; North, 2005; 1991).
- Central banks – as national institutions – have a role impacting on national economic development. Therefore, they can be used as a valid proxy for all national institutions to fill our knowledge gap mentioned above.
- However, a thorough analysis of the complete picture linking central banks – and Central Bank Independence (CBI) – to inflation has not been fully uncovered.

Hence, as a summary of the presented relations and arguments, the following question can clarify on the role of national institutions in the economic development and growth of national economies. This question forms the basis of the Systematic Review: **Is there a relation between Central Bank Independence and inflation?**

2.2 Systematic Review

The Scoping Study allowed me to read many papers and articles in several disciplines and research areas. However, it made me realise that I need to focus more and narrow my research question and interest towards reaching a better and more manageable study. There are many variables that could affect the economic prosperity of nations. My DBA cannot cover them all. Therefore, I must focus on some and aim to find (and verify) the existence of a certain gap or contribution that I could bring to the literature and practice. The Systematic Review has a narrow focus with a rigorous approach based on a defined protocol. The objective is to produce a comprehensive view of the research topic with the main ideas, concepts and theories highlighted. The review will also help uncover the gaps in our knowledge of the researched field and enable the grounding of the empirical projects. The Systematic Review will organise the available information surrounding this field around knowledge blocks, and provide a conclusion on what can still be considered as gaps in this knowledge.

The Systematic Review study constitutes the first of three major projects to be undertaken for the DBA journey. It is a crucial step from the broad review made during the scoping study towards a clear and tight review of a specific research question.

2.2.1 Mapping the field and conceptual discussion

Figure 2-3 presents visually the areas of interest informing my Systematic Review. It is a slight variation of the diagram presented in the Scoping Study. The main change has been the slight shift of focus of the Systematic Review question towards the intersection of the Institutional Economics (Central Bank Independence) and Economic Development (inflation). The reason for adopting this variation follows from the Scoping Study outcomes and the fact that the Systematic Review question needs to be tightly focused to produce effective results.

Figure 2-3: Systematic Review Map of the field

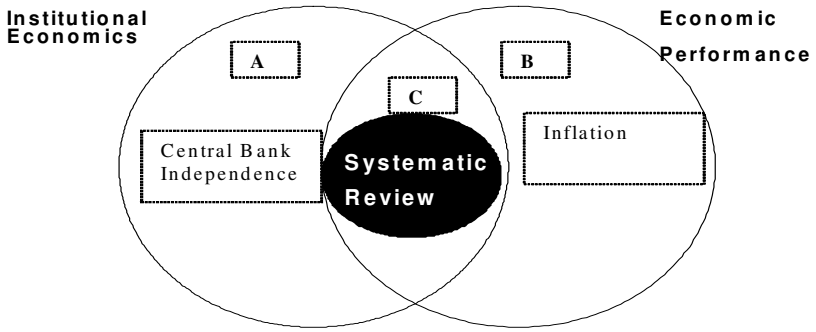


Figure 2-3 identifies the following three areas:
Area A, CBI: this is affected by politics, monetary institutions design, interaction of policies, etc. – a large area that needs to be limited.

Area B, Inflation: this is affected by liquidity, money supply, budget issues, wage setting issues, seignorage, fiscal policies, society preferences and behavioural concerns – and in its turn, could affect growth, output, politics and elections, etc.

Area C: this is what I am intending to study while taking into consideration other elements that are key or helpful. The areas and questions that this Systematic Review aims to consider are:

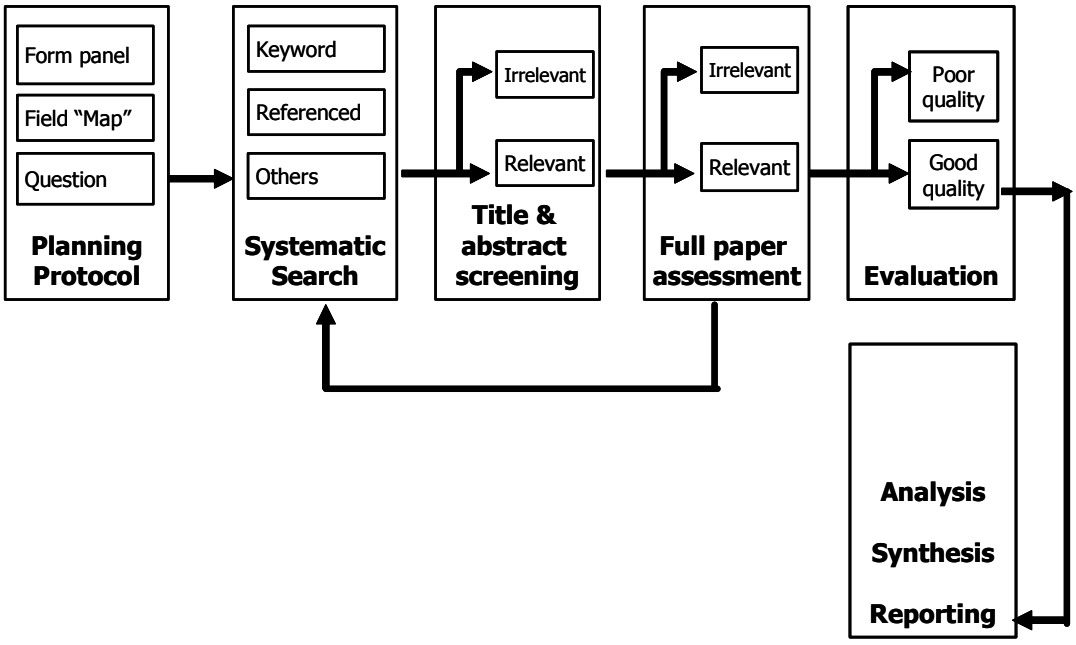
- Define CBI to understand it
- Are there any complements or replacements for CBI?
- Define measurements for CBI and their pitfalls
- Relation between CBI and inflation? Does it exist and what is its nature?
- Which context allows CBI to work (social, behavioural, interest groups)?
- Determine the knowledge gaps.

It is worth noting here that for the systematic review, studies concerning Central Bank Independence in a Lebanese context are (to a large extent) non existent. Therefore, the focus of my systematic review will be on the question relating to Central Bank Independence and its effects on inflation in general.

2.2.2 Systematic Review Protocol

This section outlines the methodology and key decisions taken during the Systematic Review Process. The different steps followed are presented in Figure 2-4.

Figure 2-4: Systematic Review Process



The process starts with forming the panel and continues through the key stages of information search, selection criteria, quality assessment, extraction, analysis and synthesis. The objective is to rearrange the analysed information and highlight how it informs our knowledge. The aim is to be able to identify the patterns existing in the field and any gap that exists in the literature.

Consultation Group Panel

Person	Title	Organisation
Prof. Joe Nellis	Lead Supervisor	Cranfield University
Prof. David Parker	Panel Chair	Cranfield University
Dr. Lance Moir	Panel Member	Cranfield University
Dr. David Denyer	Field Expert	Cranfield University
Ms. Heather Woodfield	Databases Specialist	Cranfield University
Dr. Tina Xiu	Researcher	Cranfield University
Prof. Collin Kirkpatrick	Professor	University of Manchester
Dr. Thoarinn Petursson	Head of Research Assistant Professor	Central Bank of Iceland Reykjavik University
Mr. Nizar Merhi	Senior Manager	Finance Bank (Lebanon)

The Cranfield Panel members were consulted to provide feedback and guidance throughout the systematic review process. Dr. Denyer, Dr. T. Xiu and Ms. Woodfield checked the validity of the process used and provided answers and clarifications on the steps taken. Mr. Merhi and Dr. Petursson provided the practioner's view and comments, while Professors Kirkpatrick and Petursson were consulted during the Scoping and Systematic Review phases for valuable academic advice from different academic perspectives.

Aim of the review

The aim of the systematic review study is to understand the link between Central Bank Independence (CBI) and inflation. The purpose is to synthesise the knowledge that exists around the chosen research field. Furthermore, it should serve as an identification and verification mechanism for the existing gaps in our knowledge. The ultimate objective is to inform my research. The review will also help to answer the question about how national economies develop and what role is there for national institutions such as central banks in this development.

The systematic review process aims to understand the following:

1. What is the economic basis of CBI?
2. What would be a good and valid definition(s) of CBI in theory and practice?
3. What are the main views presented in the literature concerning CBI and its relation to inflation?
4. Can CBI control inflation?
5. Are there factors affecting the relation between CBI and inflation control?

Search Strategy

Many sources of information have been used to identify the academic studies needed for the systematic review. However, the majority of the papers was sought using electronic

databases. The search on these electronic sources depended on a set of keywords identified to form search strings. The identified keywords are grouped in the following list. Variations of the keywords were used in search strings by applying the * symbol.

Independence	Central Bank	Inflation
Independent	Monetary Policy	

I have applied the search strings formed from the above keywords and their variations to many electronic search databases. However, no accurate results were realised on most of them with the exception of EBSCO Business Premier, ABI ProQuest and Web of Science.

Therefore, and after tedious trials, I decided to concentrate my search strategy on EBSCO, ProQuest and Web of Science because they supplied information with relatively high credibility and quantity. Furthermore, they have satisfactory availability of full text and convenient functions for systematic searching. For example, EBSCO provides indexing and abstracts for more than 4,100 journals. It offers solid information from 250 journals in the areas of economics which will prove extremely valuable for my research. Both ProQuest and Web of Science have a powerful search engine with respect to top journals and are ProCite export friendly.

I have made searches for the new proposed research question using new search strings as follows - Indep* AND ((central bank*) OR (Monet* Polic*)) AND (control* inflat*): This was not fully satisfactory since the total number of hits was very limited – 18 total hits on the 3 chosen databases. The number even dwindles to almost nil if I use (inflat* control*) instead of (control* inflat*); this outcome informed me that I needed to be more general.

Therefore, I used the search string: Indep* AND ((central bank*) OR (Monet* Polic*)) AND (inflat*): which returned a good outcome of 521 hits on EBSCO, ProQuest and Web of Science. The number was less if I omitted (Monet* Polic*) from the search string so I opted to keep it. The results are as follows:

EBSCO	233
PROQUEST	253
Total	486
Duplicated Hits (including no authors)	102-
Total after eliminating Duplication	*384*

Furthermore, I added the search made on Web of Science (35 relevant hits) which contributed 8 unique new articles. After testing for relevance (reading titles and abstracts) and eliminating further duplications not caught by the ProCite software due to errors in names, titles, etc., the total number of relevant articles that went to the next stage is 185.
Finally, to complete the analysis I tried to check the availability of papers on Indepen* AND Central Bank* AND Lebano* and got 0 hits on the above databases. When I eliminated the keyword Indepen*, I got 1 hit that was not relevant. This confirms my

claim above about the non-existence of any articles studying Lebanon or the Lebanese Central Bank in mainstream academic research.

In addition to electronic databases, other sources of information included:

1. Books: those that directly relate to the topic and which contribute to our knowledge. Some books or chapters were identified from the references. They were reviewed during the systematic review to test their relevance as the basis for their selection or not for the final paper.
2. Working papers and unpublished papers: sought upon the recommendation of the panel, reviewed and accordingly included or excluded based on the selection criteria identified below.
3. Cross Referencing: this method was used to complement the search of citation databases. Every paper was checked for other relevant and valuable references that could be potentially added to the systematic review process.
4. Other potential sources were included on an ad hoc basis upon the recommendation of the panel. One paper was recommended and included.

Full numerical details on the search strategy are available in the Descriptive Analysis of the Field section (page 56).

Selection Criteria

There is a need while doing a systematic review to limit the boundaries of the research. It is crucial to identify these boundaries after the generation of papers using the key words and search strings. Therefore, and prior to moving to quality appraisal, I needed to identify the relevant papers to move forward. The selection criteria for inclusion or exclusion are presented in Tables 2-1 and 2-2. Some points were amended or added during the process when the articles were reviewed in detail. Full numerical review of included and excluded papers is available in the Descriptive Analysis of the Field section (page 56).

Table 2-1: Systematic Review Inclusion Criteria

Inclusion Criteria	Rationale
Academic papers found using EBSCO, ProQuest and Web of Science	Major source of primary journals and papers in the field. Highly relevant and needed for this research.
Working Papers	When recommended by the Panel.
International Theses	Doctoral or Masters as recommended by the Panel to support the research.
No geographic or time limitations	Not relevant for the research.
English language sources	Only English papers to be considered, English being the major source of research on this topic even in Lebanon.

Table 2-2: Systematic Review Exclusion Criteria

	Exclusion Criteria
E1	Editorial Notes
E2	Political economy papers dealing mainly with election issues, parties and partisans, organisation issues, policy making, and economic history.
E3	Papers related to inflation without reference to Central Bank Independence.
E4	Papers dealing with HR, Technology, Transparency, Supervision, Auditing and Unions at Central Banks.
E5	Papers dealing with the European Central Bank, EU, IMF, NAFTA.
E6	Papers dealing only with budget deficits, government debt and output trade-off.
E7	Papers discussing regional, monetary and currency unions, and currency substitution.
E8	Papers on capital mobility, income inequality, social and welfare issues, independent taxing agencies, labour policies, unemployment and growth.
E9	Papers focusing on the pricing of market instruments, seignorage issues, fiscal policies in general (and solely coordination with monetary policy).
E10	Book Review Essays

Quality Appraisal

After the selection of the relevant papers has been made, there is a definite need to evaluate their quality. This proved to be the most tedious part of the project. Furthermore, there is always a potential of personal and non-academic bias that could influence the quality appraisal decision on any chosen paper. My supervisory panel was considered as the first line of defence to eliminate such biases. However, to strengthen the process, the best choice in terms of quality appraisal was to identify a numerical based approach to assess the selected papers.

The first step is to review criteria that have been developed by leading journals in the field to assess papers submitted to them. I have visited the websites of all the "Excellent" and next-best rated journals in Economics according to Cranfield's list of rated journals to look for and download the set of guidelines provided for authors and reviewers. The following criteria were provided by *Econometrica*, *American Economic Review* and *Economic Journal*.

Econometrica mentions that no paper will be rejected because it is too mathematical or too quantitative. At the same time, no paper is rejected because it is "not mathematical enough" or "too applied," nor need papers make a methodological contribution. What is important is for papers to be interesting, original, well crafted and correct, and that they use whatever mathematical and/or statistical tools are appropriate for the problem at hand. Authors should make their results accessible with precise definitions and explanations of the importance of what is achieved, including relationships with other literature and applications to other areas.

For a paper to be acceptable to the *Economic Journal*, it should make a substantial contribution to economics, be technically well crafted and be of interest to economists at large. Authors are required to make a great effort to motivate their work and to communicate their contribution in a clear manner.

The *American Economic Review* requires papers to represent original work, to fully reference and describe all prior work on the same subject, and to make a comparison to that work. Data used in the analysis should be clearly and precisely documented and be readily available to any researcher for purposes of replication.

Based on the above, I adopted Table 2-3 as my basic numerical evaluation tool towards the systematic review study. This table has been prepared according to the information provided by Dr David Denyer during several Systematic Review sessions held at Cranfield University. The aim is to award papers numerical notes on four criteria evaluation elements. Papers that have passing notes according to the identified "basic rules of revision" presented below have been reviewed in detail and are included in this study. Full numbers and other details related to the Quality Assessment made on the reviewed papers are available in the Descriptive Analysis of the Field section.

Table 2-3: Numerical Quality Assessment Tool

Criteria / Levels	**0 (Low – Not Applicable)**	**1 (Acceptable)**	**2 (Significant)**
Contribution to Knowledge	Not enough information to assess. Adds little to our field knowledge.	Contribution exists but is limited in importance.	Significant addition to our knowledge of the field.
Theory	Not enough information to assess. Inadequate theory review.	Theoretical base is acceptable.	Excellent review of literature. Eye opener!
Methodology / Data Analysis	Not enough information to assess. Inappropriate or limited samples methodology or results.	Appropriate methodology and data analysis. Relevant results.	Adequate definitions and data samples. Good results.
Study Limitation	Not enough information to assess. No limitations mentioned or identified.	Limitations mentioned but relevance not explained.	Limitations and implications are identified and stated.

Basic rules of revision:

1. Any paper that scores two 0s will not be included.
2. Any paper that does not score at least one 2 will not be included.
3. Any paper that scores all 2s will be treated as extremely valuable for research.

Data Extraction

All papers that pass the quality appraisal review have been used during the data extraction phase. The data was stored using ProCite (for Citation), Excel (for flexibility) and NVivo (for summary production). Details of Excel tables used are available in Appendices F, G and H.

Category	Details
Citation	Author, Title, Journal, Year.
Data Identifier	Empirical–Quantitative. Theoretical–Qualitative. Geography. Sample. Analysis.
Findings	Contribution. Results. Limitations. Cross References.
Type (captured only in Excel software)	Category or Heading. Detailed Geography.

Synthesis

This phase of the systematic review involved the in-depth analysis, categorisation and identification of contribution as presented by the selected papers. The process cannot be a narrative one of enumerating papers without additional processing work. Instead, it focused on building blocks of contribution to knowledge around specific headings such as: definition of CBI, measurements, effects, etc.

The above mentioned approach and analysis allowed me to obtain a better understanding of the different headings and to compare the different views while looking for the potential theoretical or practical gap in the field.

Comments

From a practical point of view, the Systematic review process departed very little from the protocol proposed and approved by the Panel. Some selection criteria were further refined after a first round of article reviews. At this point, I would like to offer two comments on the procedure which could be useful for any future systematic review. The first is technical while the second relates to the process.

Technical comment: I opted not to use ProCite as the depository of information during the quality review and extraction processes, the reason being that exporting to Excel from ProCite proved to be complicated. Hence, I have chosen to develop my tables directly in Excel. Similarly, using NVivo during the extraction and synthesis period was useful but time consuming on the word file I used to record my findings in preparation for the synthesis and analysis phases.

Process comment: It is important to engage and define the role of the Panel early on in the Systematic Review period. Some people on the panel are extremely busy and have little time to devote to content review. Therefore, I found it extremely useful to

communicate the role I expected the panel members to play and ask specific questions seeking immediate feedback or advice.

Time remains a major issue when conducting a Systematic Review while having an extremely busy work agenda. Personally, this was the major issue I encountered during the past few months. This needs to be addressed early on in the process without underestimating the pressure that the Systematic Review brings time-wise.

2.2.3 Findings and Discussion

This section presents the key findings and related discussions developed during the Systematic Review process. The information collected using the "scientific" protocol of the Systematic Review was analysed and formatted to present the building blocks of knowledge presented below. This information is further supported by the section that follows: Descriptive Analysis of the Field, and Appendices F, G and H.

While writing this section, I tried not to follow the typical literature review process of listing the findings, but preferred to build the collected knowledge (key arguments, statements and explanations) in a format that allows more light to be shed on the discussions surrounding this field at the same time. Moreover, I also aimed to present a balanced view with different opinions highlighted.

This section starts with defining inflation and then moves towards the topic of Central Bank Independence (CBI) and its relation to inflation, while passing through the theoretical background of CBI, its definitions and measurements.

Inflation

Inflation can be defined as the sustained rise in the general level of prices over time. Governments sometimes benefit from inflation by printing additional money; the amount of real purchasing power extracted by the government in this case is called *seignorage* (Cukierman, 1992).

Inflation could be structural (markets not efficient in resisting stabilisation efforts), induced by external economic shocks, or related to budget deficit monetisation and government spending that pushes the government to rely on seignorage revenues (Brown & Yousefi, 1996). This problem can be noticed in transition economies where inflation, during the transition process, is more or less a fiscal trend. This makes controlling inflation during this phase difficult since central banks cannot control the size of the fiscal deficit (Wagner, 2000).

Inflation could have some negative effects such as redistribution of wealth, system inefficiencies and a welfare loss for society as a whole (Oatley, 1999). Inflation also increases economic uncertainty, and can lead to sharp reductions in investments, and drive capital away (Fischer, 1995b). More on inflation theories was presented in the Scoping Study, section 2.1.2.

Theory of Time Inconsistency and Inflation Bias

The starting point of any discussion leading towards central bank institutional design and independence begins with two seminal papers written by Kydland & Prescott (1977) and Barro & Gordon (1983). In these papers, the authors presented the theory of time inconsistency that could subject central banks to inflationary bias. According to them, the problem of monetary policy makers is that they appreciate higher employment rates, even if achieving these means a certain deviation from inflation targets. This, coupled with the assumption that they are able to act in a discretionary fashion under political pressure, leads to the time inconsistency problem where the policy makers change policies over time. Policy makers will still want long term inflation rates to be low, but the influence of political powers wishing higher employment rates at the expense of inflation control leads to tension between these two goals and, hence, injects inflationary bias into the economy. In this case, monetary policy makers may promise low inflation initially only to surprise the economy with an unexpected higher level at some point in the future. Inflation bias can also occur when money growth is increased to generate seignorage revenues. Therefore, it has been accepted that leaving monetary policy making in the hands of politically motivated policy makers is one source of higher inflation.

However, other authors have criticised this theory claiming that it hardly exists in reality and does not form a base for any institutional design change (Forder, 1998; Blinder, 1996). In fact, policy makers may act in a way that does not generate inflationary bias; there is no necessary trade-off between flexibility of output stabilisation and credibility in terms of inflation control (McCallum, 1997). Another criticism argues that the theory confuses the essence of the rule versus discretion debate and has laid the foundation for a "dangerously one-sided approach to central bank independence which entirely ignores the potential risks involved in maximizing central bankers' latitude for discretion." (Bibow, 2004); or, finally, that any attempt by the policy maker to stimulate output above its normal level is simply futile (Moser, 1999).

Proposed Solutions to Time Inconsistency

Having outlined the time inconsistency theory that forms the basis for the literature on central bank independence, I also describe in this section the proposed solutions to overcome the inflationary bias of discretionary policy making.

Independent and inflation averse banker

The first solution to the inflation bias came in a seminal paper written by Kenneth Rogoff in 1985. Rogoff (1985) proposed to delegate the monetary policy to an independent agent sheltered from political pressure and whose inflation preferences are higher than those of society. The appointment of this independent agent would serve as a commitment mechanism towards sustaining lower inflation levels. Bean (1998) finds that the *act* of delegation itself solves the time inconsistency problem. This independent and inflation averse central bank could help to reduce inflation at the expense of higher output variability. Output variability is caused by exogenous shocks (money demand or supply) or is politically (policy) motivated. An independent central bank stabilises less since it reduces political variability but not necessarily economic variability as it aims to keep inflation low and controllable (Alesina & Gatti, 1995).

However, the above theory was evaluated by several authors who did not necessarily agree on it as a (or sole) solution to time inconsistency. For example, Forder (1998) stated that the Rogoff solution should not be the base for institutional and legal change, but should only be considered as an element of good policy to follow. At the same time, Debelle & Fischer (1994) argue that the time inconsistency theory was originally presented as a reason for monetary rule rather than discretion, and in this case an independent central bank is not needed. This is a view that Piga (2000) agrees with since he states that the representative approach to monetary policy is flawed and does not provide the best institutional solution to the inflationary bias.

A proposal similar to Rogoff's was made by Lohmann (1992) who advocates a partially independent central bank with a built-in mechanism that allows the government to override decisions of the central bank at crucial moments. The government will also need to determine the costs of such interventions as part of this institutional framework (Gartner, 2000). The central banks of Canada, New Zealand and the Netherlands may be considered as examples for the Lohmann model (Briault, Haldane, & King, 1996). A more detailed analysis of Central Bank Independence is presented in later sections.

Inflation targeting
Svensson (1997) claims that a central bank with an inflation target can generate the best results when dealing with monetary authorities acting under discretion. The bank in this case needs to have a solid stabilisation preference. Bean (2003) praises the introduction of inflation targeting in the UK. He states that since the introduction of such targets in 1992, inflation has been low and stable.

However, inflation targeting is far from being saved from criticism. Chowdhury (2002) doubts its usefulness and calls it "complex" on national context and academic specific grounds. Du Plessis (2005) – while introducing the current arrangement for inflation targeting in South Africa – presents a view where the target can be changed by the Finance Minister without reference to legislation. This practice, according to the author, does not follow the rule of the law that should prevent such independent surprises and thus renders targeting useless.

Other solutions
Enhanced credibility: the appointment of an inflation averse central banker may reduce inflation because the public may depend on this person not to use inflation to favour employment. In fact, it may be assumed that time inconsistency can be solved easily if central bankers were to develop a better reputation in the way they deal with inflation (Chang, 1998). In addition, any central bank – independent or not – that acts in a systematic way towards reaching its objectives would be deemed credible and win the trust of the players in the economy (Fuhrer, 1997).

Exchange rate: Another solution to the time inconsistency problem would be to peg a country's currency to that of a major trading partner having an independent central bank committed to control inflation. This would allow the introduction of stable prices without going through any institutional design and legal re-organisation. Wagner (2000) states that transition or developing nations are usually left with some sort of exchange

rate targeting (pegging in the short run and rate bands in the longer) to provide the needed transparent information for the markets and investors.

Cukierman (1994) believes that the maintenance of a fixed parity with the currency of a nation that attaches enough weight to maintain price stability is a good solution for small open economies. This helps credibility building by sending clear messages to the public that central bankers are sticking to their commitment towards a certain monetary anchor (exchange rate stability in this case).

Social consensus: This solution involves a social accord between labour, government and business leaders agreeing on the objective of lower inflation and a clear path towards economic growth. It does not necessarily require the appointment of an inflation averse central banker (Chowdhury, 2002).

Contract: Walsh (1995) proposed a performance (incentive) contract between the central banker and the government. A derivative to this contract would be to have an explicitly stated inflation target tying the rewards of the central banker to the realised inflation. Earlier, Persson & Tabellini (1993) emphasised the desirability of inflation targets-contracts versus nominal targets that could prevent accountability of central bankers (why should they be accountable for something they cannot control?), and the importance of transparent and clear monetary policy announcements. However, McCallum (1995) doubts the validity of this contract since in his opinion, a contract cannot overcome the motivation for time inconsistency – it merely relocates it.

Combination: Herrendorf & Lockwood (1997) found that the delegation of monetary policy to a conservative central banker could be a preferable solution when combined with an inflation target or inflation contract. Also, inflation targets are an attractive combination proposal for some countries that have a highly independent central bank (Uchida & Fujiki, 2005).

Fischer (1995a) notes that it is possible that the monetary policy maker could choose a combination of both an inflation target and an exchange rate peg based on the conditions in the economy. In general, an independent monetary policy is not suited to a country with fixed exchange rates and full capital mobility.

A criticism of all the above proposed solutions comes from Castellani & Debrun (2005) who state that they fail to take into consideration fiscal policies. Introducing fiscal policy as an endogenous variable into the model creates an expansive bias. This justifies the need for restrictions not only on the discretionary nature of the monetary policy but also restrictions on the fiscal policy side. This could be an extremely important point for emerging markets to strengthen both their fiscal and monetary policies. Any benefits that an independent central bank generates could be eroded by conflicts between fiscal and monetary policies, so the problems of time inconsistency would be transformed in this case rather than resolved (Mas, 1995).

I move now to the main topic of this systematic review: CBI and its relation with inflation.

Central Bank Independence (CBI)

The main attractiveness of CBI stems from the fact that it recognises that politicians are motivated to use monetary policy to achieve certain electoral results. According to Goodhart (2002), CBI is a very recent fashion and is still subject to changes. Forder (2005) disagrees with this view and finds that CBI is not new but is an idea that has always found its place in economic thought, even though it only recently gained its status as a "science."

Types of CBI

One can distinguish several types of CBI from the literature. Therefore, this section provides a breakdown and explanation of these types. Major definitions are:

Debelle & Fischer (1994); Briault et al. (1996):

- Goal Independence (GI): when the central bank sets its own objectives or targets. The literature states that the higher GI is, the less a central bank is accountable!
- Instrument Independence (II): the central bank has full freedom to choose its own instrument settings.

Very few countries possess both GI and II – the Bundesbank is an example; while on the other hand, the Federal Reserve has only II. In the case of the Bank of England, II could also be referred to as Operational Independence.

Grilli, Masciandaro & Tabellini (1991):

- Political Independence: refers to the ability of the central bank to choose the goal of monetary policy. This definition is similar to GI.
- Economic Independence: is the capacity of the central bank to choose its own instruments to pursue its goals. This definition is similar to II.

It is worth noting that these types do overlap and could be considered as related[7]. But what are the real reasons behind nations awarding CBI since it is obviously not a

[7] Other definitions of CBI presented in the literature are-

Banaian & Luksetich (2001):

- Policy Independence: refers to the fact that the central bank (not government) has the authority to devise monetary policy.
- Institutional Independence: a central bank has this type of independence if it is not directed by the government to pursue goals other than price stability.

Wagner (2000); Hayo & Hefeker (2002) and others:

- Legal independence: interpretation of the legislative laws pertaining to central banks. It is also referred to as statutory independence since it is related to the interpretation of statutes. Political dependence could happen if laws can be changed or cancelled by simple majorities in parliament.
- Actual independence: is different from legal independence since it represents the gap between the letter of law and actual practice. Tradition, personalities, behaviours of governments and central bankers, and power influence this difference even when laws are straightforward. Sometimes, this is measured by turnover rate of central bankers (TOR).

Prast (1996): Commitment is more important and more beneficial than CBI. Commitment is defined as limiting the central bank's behaviour to price stability without the need for institutional arrangements or changes. However, Prast's view is challenged by de Haan (1998) who stresses that any difference should be made between conservatism and II, not commitment.

substitute for other stabilisation elements? Here comes the role of legal, political and economic systems into the choice of the institutional design (Hayo & Hefeker, 2002). CBI and its application will depend on every variable in the broad political-economic spectrum, making it a matter of degree rather than an absolute matter since all central banks could remain influenced by political aspirations (Franzese, 1999). For example, Russia faced a major inflation in the 1990s despite the fact that it had an independent central bank. This was caused by the fact that the Russian National Bank had only nominal independence since it was made accountable to parliament – which usually shows high inflationary tendencies (Banaian, Burdekin & Willett, 1998). Hence, there is a need to develop sound institutional structures that are effective rather than just allow for nominal CBI. Sometimes, this kind of institutional arrangement is too early if the right conditions do not exist (Chowdhury, 2002). In other cases, it will be more rewarding to structure the fiscal policy and cap budget deficits rather than just impose institutional design structures on monetary policy (Castellani & Debrun, 2005). Actually, Maliszewski (2000) found that most of the countries that have experienced high inflation periods have introduced CBI *as part* of a stabilisation package that has enhanced the position of the central bank in the economy.

Credibility could be a major benefit of CBI since it allows an insulation of monetary policy from political pressures and hence, renders its announcements and actions more trustworthy (Beetsma & Bovenberg, 2001).

Concerns around CBI

CBI benefits depend on the costs attached to withdraw it (Moser, 1999). In some cases, this procedure is straightforward since CBI is voted by the majority of a legislative branch and hence, can be revoked by simple majority.

The democratic deficit is a concept arguing that CBI will give the central bank a privileged position since its actions are not being monitored or judged. The central bank is run by a non-elected official who assumes no accountability. CBI without accountability represents a dilution of democracy (Rogoff, 1985). This is the reason why many scholars advocate keeping the overall goal and objectives of monetary policy (Goal Independence - GI) in the hands of government while allowing the central bank full independence concerning how to reach these objectives (Instrument Independence - II). The conducted review shows that countries revamping their central banks could have opted for more II and less GI. But if this situation solves the democratic deficit, would it not allow room for political pressure to creep into the crafting of goals and objectives? (du Plessis, 2005), or simply keep the full responsibility of monetary policy in the hands of the government when the aim was to remove it and solve the time inconsistency bias? (McCallum, 1995).

In summary, the case of CBI could be valid in developed nations (Banaian & Luksetich, 2001; Temple, 1998) but it might not be totally clear in the case of developing nations for reasons such as narrowness of markets, lending obligations to the government and lack of tradition to respect the law (Cukierman, 1994). Actually, the benefits of CBI for these nations could be limited due to the narrow scope of an actual independent monetary policy. It can be argued that in the case of developing nations, the drawbacks of CBI are much higher since implementation could be cumbersome. These countries

should focus more on upgrading their financial, legal and political sectors to introduce changes in institutional monetary design at a later stage (Mas, 1995).

CBI Measurements

According to Cukierman (1992), Cukierman, Webb & Neyapti (1992) and Cukierman, Kalaitzidakis, Summers, Webb & Canzoneri (1993), there are four different indices that could be taken into account when measuring CBI:

- Legal indices derived from statutes and charters: analysing the central bank laws and statutes trying to uncover the level of CBI available in a certain country (Hermes & Lensink, 2000).
- Questionnaire based indices.
- Turnover rate of central bank governor usually referred to as TOR (de Haan & Kooi, 2000) or Term of Office (Cukierman, 1992; Cukierman *et al*., 1992): studies the average number of changes of central bank governors per annum.
- Political vulnerability of the central bank: determining the degree of political transitions that follow the replacement of the central banker within six months.

The above indices capture different dimensions of CBI; the last two can be considered as representatives of actual behaviour and can be appropriate in developing nations to check whether the monetary authority is sheltered from political pressure or not (Cukierman, 1994). Most CBI studies follow two basic measurement indices: (Grilli *et al.,* 1991) – referred to as GMT – and (Cukierman, 1992; Cukierman *et al*., 1992) – referred to as CuK. Many other authors have merely changed aspects, weights or groupings of both widely quoted indices in their research. This section will present these two widely quoted indices, one of the more recent variations made (Fry, Julius, Mahadeva, Roger & Sterne, 2000), in addition to a Questionnaire review before moving on to outline the problems identified in the literature with CBI measurements developed so far.

Cukierman index for measuring CBI (CuK)

Cukierman *et al.* (1992) presented a weighted index of 16 CBI characteristics, denoted as CuK (LVAW) while Cukierman (1992) presented the same characteristics on an unweighted basis denoted CuK (LVAU). Both examine charters and legislations governing central banks to measure CBI. The components are as follows:

Major Components	Specific Variables
Chief Executive Officer (CEO)	Term of office of CEO; Who appoints the CEO? Provisions for dismissal of CEO; Is the CEO allowed to hold another office?
Policy Formulation	Who formulates policy? (Central Bank alone, central bank with government); Who has final authority for policy? Central Bank active in formulating government budget?
Central Bank Objectives	Price stability alone or others?
Limitations on Lending	Limitations on advances to government; Limitations on securitised lending; Who controls terms of lending? How wide is circle of borrowers from bank? Type of lending limit, if it exists; Maturity of loans; Restrictions on interest rates; Prohibition on lending in primary market

Each variable in the index above is allocated a score between 0 and 1 depending on a long list of requirements specified in Table 19-1 (pages. 373-37) of Cukierman (1992). LVAU is a simple average of the results while LVAW uses weights of Table 2-4 to calculate legal CBI.

Table 2-4: Weights for the Cukierman index for measuring CBI

Legal variable	**Weight**
Chief Executive Officer	0.2
Policy Formulation	0.15
Central Bank Objectives	0.15
Limitations on Lending: advances	0.15
Limitations on Lending: securitised	0.1
Limitations on Lending: who decides	0.1
Limitations on Lending: width	0.05
Limitations on Lending: miscellaneous	0.1

GMT index for measuring CBI

GMT's index is not very different from the CuK index presented by Cukierman; however, GMT's procedure is simpler since the eight political and seven economic criteria are added on an un-weighted basis. The GMT index is constructed as follows. One point is awarded when a certain condition is satisfied. A political or economic index is calculated by summing the total of all awarded points.

Table 2-5: GMT index for measuring CBI

Political	1. Appointments	Governor not appointed by government
		Governor appointed for > 5 years
		Full board not appointed by government
		Board appointed for > 5 years
	2. Relation with government	No mandatory participation of government in central bank board
		No government approval of monetary policy formulation is required
	3. Constitution	Statutory requirement that central bank pursues monetary stability
		Available legal provisions strengthening central bank position in conflicts with government
Economic	1. Financing of budget deficit	Direct credit facility: not automatic
		Direct credit facility: market interest
		Direct credit facility: temporary
		Direct credit facility: limited amount
		Central bank is not a participant in primary market for public debt
	2. Monetary instruments	Discount rate set by the central bank
		Bank supervision not entrusted to central bank (2 points) – OR –
		Bank supervision not entrusted to central bank alone (1 point)

Fry et al. index for measuring CBI

This index is the most recent variation of the above mentioned indices. It is constructed as shown in Table 2-6.

Table 2-6: Fry *et al.* index for measuring CBI

Criterion (weight in total)	Scores	Description
Emphasis on price stability: The extent to which statutory objectives provide the central bank with a clear focus on price stability (1)	10.0	Only goal is price stability
	7.5	Sole goal together with financial stability and non-conflicting monetary stability objectives
	5.0	Price stability and incompatible goals
	2.5	No formal goals
	0.0	Other goals than price stability
Goal independence: The extent to which the central bank determines the setting of policy targets (1)	10.0	Central bank decides alone or monetary policy has no explicit goals
	5.0	Joint decision of central bank and government
	0.0	Central bank has no role in decisions
Instrument independence: The extent to which the central bank determines the adjustment of monetary policy instruments (2)	10.0	Central bank decides alone
	6.7	Central bank decides alone but a govt. rep. attends decision meetings as an observer
	3.3	Central bank and govt. have a role in decisions
	0.0	Central bank role in decisions is limited
Treasury access to central bank credit facilities: The extent to which treasury funding through the central bank is prohibited (2)	10.0	Prohibited, not used or negligible sums involved
	7.5	
	5.0	Narrow, well enforced limits exist
	2.5	Limits exist that are usually enforced
	0.0	Wide limits exist
		No limits or little enforcement
Term of appointment of the central bank governors: The length of the governor's term of office (0.5)	10.0	8 years or above
	8.6	7 years
	7.1	6 years
	5.7	5 years
	4.3	4 years
	2.9	3 years
	1.4	Term of office beyond 3 years not guaranteed

Questionnaire index for measuring CBI

Questionnaire work was presented in Cukierman (1992), but I will dedicate this section to provide two more recent examples (Q1 and Q2) on CBI questionnaires which have a tighter link with developing nations.

Q1. Questionnaire based on the work of Beblavy (2003) studying the central banks of 10 developing or in-transition countries in Europe. This questionnaire is similar to that which Masciandaro & Spinelli (1994) administered initially to the central banks of 10

chosen industrial nations. Both questionnaires have adopted GMT's CBI approach to construct their questions.

Table 2-7: Beblavy Questionnaire index for measuring CBI

Governor not appointed by government
Governor appointed for > 5 years
Full board not appointed by government
Board appointed for > 5 years
No mandatory participation of government in central bank board
No government approval of monetary policy formulation is required
Statutory requirement that central bank pursues monetary stability amongst its goals
Provisions in the central bank law for conflict resolution
Central bank credit to the government: not automatic
Central bank credit to the government: market interest rate
Central bank credit to the government: temporary
Central bank credit to the government: limited amount
Central bank is not a participant in primary market for public debt
Interest rates set by the central bank
Bank supervision outside central bank

Q2. Questionnaire used by Loungani & Sheets (1997) for their study of CBI in 12 developing or in-transition countries:

Table 2-8: Loungani & Sheets Questionnaire index for measuring CBI

Independence in choosing goals:
1. Does the central bank law stipulate price stability as the central macroeconomic objective of the central bank?
Economic Independence:
2. Does the central bank control the instruments (open market operations, reserve requirements, discount rates) of monetary policy?
3. Is there a binding legal limit imposed on the direct financing of the government by the central bank?
4. Is the government allowed to receive direct financing from the central bank?
5. Is the central bank subject to government directives to execute monetary policy?
Political Independence:
6. Can the governor of the central bank be dismissed by the executive branch or the parliament if there is a conflict regarding monetary policy?
7. Does the term of office of central bank governor exceed election cycle?
8. Does the term of office of central bank board members exceed election cycle?
9. Is the governor appointed by the executive branch?
10. Are any of the central bank board members appointed by the executive branch?
11. Is the number of central bank boar members appointed by the executive greater than the number appointed by other bodies?
12. Does a government official or representative sit on the central bank board?
13. Does a government official or representative sit on the central bank board and have a vote?
14. Does a government official or representative sit on the central bank board and have a veto vote?

Rules: Each Yes to questions 1, 3-4, 7-8 scores one point.
Each No to questions 5-6 and 9-14 scores one point.
Each Yes to the three elements mentioned in question 2 scores 1/3 point
Ambiguous answers receive 1/2 point
Higher score means greater CBI

Questionnaires are usually distributed to an audience within the central bank to be studied. This can sometimes be marred by issues of subjective replies to administered questions which could reduce the effectiveness of this tool.

To conclude this section on CBI measurements, Table 2-9 presents a summary of the major studies made on CBI measurements across the field. This is followed by a final section on major concerns raised on the presented CBI measurements.

Table 2-9: Major empirical studies on CBI measurements

Study	Measure	Countries	Estimation period
Grilli *et al.* (1991)	GMT index	18 countries	1950-1989
Cukierman (1992)	LVAU - TOR	70 countries	1950-1989
Cukierman *et al.* (1992)	LVAW - TOR	72 countries	1950-1989
Cukierman *et al.* (1993)	LVAW - TOR	50 countries	1960-1989
de Haan & Kooi (2000)	TOR	82 countries	1980-1989
Fry *et al.* (2000)	Fry index	94 countries	Until 1998*

* Variable Starts

Problems with CBI Measurements

The following points have been raised by authors regarding the limitations and issues concerning CBI measurement methodologies. Obviously, they show the need for a new CBI measurement methodology and technique that looks beyond the statistical correlation among different economic indicators. Actually, many of the following comments were used by the opponents of the CBI theory as a major criticism of its effectiveness. This raises the point about the importance of a detailed study of the national context as a more valid way to complement (or complete) the CBI measurement tools presented here.

CBI measurement indices are fragile (Cardim de Carvalho, 1996), incomplete and noisy (de Haan & Kooi, 2000). An alternative, more accurate measure for CBI is needed (Chang, 1998). That is difficult since many attributes are not easily quantifiable (Waller & Walsh, 1996; Fuhrer, 1997). Furthermore, legal indicators for CBI are variables that cannot be observed in practice. These variables need to be combined to construct proxies. This could lead to a partial conflict among CBI indicators (de Haan, Leertouwer, Meijer, & Wansbeek, 2003).

Reading central bank statutes and trying to correlate these with inflation is inappropriate (Forder, 1998). Actually, the researcher's knowledge of systems in familiar countries, subjectivity in creating indices, and other personal considerations make it difficult to measure actual independence directly (Eijffinger, Van Rooij, & Schaling, 1996).

Different CBI measures are not mutually supportive and can be even contradictory. This is a major weakness in identifying a good CBI measure (Forder, 1999). In addition, CBI indices are not substitutes. The more complex CBI measurement is, the less able it is to spot the existing different levels of CBI (Oatley, 1999). The existing indices involve subjectivity and arbitrary aggregation to simplify analysis and overcome the unavailability of data. Moreover, authors mean different things when they analyse CBI. GMT and CuK indices diverged between 30-50% and use different weights and criteria (Mangano, 1998). In addition, the weights in Cukierman's index have been assigned arbitrarily. Banaian *et al.* (1998) state that the Cukierman index should be used with "great care" since it underemphasises the importance of policy formulation.

It could be useful to close with some proposed enhancements on CBI measurements taken from the replies to the questionnaire administered by Beblavy (2003). These will not resolve all the above mentioned issues regarding CBI measurements but could rectify some of the weaknesses inherent in the CBI measurement methodologies. The following proposals are national context specific and require detailed knowledge of the country under research. The first enhancement would be studying whether the central bank determines the exchange rate policy and how. The second involves the investigation of the availability of a quasi fiscal measure or subsidies by the central bank. The third is reviewing Budget Independence which questions the approval process of the central bank's budget and how central bank profits are distributed.

CBI and inflation: Hypotheses

This systematic review was able to arrange the opinions on the relation between CBI and inflation into three views or categories: (1) that advocates an effect of CBI on inflation, (2) that denies this relation, and (3) a final view that is neutral. The findings and discussions pertaining to each category are presented in this section.

Category 1: CBI affects inflation

Many researchers supporting the proposal that the greater CBI is, the better inflation is controlled or lowered. A full review of the papers, methodologies used and outcomes is presented in the Descriptive Analysis of the Field section and Appendix F.

Rather than simply repeating the information presented in the Appendix tables, it is useful here to introduce the highlights in support of this argument (using the more scientific bullet points approach) – and group these under two headings:

Inflation and economic performance

- More independent central banks are associated with lower levels of inflation at no apparent cost in terms of real economic performance (Grilli *et al.*, 1991), this "free lunch" proposal is confirmed by (Eijffinger *et al.*, 1996)
- CBI promotes price stability reducing the level and variability of inflation, and has no measurable impact on real economic performance (Alesina & Summers, 1993)
- CBI could achieve both lower inflation and lower output variability since it eliminates politically motivated output variability (Alesina & Gatti, 1995)
- CBI may contribute to lower inflation and the facilitation of economic growth (Loungani & Sheets, 1997).

Inflation and other economic variables

- The negative relation between CBI and inflation remains even after a number of other explanatory variables are considered in the analysis (Jordan, 2001; Al-Marhubi & Willet, 1995). One can also add to this category the following references: Brumm (2002) in reply to King & Yue Ma (2001); Brumm (2000) in reply to Campillo & Miron (1997); de Haan *et al*. (2003) using latent variables modelling in reply to Campillo & Miron (1997).
- Term of Office of the central banker and the resolution mechanism of potential conflicts between the central bank and the government could lead to lower inflation (Banaian & Luksetich, 2001).
- An independent central bank could resist financing the government's fiscal deficits by encouraging the government to limit the size of its budget deficit (Loungani & Sheets, 1997). A more disciplined fiscal policy is more likely to be noticed in countries with high CBI (Grilli *et al*., 1991). In fact, CBI has played a role – through a significant influence on the course of fiscal policy – in retarding deficits in Switzerland, US and Germany in addition to reducing the inflation rate (Burdekin & Laney, 1988).
- Only the degree of CBI explains the comparative inflation performance over time in a chosen sample of countries. Measures of corporate strength, power of labour unions, dependence on imported oil, and size of the public sector have no effect. Only increased CBI and reduction of political pressure would improve a nation's inflation performance (Havrilesky & Granato, 1993).

However, it is also important to pinpoint the limitations provided by the above (and other) authors regarding the conclusions reached on the relation between CBI and inflation. These are grouped into two categories.

Results and Methodology

- Many variables are held constant and exogenous while effecting analysis on samples or testing relationships (Al-Marhubi & Willet, 1995; Forder, 1998; Berger & Woitek, 2005; Alesina & Summers, 1993).
- CBI proxies used in relationship analysis and testing have their limitations (Brumm, 2000). The literature has omitted some economic variables which renders the analysis incomplete and potentially creates the possibility that any observed relation between CBI and inflation is doubtful (Oatley, 1999). Grilli *et al.* (1991) list the average growth of money supply, level and variability of interest, or behavioural indicators rates as examples.
- Significant correlation does not necessarily imply causation (de Haan & Kooi, 2000).
- Advanced robustness tests were not always performed which means results need to be treated with care (Hermes & Lensink, 2000).
- Existing empirical evidence could be insufficient since it is based on central bank characteristics mixing conservatism and independence (Berger & Woitek, 2005).

Developing nations (2 views)

On the one hand,

- Most empirical studies on CBI are concerned with developed countries (Forder, 1998). The relation between CBI and lower inflation could be weakened when

developing nations are included in the analysis. Further research is needed to understand the relation and procedures in developing nations (Banaian & Luksetich, 2001). Empirical evidence on the relation between CBI and inflation from developing countries is not necessarily conclusive (Ismihan & Ozkan, 2004; Debelle & Fischer 1994).

- For industrial nations, a negative relation between CBI and legal independence exists. However, legal independence depends on the strength of law and could be different from actual independence (Cukierman, 1992). Therefore, the proxy of legal independence could be a poor indicator for developing countries where behavioural proxies such as the turnover rate of the central banker could be better (Cukierman, 1994).

While on the other,

- The negative inflation – CBI relations remains strong even when developing countries are included in the analysis (Brumm, 2002).
- CBI in some developing nations could have played an important role in inflation control. For example, according to Corbo (1998), CBI in Chile through enhanced credibility and influence on inflation expectations played an important role in bringing the Chilean inflation level down in the 1990s.

The above section has presented the arguments favouring the relation between CBI and inflation regardless of mentioned limitations. The next sections highlight the "neutral" and "opposing" views.

Category 2: Neutral view on the relation between CBI and inflation

From the set of reviewed papers, one can notice that there are some authors who do not give a solid opinion either in favour or against the type of relation that exists between CBI and inflation. A table reviewing these papers is found in the Descriptive Analysis of the Field section and Appendix H. What could be useful here, in addition to the full details in the appendix, is to present a summary of the other factors mentioned as potentially affecting the relation between CBI and inflation.

Table 2-10: List of factors affecting the CBI – inflation relation

Factors affecting CBI – Inflation relation	**Explanation**	**Author**
Measurement issues	Out of the 15 attributes of Cukierman's index, most appear to have an insignificant and / or a positive relation rather than negative with inflation.	(Banaian *et al.*, 1998)
Measurement issues	Relation is CBI index dependent.	(Oatley, 1999)
Measurement issues	Parameters used for CBI are not adequate to capture the notion of political independence: the core of the CBI – inflation relation.	(Waller & Walsh, 1996)
Measurement issues	Statutes reading and analysis could be misleading and insufficient	(Hermes & Lensink, 2000)

Factors affecting CBI – Inflation relation	Explanation	Author
Methodology	The relation is significant for rich countries but non-significant for a full sample.	(King & Yue Ma, 2001)
Methodology	CBI & TOR relation to inflation is sensitive to the presence of high inflation countries in studies sample	(de Haan & Kooi, 2000) (Temple, 1998)
Historical experience of inflation.	Raises public awareness to inflation and hence, provides a background for CBI and price stability	(Alesina & Summers, 1993)
Social aversion to inflation Anti inflation society Social preferences	Could have led to low inflationary pressures and adoption of CBI	(Al-Marhubi & Willet, 1995) (Debelle & Fischer, 1994) (Maliszewski, 2000) (Lippi, 2000)
Culture and tradition of monetary stability. Stability of policy targets.	Could have impacted on the correlation between CBI and inflation levels	(de Haan & Kooi, 2000) (Lippi, 2000)
Interest groups	Coalition of interest could have prompted central banks towards a stronger position on inflation control	(Posen, 1995) (Mas, 1995)
Common values and norms	Inflation is lower in countries where people dislike uncertainty. Acceptance of inequality and power centralisation lead to higher inflation and lower CBI.	(de Jong, 2002)
National legal, political and economic frameworks	Analysis of national characteristics affecting inflation. CBI benefits not constant but contextual.	(Hayo & Hefeker, 2002) (de Haan & Van 't Hag, 1995) (Franzese, 1999) (Heylen & Van Poeck, 1996)
National legal, political and economic frameworks	Relation is complex for country specific reasons. It could be higher in countries following checks and balances rule.	(Chowdhury, 2002) (Leybourne & Mizen, 1999) (Moser, 1999)

In addition to the above table, it is worthwhile to note the following ideas related to developing nations:

- During early stages of liberalisation, CBI is unrelated to inflation. This means that CBI cannot help to stabilise the economy during the initial phase of liberalisation

and opening of the markets. However, when liberalisation takes root, CBI (legal independence) becomes effective in controlling inflation (Cukierman, Miller, & Neyapti, 2002; Maliszewski, 2000).

- CBI could be helpful for countries facing high levels of inflation. Having CBI might not be helpful for countries already enjoying lower levels of inflation (Hermes & Lensink, 2000). De Haan & Van 't Hag (1995) take a different view since they argue that adding CBI in high inflation countries may not be enough to reduce inflation.
- In Colombia, CBI did not affect the level of inflation directly. CBI instead changed the rate of inflation in response to disequilibria in markets which the previously dependent central bank used to accommodate. Again, this point emphasises the importance of the national context in terms of the effects of CBI.

Hence, for a group of researchers, CBI cannot be studied in a vacuum. It needs to be linked to national contexts to enable a better understanding of its effects. This theory is further strengthened by details provided in the descriptive tables of the next section.

Category 3: CBI has no effect on inflation

A full review of papers arguing no link between CBI and inflation is available in the Descriptive Analysis of the Field section and Appendix G. However, this category will present a summary of these views aiming to shed more light on the topic.

Some authors regard any relation between CBI and inflation as "spurious" (Posen, 1995; 1998) or it has many shortcomings and is "suspicious" (Prast, 1996). Other authors question any evidence linking CBI to lower inflation (Forder, 1998), consider the relation not established since an appropriate measure for CBI is not defined and involves arbitrary decisions (Forder, 1999), or that the two are simply not statistically significantly related (King & Yue Ma, 2001; Mangano, 1998). Moreover, Fuhrer (1997) and Campillo & Miron (1997) present studies showing that the inclusion of a wider array of national economic characteristics (institutional and structural) cancels out any negative correlation between CBI and inflation.

For Posen (1995), any negative correlation between CBI and inflation is due to financial sector opposition to inflation (FOI) – even though lower inflation is not always sought after by the financial sector, especially if they wished to cleanse their balance sheets from bad debts or if they were active participants in the government debt market. FOI was not valued by Temple (1998) and Campillo & Miron (1997). Nevertheless, Dickens (1998) provides archival and econometric evidence showing that when the US Federal Reserve became independent of democratic control in 1951, it fell into the sphere of influence of the large banks which lobbied for a convenient treasury bill rate and made it miss its real first opportunity to stabilise the economy during the 1953-54 recession. Therefore, FOI can at least be supported in this single country study while it does not have wide agreement in cross sectional studies.

Other authors, such as Chang (1998), argue that CBI has no general benefits except in a selected small group of industrial nations. Ismihan & Ozkan (2004) do not deny the fact that CBI can deliver lower inflation levels in the short term, but they argue that it hurts public investment, lowers productivity and makes it less likely for CBI to achieve lower inflation in the long run. Piga (2000) finds that since CBI is a wrong reply to society's

need to reduce inflation since it can be twisted according to political will, it is not necessarily the mechanism that can reduce inflation. Hayo & Hefeker (2002) expand on this view by arguing that CBI is only one of the mechanisms available in terms of monetary policy design to enable monetary stability. Therefore, it cannot be necessary or sufficient for price stability.

The observations of Mas (1995) provide a useful summary by stating that the negative correlation between CBI and inflation in industrial nations has been established only at the statistical level. Trying to go beyond the correlation and test casualty is extremely difficult. Empirical tests have been flooded by problems of *simultaneity, reverse causality, missing variables and measurement errors*. Mas (1995) also states that cross-country econometrics is misleading because it involves many instruments, variables and factors that one needs to control for (such as fiscal policy, markets depth, banking system, political issues, behavioural stances, legal structure, etc.) and can be interpreted to be correlated with both CBI and inflation.

Descriptive Analysis of the Field

This section provides descriptive information and explanations about the field. It starts with an "audit trail" of the search methodology and provides the numbers related to inclusion and quality reviews before moving to describe how the field evolved over the past years and the different links that one could observe from the review. Other relevant information such as geography, emergent themes, and type of papers is also presented.

Audit Trail

The total number of papers that I started with was 384. After a review based on titles and abstracts screening, the number of articles that underwent the full assessment review was 185. These were further complemented by 24 papers maintained from the Scoping Study period and 19 papers that emerged from Cross Referencing. Furthermore, the panel suggested an additional paper that made the grand total for the Full Assessment review 213 papers (after excluding a working paper that the Cranfield library was not able to procure).

The relevance test reduced the papers by 38% to 131 papers that underwent the quality assessment. In addition, 31% of the remaining papers failed to pass the quality test which resulted in 90 papers to be included in the Systematic Review: in my opinion, a very good number compared to other Systematic Reviews. This allowed me to "blanket" the field, information-wise, in a very reliable fashion.

Search String
Indep* AND ((central bank*) OR (Monet* Polic*)) AND (inflat*)

Search Results Papers	**Number**
EBSCO	233
Proquest	253
Web of Science (Unique hits)	8
Duplications & No Authors	-110
Total	384
Tittle & Abstract Screening	-199
Full Paper Assessment Total	**185**

		Relevance		**Quality**	
		Excluded	Included	Excluded	Included
		82	**103**	**33**	**69**
		44%	56%	32%	67%
Scoping Study Papers	**Numbers**				
Intersection with Search	11	1	10	1	9
Intersection with Cross Reference	4	0	4	0	4
Unique Papers	9	0	9	6	3
Total	**24**				
Cross Reference Generated Papers	**Numbers**				
Intersection with Scoping Study	4	0	4	0	4
Unique Papers	14	0	14	1	13
Working Paper (not available - excluded)	1				
Total	**19**				
Panel Proposed Papers	**1**	**0**	**1**	**0**	**1**
Total Unique Papers for Full Assessment	**213**	**82**	**131**	**41**	**90**
		38%	62%	31%	69%

Relevance Exclusion: according to the criteria and definitions developed in the Systematic review protocol, the 82 papers excluded on relevance grounds were distributed to different criteria as follows.

	Exclusion Criteria	**Excluded**
E1	Editorial Notes	2
E2	Political economy papers dealing mainly with election issues, parties and partisans, organisation issues, policy making, and economic history.	17
E3	Papers related to inflation without reference to Central Bank Independence.	10
E4	Papers dealing with HR, Technology, Transparency, Supervision, Auditing and Unions at Central Banks.	4
E5	Papers dealing with the European Central Bank, EU, IMF, NAFTA.	4
E6	Papers dealing with budget deficits, government debt and output tradeoff.	13
E7	Papers discussing regional, monetary and currency unions, and currency substitution.	4
E8	Papers on capital mobility, income inequality, social & welfare issues, independent taxing agencies, labour policies, unemployment and growth.	11
E9	Papers focusing on pricing of market instruments, seignorage issues, fiscal policies in general (and pure coordination with monetary policy).	16
E10	Book Review Essays	1

The total number of excluded papers represents 38% of the total accepted for the Full Assessment review. In my opinion, this number is acceptable if I take into consideration the nature of the researched field.

Quality Review: The quality review was made according to the model presented in the Protocol section 2.2.2. Those papers that did not meet the two criteria of revision are listed below. Furthermore, and to keep a complete audit trail, an additional comment was added on the Excel program that was used as a data depository to reflect the major argument about why a paper was excluded. The review found 14 papers to be extremely valuable for the research. These papers are:

Author	Year
Kydland, F. & Prescott, E.	1977
Barro, R. & Gordon, D.	1983
Rogoff, K.	1985
Grilli, V. *et al.*	1991
Cukierman, A.	1992
Cukierman, A. *et al.*	1993
Alesina, A. & Summers, L.	1993
Debelle, G. & Fischer, S.	1994
Fuhrer, J.	1997
Loungani, P. & Sheets, N.	1997
Campillo, M. & Miron, J.	1997
Cukierman, A. *et al.*	2002
Hayo B. & Hefeker, C.	2002
Berger, H. & Woitek, U.	2005

From the summaries that follow, we can also notice that many of the other included papers (a total of 76 papers) scored high on contribution to knowledge and theory. A smaller number of papers excelled on methodology, data analysis and limitations. This can be explained by the fact that many papers studying CBI are confronted by measurement issues, proxies and data limitation as explained in earlier sections of this chapter.

Basic rules of revision:

Any paper that scores two 0s will not be included.	R1	21
Any paper that does not score at least one 2 will not be included.	R2	16
Common between R1 and R2	R1-R2	4
Any paper that scores all 2s will be treated as extremely valuable for research.	R3	14
Other Included Papers		76
Total		131

Of Total Included Papers (not R3):

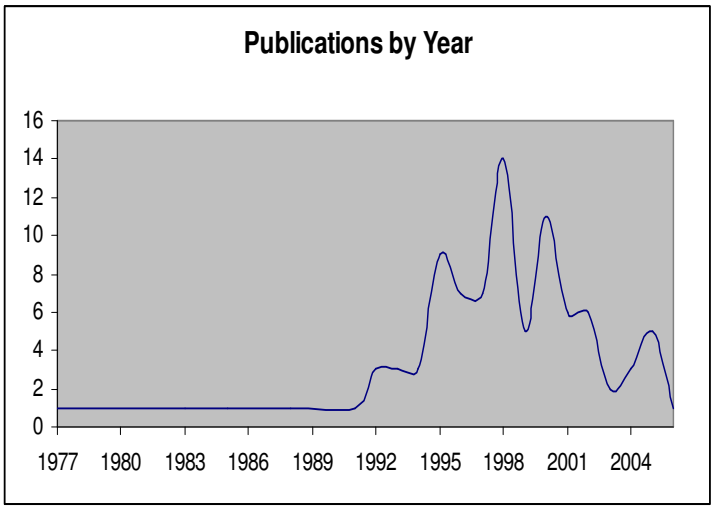
Scoring 2 on Contribution to Knowledge	66
Scoring 2 on Theory	49
Scoring 2 on Methodology / Data Analysis	33
Scoring 2 on Study Limitation	21

As a final note, 21 articles were supplied by the Cranfield library since they were not available on the electronic search engines.

The Field

This section describes the field in terms of age, authors, journals, types, geographic area, samples studied and other information that better explain the field's main focus.

Publications per Year: As the table and chart below show, the field is relatively new with the number of written papers being very modest in the early years of the 1980s until 1995. If we take into consideration the fact that the papers between 1977 and 1985 were mainly concerned with the time inconsistency theory, then the real start for the study of CBI would be 1995. This could explain the number of different views regarding CBI and its relation to inflation. Moreover, this could also be the explanation for many gaps still being present in our knowledge of this field.



Year	Number
1977	1
1983	1
1985	1
1988	1
1991	1
1992	3
1993	3
1994	3
1995	9
1996	7
1997	7
1998	14
1999	5
2000	11
2001	6
2002	6
2003	2
2004	3
2005	5
2006	1
Total	**90**

Number of Papers per Journal:

When it comes to the favourite journals for publications in this field, the papers are scattered among many journals which range in quality (see Table 2-11). It is also interesting to note that some authors have written many papers on the topic and could be considered as major contributors. Some of these authors have written in support of the CBI-inflation relation, while others have persisted in their opposition:

Author	Number of contributed papers
Cukierman, A.	6 papers
de Haan, J.	5 papers
Forder, J. ; Posen, A. ; Walsh, C. ; Fischer, S.	3 papers

Table 2-11: Papers per journal

Journal	Number
American Economic Review	7
Public Choice	7
Economics Letters	4
Journal of Monetary Economics	4
Journal of Money, Credit & Banking	4
Book or Book Chapter	*4*
Economic Journal	3
Journal of Economic Surveys	3
Kyklos	3
Oxford Economic Papers	3
Scottish Journal of Political Economy	3
Bank of England. Quarterly Bulletin	2
European Journal of Political Economy	2
International Finance	2
Journal of Banking & Finance	2
Journal of Economic Issues	2
Scandinavian Journal of Economics	2
American Journal of Political Science	1
Applied Economics Letters	1
Atlantic Economic Journal	1
Cambridge Journal of Economics	1
Carnegie - Rochester Conference Series on Public Policy	1
Conference series: Federal reserve of Boston	1
De Economist (Kluwer)	1
Economic Inquiry	1
Economic Policy	1
Economic Review - Federal Reserve Bank of Atlanta	1
Economics of Transition	1
European Economic Review	1
Government and opposition	1
International Journal of Finance & Economics	1
International Review of Applied Economics	1
Japan & the World Economy	1
Journal of Applied Economics	1
Journal of Development Economics	1
Journal of Economic Perspectives	1
Journal of Economics-Zeitschrift Fur Nationalokonomie	1
Journal of International Money & Finance	1
Journal of Political Economy	1
Journal of Post Keynesian Economics	1
Journal of the Asia Pacific Economy	1
Manchester School	1
Monetary Bulletin, Central Bank of Iceland	1
NBER	1
New England Economic Review	1
Quarterly Journal of Economics	1
South African Journal of Economics	1
The Economic Journal	1
World Bank Economic Review	1
World Development	1
Total	**90**

Analysis per type: The total numbers of empirical papers reviewed was 47 while theoretical papers numbered 43. If we add more details to each paper, then some of them could be considered as both empirical and theoretical since they contain elements of both. The tables below give the full numbers and categories of the reviewed papers. Hence, the field can be considered as having a balanced blend of both empirical and theoretical papers with no one dominant type.

Paper Type

Empirical - Quantitative	E
Theoretical - Qualitative	T
Literature Review	L

Type	Number
E	47
T	43
Total	90

In more details

Type	Number
E	21
T	23
L	5
E+T+L	9
E+T	4
E+L	11
T+L	17
Total	90

Papers by Geographic area: Research has mainly been focused on the analysis of industrial nations with little attention given to less developed countries (LDCs) or transition economies. This fact has been a major concern stated by many authors about the limitation of CBI when studying its relation with inflation. It is also interesting to see that Europe has had the highest number of papers covering it versus other regions. Furthermore, nine papers only – 10% of total – have covered single country studies (out of which four are developing nations). Additionally, most CBI studies have been cross-country comparisons in nature. This can be a reflection of authors avoiding going into national context details since it could be a tedious and time consuming process. The reason could also be the lack of information on developing nations or an inability to locate this information as it would require extensive local knowledge and reach in these countries.

Single Country Study	9
Industrial Nations / OECD	20
LDC / Transition economies	6
World	13
Total	48

Details by Region

Europe	40
North America	33
Asia	29
Rest of World	32

Studies by Sample Size:

Another interesting fact revealed by the systematic review is that the methodology has also been diverse in terms of sample sizes. The range of studied nations is anything between single country studies (nine papers – details of the studied countries on next page) and 110 nations; with 18 nations as a sample size being popular since it was the chosen sample size for the seminal (and widely followed) paper by Grilli *et al*. (1991). These 18 nations were all chosen to be industrial / OECD nations. The non-uniform

sample size could also be the result of authors not being unable to secure data from numerous countries or that the indices were not clear for a number of countries to enable coherent comparisons.

Total Sudies

Nations	Studies
1	9
3	1
4	1
10	4
12	1
14	1
16	2
17	3
18	7
20	2
21	1
22	3
25	1
26	1
31	1
32	1
41	1
42	2
54	1
70	2
72	1
82	1
94	1
110	1
Total	49

Single Countries

Chile	1
Colombia	1
Germany	1
Iceland	1
Indonesia	1
UK	2
USA	1
South Africa	1
Total	9

Industrial Nations / OECD

Nations	Studies
3	1
10	3
12	1
14	1
16	1
17	3
18	7
22	3
Total	20

Themes

This section tries to analyse statistically the emerging themes upon which the analysis and synthesis part of the systematic review has been built. The following table presents the different themes and their relative percentages when compared to the total number of covered papers.

Themes	***Number***	***% total***
CBI Definition	53	59%
CBI controls Inflation	33	37%
CBI has no effect on Inflation	21	23%
CBI has neutral position Inflation	28	31%
	82	*91%*
CBI and National Context	34	38%
Good Policy	25	28%
Political Economy	22	24%
Inflation Targeting	10	11%

An emerging pattern is clear: the field is not "settled" yet when it comes to the study of the relation between inflation and CBI. In fact, 37% of reviewed papers assert the validity of the relation between inflation and CBI while 31% indicate that the relation is neutral i.e. that the whole relation between CBI and inflation could swing between existence / relevance and non-existence / non-relevance. A lower percentage, but still significant at 23%, claim that this relation is non-existent. Another important observation is that 38% of papers (highest percentage after CBI definition) linked CBI as a theme to the national context. This is significant since it seems that no matter how much of a science one can try to project on studying CBI, the national environment continues to be a highly influencing factor. This observation is further strengthened by the high percentage of papers according importance to good policy in general when studying institutional design and monetary policy issues such as CBI and inflation. It is clear that researchers should spend more time studying the national context, local environments and the type of decisions taken, in order to have a complete picture when conducting research on CBI (something that this review has found to be insufficient in this field so far).

Theme per Paper Type: When we break the papers down into the three major themes around the relation between CBI and inflation, we notice that theoretical papers have provided a balanced view. On the other hand, empirical papers have favoured the neutral perspective of this relation, albeit being closely followed by favouring the argument that CBI controls inflation. Here again, one can refer back to the weaknesses and limitations that the literature mentioned around this topic.

	Empirical	Theoretical	Totals	% of Total
CBI controls Inflation	18	14	32	40%
CBI has no effect on Inflation	7	14	21	26%
CBI has neutral position Inflation	20	8	28	35%
Total*	45	36	81	

* Some studies did not specify an opinion on this issue

The following three tables on Theme per Geography, Region and Sample Size give additional support to the comments made by many authors regarding the lack of unified methodology to be followed when studying the relation between CBI and inflation. These three tables provide relatively close numbers on both the existence of the relation or its neutrality.

Theme per Geography:

	Chile	Iceland	Germany	Colombia	Indonesia	USA
CBI controls Inflation	1	1				
CBI has no effect on Inflation						1
CBI has neutral position Inflation			1	1	1	
	Industrial	Transition	World	LDC	UK	**Total**
CBI controls Inflation	7	2	4		2	**17**
CBI has no effect on Inflation	3		3			**7**
CBI has neutral position Inflation	6	3	4	1		**17**

Remaining Empirical studies did not specify an opinion

Theme per Region:

	Europe	N. America	Asia	Others	Total	% of Total
CBI controls Inflation	18	13	11	13	55	42%
CBI has no effect on Inflation	6	6	6	6	24	18%
CBI has neutral position Inflation	16	13	12	12	53	40%

Theme per Sample size:

		CBI relation with inflation			
Sample	**Number**	**Controls**	**No effect**	**Neutral**	**No Opinion**
Single Countries	8	4	1	3	
3 Nations	1			1	
4 Nations	1			1	
10 Nations	4	1		1	2
12 Nations	1	1			
14 Nations	1				1
16 Nations	2	1	1		
17 Nations	3		2	1	
18 Nations	7	4		4	
20 Nations	2	1		1	
21 Nations	1			1	
22 Nations	3	1		2	
25 Nations	1	1			
26 Nations	1	1		1	
31 Nations	1				1
32 Nations	1		1		
41 Nations	1			1	
42 Nations	2	1		1	
54 Nations	1	1			
70 Nations	2	1	1		
72 Nations	1	1			
82 Nations	1			1	
94 Nations	1			1	
110 Nations	1		1		
Totals	48	19	7	20	4
	% of Total	40%	15%	42%	8%

The methodological solution seems to lie somewhere else: mainly on perfecting the study of the national context. This needs to be done by studying single countries in enough depth to provide the needed insight to answer the research question appropriately.

Theme Linkages:
It is apparent that when a paper provides a CBI definition, it is more likely to be critical about the relation between CBI and inflation:

CBI Definition AND	53	
CBI controls Inflation	14	26%
CBI has no effect on Inflation	17	32%
CBI has neutral position Inflation	18	34%

This could reflect the fact that papers trying to provide a definition rather than adopt an existing one from a different source, will need to provide some critical insights on

measurements, correlations and other issues that influence any relation between CBI and inflation.

If we create a more detailed table – presented below – about the theme linkages, then the influence of national context and good policy is again apparent. This leads us to the earlier conclusion on the importance of a detailed study of the national context and local environment when researching CBI and its effects. This could be difficult when conducting a cross-country comparison with larger sizes and favours doing a research focused on a single country as proposed by Berger & Woitek (2005).

	Number	National Context	Good Policy	Political Economy	Inflation Targeting
CBI Definition	53	20	16	12	3
		38%	*30%*	*23%*	*6%*
CBI controls Inflation	33	11	6	2	5
		33%	*18%*	*6%*	*15%*
CBI has no effect on Inflation	21	7	7	4	2
		33%	*33%*	*19%*	*10%*
CBI has neutral position Inflation	28	15	7	9	2
		54%	*25%*	*32%*	*7%*
Total	135	53	36	27	12
		39%	*27%*	*20%*	*9%*

Thought evolution over time: Another interesting observation can be seen when we look at how thought in the field has evolved over time.

Year	Total Papers	CBI Controls Inflation	% of Total Papers	CBI has no effect on Inflation	% of Total Papers	CBI has Neutral position Inflation	% of Total Papers	National Context	National Context % of Total Papers	National Context % of Neutral Papers
1977	1	-	-	-	-	-	-	-	-	-
1983	1	-	-	-	-	-	-	-	-	-
1985	1	1	100%	-	-	-	-	-	-	-
1988	1	1	100%	-	-	-	-	-	-	-
1991	1	1	100%	-	-	-	-	-	-	-
1992	3	3	100%	-	-	-	-	2	67%	-
1993	3	2	67%	-	-	-	-	1	33%	-
1994	3	1	33%	-	-	1	33%	-	-	-
1995	9	4	44%	3	33%	1	11%	5	56%	100%
1996	7	1	14%	2	29%	2	29%	2	29%	100%
1997	7	2	29%	3	43%	1	14%	-	-	-
1998	14	5	36%	5	36%	4	29%	5	36%	100%
1999	5	0	-	1	20%	4	80%	3	60%	75%
2000	11	2	18%	3	27%	6	55%	7	64%	100%
2001	6	4	67%	-	-	2	33%	1	17%	50%
2002	6	2	33%	1	17%	4	67%	4	67%	100%
2003	2	2	100%		0%	1	50%	2	100%	100%
2004	3	-	-	2	67%	-	-	-	-	-
2005	5	2	40%	1	20%	1	20%	1	20%	100%
2006	1	-	-	-	-	1	100%	1	100%	100%
Total	**90**	**33**		**21**		**28**		**34**		

In the field's infancy, almost all studies were supporting the existence of the negative relation between CBI and inflation. When research started to grow on the topic, other

voices started to be heard (notice the percentages of 1995-2000). Also during the later stages, the issues concerning national context started to emerge and take shape. Since 1995, the majority of studies that advocated a neutral stance on the CBI-inflation relation had a clear reference to national context (i.e. a certain need for additional details and study covering the national environment). This percentage was high (above 55%) between 1995 and 2006 with two exceptions. These are additional facts to show that the field is new and is still subject to some changes and advances in the future.

2.2.4 Conclusions

The relation between CBI and inflation is less than settled or clearly established. The papers reviewed show that the field has many strong opinions on the topic but lacks a unified view. Some authors back strongly the idea that CBI is the solution to all inflation worries while others attack this premise – and both are using the same tools: empirical studies, theoretical arguments and cross-country reviews. In the middle, we have a group that advocates no final answer on the topic but mainly conveys a clear message: our knowledge is still not complete due to many economic variables to control for, measurement issues and subjectivity attached to them, differences in national contexts and between countries, and the different theories that lead to the same objective of economic stability and inflation control.

It is also noticeable that the field is newly established with authors writing in reply to others. Moreover, the findings of studies are quite sensitive to statistical outliers (Temple, 1998).

An overall review of where the debate on the relation between CBI and inflation stands is as follows:

- Legal independence is negatively related to inflation in developed nations. Central bankers' turnover rate (TOR) has no effect in this situation.
- Legal independence and inflation are not related in developing nations. There exists a strong association between TOR and higher inflation.
- The more the central bank can be politically manipulated, the higher is inflation and its variability.
- When central banks are transparent with their announcements, their respective countries enjoy lower inflation levels.
- Legal CBI is unrelated to growth in developed countries but CBI-TOR is found to have a positive impact on growth in developing nations. Variability of growth within countries is unrelated to TOR but depends on the degree of development.
- Developing nations should focus on financial policy reforms that support opposition to inflation and impose discipline on fiscal matters directly rather than indirectly through monetary policy (CBI – inflation relation).
- CBI could be a good solution to developed nations but is a harder choice for smaller nations without deep financial markets, with a weak rule of law, or those where government depends on seignorage to cover deficits.
- An independent monetary policy is not suited in a country with fixed exchange rates and full capital mobility.

- FOI can at least be supported in single country studies while it does not have wide agreement in cross country studies.

2.2.5 Gaps in the literature

This systematic review has been able to identify many gaps in our knowledge of this field. These gaps can be enumerated as follows:

- What are the most important elements of a strong anti-inflationary institutional structure for the central bank? No statistical analysis or measurement was able to offer insights on what is important for effective central bank independence (Banaian *et al*., 1998). A clear list of conditions under which one or another monetary policy solution is preferable is still missing (Hayo & Hefeker, 2002).
- What are the channels through which political and interest groups exert pressure on monetary policy makers? What could be done to shelter those policy makers from such pressures? (Posen, 1995; 1998).
- Some more research is needed on studying behavioural elements and their impact on CBI (Maliszewski, 2000; Mangano, 1998).
- Knowledge is still limited about the role and impact of CBI in transition and developing nations when compared to industrial nations (Hermes & Lensink, 2000).
- All empirical studies neglect the importance of the role of exchange rates and related policies when studying CBI and inflation (Kuttner & Posen, 2001; Prast, 1996). In fact, the natural function of a central bank is to defend the purchasing power of money by controlling its quantity. This aspect has not been analysed thoroughly (Cardim de Carvalho, 1996).
- A solid case has not been made to determine net or potential benefits from CBI. This should be done in combination with other political and structural factors that determine inflation in a certain economy (Heylen & Van Poeck, 1996; Forder, 1998).
- Criticism of CBI is potentially severe but could be surmounted by using a different approach to the conventional cross-country one. Hence, single country analysis should be extended. One has to insist on the importance of detailed research and analysis done in one country since national context has not received the attention it deserves (Berger & Woitek, 2005).
- A more historical analysis concerned with the long term evolution of national institutional arrangements and its influence on economic outcomes is still needed (Alesina & Summers, 1993).
- Since CBI is also affected by factors that are difficult to quantify (such as personalities), it is likely that the unexplained proportion of the cross-country variations in inflation will remain important (Cukierman, 1992).

2.2.6 Impact on Research

Any future research needs to take the above mentioned conclusions and gaps into consideration to ensure a valid contribution to the field of study. I compiled the points that follow as an introduction to empirical projects I have undertaken for the DBA. The aim of this is to highlight the contributions that my conducted research will make to the field and ensure my ultimate successful completion of the DBA degree.

The first point to mention is that the field is still new with no solid decision on the research question and that any advance in research supporting the presented arguments on the CBI-inflation relation is important and moves the debate forward. My work, as presented in the following chapters, contributes to this knowledge and advances the field forward by studying this relation and its limitations in a specific national context.

The second pertains to measurement issues which constitute a major research problem. Previous studies have tried to devise mechanisms for cross-country comparisons without going into detail or neglecting the importance of single country research. In addition, the literature lacks robust work (quality and quantity) on developing nations and national context research. Therefore, national context within single countries is needed to shed light on some identified theories in the literature (FOI is an example). My work addresses these points by concentrating on Lebanon during the high inflation years between 1985 and 1991.

Finally, there is no doubt that CBI can bring some improvements towards inflation control in theory, but practice can be very different. The law versus actual practice debate is important and deserves detail on discrepancies and how to deal with them. My proposed list of practical findings is a major addition to our knowledge on both theory and practice.

The empirical projects presented next follow the desk-based archival research. They are divided into two chapters (4 and 5). In chapter 4, I conduct an analysis to verify the independence of the central bank of Lebanon by studying the charter of its existence (i.e. legal CBI), the turnover rate of the Governor and board (i.e. TOR which is considered a behavioural index), and the related political vulnerability index (PV). Then, I find and describe the instances when actual CBI was confronted (even when legal CBI is omnipresent) from the perspective of the relation between the Lebanese government and the central bank. The aim is to confirm the complete independence of the Lebanese central bank from both the legal and actual points of view.

Chapter 5 starts by investigating whether the inflation that hit Lebanon during the study period was caused by government financing. When this link was proved to be non crucial, I conducted a research to understand the relation between CBI, FOI and inflation / currency depreciation during this period as stated in the literature. The choice of FOI was made since it had some support in the literature and I wanted to understand its existence as a major variable in the case of Lebanon.

This thesis tries to answer the questions as to why inflation (and depreciation) occurred in Lebanon during the study period, who benefited from it and the reasons why a traditionally independent central bank was not able to control the bad economic situation using the instruments at its disposal.

2.2.7 Reflections

Undertaking the Systematic Review has not been an easy task. However, completing it and arriving at the final product (and presented conclusions) is very rewarding. I have to admit that initially I preferred to complete a literature review in the traditional sense

rather than go through this systematic process. However, there is definite value in following the Systematic Review process. First, it could be considered a scientific process that leaves little room for personal bias or preferences. Second, the way the protocol is constructed allows – if properly followed – the researcher to cover the field completely in terms of papers, research trends and other details that are extremely important in order to arrive at conclusions and support further research. Third, the results that one could obtain are a great mix of knowledge blocks and statistical data supporting those blocks. Reporting in this case, goes beyond the simple stating of facts to reach a higher level of theme linkages, information lists and valuable tables that help the decision making process of reaching final results.

However, the process is not without pitfalls. Many issues could make the review unsuccessful if poorly planned. In my case, I can say that time was a serious problem to overcome. Doing the Systematic Review involves noting details on many different computer programs, keeping a convincing audit trail, and having the ability to analyse data in a coherent fashion. If any step goes wrong, one might need to revisit much of what was already done. The Systematic Review also depends on one's ability to find the needed papers (whether electronically or through the library). This also can be a time consuming and tedious process especially keeping track of cross-references of the read papers to ensure a complete review. Another concern can be the inability to finalise a good list of inclusion and quality criteria. These criteria have a direct effect on the quantity of articles to review and the final quality of the paper. This can be overcome by adopting a list of criteria and then applying it to the first 10 papers to review. This will allow testing of the criteria and further refining when needed.

In general, I am satisfied with the Systematic Review methodology and the results it has provided. I am particularly glad that I was able to keep a complete audit trail of the reviewed papers in a systematic manner using the Excel package. This audit trail was presented to the supervisory panel and gained its approval. Furthermore, it is available to be audited or used by any researcher interested in the field.

Potentially, the limitations of the Systematic Review are related to the fact that it is still a new methodology with tools still subject to improvements and changes in the future.

3 METHODOLOGY

This chapter aims to introduce the way empirical work was conducted. It starts with a choice of philosophical stance and continues with a literature review concerning the usage of a case study as a valid way of conducting research similar to mine. It then moves to introduce the logic model, and the undertaken strategies and steps to complete the empirical work in its current form.

3.1 Philosophical stance

Ontology is an inquiry into the nature of reality and epistemology represents valid means to research reality and what can be known. Any research needs to start with a philosophy upon which researchers can rely to position and conduct their work (Blaikie, 2000). A researcher benefits also from choosing a specific research strategy that allows the consistency and validity of their approach. Blaikie (2000) identified the following philosophical perspectives and research strategies[8]:

Table 3-1: Review of philosophical perspectives

Philosophical perspectives	***Positivist***	***Critical (Rational) Realism***	***Structural (Transcendental) Realism***	***Constructivist Realism***	***Interpretivist***
Central Philosophers	*Bacon, Mill*	*Popper*	*Bhaskar*	*Harré*	*Peirce, Willer, Blaikie*
Ontology	*Objectivist (Absolutist / Realist)*			*Constructivist (Relativist)*	
Scope	*Natural & Social Sciences*			*Social Sciences*	
Associated Research Strategy	***Induction***	***Deduction***	***Retroduction***		***Abduction***
Exploration	*Major*	*-*	*-*	*-*	*Major*
Description	*Major*	*-*	*-*	*-*	*Major*
Explanation	*Minor*	*Major*	*Major*	*Major*	*-*
Prediction	*Minor*	*Major*	*-*	*-*	*-*
Understanding	*-*	*-*	*-*	*Major*	*Major*
Change	*-*	*Minor*	*Moderate*	*Moderate*	*Moderate*
Output	*Laws*	*Tested hypotheses*	*Models of underlying structures or generative mechanisms*		*Respondents' accounts*
Researchers' stance	*Detached / Inquiry from the outside*			*Involved / Inquiry from the inside*	
Starting point	*Data*	*Theory*	*Data*	*Data*	*Data*
Initial account of reality	*Based on 'objective' data*			*Based on respondents' subjective accounts*	
Final account (Theory)	*Researcher's viewpoint*				*Respondents' viewpoint*

[8] Additional analysis in Table 3-1 was made by Birnik (2006).

Blaikie (1993) states that Realism accepts an interpretative stance in that social reality is pre-interpreted, that society is both produced and reproduced by its members. However, Realism also looks for explanations, a *search for generative mechanisms* where mechanisms are the *tendencies or powers that things have to act in a particular way*. Realism's main conviction is that explanation is both causal and interpretive.

According to the realists there is an external reality *out there*, but there are various interpretations of this reality: the empirical domain denoting the events we experience, the actual domain referring to the events that happen whether we experience them or not, and the real domain consisting of the underlying structures or generative mechanisms that produce the events in the empirical and actual domains (Bhaskar, 1975).

Therefore, the philosophical stance I adopted for the purpose of my research is Realism (Structural), aiming to explore and explain the economic impact of Central Bank Independence (CBI) within a specific national context (Lebanon). I was not involved in testing or changing this specific reality; I observed and explained this reality instead. The ultimate aim is not to *only* build models but try to pass on knowledge and expand it. The logic behind my choice is explained as follows.

My main research strategy is Retroduction based on Structural Realism. Using this strategy, the researcher always starts with data then uses creative based thinking, seeking to explain an observed phenomenon. The aim is to understand the presence of structures or generative mechanisms behind this phenomenon. Creativity is needed since mechanisms pertaining to the real domain are not always evident nor directly observed (Blaikie, 2000). Structural Retroduction focuses on exploration and description (rather than initial identification) of a phenomenon based on objective data as experienced by the researcher (Blaikie, 2000). It is, thus, ontologically different from the Constructivist view that seeks to construct reality as seen by respondents.

What makes this choice more evident in the case of my research (studying the institutional factors affecting CBI in a certain economic and national context) is the fact that Realists argue that absolute causality cannot be established. The best a researcher could aim for is to understand tendencies, and how structures and generative mechanisms depend on context related factors. A major concern for Realists is to try to understand not only what mechanisms are but also how these mechanisms are set in motion based on context; and this is exactly what my whole DBA work depends on and aims to understand, explain and enhance our knowledge about.

Now that the philosophical research choice is made and explained, I will move into explaining the actual approach I followed to conduct my empirical research.

3.2 Research approach

A distinctive feature of economic history has always been its concentration on the examination of institutions, their origin, nature and implications. Three approaches towards this aim can be identified: the old model or neoclassical approach when economic historians began utilising econometrics to test hypotheses; the New

Institutional Economic History attempting to explain why institutions that produce poor economic and political performance can emerge and persist; and the Historical Institutional Analysis (HIA) addressing questions regarding the relations between institutions and economic outcomes using historical analysis and context to capture the details of the historical situation under consideration. HIA tries to increase the confidence in a hypothesis by rejecting alternative ones (Greif, 1995).

A good way to conduct the HIA would be by using the descriptive case study approach based on archival evidence. The case study offers a method of learning about a complex instance through description and contextual analysis (Greif, 1995). Case studies have illuminated almost all subjects studied by political economists from policy decisions, monetary policies to pressures of interest groups on policy makers and their decisions. This approach fits very well with my aim of study, especially while trying to understand the impact of commercial banks on central bank decisions and policies.

Zonabend (1992) argues that case study research is completed by giving appropriate attention to observation, reconstruction and analysis of historical events and outcomes. Hamel, Dufour, & Fortin (1993) and Yin (1993; 1994) argue that a single case could be considered acceptable (vis-à-vis the criticism that reliance on single cases makes it impossible to reach a generalising conclusion), provided it meets the established objective of: describing, understanding and explaining. Furthermore, Yin (1994) adds that generalisation of results, from either simple or multiple designs, is made to theory not to populations.

Case study reporting could take the form of a historical chronological recounting with some researchers reporting the case study as a story (Soy, 1997). Descriptive case studies document important events with the aim of getting the story down and providing details for the possible benefit of later policy makers, scholars and other citizens. They may create memorable analogies for practitioners' use to identify pitfalls to avoid and strategies that work (Odell, 2001).

The disadvantages of using a case study approach are related to the fact that some studied cases could be considered as atypical. Other disadvantages pertain to claims that a studied case has *tested* a theory; however, these claims sometimes could have been made casually without sufficient warrant. However, the overall advantages of using a case study outweigh the negatives. Moreover, considering that I was looking to conduct an in-depth analysis of the CBI-inflation relation in Lebanon during a specific period of time, I concluded that the case study approach was an appropriate method for my research question.

As a summary, I have chosen to conduct my research using the desk based archival case study approach[9]. However, I need to explain in more detail the process I followed from data collection to the different strategies that were employed to analyse and present the outcomes of the studied case. This will be the focus of the next section.

[9] More about the circumstances that made this choice even more obvious is found in chapter 8.

3.3 Data collection, analysis and presentation

My research can be considered as *original primary research* conducted using *public data*. Therefore, the initial step taken was to collect the material to enable the desk-based archival case study research. This was done over many trips to Lebanon between 2004 and 2006 when the situation was somehow stable and allowed me to visit. I collected the following from libraries, universities, newspapers, central bank library and archives, and friends who work at the central bank or other research centres:

1. Articles pertaining to the period of study mainly from specialised economic publications to safeguard reliability and validity of the information.
2. Books (mainly in Arabic) and publications that tackled the economic situation in Lebanon and financial sector before and after 1982. This includes some theses presented at prestigious universities in Lebanon.
3. The Code of Money and Credit (bible of financial regulations in Lebanon) and its amendments over the years.
4. Circulars issued by the central bank to the commercial banking sector.
5. Central bank's publications (bulletins, correspondence and yearly reports).
6. Research and data reports issued by the Association of Banks in Lebanon and some commercial banks.
7. Interviews conducted by the local press with various central bank board members including governors.
8. Archives of various newspapers operating in Lebanon.
9. Internet resources.

As mentioned already some additional data and information was supplied by mail. A full list of collected material can be found in the references section of this paper.

3.3.1 Analysis and Presentation Strategies

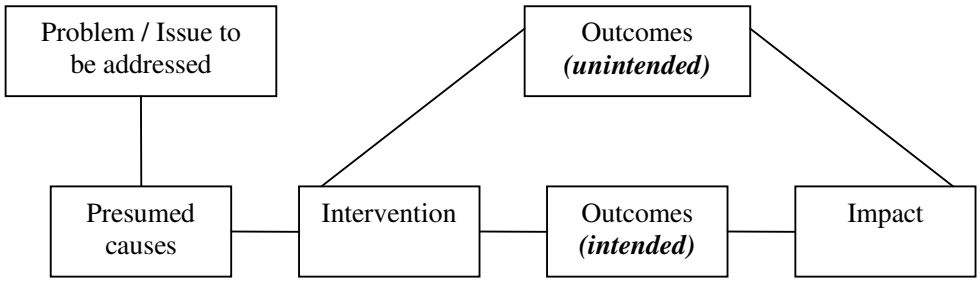
Following collection, the analysis and presentation of data would be more insightful if multiple strategies – including creativity – are employed by the researcher (Langley, 1999). A large part of my research is about understanding the evolution of events, and how and why they evolve. Therefore, it is effectively what can be called *process research* (Van de Ven & Huber, 1990). The data in this case are mainly composed of time-ordered stories, events, activities and choices (Langley, 1999). The analysis, description and (creative) explanation and linking of these data lead to what Mohr (1982) calls *process theory*.

It was not easy to move from the initial situation when the collected data was cumbersome and messy. At times, I was not even sure how to move forward or what could be the good starting point. However, I needed to categorise data and analyse them in a way that gives way to the needed *process theory* outcomes.

In practical terms, Yin (in Horsch & Anderson, 1997) presented a tool: the Logic Model to conduct case study work. The Logic Model outlines the cause and effect that link interventions with outcomes. This enables revealing whether a theory is flawed, identifying gaps in interventions. and facilitating the evaluation of the role of rival hypotheses (Horsch & Anderson, 1997). Essentially, it is a tool to guide critical

thinking. I used this tool throughout my empirical work. A visual explanation of this model is portrayed in Figure 3-1.

Figure 3-1: The Logic Model[10]



In addition to the Logic Model, I used the following strategies to organise data, reach the findings and present them in a way that makes sense, is interesting to the reader and shows a substantive contribution.

Alternate Templates Strategy: According to Allison (1971), when one needs to analyse a certain event where many players are involved, it is better to analyse the same event from the dimensions of each player separately. A unique model where all dimensions and actions of all involved players are simultaneously described and analysed is difficult to achieve (Langley, Mintzberg, Pitcher, Posada and Saint-Macary, 1995). This strategy is very useful to derive deep insight from one rich case (Yin, 1994). This strategy was indeed very useful; I used it to separate my empirical projects (DBA Projects 2 and 3) since it allowed me to analyse the distinct impact of banks (Project 2) and government (Project 3) on the central bank in Lebanon during the high inflation period. The Lebanese case, in my opinion, was rich enough and the outcomes derived were detailed and insightful. Using this strategy also allowed me to overcome the major weaknesses found in other CBI related studies as described in the Systematic Review.

Narrative strategy: it involves the creation of a detailed story from raw data (Langley, 1999). The collected data (quantitative and archival) allowed me to create a story with detailed events and clear outcomes. Time was one of the axes upon which the story was narrated; the other axis was that of emerging themes – including actions and reactions – to enable the description of key findings and outcomes that link back to theory and literature. The benefits of this strategy in my case were the ability to go into the detail of incidents and create a rich base for linkages, patterns and creative thinking. This would not have been possible, had I chose many countries to study at the same time; effectively, I could have ended in the same difficulty as other studies around CBI: cross-country comparisons weaknesses and measurement issues. The main body of this thesis is the best illustration of how I used this strategy.

[10] Taken from Wright & Ross (2001).

Quantification strategy: This strategy consists of trying to understand patterns, mechanisms and outcomes emerging from specific events through categorisation and creating links among historical events. This understanding is supported by the *number crunching* of various economic data and the actions-reactions patterns emerging from the studied case. It is the same approach as Smith, Grimm and Gannon (1992) and Romanelli and Tushman (1994) whose data consisted, similarly to mine, of newspapers articles and other archival documents[11]. One of the limitations of this strategy is that it is considered *weak* if used alone without understanding the context at hand. For example, if I had presented and analysed economic figures in the form of tables without using the narrative strategy to explain contexts, then the reader would not have been interested in the outcomes since they would be considered uninformative, limited and weak. The tables in chapter 5 illustrate the usage of this strategy.

Visual Mapping Strategy: On many occasions, outcomes and patterns are best presented using a picture that shows them with the players involved (Langley, 1999). It is a powerful tool since sometimes words are not enough to convey the needed argument or its strength. This strategy allows the presentation of findings in a simple way and opens the door towards an easy link to literature and theory. Visual Mapping was mainly used to produce figures and charts once the Narrative and Quantification work was done. Conclusions and outcomes became much easier to present in this case; the graphs presented in chapter 7 are the best example of how I used this strategy in my research.

A valid question in the mind of any reader would be: can *process theory* be reached using archival data and quantitative numbers? The answer comes from Langley (1999) who confirms that this can be successfully done using the strategies described above. She summarised the strength and weakness for these strategies as follows[12]:

Strategy	**Accuracy**	**Simplicity**	**Generality**
Narrative	High	Low	Low
Visual Mapping	Average	Average	Average
Quantification	Average	High	High

As the table presents, the strategies I have chosen to conduct my research are complementary and allow better analysis and outcomes. Moreover, these strategies allowed me to use my creative thinking and inspiration to synthesise and link the case at hand to literature and theory. Synthesis is what makes theory (Mintzberg, 1989). Interpretation needs both analysis and creativity (Wolcott, 1994), and the imagination and insight of the researcher coming from inspiration, experience and common sense (Weick, 1989). This synthesis goes to the heart of what North (1977) calls *New Economic History* that attempts to explain what I am trying to understand in my DBA research in terms of the behaviour of interest groups.

[11] It is worth noting here that the followed approach was also inspired by the paper of Maier, Sturm & de Haan (2002), which used a similar process of structuring press articles to understand the influence of interest groups on the German Bundesbank policies.

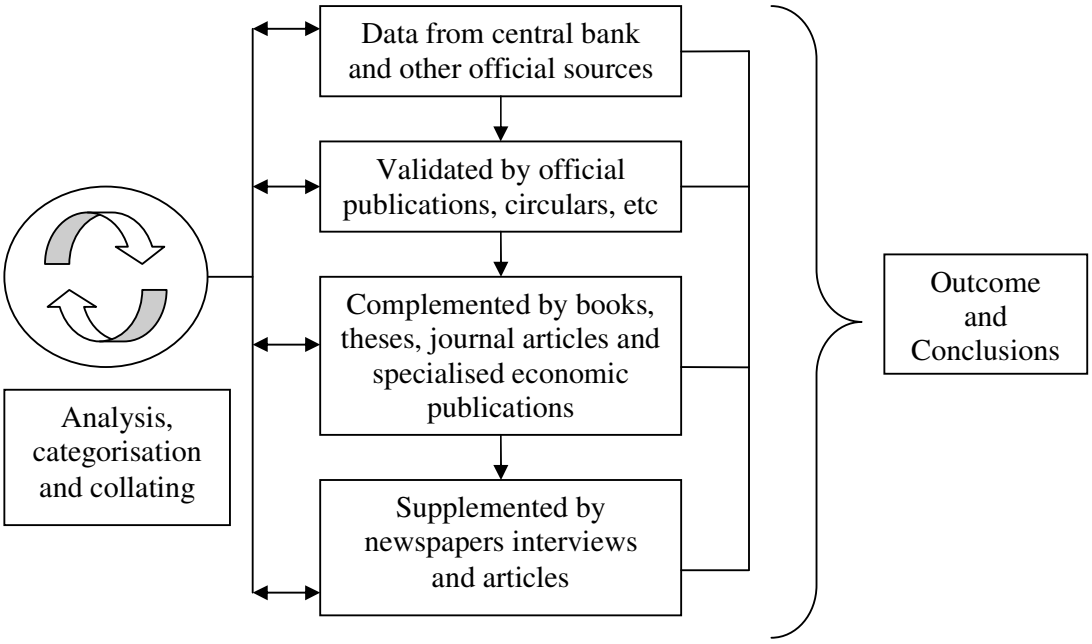
[12] Alternate Template Strategy was not plotted in the table presented in Langley (1999).

3.3.2 Process

Concretely, I have undertaken many actions to complete the empirical projects needed to finalise the thesis in its current form. Collating and analysing the quantitative data was the first step. I initially created a large database of tables and numbers. These were collected from the central bank's reports and other sources; these data enabled me to understand what was going on in terms of financial figures and economic indicators. They provided me with all the supporting numbers to write the story line.

I then read the various collected publications and clustered the information around specific timelines and events. I used these clusters to start building information around 2 axes to be used for the Narrative and Quantification strategies described above. I used Word documents to collect and cluster the information since many of the sources were in Arabic and hence, I had to translate them while transcribing them. Specifically, the data axes were a) dates: using timelines and specific dates, I was able to go back to articles from newspapers archives to search for the information on actions / reactions / press statements / attacks, etc; and 2) actions: items of this axis started to emerge from dates; then I realised that some of these actions were overlapping while others were not.

Figure 3-2: Process of data analysis



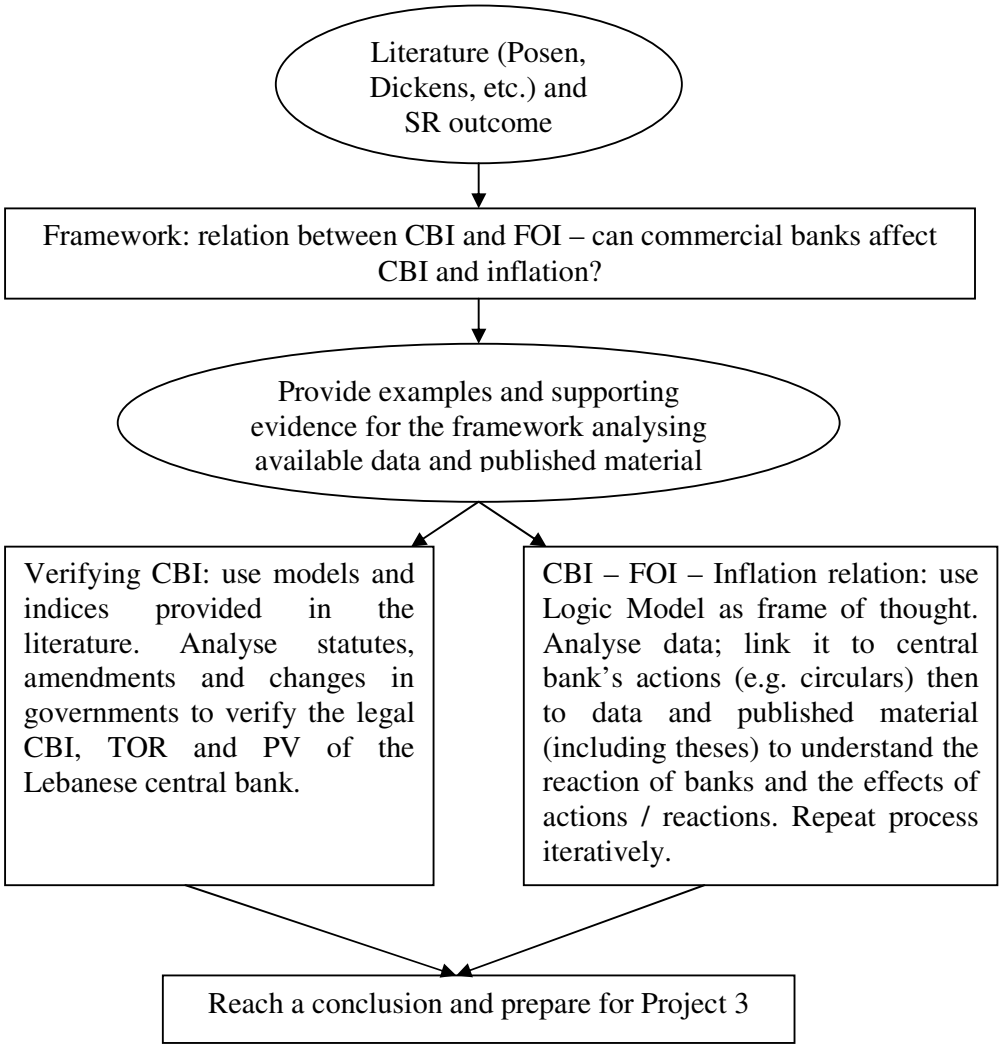
To verify the CBI of the Lebanese central bank, I relied on the measurement indices and approach introduced during the Systematic Review. To verify the legal CBI, I studied the Code of Money and Credit, its amendments and explanations. To verify TOR (Turnover Rate of the Governor) and PV (Political Vulnerability), I relied on the mechanisms provided by the literature. Both methods are explained in section 4.1 discussing the CBI of the Lebanese central bank. As for chapter 5, discussing CBI, FOI and inflation, I followed the Logic Model to further group information and data around

major actions and their outcomes. I studied the data of the period (inflation, depreciation, etc.), linked those to actions taken by the central bank (e.g. circulars to banks, Treasury Bills rates, etc.) – both taken from the central bank official publications. I then studied their effects using the official data in addition to articles and publications that described the reactions in the market from both the banks and central bank officials. The iterative process cycle progressed until the main themes of this research emerged and then they were presented accordingly with enough evidence to ensure reliability and validity. Figure 3-2 above presents this process in a visual way.

3.3.3 Examples of Data Analysis and Presentation

This section rounds off the methodology chapter by providing some examples of how the data was analysed and presented using the strategies and process introduced in the previous sections. Figure 3-3 presents the approach used for DBA Project 2.

Figure 3-3: Approach and analysis for Project 2



Another example on data analysis and presentation was the process I used to cover the details of the conflict between the government and central bank (DBA Project 3): the entry point was through the statements, letters and communications between central bank and government (including press statements and interviews) available through BDL or newspaper archives.

I then built the other narrative elements using the available books and theses such as the memoirs of Dr. Hoss (Prime Minister), books written by Dr. Saba and Dr. Qorm (prominent ex-finance ministers), Mr. Wakim (MP), and other books mentioned as references (mainly that of Dr. Ayache). This was complemented by research papers (published in specialised financial journals and central bank reports), newspaper articles, and economics magazine articles and reports.

I also studied the Code of Money and Credit (CMC) and its amendments in order to understand, analyse and evaluate the legal actions taken by both the central bank and government. The study of the CMC also allowed me to understand the parameters of the mandate given to the central bank (many points were already covered in Project 2).

The above steps were supported by information collected during the research made for Project 2 which enabled me to make many steps forward for this research – when I was preparing Project 2, the elements of Project 3 started to emerge and take shape. Therefore, I kept in a separate Word document all the instances related to the relation between the government and the central bank.

To prepare and write about Dr. Naim, I relied on eulogy articles written after his death in 2006 (no written memoirs were available).

Finally, to support the text, I relied on using footnotes that were useful to clarify some elements of the narration and provide more insight. Appendices were also created to give the reader additional information supporting the text.

4 VERIFYING THE INDEPENDENCE OF LEBANON'S CENTRAL BANK

This chapter answers the question about whether the Lebanese central bank was independent during the study period. It starts by verifying the legal independence before moving to verify its actual independence from political authorities.

The importance of this verification lies in the following observations: if legal CBI exists in a certain country but actual CBI does not, then the institutional designs allowing the same government to interfere when it deems it necessary makes CBI non-efficient and to a certain extent irrelevant?. Obviously in this case, the relation between CBI and inflation cannot be evaluated since CBI in itself is not complete and, hence, is questionable. On the other hand, if CBI is complete, i.e. legal CBI and actual CBI exist, then is it enough to combat inflation? Is it enough to guarantee CBI from the state? What about other interest groups that could still influence inflation and CBI?

More precisely, in the case of Lebanon: we know that inflation raged during the period studied in this research. Therefore, to understand the CBI - inflation relation in Lebanon, the following scenarios are plausible:

Scenario 1: Legal or actual CBI from the government does not exist in Lebanon and this could have led to the central bank not being able to control inflation. Nevertheless, one could claim that CBI could still be a determinant factor to lower inflation in case CBI is prevalent. Therefore, CBI as a concept could still be useful to control inflation as some researchers argue i.e. CBI - inflation relation has not been proved wrong, only the circumstances of CBI were insufficient in the Lebanese context to allow it to work and control inflation.

Scenario 2: both legal and actual CBI were found in Lebanon during the studied period. However, since inflation was still prevalent, then we can conclude that the CBI - inflation relation cannot be proved in the Lebanese context. Therefore, the logic of some researchers in saying that CBI is neither sufficient nor needed to control inflation is correct in the Lebanese context. To explain the high inflation, we have to look for other players (interest groups) within the economy that could influence and induce inflation. The literature mentions the financial sector as a potential interest group and my DBA would have proved them correct: inflation in Lebanon was influenced by the financial sector which benefited from it regardless of CBI (legal and actual).

In the case of legal independence, I used a much longer time frame for the study of independence. This is because very few changes were made on the legal framework governing the actions and authority of the Lebanese central bank. In addition, a longer timeline is needed to complete the legal analysis in the case of TOR (or board) and political vulnerability.

4.1 Legal Independence

According to the Code of Money and Credit (CMC), the Lebanese Central Bank (BDL) has been created as an independent central bank to the full extent of the law. This has been confirmed on many occasions, including recently by Riyad Salame, the current governor (Salame, 2006a; Salame, 2006b). BDL has, to a large extent, both goal independence and instrument independence. It has a clear objective of price stability and owns the prerogatives to reach it. It is worth noting here that very few legal amendments were made concerning the role and objectives of BDL (Nsouli, 2003). These changes did not affect BDL's legal status, its legal powers, its board, or its governor. However, for the sake of academic completeness, I will use the CBI measurements presented in the Systematic Review to verify this independence according to the guidelines offered by the academic literature.

4.1.1 CBI Measurements

As mentioned in Chapter 2, there are four indices to measure CBI; 1) Legal indices derived from statutes and charters: these consist of analysing the central bank laws and statutes trying to uncover the level of CBI available in a certain country (Hermes & Lensink, 2000); 2) Turnover of central bank governor (de Haan & Kooi, 2000) or Term of Office usually referred to as TOR (Cukierman 1992; Cukierman *et al.* 1992): which study the average number of changes of central bank governors per annum; 3) Political Vulnerability of the central bank (PV): determines independence by observing the political transitions that were followed by the replacement of the central banker within six months; and finally, questionnaire based indices.

The above indices capture different dimensions of CBI; TOR and PV and can be considered as complementary representatives of behaviour. They are appropriate for studies on developing nations to check whether the monetary authority is sheltered from political pressure (Cukierman, 1994).

I will use the first three indices to validate the CBI of BDL. These indices should be enough for the purpose of this research. Hence, I will not cover the questionnaire index which is more prone to subjectivity of participants and other sample-related limitations.

4.1.2 Legal CBI

Most CBI studies follow two basic measurement methods; mainly those of Grilli *et al.* (1991) and Cukierman (1992, *et al.* 1992). Other authors have merely changed aspects, weights or groupings of these widely used methods in their research. For the purpose of this thesis, I used the most recent variation on these indices by Fry *et al.* (2000) to calculate the scores for Lebanon reached by conducting a full analysis of the legal texts in the Code of Money and Credit (CMC) as explained next. The Fry index rates many aspects of the legal independence of central banks namely: price stability, goal independence, instrument independence, credit to the government and appointment of the governor. It assigns higher weights to the aspects related to instrument independence and credit extension to the government. Table 4-1 presents the full index and highlights the scores for the Lebanese central bank (BDL).

Table 4-1: Fry index measuring the independence of BDL

Criterion ***(weight in total)***	**Scores**	**Description**	**Lebanon Scores**
1. Emphasis on price stability: The extent to which statutory objectives provide the central bank with a clear focus on price stability ***(1)***	10.0 **7.5** 5.0 2.5 0.0	Only goal is price stability **Sole goal together with financial stability and non-conflicting monetary stability objectives** Price stability and incompatible goals No formal goals Goals other than price stability	**7.5**
2. Goal independence: The extent to which the central bank determines the setting of policy targets ***(1)***	**10.0** 5.0 0.0	**Central bank decides alone or monetary policy has no explicit goals** Joint decision of central bank and government Central bank has no role in decisions	**10.0**
3. Instrument independence: The extent to which the central bank determines the adjustment of monetary policy instruments ***(2)***	10.0 **6.7** 3.3 0.0	Central bank decides alone **Central bank decides alone but a government representative attends decision meetings as an observer** Central bank and government have a role in decisions Central bank role in decisions is limited	**6.7**
4. Treasury access to central bank credit facilities: The extent to which treasury funding through the central bank is prohibited ***(2)***	10.0 **7.5** 5.0 2.5 0.0	Prohibited, not used or negligible sums involved **Narrow, well enforced limits exist** Limits exist that are usually enforced Wide limits exist No limits or little enforcement	**7.5**
5. Term of appointment of the central bank governors: The length of the governor's term of office ***(0.5)***	10.0 8.6 **7.1** 5.7 4.3 2.9 1.4	8 years or above 7 years **6 years** 5 years 4 years 3 years Term of office beyond 3 years not guaranteed	**7.1**
Calculated Score for the Lebanese Central Bank		*Total Score* **Weighted Score**	*38.8* **7.6**

Explanations and rationale for choosing the above scores for Lebanon[13]

1. Emphasis on price stability: the original article 70 of the CMC states that the sole purpose of the central bank is to safeguard the value of the currency in order to guarantee the base for economic and social progress. An amendment to this article was made on October 5, 1973, i.e. to add to the above statement, the following major objectives of the central bank: a. Safeguard the value of the currency; b. Safeguard economic stability; c. Safeguard the well being of the banking sector; d. Develop the financial and banking markets. Therefore, and according to the rules of the index (Fry *et al.*, 2000), an appropriate score for Lebanon would be 7.5.

2. Goal Independence: according to articles 13 (the central bank is created as a financially independent entity that is not subject to any supervision or influence that are imposed on any public entity), 33 (explained below), and 70 (detailed above) of the CMC, the central bank of Lebanon is Goal Independent and hence, a score of 10 is appropriate for this criterion.

3. Instrument Independence: according to Articles 28 and 33 of the CMC, such authority is given to a central council consisting of the board of the central bank and the general directors of both the ministries of finance and economy. However, these general directors will not represent the government in these council meetings and have no responsibilities at the central bank other than this basic membership. These members will take the same oath as the board of the central bank; this means that they will be responsible to safeguard the independence of the central bank in a similar fashion to that of the board. A minor amendment was made to Article 33 to prevent any employee of the central bank participating in political parties, holding public office, or being members of a board of private companies. However, this amendment has no real value on the authority given to the central bank in terms of Instrument Independence. I chose to award Lebanon 6.7 (instead of a full score of 10) on this criterion even though the directors general do not represent the government officially on the central council. The reason behind this decision is to compensate for the simple fact that these senior government employees still attend council meetings.

4. Treasury access to central bank credit facilities: strict limits exist in terms of what the central bank can lend the government. Article 88 of the CMC calls any extended loans as *advances* that cannot exceed 10% of the average amount of state revenues (calculated over a 3 year period). These advances shall not be extended for a period higher than 4 months. Furthermore, Article 89 of the CMC limits the extension of any advances to a single time every 12 months. Article 90 states that other than the above mentioned advances, the central bank shall never extend any loans to any public entity. Articles 91 and 94 state that only under extremely urgent situations and after all other options are exhausted, would the central bank *consider* (i.e. it is not required) offering the government a regular loan for a maximum period of 10 years and only upon prior

[13] Translation of relevant articles is available in Appendix A. Careful attention must be made to the fact that there is always a certain element of subjectivity while trying to analyse and decide on the statutes. This subjectivity was very limited in this case since the mentioned (and analysed) legal articles are very clear and cannot hold many interpretations.

approval from the parliament. Therefore, a score of 7.5 is appropriate as per the index rules (Fry *et al.*, 2000).

5. Term of appointment of the central bank governors: the term for the governor of the central bank in Lebanon is set at 6 years as per Article 18 of the CMC. This automatically leads to the score of 7.1.

Analysis of the Score
The total and complete score that any central bank could achieve following the Fry index is 10. If we compare the weighted score of Lebanon (7.6) with the scores provided in both Fry *et al.* (2000) and Petursson (2000), we realise that the Lebanese central bank has a score close to that of the Bank of England (7.7) and a much higher score than those given to Norway (5.7) and Iceland (6.1). The Lebanese score is lower than those given to the US (9.2) or the European Central Bank and Japan (9.3). The Lebanese score can therefore be considered comparable to many industrial nations which have an established tradition in CBI or to those of transition economies which have recently overhauled their laws to give their central banks a more robust legal independence status.

4.1.3 TOR and PV

The Turnover Rate of Central Bank Governor (TOR) is a measure of Central Bank Independence (CBI) introduced by Cukierman (1992) and Cukierman *et al.* (1992). This measure was developed after studying the terms of central bank governors in different countries for the period between 1950 and 1989. The measure aims to study the number of times the central bank governor is changed on a yearly basis. The logic behind this measure is simple: when the TOR is higher than a certain level, it indicates a lower level of independence.

TOR can be extremely useful to understand exceptions when the legal framework does not cater for traditions, legal interpretation, and other factors affecting CBI. For example, in Argentina the legal term of office for the governor is four years. However, following tradition, the governor resigns whenever a new government (or new finance minister) accedes to power. Hence, the actual term in Argentina during the 1980s did not amount to more than ten months and actual CBI was effectively lower than legal CBI in this case (de Haan & Kooi, 2000).

TOR can be considered as one of the few systematic proxies to evaluate *actual* CBI. Cukierman *et al.* (1992) found that the average yearly TOR for the developed countries did not exceed 0.2 for the period between 1950 and 1989; with the lowest being 0.03 in Iceland. The average range of TOR for the developing nations was considerably higher than that of the developed countries.

One common criticism of TOR is the fact that a longer term for the governor might be the result of a submissive personality vis-à-vis government policy. However, Cukierman (1992) provided a reply stating that this could be the case in countries with an extremely low TOR but not in the case of developing nations.

Some researchers found evidence of a clear relation between TOR and inflation performance (de Haan & Kooi, 2000). The reason explaining this relation could be that governors who stay for a shorter term at the helm of the central bank cannot pursue longer term policies and are likely to submit to politically-induced inflationary pressures.

Cukierman & Webb (1995) provided an additional enhancement to TOR and called it the Political Vulnerability index (PV). PV measures the frequency of changes in the central bank governorship within six months of a change in the executive branch. This index is a further validation of actual CBI since CBI is inversely proportional to PV. The authors remarked that PV is higher in developing nations than in developed ones.

Lebanon's TOR and PV

As per Appendix E, we can see that Lebanon had seven changes in the governorship of its central bank since its inception in 1963 until 2007 (43 years). This makes the TOR equivalent to: 7÷43 = 0.1627 which is below the threshold of 0.2 defined by Cukierman (1992) to consider Lebanon's central bank as independent.

If we extend this analysis to the full board, then the data show that there were 6 changes on the board (either a one person change or full board change). The TOR index in this case becomes: 6÷43 = 0.1395; this number falls again below the threshold needed to declare independence.

Appendix E also shows the political changes which have occurred in Lebanon since 1958. We can count 25 changes in government (not counting the first government or the contested period between 1988 and 1990) and seven presidential changes (not counting the two presidents who were assassinated before they were really able to govern).

No change in the government or the presidential chair (even when including those omitted for counting purposes) was followed within six months by a change in the governorship of the central bank. Furthermore, none of these changes was also followed after six months by any post change within the board of the central bank. We can, therefore, conclude that all changes within the central bank in Lebanon were non-political. This constitutes another clear indication of the high CBI for the central bank of Lebanon (BDL).

The results can be summarised in the following format taken from Cukierman & Webb (1995, page 417):

Table 4-2: TOR and PV in Lebanon

	TOR	Govt. Change	President Change	BDL Total Changes	BDL Non-Political Changes	PV
Lebanon	0.1627	25	7	7	7	0

The analysis conducted in this section gives a very clear indication that the Lebanese central bank can be considered legally independent as per the Systematic Review

definitions[14]. However, concern remains about the value of *legal independence* as validated in this section versus *actual independence* in terms of how much the central bank is *really* independent from political power. This element is studied in the following section to complete the analysis of the independence of the Lebanese central bank during the study period.

4.2 The independence of the Lebanese central bank in practice[15]

The Systematic Review pondered on the real reasons behind nations awarding CBI since it is obviously not a substitute for other stabilisation elements in the economy. The conclusion reached was that CBI came as part of the role of legal, political and economic systems into the choice of the institutional design (Hayo & Hefeker, 2002). Furthermore, the Systematic Review stated that CBI and its application depend on many variables in the broad political-economic spectrum, making it a matter of degree rather than an absolute matter since all central banks could remain influenced by political aspiration (Franzese, 1999). For example, Russia faced major inflation in the 1990s despite the fact that it had an independent central bank (Banaian, Burdekin, & Willett, 1998). The inflation was caused by the fact that the Russian National bank had only legal independence since it was made accountable to the parliament – which usually shows high inflationary tendencies (Banaian *et al.*, 1998). Hence, there is a need to develop sound institutional structures that are effective rather than just allowing for legal CBI in order to combat inflation, and to understand the channels through which politicians could try to influence monetary policy arrangements and actions.

How can the actual independence of the central bank be verified? The answer lies in trying to understand instances when the government attempted to surpass the legal CBI given to the central bank in order to influence monetary decisions or impose its will on the central bank's actions and objectives. This is what the remainder of this chapter will research and describe by looking into historical archives and using academic judgment to reach conclusions on past events. The narrative presents the way the central bank and the government were acting during the stated conflicts. The outcome of these conflicts helps to understand the degree of political independence the central bank had during the study period. What makes this section interesting and valuable is that such a reconstruction of history sheds much light on some of the factors that could impact on central banks in general and CBI in particular within a developing nation.

Following data collation and analysis, the following areas of conflict between the government and the central bank in Lebanon during 1985-1991 were observed:

1. Government Financing
2. Political Concerns

[14] From a legal (statutes analysis), TOR and PV perspective.
[15] Special recognition to Dr. Ghassan Ayache (previous board member of BDL). His observations, notes and collected documents inspired me and made this section possible.

The explanations, understanding and outcomes of these conflicts help to verify the actual independence of the central bank in Lebanon during that period. To complement the analysis, this chapter also provides a section to describe the governor who led the central bank during the study period. This will put further into context the nature of these conflicts and highlight the importance of the role of the central banker during periods of conflict with the political powers.

4.2.1 Government Financing

Extending loans to the government in order to finance budget deficits is a major source of inflation in any economy. Extending such loans would increase liquidity and could lead to over-spending without attention to consequences on the part of the government. As explained in the Systematic Review, limitations towards the government's access to financing from the central bank have been identified as one of the criteria upon which Central Bank Independence (CBI) is measured. Section 4.1.2 states the strict and restrictive limits set by the Code of Money and Credit (CMC)[16] as to what and when the Lebanese central bank (BDL) can lend the government. The law makes it a priority for BDL to discuss with the government trying to find solutions or even finding alternative sources of financing.

BDL was extremely diligent when extending direct loans to the government and the amounts of total *advances*[17] given were limited and controlled[18] (Bouldoukian, 1989). The government has tried on many occasions to overcome these strict conditions. On some occasions, government officials acted as if the central bank was nothing but a source of free cash to finance expansion in government expenses (Wakim, 1998). Instead, BDL was always trying to find ways to finance the budget deficit through other means (especially marketing Treasury Bills). When the government wanted additional financing and requested loans from the central bank, the latter was adamant towards extending such loans fearing for the value of the national currency. Instead BDL was, according to what the law expects it to do, trying to engage in dialogues with the government to reduce its spending[19] (El-Khoury, 1993). On October 18, 1984 the governor of BDL, sent a letter to the minister of finance asking that the government pursue a policy of reducing expenses and controlling the budget since borrowing by the state (mainly through Treasury Bills) could cause major pressure on the Lebanese Pound (El-Khoury, 1984).

In May 1985, the government tried to raise the value of the *advances* limit agreed upon with BDL and the Parliament. The minister of finance asked for an increase through a formal request sent to BDL to cover additional investments needed for the electricity

[16] Refer to Appendix A for the translation of the relevant articles from the CMC.
[17] The name the law gives to loans extended by the central bank to the government as per CMC Article 88
[18] On June 30, 1977 the Parliament and BDL approved two loans given to the government to cover extraordinary payments and investments with a total amount that can never exceed a limit of LP 2.5 billion; one of the loans was for a period of 10 years while the other was later extended by another 10 years. The limits were adjusted by mutual agreement between Parliament and BDL. However, BDL rejected any further increases after 1985 as mentioned in this section.
[19] In January 1983, BDL's council met with the minister of finance and raised its concerns regarding the growing budget deficit and its negative effects, especially on the value of the currency. It is worth noting that this visit took place before inflation crept into the Lebanese economy.

company[20] (Chamoun, 1985f). The governor of the central bank rejected this request and demanded that the minister abide by existing limits. The minister continued insisting on raising the limits even further to cover additional investment-related expenses (Assafir, 1985). The governor replied again with a clear reference to articles 89, 90 and 91 of the CMC that do not permit any loans unless in exceptional circumstances and after the approval of the Parliament (Naim, 1985e).

The minister of finance insisted on his demands in two letters sent to the governor on July 30 and August 8, 1985 (Chamoun, 1985g; 1985h). BDL still refused and demanded full respect of the law (Awad, 1992). Discussions continued between the parties until BDL completed a study of its own financial situation, that of the government and the situation of liquidity in the country. BDL agreed after this study to increase the limits to reach a total value of LP 7.5 billion which was almost half what the minister of finance had requested earlier. This amount was deemed acceptable to BDL and would not cause excess liquidity leading to inflation (Khoury, 1988). On December 7, 1985 the parliament ratified this increase to the limits as per BDL's study and agreement[21] (Annahar, 1985b).

If we analyse the above events, we can see that they can be deemed an important win for BDL since it managed to preserve its independence from the government and rejected the call for extra financing. BDL acted according to its basic objectives of safeguarding the value of the national currency regardless of political pressure and even managed to contain some of the bad effects of the continuous increase in government spending. These two points show that an independent central bank can defend its independence and affect inflation positively (at least the part of inflation that could be generated through government spending).

Relation with the Parliament

The minister of finance was definitely not satisfied with the above outcome and tried again in 1986 to ask for additional limit increases and direct loans from BDL. All these requests were rejected by the central bank. The minister of finance tried to overcome these rejections by asking Parliament directly to vote new laws obliging the central bank to extend loans to the government (Iskandar, 1991). However, the governor of the central bank issued a clear warning to Parliament on the outcomes of such a dangerous move that goes against the independence of the central bank. In effect, the governor of the central bank reminded the Parliament that it has no power to oblige the central bank, as a fully independent entity (moral person), to ratify any agreement with the government against its wishes (Naim, 1986a). Accordingly, Parliament agreed to the view of the governor and never passed any laws to help the government receive any additional or direct financing from the central bank (Hoss, 1991).

This was another clear win for the independence of the central bank in Lebanon since it managed to steer the political pressure away and even made sure that Parliament was reminded of its own role as protector of the law. This is actually a major finding since it

[20] Letter to the governor on May 3, 1985.
[21] Parliamentary Decree 2875.

shows that the Lebanese central bank is independent not only from the executive branch but also from the legislative branch in the country during the study period.

Facing the government to control its expenses

The governor of BDL repeated several times that the role of the central bank can never be the financing of state activities. In a public statement issued on August 10, 1986, the governor emphasised that it should never be doubted that BDL's sole concern revolves around fulfilling its objectives of controlling inflation and safeguarding the value of the currency. The governor went on to reject any responsibility of the central bank to finance the budget deficit and instead requested that the government should find ways to collect more taxes and reduce its spending to suit its revenues (Naim, 1986b). BDL was basing its position on what article 72 of the CMC asked it to do: making sure that the government is well aware of concerns that are deemed non-healthy for the economy in general and the value of the currency in particular (Salloum, 1991; Ayache, 1997).

During 1987, when inflation in Lebanon was raging[22], the minister of finance tried again to use article 43 in the CMC to push BDL to finance some extraordinary payments on behalf of the government (Gaspard, 1988). As shown in Appendix A, Article 43 gives the government the right to suspend any decision taken by BDL for the period of five days only. The essence of the law concerning this article was to give both the government and BDL these five days to discuss and come to a potential agreement on any controversial decision. However since BDL is a legally independent institution, the same article stipulates that if BDL's council does not decide to meet and change the suspended decision within these five days, the said decision becomes enforced automatically in its original form.

In fact, the minister tried to use Article 43 as a basis to attack the concept of independence of BDL. He presented a view that BDL had no right to refuse any decision to finance the state; the sole role of BDL's council should be to check the amounts, signatures and beneficiaries prior to immediately making the transfers as requested by the ministry of finance[23] (Chamoun, 1987a). This personal interpretation of the minister of finance would effectively reduce the role of BDL to that of a book keeper or accountant on behalf of the government.

BDL's central council was furious with such an interpretation; it met on the same day the letter of the finance minister was received to reiterate its position that the central bank shall not finance any amounts or payments on behalf of the government no matter how small these payments were. The council furthermore insisted that the government in general and the minister of finance in particular would respect the role and objectives of the central bank as defined in the CMC (Assafir, 1987).

The debate continued both publicly and behind closed doors with the minister of finance still refusing to change his views with regard to requesting the central bank financing of the state. He added another interpretation to his view of the situation claiming that when the payments to the government are due, then these become a matter of national urgency that cannot be refused by any authority; the higher interests of the state, as he put it, are

[22] Reaching 403.6% end of 1987; see Table 5-1.
[23] Letter to the central bank on January 22, 1987 that was also published simultaneously in the press.

more important than any law or regulation (Mallat, 1988). In this statement, the minister of finance was indirectly recognising that the central bank is legally protected and independent. Nevertheless, the minister still wanted to push BDL to finance the budget deficit since it would have been easier than trying to review the budget and reduce expenses (Wakim, 1998).

The council of BDL stood firm and rejected any political interference or influence on its decisions not to finance the budget deficit. The Prime Minister acted as an intermediary in this dispute[24]. He tried to find solutions to defuse this tension. However, since he was well aware of the legal situation of the central bank vis-à-vis the government, he could not but support the independence of the central bank (Hoss, 1991). The outcome of the discussions held between the Prime Minister, minister of finance and BDL was very much in favour of BDL's views concerning the situation. The minister of finance sent a new letter to BDL in February 1987 containing the following (Chamoun, 1987b): the minister still expressed his political objections to the way the central bank had dealt with his requests for financing; the minister promised a reduction in the level of spending and better control of the budget deficit; and the minister understood that any request for financing of the government would need to follow the basic law granting BDL political independence and discretion, whether the financial situation of the country would permit such financing or not.

BDL met this positive step on the part of the government by the decision of BDL's council taken on February 4, 1987 to study (and potentially finance) every request for extraordinary payments related only to the basic necessities of the country[25], only when other sources of financing were depleted and when the economic situation permitted it. The council made it clear that no financing concerning investments or miscellaneous extraordinary payments shall be entertained (Annahar, 1987).

Throughout the above described events, the Lebanese central bank managed to protect its independence as stipulated by the law regardless of constant attacks on the part of the ministry of finance. Even though the minister of finance tried to interpret the laws in a way that could damage the independence of BDL, the law prevailed because BDL stood firm behind the statutes guaranteeing its independence. This strong position of BDL pushed other parts of the political spectrum[26] to support its independence in a direct or indirect fashion as we have seen.

Furthermore, by defending its independence and fending off the government's requests for budget financing, BDL was trying to control the financial situation in the country from further deterioration. The financial situation in Lebanon would, undoubtedly, have been many times worse had the minister of finance been granted the requested financing.

[24] The Prime Minister was on many occasions in agreement with the governor and tried to reduce the tensions that were created mainly between the ministry of finance and BDL (Hoss, 1991).
[25] Petrol for electricity generation, wheat, etc.
[26] Prime Minister and Parliament.

Government subsidies

Since 1975, the Lebanese government has followed a policy of providing a state subsidy to keep the prices of two major commodities under a certain limit: wheat and petrol. This subsidy was a political decision taken by the government of that time to garner political support from, especially, the poorer segments of society. Effectively since the early 1970s, every government has faced major demonstrations in the street from low-income bracket unions asking for better working conditions and the reduction of monopolies in major sectors of the economy. Many of these demonstrations turned violent with the police shooting at demonstrators causing casualties including, at one time, a political leader in the southern city of Sidon (Qorm, 1994).

In this section, I will focus on the subsidies given to petrol since my review indicated that subsidies covering wheat prices were limited in nature and did not contribute to more than 2.5% of the subsidies awarded to petrol (Abounayan, 1990).

The subsidies for petrol were run out of a government controlled account named The Independent Account for Petroleum Products. This account was debited and credited independently by the ministry of industry and petrol (Araj *et al.*, 1988).

Prior to 1983, these subsidies were not causing the government any financial worries. Thereafter, Lebanon's imports of petrol were increasing tremendously while local refineries were not able to keep up with the demand. Therefore, the government turned into buying petrol from the international market[27] and subsidizing their prices locally. This practice started to have a negative impact when the international prices of petrol rose internationally and currency depreciation settled internally (Le Commerce du Levant, 1989a). Another problem was the illegal smuggling of Lebanese-subsidized petrol into neighbouring countries where petrol prices were not supported by local government (Araj *et al.*, 1988). This practice turned into a major problem since local demand continued to increase and naturally, government subsidies grew causing further deficits in the petroleum account. It is estimated that the government has spent around LP 245 billion on petroleum subsidies between 1983 and 1990. This number represented 13.6% of total government spending for that period[28] (Salloum, 1991).

The central bank was very vocal in its objections to this subsidy policy. BDL's governor was very concerned and asked the government to find ways to cut the amounts spent on petrol subsidies especially as a good quantity of petrol was being lost to cross-border smuggling[29] (Naim, 1985f). Upon BDL's request – and after initial refusal from the government – the petroleum account was moved under the control of BDL[30] (Le Commerce du Levant, 1986a). The reason for this move was that most of the subsidies to cover petrol prices were being taken out of the limits awarded by BDL and the Parliament (as explained in the earlier section). Once the account was moved, the extent of the financial problem caused by subsidies became more evident (Araj *et al.*, 1988). The government was very reluctant to change the policy of subsidies for political

[27] Total petrol imports amounted to around USD 1 billion between 1986 and 1989 (Abounayan, 1990).
[28] 15.6% of total budget deficit.
[29] Letter to the minister of finance in October 1985 stating that losses in the industry and petrol ministry amounted to LP 800 million in 21 days.
[30] On May 30, 1986.

considerations. Therefore, BDL found no better way than to start controlling the letters of credit issued on behalf of the petroleum account. The aim was to push the government to adopt a better pricing policy and even control the amounts of petrol delivered to the market (Le Commerce du Levant, 1989b). Instead of complying, the minister of industry and petrol started a public condemnation campaign of the central bank accusing it of rationing petrol that was needed for the functioning of the country and its industry (Abounayan, 1990).

The central bank did not back down but instead issued its own public statements[31]. The concern of the governor was that this subsidy was further deepening the budget deficit that was being financed either through central bank limits or treasury bills. In both cases, this was increasing liquidity and causing further inflationary worries in the country. The governor emphasised the fact that subsidies were not only causing financial deficit and increasing liquidity, but also were helping smuggling activities due to regional price differentials (Naim, 1988b).

The conflict persisted with BDL keeping the pressure on the government using its control of the petroleum account (and credit limits) while the minister of industry and petrol was not making any political effort to control the subsidies or curtail smuggling activities. In 1989, the central bank's audit discovered LP 30 billion was missing from the ministry of industry and petrol during the previous period. The amount was not accounted for by the ministry; instead the director general claimed that this amount was actual petrol stolen from the ministry's reserves[32] (Le Commerce du Levant, 1989c). The central bank was incensed by this response and decided to stop all subsidies related transfers from the petroleum account[33]. On September 6, 1989, BDL's central council decided that since corruption and leakages had been proved in the dealings related to petrol subsidies, it would stop issuing any letters of credit on behalf of the government related to imports of petrol and all its derivatives (Al-Diyar, 1989). This action by the central bank effectively ended the government's subsidies to petrol since it could no longer access the petroleum account. Later on, the government stopped importing petrol and its derivatives altogether. The private sector started importing these products and selling them in the market at a profit. The government stopped leaking financially on this front but instead was making money on the petrol sector through the tax revenues paid by the private sector (Ayache, 1997).

This section presented another example of the conflicts that took place between the government and the central bank. The conflict ended also with a clear win for the central bank on two occasions: initially moving the petroleum account under its control using the leverage it had since the money used was related to limits it extended to the government; and then, obliging the government to take a highly unpopular political decision to stop subsidies. The central bank proved again to be totally independent refusing the influence and political blackmail of the ministry of industry and petrol. BDL rejected the extension of money that it had proved to be going into corruption and

[31] Study issued in the press by the governor on March 22, 1988. The governor called continuous subsidies illegal according to the law that requires parliament's approval prior to any subsidy extension.
[32] Ministry considered the amount lost to robberies and fires.
[33] The only exceptions were letters of credit related to the electricity company to avoid depriving the whole country of electricity.

leakages; it even helped the government to reduce its budget deficit coming from subsidies and replaced it by additional income from taxation on the profits of the private sector which had started importing and selling petrol to the public.

4.2.2 Political Concerns

Towards the end of 1988, Lebanon entered into a worrying political divide that lasted till November 1989. The President of the Republic at that time, Amin Gemayel, while hoping for an extension of his presidential term, failed to guarantee the election of a new president to take over after him. Lebanon was about to enter into a political dilemma since the Prime Minister of that time, Dr. Salim Hoss, could not officially assume the reigns of power. Gemayel, in the final hours of his term[34], formed a new temporary government headed by General Michel Aoun to replace him until a new president was elected. This government was formed of six members; however, three of them refused to take office and considered themselves as resigned before attending any session of the new government. Meanwhile, Dr. Hoss considered that under these extraordinary circumstances in the country, he had the right to assume responsibilities until a new President was elected. Lebanon was, thus, facing a two government situation; each having enough legal and judicial support but also lacking a certain reinforcement of the same. Furthermore, each government had a certain territorial acceptance to its authority[35]. This situation was caused by a clear gap in the constitutional laws governing the country and meant that the country faced many challenges to national institutions such as the central bank.

As already outlined in this chapter, the historical analysis shows that the central bank (BDL) by virtue of its responsibilities and objectives, needed a government to deal and discuss with. Moreover, BDL needed to decide on the government that should receive the receipts of treasury bills and the limits agreed upon in the past with Parliament. The last thing BDL wanted was to have two governments with two budgets and each spending on its political agenda to guarantee public support with no regard to the health of the national economy. This political situation could have sabotaged all the central bank's efforts to ensure the recovery of the national currency after the past years of heavy depreciation and widespread inflation[36].

The central bank, after careful consideration of the political canvas of the country (two constitutional but not necessarily legal governments), decided to stick to its objectives as outlined in the CMC; namely, safeguarding the value of the national currency. Therefore, it chose to deal with both governments as if both were legal and constitutionally sound[37] (Naim, 1988c). This decision of the central bank had a sole objective: guaranteeing the unity of the national currency and helping its recovery after the past years of major inflation. Had the central bank chosen one of the governments as the sole authority in the country, nothing would have prevented the other government from issuing its own currency and drafting its own budget. This would have been detrimental to the country in general and its economy in particular even though no-one

[34] September 22, 1988; Section 1.3 presented a full historical study of Lebanon's main political events.
[35] These regions could be considered interweaved except in Beirut where a clear division line occurred.
[36] Inflation went down from 403.6% in 1987 to 155% in 1988; see Table 5-1.
[37] Central bank's governor memo published in Al-Anwar newspaper on December 5, 1988.

knows how the *other* government would be able to survive politically. The central bank, through the governor's publicly published memo, decided not take any chances to jeopardise the national currency in any way.

To complete this choice, the central bank decided that any money it distributed to any of the two governments shall be for services distributed to the country as a whole and not any specific region[38] (Naim, 1988d). Furthermore, the central bank requested the approval of both governments to extend any extraordinary payments that required financing from already approved central bank limits (Naim, 1988d).

The central bank, through this policy, kept the country united, managed to prevent the issuance of a second currency, and was even successful in reducing inflation rates (from 155% in 1988 to 72% in 1989 and 69% in 1990; see Table 5-1). However, this did not mean that the central bank was totally immune from political attempts to influence it. On many occasions, members of both governments tried to push the central bank for extraordinary payments. The central bank was thus facing similar political pressures as in the case of a united government, but this time the pressure was doubled (Hajj, 2006b). The central bank still stood firm and rejected these interventions hiding behind the power of the law. For example: when one of the governments needed financing for additional investments in the electricity company, it asked the governor to issue this financing from the limits account. The latter rejected and released the money only when both governments issued simultaneous decrees requesting this financing (Bachir, 2006; Annahar, 2006).

This firm and wise attitude of the governor made a serious impact on both Prime Ministers. Actually, Dr. Hoss issued a statement in late 1988 supporting fully the actions and decisions of the governor[39] (Hoss, 1989). However, many members in both governments considered the actions of the central bank as detrimental since it was allowing another *unconstitutional* (in their opinion) government to survive. They tried to interfere and push the governor to deal only with their respective governments. However, the governor was steadfast in his arguments: the central bank is an independent entity that does not follow the orders of any government; the fact that the country has an abnormal situation of two simultaneous governments does not change this fact; the central bank shall continue to work according to its objectives as outlined in the laws of the republic[40] (Naim, 1988a; Naim, 1989a).

The central bank, throughout this difficult period, maintained its independence vis-à-vis the two governments (instead of a single government). It continued to serve its objectives by defending the national currency and reducing inflation (Bachir, 2006). Furthermore, it used its discretion to finance the basic necessities of the country according to the law. It even helped control and maintain the budget deficit (shared by

[38] Central bank's governor's statement on December 9, 1988.
[39] Dr. Hoss in this press statement wrote: I shall make sure that the central bank is fully protected and safeguarded as an independent guarantee to the union of all Lebanese and the protector of the currency.
[40] During a press interview on October 24, 1988, the governor stated that he only follows the national interests according to the law when it comes to the central bank.

both governments) at an acceptable level for 1988 and 1989[41]. This period proved once again that actual independence of the central bank was maintained in Lebanon even though it could have been easily pushed aside if either of the two opposing governments decided to use actual force to brush it away. An additional contribution to be mentioned here is the importance of the independence of the central bank when political situations in the country are not stable. Actually, what this narrative has shown is that an independent central bank does not only affect inflation and budget deficits, but it could act as a voice of reason between competing political factions.

New president and united government

Once a new president was elected in November 1989 and a united government formed, the central bank was happy to co-operate with them. However, the ability of the central bank to safeguard its independence throughout the previous period left many politicians unhappy. The political system in Lebanon is, similar to that of many developing nations, based on political favours and tactics to ensure continuity in power. The government will always try to find ways to invest in new projects or extend employment to ensure loyalty of partisans and fend off opposition. The government in Lebanon has many constituents to keep happy: lower income segments requiring employment and subsidies; political parties and families that need financing for their local or regional projects; religious authorities looking for more political leverage; and finally, the security apparatus which consists of the army and police forces searching for additional salaries and better equipment. One can add the fact that authority in Lebanon is always linked to political agreements in both the religious and political spectra. This inter-web of interests leaves much to be desired in terms of abilities to control corruption, financial leakages or even spending on non-productive projects or investments. The central bank in this context has always been in the centre of attention of governments: political aims need to be met, budgets are usually in deficit, and free cash to go around is not abundant; so politicians always try to influence the central bank to open its accounts to meet their political demands.

This view of the central bank did not change in 1990 with many politicians still trying to deny the central bank its legal independence. They needed the central bank to become another government-run institution since in this case, their leverage becomes important. The concepts of *exceptional independence* and *out of government control* became current language among politicians this year. This can be best represented by the statement of the minister of agriculture issued on March 4, 1990 when he stated that the independence of the central bank is not legal since it effectively creates a *state within a state* (Daloul, 1990).

The central bank kept its defences high always referring to the law guaranteeing its independence and outlining its objectives. According to its governor, it does not have *exceptional independence* but has a *duty-based independence*[42]. Any actions of the central bank should be taken with the sole aim of keeping the progress of the economy and the conservation of the national currency. Any discretion in that regard goes to the heart of the duties of the central bank (Naim, 1989b).

[41] Budget deficit increased 61% on average for both years compared to increases of 98% and more than 336% for the years before according to central bank annual reports of 1988-1991.

[42] Statement coined by the Governor in a press interview with Annahar newspaper on June 26, 1989.

The government continued to demand extraordinary financing throughout 1990 while the central bank continued rejecting such requests. The central bank only financed those limits agreed upon earlier with Parliament and continued to transfer realised gains generated through its actual activities. This made many ministers unhappy and some even vented their anger by issuing statements attacking the central bank and calling it a *road block facing the progress of the country* (Ayache, 1997). Some other ministers claimed that the central bank was actually acting as an auditor of the government, a power that is not acceptable by law or political practice (Saba, 1995). The major concern of the ministers has been their inability to collect *free* advances from the central bank to spend on their political partisans.

On February 6, 1990 the governor sent a letter to the Prime Minister and other ministers to remind them of the rule of the law concerning the independence of BDL. The governor also asked for ministers' understanding that the bank's discretion needs to be respected when it comes to economic and financial matters[43] (Naim, 1990c). The central bank followed this public statement on February 14, 1990 by forming a committee at the central bank having as its aim to discuss with the government matters related to expenses control and other financial concerns. A few days later, BDL issued another statement asking the government to reduce its non-necessary expenses such as foreign travel; BDL used article 72 of the CMC as the basis of this request[44] (Naim, 1990b).

The ministers of the government were completely unhappy with these statements issued by the central bank. They reiterated their position that the central bank was taking the liberty of acting as an auditor of the government. In addition, they considered such statements as a way to make the public turn against them politically (Badredin, 1998). The Prime Minister, Dr. Hoss, was on the side of the central bank (Hoss, 1991). It is remarkable to note that in Lebanon, the Prime Ministers have always respected the independence and discretion of the central bank, unlike the ministers. The reason could be that ministers are always under political pressure from their constituents while the Prime Minister's concerns are to maintain order and stability in the country. The Prime Minister is in fact only liable politically to the President and Parliament; this creates a certain indirect shelter from immediate partisan influence.

The above debates show that when the politicians were unable to force the central bank to heed their demands, they started issuing statements to the general public. The aim of these statements was to convince the public that the central bank was blocking progress in the country. This highlights a new way of trying to destabilise the independence of the central bank since using the law or Parliament was not able to weaken it. A conclusion here can be reached about Central Bank Independence (CBI): the law when followed can protect CBI; however, CBI can be attacked by altering public perception. The Lebanese central bank had to educate the politicians and the general public about its legal independence and what it means to help controlling inflation in the system. The next section explains the importance of this conclusion and using the public opinion within the context of CBI.

[43] The governor sent the letter to press on March 8; according to Al-Anwar, he felt compelled to explain to the public and politicians the importance of the independence of the central bank.
[44] These actions were revealed in the governor's interview with Assafir newspaper on March 20, 1990.

One can argue that these public debates could have diverted the attention of the central bank away from the major concerns of the economy at that time. However, the central bank was very active on many fronts to control the speculation of banks in the foreign exchange market. It was also eagerly marketing treasury bills on behalf of the government and continuing to reduce inflation and currency depreciation[45].

Attack on the central bank

The public conflict continued between some ministers and the central bank until a major incident happened on March 15, 1990. It is useful to state here that the central bank does not have any security apparatus; its location in Beirut is secured by the government's security forces and this location has always maintained its respect, even when the country was run by two governments as explained earlier.

On March 13, 1990 a request was delivered to the central bank by the minister of interior asking for financing of new passports to be printed in London (Khazen, 1990). The central bank rejected this request since it had already approved, as part of existing limits, the financing in the order of USD 500,000 for new passports to be printed in Stockholm (Annahar, 1990a). The governor later understood that the passports were urgently needed since the original batch never reached the country. Therefore and as part of the same limits, the council of the central bank decided on March 15 to accept the new financing and cancel the old order for the Swedish-printed passports (Annahar, 1990c).

The minister of interior, unaware of the new decision, felt that the central bank had decided to make him suffer politically. He wanted to reclaim some political clout so he dispatched a group of police officers, who were in charge of his personal security, to the central bank to *bring* the governor for a meeting with him. Obviously, the minister thought that this move would prove to the public – once and for all – who controlled the central bank. The governor rejected this invitation and refused to leave his office. The policemen tried in this case to oblige the governor to go with them by forcing him out of his office in a kidnap attempt. Once the policemen reached the main hall of BDL, they were faced by the security force guarding the central bank. Shots were fired and the governor escaped his kidnapers (Annahar, 1990c).

Such an attempt had never occurred in the history of the Republic. It caused a serious public uproar with the employees of the central bank calling for a strike that grew to cover most of Lebanon. The central bank was visited by public representatives of all walks of life, i.e. students, workers, businessmen, academicians, etc. showing an unequivocal political unity never seen before in Lebanon; all supporting the central bank and its governor[46].

The Prime Minister was appalled and asked for the immediate resignation of the minister of the interior. However, many other ministers defended the minister of the

[45] The best example of the central bank's successful activities those days was maintaining the value of the LP between 1990 and 1991 (USD / LP was 842 in 1990 and 879 in 1991); see Table 5-1.

[46] The newspapers of March 16, 17, 18 were full of stories and statements in support of the central bank.

interior since they saw in this action a serious attempt to finish their own political careers, knowing their previous history with the central bank. The Prime Minister insisted and considered this act as an attack on *the government and people of Lebanon*[47] (Hoss, 1991). This created turmoil and almost caused the collapse of the government. Finally, a face-saving political manoeuvre was crafted with the minister of the interior offering his resignation – although it was ultimately rejected by the President. The minister of the interior then made a visit to apologise to the governor at the central bank (Hajj, 2006a).

Regardless of this attack, the central bank and its governor did not change course in their policies. The central bank managed to score a major political and public victory and complete respect for its independence. However, its political foes were not satisfied. They still considered the central bank to be a major *enemy* since it was obstructing their political objectives. In some cases, the politicians gave vent to public statements to undermine the unity of the public around the central bank. One of those statements was made by the Head of the Parliament on March 20 who considered that the central bank was even taking the place of the Parliament in terms of acting as an authority to supervise the actions of the government and overstepping its authority by rejecting direct requests of the President (Husseini, 1990). This position was a serious one since it came from such a notable authority in the nation. The statement could be seen as a political attempt to change the laws awarding the central bank its independence and financial discretion. However, it did not lead to any concrete actions regardless of the many legal studies that were commissioned to research the legality of such a change in laws (Annahar, 1990b). It would have been impossible to convince the whole Parliament to vote on such changes when the public was fully sympathising with the central bank.

This attack on the central bank and its governor, in addition to attempts to change the laws relating to the independence of the central bank, represented the peak of political actions taken those days against the independence and discretion of the central bank. However, both actions – and they represent opposite extremes on the spectrum of what could be done to influence central bank decisions – failed. The central bank, in fact, was doing nothing other than following the law while many politicians found this same law limiting to their political power and authority. Higher authorities in Lebanon were also divided on how to deal with the central bank. While Prime Ministers have always taken the side of the central bank, Parliament had conflicting positions sometimes supporting and other times opposing. The ministers were in their majority opposed to the central bank since it prevented them from distributing political favours to their partisans. Nevertheless, the central bank kept its legal and actual independence and gained a public unity around its role never previously seen towards any national institution in the country.

[47] Dr. Hoss wrote on page 151 that this event: "caused me serious emotional scars" since he felt betrayed by many of the politicians around him even though he made the only logical choice at that moment.

4.2.3 Notes on Dr. Naim[48]

Dr. Naim was a well-known authority in Lebanon in the field of law and judicial affairs. He was dean of the faculty of law and later president of the Lebanese University prior to being named governor of the central bank. Dr. Naim refused to consider the governor of the central bank as an employee of the state[49]. He was a staunch opponent of any political influence or chaos in financial affairs of the state. He also fought the influence of the Association of Banks and tried to control the speculation by banks that caused serious financial damage to the national currency starting late 1985.

Dr. Naim was appointed to the governorship of the central bank at a difficult time in the economic history of Lebanon: the emergence of inflation. The central bank was fighting on many fronts: safeguarding the value of the national currency, fending off political intervention in central bank affairs, and trying to curtail the speculation activities of banks in the foreign exchange market. The central bank was also trying to find ways to cover the state finances. This led to adopting an expensive treasury bills policy that made banks rich at the expense of the state. However, little else could have been done at the time since the state was not interested in curtailing its deficit while banks were enjoying the wealth created through speculation. Both of these open fronts led to both a heavy burden on the national currency and high inflation. The governor nevertheless managed to keep the pace somehow under control; otherwise Lebanon would have suffered much more than was actually seen those days.

Dr. Naim as a governor used only the law as a cover and was ready to defend the independence of the central bank no matter what the consequences were. He went face to face on many occasions with ministers and other politicians while keeping his basic motto: *only the law protects me*. He was also not shy in uncovering scandals and opening corruption files. He also pushed the government into tight corners obliging it to take difficult decisions such as stopping subsidies on petrol.

The governor was well known for being faithful to his opinions when he knew their validity. He clashed with politicians in the open and in private, and never promised any political favours. He kept a tight control on affairs at the central bank assisted by some of his *protégés* since he knew the bank was prone to political and banking *spies*. He was very concerned with public finances and always said that if he was asking the government for austerity measures, he would start with himself. In fact, he was a man with few needs and slept on many occasions at the central bank with his German wife bringing him home prepared food to avoid hotel or restaurant expenses.

In the opinion of many, Dr. Naim's personality, experience and knowledge were crucial and permitted his success at the helm of the central bank in those tough times. They allowed him to safeguard the independence of the bank vis-à-vis the government; even to the extent of obliging politicians to bow to his authority. He kept the discretion of the central bank on financial decisions as per the law and central bank objectives. If there is

[48] Information in this section are based on the eulogies written after Dr. Naim died in January 2006: (Hajj, 2006a; 2006b; Bachir, 2006; Annahar, 2006; Al-Akhbar, 2007); and interviews with him: (Naim, 1988a; 1989a; 1989b; 1990a).

[49] Central bank governors cannot be removed from their position unless they have committed a crime.

one negative spot to mention in Dr. Naim's governorship, it would be his inability to control the actions of the banks which had disastrous effects on the Lebanese economy.

The newspapers issued in Lebanon after Dr. Naim died in January 2006, praised him and his efforts during his governorship. He was called *the father of the Lebanese Pound*, *the Guardian of the public finances*, and *the King by law*. Dr. Naim indeed left a legacy with regard to the actions and activities of the governor of the central bank that is still alive today[50].

In January 1991, Dr. Naim's term as governor came to its end. The council of ministers appointed Michel El-Khoury, an ex-governor, to the post. The new governor had already lived through the same pressures as Dr. Naim in his earlier term that had started in 1978 and ended in 1984. He was actually central bank governor when the financial situation in the country, in terms of inflation and depreciation, started to emerge. The politicians did not give El-Khoury any time to relax; upon his resumption of office, he was verbally attacked and accused of being the source of all the financial worries that had happened in the country (El-Khoury, 1993). The re-appointment of El-Khoury could have been made because the ministers thought that they could influence him by attacking his legacy. He tried to keep the relation of the central bank with politicians neutral but chose not to have any public debates with them. In any case, the new governor followed in the footsteps of his predecessor. He continued to finance the government only to the extent of pre-approved limits and rejected requests for extraordinary financing (Yachoui, 2002).

Some researchers argue that the appointment of Mr. El-Khoury was made because he was supported by a powerful lobby – the Association of Banks – since he came with a plan to assist the banking sector (Ayache, 1997). In fact, during the remainder of 1991, banks were actively subscribing to treasury bills that were kept artificially high (as explained in the next chapter).

4.2.4 Chapter Conclusions

The analysis and narrative of the previous sections has led to clear conclusions concerning the independence of the Lebanese central bank during the study period. The main points of this research show that the Lebanese central bank was fully independent from the political authorities regardless of the many ways used to undermine this independence. The central bank managed to safeguard its independence from government interference and kept its financial discretion intact when it came to lending to the government. Furthermore, the central bank – using its independence – was able to influence (and control) some of the structural deficits that could have induced further inflation.

As practical conclusions, this chapter demonstrated that CBI has some benefits. The independent central bank in Lebanon was able to push the government to control its

[50] For example interviews and statements by the current governor, Riyad Salame: (Salame, 2004; 2006a; 2006b; 2006c; 2006d).

fiscal policy and take tough measures it was not ready to assume otherwise, such as reducing its expenses or cancelling an expensive subsidies policy.

Another benefit is the fact that the independent central bank became the *voice of reason* in murky political situations, such as the constitutional loophole that allowed the existence of two governments at the same time in Lebanon.

An independent central bank was able to establish the rule of law as a sole reference concerning relations among interest groups. Examples to support this benefit are abundant in the text especially in the way the central bank dealt with political attacks.

The above narrative highlights the crucial role of the governor in safeguarding legal independence, interpreting the law and addressing statements to the general public.

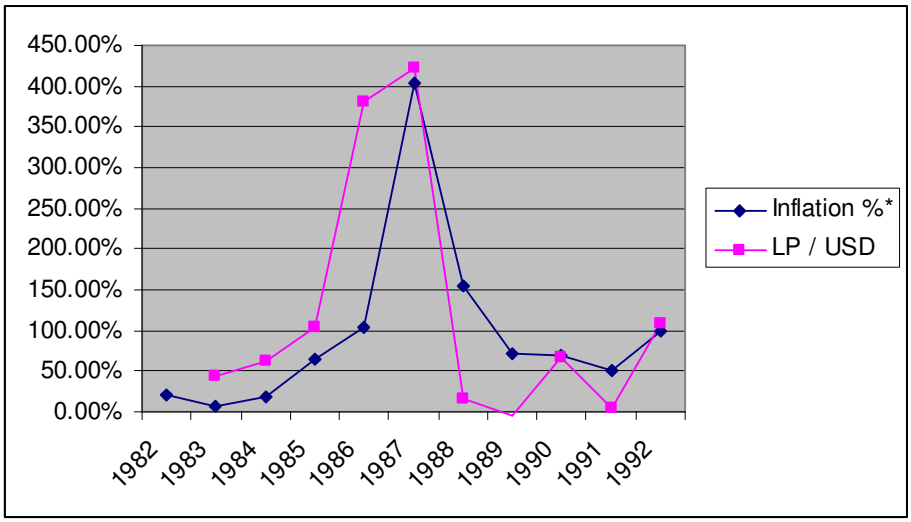
Other practical contributions and conclusions are included in Chapter 7.

This project casts some doubt on the correlation presented in the literature which states that the higher CBI is, the more inflation is controlled. This chapter indicates that an independent central bank is able to address inflation issues that are governmentally influenced. However, there must be another explanation why the central bank (although fully independent) was not able to fully control inflation in Lebanon between 1985 and 1991. The answer can be found in the findings presented in the next chapter.

5 THE INFLUENCE OF THE BANKING SECTOR ON CENTRAL BANK INDEPENDENCE AND INFLATION CONTROL[51]

The real economic problems in Lebanon started effectively after 1985. One of the reasons behind these worries is the growing budget deficit (Ayache, 1997). However, other factors had a role in accentuating these problems. Table 5-1 and Figure 5-1 show inflation and currency rates for the extended period of study. Figure 5-1 clearly demonstrates that inflation and currency depreciation went hand in hand in Lebanon and one could be used as a proxy for the other (Moukhaiber, 1986c; Khalaf & Munla, 1984). We can see that the peak was reached between 1986 and 1988.

Figure 5-1: Yearly percentage growth in inflation and currency rate



Source: Author based on Reports of the Central Bank 1982-1993 * CPI index percentage change.

The Lebanese economic system has always been built around a strong anti-inflationary stance, stable financial environment and a strong currency (Awad, 1988). During the years of this study, the authorities' announced target remained the control of inflation, and all the public statements that were made on the subject suggest that economic policies and measures should have converged towards containing price increases (Milki, 1986). So, why did inflation occur between 1985 and 1991? What were the main causes of the depreciation of the Lebanese Pound (LP) as a store of value and the increasing utilisation of the US Dollar in the economy? What was the role of the banking sector (BDL included) during those difficult years? How did BDL's independence not allow it to control the situation and halt the slide? These are some of the questions that this chapter will address and explain.

[51] For completeness of arguments and a more coherent presentation of important facts and figures, this chapter will refer to relevant critical events and indicators pertaining to an *extended* period spanning the years between 1982 and 1992, which is longer than the chosen period of study for the complete thesis. This will allow a better view of economic indicators and provide a more transparent context for the tables and charts accompanying the text.

The evidence provided in the previous chapter verified that the central bank in Lebanon was indeed fully independent from the government; however, one last question still needs to be answered to address the importance of the government-central bank relation in Lebanon: was the financing provided by the central bank (to the government) the major cause behind inflation in Lebanon during the study period?

Mainly we should be looking at the budget deficit and public debt as indicators to answer this question. The budget deficit in Lebanon was common; actually since 1962, Lebanon's budget has not been balanced (Chaib, 1984b). The reason was that the then President (Chehab) decided to invest heavily in infrastructure and social housing. These investments exceeded the total revenues of the state (Oughourlian, 1982). The budget deficit prior to the years covered in this research was as high as 28% for both 1977 and 1978 and grew to 38% in 1981 (Gaspard, 1989). However, the Lebanese balance of payments was always healthy as a result of transfers from Lebanese living abroad. Furthermore, continuous previous deficits did not cause heavy inflation or currency depreciation prior to 1985-1986 (Ayache, 1997; Gaspard, 2005). Table 5-1 summarises the economic picture for the extended study period.

Table 5-1: Inflation, Depreciation, Public Debt, Deficit and Sources of Financing

LP Billions	**1982**	**1983**	**1984**	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**
Inflation %*	19.8	6.6	17.4	64	104.9	403.6	155.0	72.2	68.8	50.1	99.8
LP / USD	3.81	5.49	8.89	18.1	87	455	530	505	842	879	1,838
Public Debt	**14**	**22**	**31**	**54**	**82**	**194**	**522**	**983**	**1,590**	**2,639**	**5,070**
Financed by:											
Banks**	12.2	16.4	19.8	38.8	56.9	118.3	342.9	637.4	843.3	1,614	3,860
% of Debt	87%	76%	63%	71%	70%	61%	66%	65%	53%	61%	76%
BDL transfers[#]	1.8	5.3	11.6	15	23.5	63.4	90.5	189.7	551.7	274	283
% of Debt	13%	24%	37%	28%	29%	33%	17%	19%	35%	10%	6%
Other Sources						10.4	83.5	150.1	187	726	910
% of Debt						5%	16%	15%	12%	28%	18%
Budget Deficit		**6.9**	**10.8**	**21.3**	**28.3**	**123.4**	**254.5**	**465.5**	**651.9**		
Financed by:											
Banks**		4.2	3.4	19	18.1	61.4	224.6	294.5	205.9		
% of Deficit		61%	31%	89%	64%	50%	88%	63%	32%		
BDL transfers#		3.5	6.3	3.4	8.5	39.9	27.1	99.2	362.0		
% of Deficit		39%	58%	11%	36%	42%	11%	23%	63%		

Source: Reports of the Central Bank 1982-1993 and author's analysis

* CPI index percentage change. After 1992, inflation was high in 1993 at 24.7% but then was reduced to the 8% range in the following years. LP/USD ratio subsided after 1993 and was stable at levels around 1,500.
** Treasury bills held both with banks and those held at the central bank on behalf of banks.
[#] Advances and limits approved by parliament according to the Code of Money and Credit.

The continuity of the budget deficit throughout the years was transformed into a public debt that was growing steadily. The service of this debt was also growing and amounted to 25% of the budget deficit between 1986 and 1988 (Banque du Liban, 1987-1989). The government was not able to balance its budget, mainly due to political pressures

and corruption, so it relied on financing from banks and transfers from the central bank to close this gap.

According to Table 5-1, a large part of the government requirements to close the gap in its budget deficit and to service the debt was financed through the commercial banks' subscription in Treasury Bills. When compared to that of commercial banks, the share of the central bank's financing of both debt and budget deficit was in general limited and controlled[52]: the banks financed 68.1% of public debt for the period between 1982 and 1992 (64% for 1985-1991) and 64.5% of the budget deficit for 1985-1990. Therefore, one could assume that central bank transfers to the government were not the major cause of increases in liquidity and ensuing inflation and currency depreciation[53]. Furthermore, the same table validates the argument presented in the previous chapter concerning the way the central bank was dealing with the government requests for additional financing: limited, controlled and following the law.

Since the financing of the government by the central bank was not the main cause of inflation, what really caused inflation to rage during the study period? It is obvious from the above table that the role of the commercial banks during this period needs to be carefully investigated. This will verify one of the outcomes from the Systematic Review in terms of the interest groups' effects on inflation. More specifically, the Financial sector Opposition to Inflation (FOI) theory presented by Posen (1993).

5.1 Theoretical Positioning: the importance of studying Financial Sector Opposition to Inflation (FOI)

Hayo & Hefeker (2002) state that Central Bank Independence (CBI) is not enough nor sufficient – alone – to combat inflation; for them, CBI is only one of the needed requirements towards that objective and should not be treated as an exogenous variable to the economic reality. It has to be included as one of the elements supporting the path of price stability: an endogenous variable resulting from the preferences of societies. If combating inflation was one of these preferences, institutional design will follow to suit this choice. Furthermore, Hayo & Hefeker present arguments and empirical evidence to support the influence of powerful interest groups on monetary policy choices. Among the major players in societies deciding on this anti-inflationary preference are banks and the financial sector in general. This group needs to safeguard its interests and keep its ability to steer monetary policies accordingly.

Posen (1993) agrees that monetary policy mirrors the influence imposed by the financial community in a certain economy. He goes further and presents a view that states: CBI needs support to be effective. Otherwise, it is not sufficient nor enough for inflation control. Institutional design is important but will always leave space for institutions to be influenced by major players in the national fabric. Central banks cannot escape this

[52] If we discount the share of inflationary finance from the central bank transfers, then the share of *real* central bank transfers in financing the debt and budget deficit becomes lower. For example, in 1986, 30.3% of budget deficits were covered through seignorage compared to only 15.8% two years earlier (Osseiran, 1987). Unfortunately complete data are not available for other years.

[53] Transfers from the central bank were generally controlled by limits agreed upon with Parliament – and after study and approval of the central bank as we have seen already in the previous chapter.

fact and their CBI is not enough to shelter them from many interest groups in the economy which either support or oppose their policies. Central banks need to feel comfortable that their actions will have a sponsor who will pay the political price of their stances. Central banks and CBI need to be defended by some influential group. Posen also presents the financial sector as an interest-seeking party willing to support CBI to ensure inflation control. Other than the government, the banking sector is the most influential party in any economy. The reasons leading to this conclusion are many: banks are centres of expertise for the economy; they provide advice to the government; banker personalities are influential in societies; banks provide natural employment opportunities for central bank senior employees, etc. Furthermore, the natural affinity between bankers on both sides (banks and central banks) makes it easier for some bankers to be able to impose their agendas over the monetary policy. Posen (1995) further states that the introduction of CBI would be a good way for the banks to influence the central bank without having to work the political system.

The analysis of Posen (1995) is based on what he calls FOI (Financial Sector Opposition to Inflation). For him, the studies linking CBI to lower inflation can only be considered pure regression correlations[54]. The real reason explaining (or affecting) the CBI is that inflation relation remains endogenous to the economy under consideration. The strength of interest groups (the banking sector in this case) is the major determinant of policy success. Banks could be harmed by inflation but they could also benefit from it. Posen (1995) goes to present cross-country empirical evidence supporting a robust and causal link between FOI on one hand and CBI - inflation on the other. He states that the higher FOI is, the higher CBI is and the lower inflation is. Posen's analysis works also in the opposite direction: when FOI is weak, CBI is weak and inflation control becomes more difficult. Posen presented his analysis to the industrial nations but the same could be extended towards the developing world, especially the countries with a well defined and strong commercial banking system (Mas, 1995).

However, what are the requirements for banks to be fully invested into anti-inflationary policies? Banks will most likely be interested in case their joint action generates benefits to any single player greater than the amount this player has invested in terms of costs. Therefore, when banks could benefit from keeping inflation low, they will support the central banks' actions towards that objective. However when it makes more sense for banks to go into a different direction – since it would generate more benefits – they will be inclined to follow that path (Posen, 1995). In fact, banks are primarily intermediaries and loan extenders; this makes them *net creditors* with non-marketable assets. Hence, banks are strongly attached to their book asset values and will try to affect the monetary policy to ensure that their interests are preserved (Posen, 1998). The following quote emphasizes his view (Posen, 1995 p. 270):

> "A country with persistent high inflation or hyperinflation will have a financial sector that gave up opposing inflation long ago. To survive, banking and other financial firms would have adapted to their monetary environment and would likely *support* continued inflation. And those attributes of the country's financial and political system which would

[54] According to Posen (1993, p. 47): "CB independence and low rates of inflation should occur together, without a causal link between them, because they both are reflections of effective FOI."

> enhance effective financial opposition to inflation in a less inflationary environment then enhance this support for inflation. With its main protector joining the forces of ease, an independent central bank cannot pursue a sustained counter inflationary policy…. The pattern of which countries' inflation levels correlate negatively with CBI is explained by the incentives facing the financial sector."

Posen (1995) gives the best illustration of the above quote by explaining the situation with Brazilian banks. They have been accustomed to inflation and have made it a source of further income and profitability. This has impacted on the effectiveness of the Brazilian central bank to reduce inflation and rendered Brazil unable to eradicate hyperinflation in a similar fashion to its neighbours.

Mas (1995) supports Posen (1995)'s views regarding FOI and states that countries should not grant CBI to their central banks before having a fully functioning financial sector with absolute willingness to support anti-inflationary stances. Mas (1995) argues that high inflation rates witnessed in the developing world are the result of low CBI caused by a low FOI. This low FOI can be observed through increasing currency substitution, widespread benefits from inflation and a change in the structure of extended loans. Moreover, the author states that banks could concentrate their political capital on opposing (or altering) regulations and adopting a more confrontational stance with the central bank. Accordingly, Mas (1995) confirms that banks could sometimes support higher inflation rates since it allows them to benefit and adjust their balance sheets. In addition, banks could also tend to switch their role as traditional lenders and investment intermediaries to become profit-seeking speculators.

On the empirical research side, Dickens (1998) presents a historical study of the Federal Reserve (Fed) and the major influence of big banks on its policies during the recession of 1953-1954. He argues that the Fed gained its independence from the political system in 1951 only to fall under the control of the banking sector. This fact has been manifested in the inability of the Fed to stabilise the economy during this recession. This case constitutes a validation of Posen (1995)'s FOI theory: when FOI is weak, CBI is threatened and the link between CBI and inflation (or other economic variables) is compromised.

For Dickens (1998), the Fed has always fallen under the influence of the banking sector since its creation in 1913 and until the reforms of 1935. Dickens (1998) also presents evidence showing that the banks were the major players behind the 1951 shift of the Fed towards more CBI and anti-inflationary objectives. The same players, banks, were then able to influence the Fed and make its policies beneficial to their interests away from price stability.

The reforms of 1935 – sheltering the Fed from banks – were prompted by the failure of the Fed to enact any stabilisation policy to control the depression of 1929. These reforms worked well since the Treasury Bills rate remained under control and below the level of 1% (after being well above this level between 1920 and 1932). The reason offered for this discrepancy has been the lobbying by banks to push yields higher. Dickens (1998) presents evidence (historical and numerical) to prove that the same

lobbying took place during the recession of 1953-1954. The Fed failed to act against the depression because banks pushed for their own interests regardless of the impact on the economy. The falling demand for loans during the depression (July 1953 - May 1954) pushed banks to rely on their Treasury Bills portfolios to secure profits. Therefore, the banking sector lobbied hard to influence the Fed to raise the yield on the Treasury Bills for them to pocket higher returns. These efforts were successful and managed to derail the Fed from its plan to fight inflation and stabilise the economy.

The Fed, rather than changing the interest rate, decreasing reserve requirement or reducing Treasury Bills yields to affect liquidity growth and keep inflation under control, took another route. It increased Treasury Bills yields above the interest rate on deposits, further shifting the demand towards Treasury Bills investments; hence driving price levels up and deepening the recession. Dickens (1998) draws the conclusion that under the influence of banks, the Fed did not really act against the recession or against inflation. It mainly tried to protect its political position vis-à-vis the banks suiting their will regardless of its own objective of price stability and economic growth.

Another interesting study supporting the arguments concerning the influence of banks on central banks (FOI) is that of Maier *et al.* (2002). The authors studied Bundesbank policies starting in 1960 and up to the end of 1998 through analysis of newspaper articles issued in Germany. They argue and present evidence that the Bundesbank (which is supposedly one of the most independent central banks in the world) has managed to resist government political pressure but has formulated its policies according to the wishes of the German banking sector.

To sum up, Posen (1995; 1998), Hayo & Hefeker (2002) and Mas (1995) presented FOI as the missing link explaining the CBI-inflation relation. Dickens (1998) did some empirical work towards observing this theory in the US (using TB yields and without linking his work to FOI *per se*); while Maier *et al.* (2002) presented another view concerning the influence of banks on the Bundesbank; however, their work did not offer any link to inflation. Therefore we can conclude that FOI remained as a theory and was never really observed within a specific national context. I believe that this theory is very important and is definitely worth considering in the Lebanese case. Especially because according to Hayo & Hefeker (2002, p. 666)[55]: "… if it truly were the influence of the financial sector that determines CBI, we should observe fluctuations in inflation rates over time corresponding to financial sector lobbying."

This quote is the best introduction and link between the above views and the following parts of this chapter which will focus on understanding the impact of FOI on CBI and inflation in Lebanon during the study period of high-inflation and currency depreciation between 1985 and 1991. I will start by introducing the Lebanese banking sector and its influence on the creation of the Lebanese central bank. I will then move to the description and analysis of the impact that the banks had on inflation in Lebanon during the study period and link that to FOI.

[55] Quote echoes the work of Posen (1995).

5.2 Introduction to the Lebanese banking sector and its FOI

There is a common perception among many Middle Eastern economists that Lebanon's main competitive advantage lies in the services sector. In particular, the Lebanese banking sector has been the spearhead of turning Lebanon into a regional banking and services centre. The banking sector in Lebanon has been quite successful and has managed to safeguard a large base of deposits relying on solid banking secrecy laws (Gaspard, 2005). Prior to the creation of the central bank in Lebanon and the Code of Money and Credit, the banking sector was under common commercial law (Ayache, 1997).

The Lebanese commercial banking sector benefited greatly from the freedom of capital movement and liberal financial environment (Chaib, 1981). However, this sector grew tremendously in the 1950s-1960s after the adoption of the banking secrecy law in 1956 (Bsat, 1992). This law allowed the commercial banks to accumulate deposits from political refugees and fleeing capitals seeking a secure environment that was not prevalent in the region.

The number of banks operating in Lebanon has been generally high relative to the size of the country or the population (Hariz, 1992). During the 1960s, the number of banks was 86. Later, this number dwindled after many mergers and is today in the mid 50s. However, the bigger banks always have the largest piece of the banking pie. It is estimated that around 70% of all deposits are with the top 10 banks (Association of Banks in Lebanon, 1981-1993). The commercial banks in Lebanon are represented by a very powerful lobby group: the Association of Banks in Lebanon (AB).

Foreign banks have always been part of the Lebanese banking scene. They were always very active in the correspondent banking side of the business. The major objective of these foreign banks is mainly to pool assets for the benefit of their headquarters, with selected loans offered to specific projects (Naffi, 1971; Chaib, 1984b).

Gaspard (2005) considers that the main role practised by the commercial banks in Lebanon was to fund imports and to pool assets to be deposited into interest earning accounts with major banks in Europe. He further states that the commercial banks had all the ingredients needed to become the primary engine for growth in the Lebanese economy (i.e. capital, deposits, know-how) but they did not fuel the productive investments a country like Lebanon craves. The commercial banks were looking for short term liquid positions and easy profits instead of acting as the primary source of loans for long-term investments.

5.2.1 The role of commercial banks in the creation of BDL

The central bank of Lebanon (BDL) was created after many negotiations with (and initial refusal from) the Association of Banks in Lebanon (AB). AB was concerned that such a powerful central entity would be a total follower of the government will and could hamper the activities of the powerful banking sector or the free financial environment in Lebanon (Badredin, 1998). The banking sector in Lebanon was successful due to the strong open economy, low inflation rates, stability of the currency and banking secrecy (Abi-Abboud, 1987). AB needed an entity that guaranteed the

continuation of this success and not a central bank that might be prone to government policies that could, for political outcomes, affect the stability of the economic reality in Lebanon.

Negotiations between the government and AB resulted in securing the legal independence of BDL from state influence. However, it is worthwhile to emphasise that among the major changes requested by AB were: the need for specific financial knowledge for the board of BDL, a weak relation between the state and BDL, the insistence on the primary objective of price stability, and enabling a free banking system in the country (Assaily, 1967). The banks were seeking to ensure that they could always have a say in safeguarding their interests vis-à-vis actions taken by BDL. In fact, the BDL governor was always bound to lobbying pressures from the managers of banks. Furthermore, some economists even suggested that commercial banks planted some people within BDL to influence decisions and provide insider information whenever needed (Hajj, 2006a).

We can draw a similarity between the above and what Dickens (1998) wrote concerning the Fed's independence. In both cases, banks lobbied to take the central bank out of the government's sphere of influence since it could open the doors to their own influence and interests (including FOI), according to Posen's definition.

5.2.2 Relation between the banks and BDL: introduction to FOI

We can effectively speak of a strong FOI in Lebanon for the period before 1985 since the Lebanese Pound (LP) remained strong for almost 40 years. Banks, in general, were working with BDL to ensure that their mutual objective of low inflation and strong currency was maintained (Nasr, 1986). The Lebanese *economic regime* was efficient and Lebanon quickly became the regional banking centre where many sent their capital for security and protection. Banks grew, became powerful and enjoyed sustained profitability. BDL did not have many worries since its main backers were supporting its actions; thus, inflation was controlled and the currency was strong (Badredin, 1998).

However, for a brief period between 1972 and 1975, FOI was compromised. Banks were receiving large sums of capital transfers and profitability was soaring. This profitability became more important than inflation control at some point. Banks were extending large loans, liquidity was growing, while capital influx continued at a rapid pace (Chaib, 1984a). Inflation during those years reached double digit numbers, something very strange for a nation that had rarely seen inflation rates higher than 6% since its independence. BDL's reaction was very timid to enable it to combat inflation (Khalaf, 1985). On the other hand, some of its policies were then counterproductive and could be considered as accommodating for banks' expansion and profitability (Badredin, 1998).We can see the importance of this event within the context of the theories presented earlier (e.g. Posen, Mas and Dickens). Banks could and will use inflation to their advantage whenever their profits are at stake thereby reducing their FOI which negatively affects CBI and inflation control; what happened in Lebanon during the study period further proves this theory.

Prior to inflation settling in the Lebanese economy and during a speech to the Association of Banks in mid 1983, the governor of BDL insisted on the importance of the link between profitable banking activities and a healthy currency. He ended his speech by the choice to maintain a strong currency regardless of any costs or pressures (El-Khoury,1983). The governor was asking for the cooperation of banks to help the central bank fight inflation and currency depreciation before it emerged. He was seeking a higher FOI and an *institutional political cover* for BDL's actions.

This chapter analyses the relation between the banks and BDL during the study period. It describes how the commercial banks benefited from inflation and currency depreciation in Lebanon on three fronts: 1) (directly) raising the value of their portfolios; 2) speculating on the foreign exchange market while going against BDL and its efforts to halt currency depreciation; and 3) participating heavily in the Treasury Bills (TBs) market, *forcing* higher yields while benefiting from the state's budget deficit and the willingness of BDL to find financing solutions instead of lending to the state directly. In fact, the relation between the two parties turned sour. BDL wanted to keep its objective of maintaining price stability while banks needed inflation to ensure their survival. The FOI that banks had embraced since the 1940s to capture the capital fleeing the region and safeguard a financial environment needed for growth and prosperity, was suddenly dropped. BDL was left alone to fight inflation and currency depreciation.

5.3 Commercial banks and direct benefits from inflation[56]

The Lebanese banking system remained very healthy with commercial banks profitable until 1985. However, and during 1985, the profitability and asset base of banks started to become negatively affected[57]. This was caused by a reduction in economic activity, a negative outlook for the Lebanese economy and changes in asset ratios. English (1996) demonstrates that inflation works in favour of a financial system that has reached the *overblown* stage. This stage is characterised by a high rate of bad loans, decreasing asset base and loss of real asset values. The Lebanese banking sector reached this stage towards the end of 1985 and was looking for a solution to avoid the potential of collapse[58]; this was demonstrated by the following indicators:

- Banks were holding bad or non performing loans. The Economic Intelligence Unit's report of 1991 estimates those to be around 45% in 1985.
- The LP equity capital of banks was being eaten away, losing 63% of its initial value by 1985 (USD 209 million), and reaching only USD 11 million in 1987[59].
- Assets and loan collaterals were losing their market values due to the economic and political crisis (Iskandar, 1986-1989).

[56] All data included in text, tables and figures are derived from the following sources: Association of Banks in Lebanon (1981-1993); Banque du Liban (1981-1994); BBME (1982-1992); Department of statistics and economic studies (1984); Research department, Banque Audi (1982-1992); IFS (1981-1993); Iskandar (1981-1993); Société générale Libano-Européenne de banque (1982-1992). A complete set of collected data (36 pages) is available upon request.

[57] Bad loans became abundant and attained around 169% of capital accounts (Salibi, 1985).

[58] Banks in Hong Kong faced a similar fate between 1980 and 1983. The only solution they found to benefit from inflation and currency depreciation was to increase the value of assets they held and decrease that of their liabilities. This has kept them afloat with the help of the local monetary authorities (Beers, Sargent & Wallace, 1983).

[59] The combined banks equity capital was USD 226 million in 1975, grew for the period 1975-1982 to USD 567 million, but fell sharply by 63% to become USD 209 million in 1985 (Ayache, 1997).

Accordingly, the only way for banks to safeguard assets value – on a book basis – was to promote inflation. At the same time, banks needed to counter the bad loans they had on their books while maintaining some profitability overall. The choice was made and the answer to the governor's speech in 1983 formed: the banks in Lebanon needed inflation to survive[60]. This put them in direct contradiction with everything that the Lebanese financial system represented.

The net assets position (assets less liabilities) of banks determines whether inflation or depreciation helps their profitability (Grammatikos, Saunders & Swary, 1986). In the case of Lebanese banks (see Table 5-2 and Figure 5-2), net assets in USD were growing much faster than those in LP throughout the study period, confirming that inflation was helping banks.

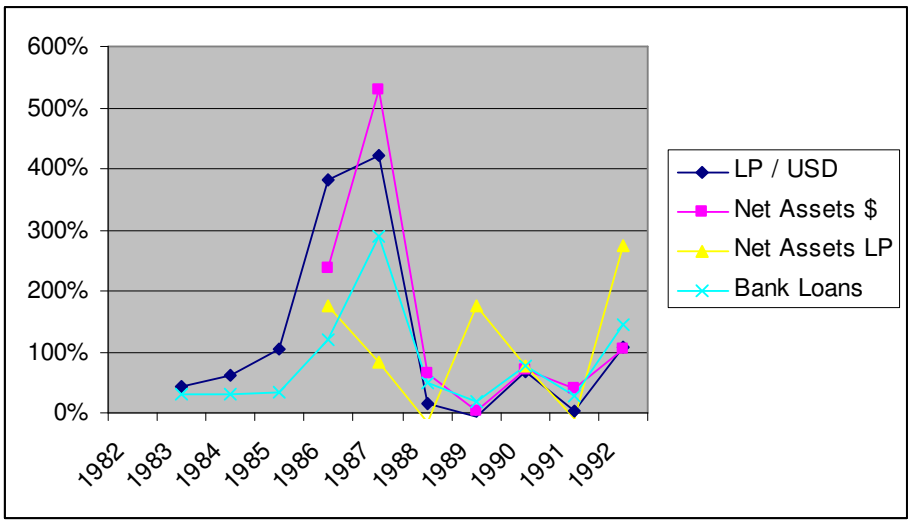
Table 5-2: Banks deposits and loans

LP billion	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
LP deposits banks	32	41	48	73	92	122	453	794	995	1739	3697
USD deposits banks	13	17	25	45	245	1466	1785	1647	2769	3741	8371
% USD-LP	29	29	34	38	73	92	80	67	74	68	69
Net Assets $				8	27	170	279	287	489	679	1,386
Net Assets LP				4	11	20	17	47	83	76	284
Bank Loans*	25	33	43	57	126	492	738	878	1,547	1,971	4,802

Source: As stated in Footnote 65 *84% of these loans extended in USD during this period.

The rate of USD deposits to LP deposits rose from 29% in 1982 to 92% in 1986-1987. Hence, the depreciation of the LP was making banks profitable on a book value basis as predicted by English (1996).

Figure 5-2: Net Assets, Loans and Exchange rates

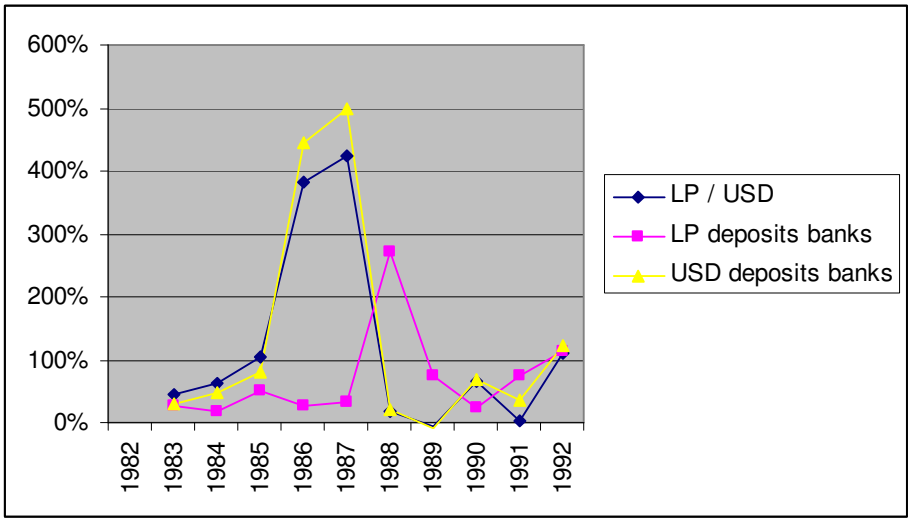


Source: Author's analysis based on sources stated in Footnote 65

[60] The evidence for this statement could be noticed in 1991, when inflation was subdued, many banks were forced to close down since the real value of their balance sheets became exposed and profitability totally eroded (EIU, 1992).

BDL was trying hard to reduce inflation through control of the money supply used by banks. However, banks were pushing back on every circular concerning legal reserves that could tie their abilities to manoeuvre in the market. The Association of Banks clashed with the BDL on many occasions and got away with reducing reserves, slashing penalties and even avoiding compliance with circulars[61]. Hence, banks rendered the policies of BDL as void of value in terms of inflation control (Gaspard, 1989). Banks continued relying on inflation to generate profits while pushing the value of the currency further downwards (Dibeh, 2002).

Figure 5-3: Deposits and Exchange rates



Source: Author's analysis based on sources stated in Footnote 65

Figure 5-3 shows how bank deposits in USD were growing in full harmony with the LP depreciation. It demonstrates that banks were very accommodating of the currency depreciation. Banks were allowing clients to use the freedom of currency exchange to further deepen the worries of the LP.

In summary, banks in Lebanon during 1985-1991 faced similar problems to those suffered by banks in Hong Kong during 1980-1983. Both banking systems reacted in the same way: they helped inflation rather than countering it. Inflation in fact was the only way for banks to push the value of their assets upwards, to reduce the effects of bad loans on their balance sheets, and to continue making profits. This section clearly demonstrates that the Posen relation was fulfilled: since Lebanese banks benefited from inflation, their FOI was reduced; therefore banks countered all central bank actions thereby reducing its autonomy[62]; the combination of these actions pushed inflation and depreciation higher.

The following section continues with the same logic and explains how the banks also relied on speculation on the foreign exchange market to continue their profit generating

[61] Please refer to the circulars listed in Table 5-4 and Appendix D for related details.
[62] The central bank was not able to hold its ground against the banks for long. As shown in Appendix D, many of its actions or circulars needed to be reviewed to suit the needs of banks.

abilities while advocating currency substitution. This pushed the value of the LP lower, and further induced inflation into the system.

5.4 Commercial banks and foreign exchange speculation

During 1985, commercial banks sought to buy large amounts of dollars using the deposit base they had on their books. Gaspard (2005) states that banks, initially, bought dollars fearing the depreciation of the LP; however, and later on, banks moved from being hedging-speculators to become profit-seeking speculators (in line with what has been introduced in the previous section). Hence, the major speculators against the LP were banks and not individual clients (Wakim, 1998). Evidences to this claim are:

- LP deposits at the commercial banks remained at 62% of the total deposits at the end of 1985. The depositors did not start to react and buy dollars until later in 1986 since the ratio of LP / total deposits at the end of 1986 fell to 29%[63].
- Some banks were borrowing through the interbank market to finance their speculation activities. This is illustrated by the interbank borrowing rate having risen since early 1986 and reaching 150% in 1987 when there was no real need for this market to reach such levels (Abou-Adal, 1988).
- Commercial banks were also buying dollars using a major part of the yields and principals of their held TBs reaching maturity in 1985. The remaining balance was used to participate in new TBs issues (Rifai, 1988).

Speculation through direct loans

A common speculative method used by banks was through the loans extended to clients. Banks used to agree with clients on a certain loan amount and extend it without real collateral; the clients would use this loan to buy dollars and then sell the dollars later at a much higher rate (Wakim, 1998). The resulting outcome would be sufficient to cover the loan and the extremely high interest attached to it. This operation allowed banks to make extremely high returns (Saba, 2002). The process was repeated and further fuelled fears and LP depreciation (Khoury, 1988). The evidence can be found by observing that the loans given to all productive sectors of the economy combined were reduced from 28% at the end of 1985 to reach only 14% by the end of 1987 (Saba, 1995). Moreover, the loans given under the heading *diverse loans* on the combined balance sheet of banks grew from 14% in early 1985 to 19% during 1985-1986 and reached 30% by the end of 1987[64] (Salloum, 1991). This increase in *diverse loans* (equivalent to USD 150 million) could have bought USD 600 million in the market if they had been extended as three-month loans.

Speculation through non-resident (Euro-LP) accounts

Banks were cherry-picking ways to make more money irrespective of soaring inflation and regardless of what BDL was doing to counter them. When BDL, in its efforts to reduce the liquidity used for speculation, increased the level of reserve requirements on resident accounts[65], banks were quick to start offering non-resident accounts for local residents. Resident Lebanese banks found it profitable to encourage their clients to

[63] Data taken from sources mentioned in Footnote 65.
[64] Around USD 300 million.
[65] Please refer to the list in Table 5-4.

deposit LP with their subsidiaries or outside branches at attractive rates. These amounts then re-entered the Lebanese banking sector as non-resident deposits, and were not subject to reserve requirements[66]. They could therefore be fully invested in lucrative speculation activities (Mallat, 1988). The estimated value of the available Euro-LP money pool was between LP 6 and 10 billion (Qorm, 1994). Every billion of Euro-LP credit could circulate a number of times during the year and was used to buy equivalent sums in USD. Gaspard (2005) estimates this to be between 4 and 12 times per year which means that 1 billion could become at least 4 billion in terms of speculation power.

A French central bank report published in 1988 showed that as of September 30, 1987, Paris-located Lebanese banks and jointly owned French-Lebanese banks were keeping Euro-LP exchange positions in the form of debit and credit accounts against BDL's consent. Table 5-3 shows the reported balances.

Table 5-3: Euro-LP exchange positions 1987

Millions	**Branches of Lebanese banks**	**French-Lebanese banks**
Debit account	FF. 58 (LP 2,135)	FF. 7 (LP 331)
Credit account	FF. 65 (LP 3,076)	FF. 7 (LP 331)

Source: Economic editor, Assafir (1988)

To limit the effect of these funds on the foreign exchange market, BDL imposed 100% reserve requirements on non-resident deposits in local currency. According to Mr. M. Bouldoukian, the fourth vice-governor of BDL during that period, one of the reasons behind the imposition of such a dissuasive reserve rate was the inability of the French authorities to intervene in applying BDL circulars, in the absence of an economic and monetary cooperation protocol between France and Lebanon (Bouldoukian, 1988).

Remedies to control speculation and negative reaction from banks

In a floating exchange rate system, such as in Lebanon, monetary authorities can only resort to regulating measures indirectly affecting the exchange rate through the market mechanism. It was not possible to ban foreign exchange or capital transfers altogether since this would have meant the disappearance of a major pillar upon which the Lebanese economy was built (Yachoui, 2002). In order to curb commercial banks' interventions on the foreign exchange market, and specifically to limit their margins of speculation for their own account or for the account of their customers, a series of circulars were issued[67]. However, one can conclude that these actions were not sufficient or solid enough when faced by the opposition of commercial banks. Effectively, banks and their Association countered any action taken by BDL to curb speculation and halt inflation. The following list identifies BDL actions (circulars), the reactions from the Association of Banks (AB) and the final outcomes of this *power struggle*[68].

[66] They were also not subject to credit controls or other controls on foreign exchange positions.

[67] Other measures were also taken to reduce speculation such as confining working hours of exchange houses to between 9:30 and 12:30.

[68] More details on the listed circulars and other instances of conflict between BDL and the banks (AB) are found in Appendix D. A theoretical definition of monetary policy instruments is found in Appendix C.

Table 5-4: Central bank Circulars and outcomes[69]

Date	Circular	Requirements	Reaction
October 1984	504-6	Banks' own position in foreign exchange operations reduced from 50% to 15% of capital. Banks are requested to provide daily reports on their foreign exchange operations. Banks' amounts of foreign currency forward transactions limited to LP 500,000. Aim to reduce speculation by banks and halt related profits.	Speculation and generated profits persisted; returns to banks outweighed the cost of imposed controls.
October 1984	508-9	New reserve requirements: 9.5% of LP deposits to be held in cash; 7.5% of LP deposits to be used in long maturity TBs; 17% of non-resident deposits to be held in cash; 83% of non-resident deposits to be held in a special account at BDL.	Initiated to combat speculation but outcome was not very promising since speculation continued at a faster pace. This circular was later amended following the banks negative reaction.
November 1984	514	Reserve requirements on non resident accounts made 100%; BDL issued this circular since it was convinced of this money-pool's involvement in speculation against LP.	AB opposed this measure and vowed to cancel it. Speculation continued through other means and deals using the same non-resident money pools.
February 1985	539	Banks are prohibited to increase LP loans for the private sector by more than 30% for the period ending 30 September 1985. Following that the rate of loans growth should not exceed 7.5% per quarter. Aim to combat speculation activities of banks using client loans.	Banks continued to lend money for speculation purposes. Speculation profits were higher than imposed costs (including borrowing costs). After pressure from AB, this circular was amended by the following two circulars: 637 and 566.
April 1985	637	Circular 539 amended to exclude banks with loans less than 60% of their deposits or 5 times their equity capital.	26 April 1986: this circular was cancelled following pressure from AB.

[69] Sources: BDL (2007a); Le Commerce du Levant (1979a); Le Commerce du Levant (1982a,b,c,d,e); Le Commerce du Levant (1984a,b,c); Le Commerce du Levant (1986a,b,c,d,e,f,g); Achi (1991); Awad (1988); Salloum (1991); Saba (1995); Oueyss (1989); Ayache (1997); Gaspard (2005).

Date	Circular	Requirements	Reaction
June 1985	566	Amends above circulars to exclude capital injections from reserve requirements. Aim to boost banks' balance sheets rather than allowing them to continue speculation.	Circular found suitable for AB needs.
January 1986	619 and 621	Increased penalties on banks not meeting reserve requirement to 364% on a weekly basis. Imposed daily control of reserves instead of weekly.	Under the continuous pressure of the AB, the penalty was reduced to 120% and controls were imposed on bi-weekly basis.
October 1986	761	Prohibited credit to exchange dealers and requested the liquidation of such existing loans.	Many banks accepted paying the penalty instead of complying. Speculation gains were more profitable.
December 1986	689 and 690	Insisted on prohibiting credits to non-residents and required their liquidation. No deposits, loans or accounts are allowed for any non resident entity or individual.	Many banks accepted paying the penalty instead of complying. Speculation gains were more profitable.
January 1987	700	Changing the reserve requirements to a level suiting the AB.	Following AB pressures, BDL amended circular 625 of February 1986 which increased reserve requirements to 22%.
July 1987	739	Change in the reserve requirements: • 12% of LP deposits to be held as cash reserves • 4% of LP deposits to be used to buy special TBs at 4% yield • 60% of LP deposits to be used to buy ordinary TBs • An additional 15% of incremental deposits in ordinary TBs	AB threatened to go on strike if this circular was not cancelled. The resulting compromise in October 1987, included 12% of cash legal reserve requirements, a compulsory TBs subscription varying from 35% to 45%, and a penalty of 150% for non-compliance. Exactly what the banks wanted since profits then were being accumulated on the TBs instead of foreign exchange.

Speculation effects

The effects of the above explained speculation activities were devastating. Inflation soared to more than 400% in 1987 while the dollar was widely used instead of LP. Real wages fell to levels never seen before and a redistribution of wealth occurred benefiting

the wealthy segment of society (including banks). Effectively, the profits gained from speculation appeared on the commercial banks' balance sheets since the total net foreign assets held for banks grew from USD 1.5 billion at the end of 1984 to USD 3.2 billion at the end of 1987 (Association of Banks in Lebanon, 1981-1993). This happened during a period when no real economic activity or lending activities on behalf of the commercial banks were noticeable (Saba, 2002).

Table 5-5: M2 *vs.* M3

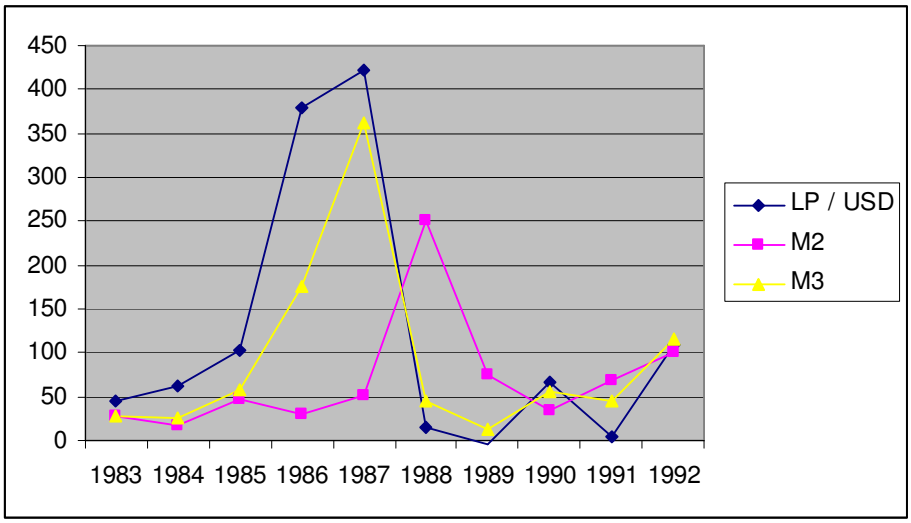
LP billion	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
M2	38.0	48.4	56.4	83.4	107.6	163.7	574.2	998.0	1,343	2,258	4,539
M3*	51.3	65.3	81.6	128.2	352.1	1,629	2,359	2,645	4,113	5,998	12910
M2 Change %		27	17	48	29	52	251	74	35	68	101
M3 Change %		27	25	57	175	363	45	12	56	46	115
M2 /M3 %	74	74	69	65	31	10	24	38	33	38	35

Source: As stated in Footnote 65

***According to BDL, M3=M2+(among others) the non-resident money pool.**

Table 5-5 and Figure 5-4 provide supporting information that speculation (especially the usage by banks of the non-resident pool of money) was effectively one of the major causes of the currency depreciation and inflation during the study period. They demonstrate that M2 was not the root of depreciation and inflation but rather M3 was directly linked to it. Specifically and according to BDL definitions, it was the additional components in M3 which were causing inflation and depreciation; namely, the non-resident deposits.

Figure 5-4: M2, M3 and Exchange rates



Source: Author's analysis based on sources stated in Footnote 65

In 1987, BDL announced that these kinds of deposit would be forbidden with a deadline for their liquidation set at December 31, 1989. After that date, all these non-resident deposits would have needed to enter the banking system normally and become under the control of BDL. Regardless of the banks' push-back, the growth of M3 after 1987

reflected this deadline and hence, the growth in inflation and depreciation as a result of speculation slowed down for a while as the figure 5-4 shows.

One cannot but reflect on the reasons that could have prompted the commercial banks to take the road of speculation against the national currency. One reason, as explained earlier, could have been that their real asset values fell over the period preceding their speculation activities. They found speculation an easy way to boost profitability and ensure that the book value of their held assets remained positive.

In summary, this section has demonstrated that banks in Lebanon not only benefited from inflation, but effectively helped it grow. The commercial banks through their will to make profit went against the actions taken by the central bank to halt their speculation activities. BDL tried to contain the speculation phenomena but was faced with a tremendous objection from the banks. In fact, BDL had many major hurdles to overcome, including controlling the activities of 74 banks which at the time was a cumbersome task, especially in a non-cooperative environment of speculation (Naim, 1990a). Moreover, BDL tried to issue new requirements and imposed penalties on some banks; however, these were countered by the AB (Fadda, 1986). The commercial banks also used the banking secrecy laws to their full advantage to avoid any direct investigation from BDL concerning the speculation activities it was performing directly or in conjunction with clients (Iskandar, 1991).

Another major hurdle was the emergence of a Euro-LP market even though there was no real economic justification for it – the LP was never considered to be an international hard currency. This market grew in 1987 to several billion LPs in foreign locations and was created by Lebanese banks to continue the speculation activities away from direct BDL control; the Euro-LP funds were not subject to any reserve requirements which made them available freely on demand (Gaspard, 1989).

Finally, the mere fact that the public was well aware of the confrontations taking place between BDL and the banks, played a role in rendering the policies adopted by BDL useless. The general public was rushing to speculate further and hence was pushing the value of the LP lower and inflation higher.

This section clearly demonstrates that the Posen relation was fulfilled: since Lebanese banks were helping inflation through their speculation activities, their FOI was non-existent; they opposed all central bank actions making its independence irrelevant. This has effectively led to further inflation and continuous depreciation of the currency. The central bank could have been very politically independent from the government, but the effects of the banks' opposition (and interests) on its actions were devastating and rendered any action meaningless. The central bank tried to counter the banks but had on many occasions to back down and negotiate. Therefore, the central bank was not able to firmly control inflation or impose its will on the banks. This has led to its failure, with banks continuing their speculation and making additional profits at the expense of inflation and depreciation. The next section discusses the third component of the relation between the central bank and commercial banks: the Treasury Bills market.

5.5 Commercial banks and the Treasury Bills market

The Lebanese Government started borrowing internally using Treasury Bills (TBs) in 1978 (Economic editor, Al-Anwar, 1991). TBs are issued by the ministry of finance while their yields and marketing are administered by the central bank (Shouayri, 1985). Rates are manipulated upwards or downwards as a backup tool for contractionary or expansionary monetary policy respectively.

Banks as privileged Treasury Bills (TBs) customers

Banks were very active on the TBs market during the study period: the average ratio of TBs to LP deposits at banks was around 78%. Yields were very attractive and TBs were much more valuable to banks than lending during the study period (Salloum, 1991). Table 5-6 shows that the commercial banking sector financed 64.5% of public deficit through TBs and two thirds of total debt[70].

Table 5-6: Treasury Bills situation

LP billion	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Debt Total	14	21.7	31.4	54.4	81.7	193.6	521.5	982.7	1,590	2,639	5,070
Banks: TBs	12.2	16.4	19.8	38.8	56.9	118.3	342.9	637.4	843.3	1,614	3,860
Of Debt Total	87%	76%	63%	71%	70%	61%	66%	65%	53%	61%	76%
Change		34%	21%	96%	47%	108%	190%	86%	32%	91%	139%
TBs yield % Primary											
1 year		11	15.5	16	20	20	20	20	20	16.3	17.36
6 months	10	9.75	15.5	16	18	18	18	18	18	14.5	12.59
3 months		9.91	15.5	16	20	20	20	20	20	15.5	13.96
TBs yield % Secondary											
1 year	N/A	11	15.5	15.5	25	44.87	31.55	31.55	31.55	19.9	20.99
3 months	N/A	9.75	15.5	16	18.85	30.1	18.84	18.84	18.84	15.04	13
Return on LP at banks*	9.8	8.93	11.3	11.93	16.18	19.55	16.12	14.51	13.18	13.81	11.48
Return on Euro-USD	9.91	10.08	9.78	7.85	6.08	7.9	8.97	8.55	8.02	4.86	3.56
Differential	0.11	1.15	-1.57	-4.08	-10.1	-11.65	-7.15	-5.96	-5.16	-8.95	-7.92

Source: As stated in Footnote 65

* Banks were pocketing around 17.2% differential between deposit rate and lending rate between 1986 and 1988[71].

Accordingly, banks were the biggest and most valuable customers for the government. They took full advantage of this privilege and were pushing for higher yields and greater influence constantly. Banks were also active in terms of opposition to any TBs issue with yields lower than what would constitute a profitable margin for them. The following instances are very useful to support these claims:

[70] The periods when TBs participation rates were low coincide with speculation activity periods as explained in the previous section.

[71] For reference, this differential went down to 10.2% in 1994.

In 1986, the government decided to sell TBs directly to individuals through a state owned financial institution. The commercial banking sector objected and accused the government of illegal competition and did manage to counter this step since direct sales to individuals using this channel remained limited (Ayache, 1997).

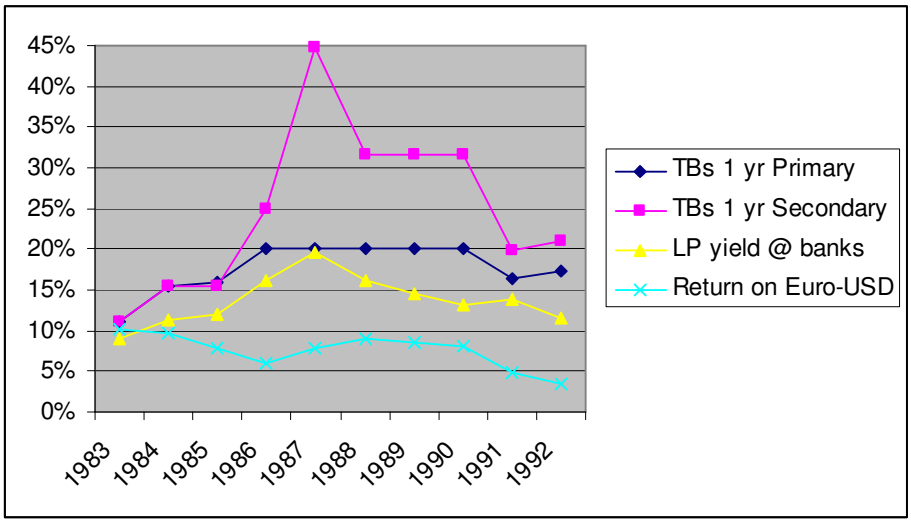
Also in 1986, BDL refused to further discount TBs to avoid increasing liquidity. The result was that banks refused to subscribe to TBs since it entailed higher costs for them (less real yield). Furthermore, the banks channelled the resulting free cash into the interbank market generating further speculation against the LP. BDL succumbed and adjusted the yields upwards and banks went back to subscribe to TBs (Ayache, 1997).

In early 1991, TBs subscriptions through auctions were scheduled to be launched. This process would have reduced rates since the government would fix the amounts it needed to borrow in advance and bidding by subscribers would set up rates closer to the market. Auctions were postponed since the Association of Banks was not content; the aim was to prevent lower yields. Consequently, only one-year TBs were issued through auctions for a brief period of time (Hakim & Andary, 1997).

Influence of banks on yields

Figure 5-5 presents the yearly yields on one year TBs in both the primary and secondary markets versus LP returns at Lebanese banks and returns on the USD at the London market. It is clear that the differentials are wide between TBs yields versus 1) what the international market is paying or 2) how much banks are paying their depositors. Banks were making lucrative profits on both of these fronts.

Figure 5-5: Yields on TBs, banks and Euro-USD



Source: Author's analysis based on sources stated in Footnote 65

Gaspard (2005) states that the TBs' yields were set following agreements between BDL and the banks. In fact, one cannot fail to notice that the interest on TBs actually remained fixed even during periods when there was no economic justification to support this high yield. Figure 5-5 and Table 5-6 clearly show that yields were left *flat* for 5

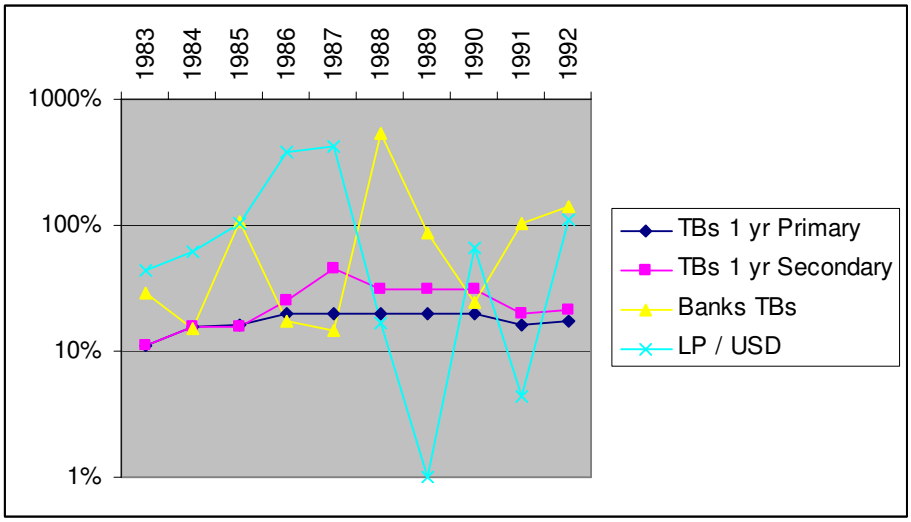
years on the primary market and evidently *extremely* high on the secondary market for 4 years, even though the rate of growth of both inflation and depreciation was slowing down between 1987 and 1989. This could be considered to be a pointer that yields were arranged. What makes this claim credible is the fact that the five largest banks – with the biggest weight politically speaking – had the leading share in the TBs market amounting to 45% of the total[72] (Saba, 2006).

The same table and figure also show the heavy premiums paid on the secondary market for TBs. BDL tried to use secondary market rates to affect commercial banks' liquidity[73]. This policy resulted in a high subscription by commercial banks to secondary market TBs in order to benefit from the higher returns (Shidiak, 1992).

Banks and arbitrage

What complicated matters further was that banks were also playing the arbitrage game between TBs and speculation-related lending[74] (El-Khoury, 1993). In addition, banks could most of the time over-subscribe in TBs and earn attractive yields while they fell short of reserve requirements[75] (Awad, 1992). This profitable allocation of liquid sources of funds allows a large margin for speculation when funds are needed.

Figure 5-6: Treasury Bills and Exchange rates



Source: Author's analysis based on sources stated in Footnote 65

Figure 5-6 sheds more light on this arbitrage game. It shows that the TBs subscription grew when the change in the level of LP / USD came under control. The banks'

[72] This shows a certain similarity with the case presented by Dickens on the TBs' yields in the US and how banks were influencing the Fed to keep these yields artificially high.
[73] The differential between primary and secondary market rates was highly significant during periods of contractionary policy measures. This was evident between June 1987 and June 1988 when this differential varied officially between 10 and 15% on 3-months TBs, and 25% on one year TBs.
[74] We can add to that the fact that yields on TBs were paid in advance creating further room for profitable speculation. This had a major impact on real yields which were much higher than nominal ones (reaching a high of 34.2%).
[75] Their reserve requirements position would be settled on average during the accounting period.

subscription to TBs was inversely proportional to the depreciation of the value of the LP. Banks were switching their profit-generating strategies between speculation and TBs yields. Banks held the maximum amount of TBs when the yields on TBs were kept high. The outcome of this *tying* of money was evident in a very slow depreciation of the currency during the same time.

In summary, during the study period, the increasing role of TBs as a profitable placement for banks was particularly important. Banks were reluctant to undertake other placements with high country and exchange rate risks, at low real rates. Instead, they were happy to participate in the TBs market and gain higher yields rather than engage in loans for investment purposes (Bouldoukian, 1989). Profits were created since yields were always *kept* high while risk was limited and was definitely lower than that of direct loans[76] (Saba, 2006). Banks benefited from the TBs markets and made sure that their interests were maintained through: 1) using their leverage as a valued customer with BDL and the government to directly intervene to ensure yields were *set* according to their needs. BDL was pursuing an *expensive money* policy to make sure that banks were kept satisfied and continued to subscribe to TBs to finance the government[77] (Saba, 2002); 2) combating measures that otherwise could have reduced yields. Whenever these yields decreased to alleviate government debt servicing, arguments and disputes altered the relation between BDL and banks – direct sales channels away from banks, bids and auctions – (Editorial, 1986; Hannoun, 1986); and 3) profit making through speculation when needed using TBs yields and returns (Qorm, 1994).

No economic drivers can really justify these heavy premiums paid to banks on TBs during this period (Wakim, 1998; Awad, 1992). The only explanation one can give is that BDL was trying to accommodate banks and was offering them high yields to ensure that banks would not channel this liquidity into further speculation against the LP (Sanan, 1991). BDL was stuck between a rock and a hard place and chose this route instead of going head-to-head against banks[78]. This further supports the FOI relation and the views of Dickens (1998), Posen (1995; 1998), Mas (1995) and others discussed in the theoretical positioning section. When banks aim for high profitability, they could opt for measures that are counterproductive to combating inflation and depreciation. Instead of helping the central bank with its price stability target, banks create an economic environment conducive for inflation. This weakens their FOI and renders the political independence of the central bank irrelevant and certainly non-sufficient alone to control inflation.

5.6 Epilogue

The situation presented in this chapter continued with the retroactive increase in wages during late 1991. This increase pumped some LP 400 billion into the economy (Economic editor, Al-Hayat, 1992). While this excess liquidity was injected into the

[76] In a recent interview, Riyad Salame, BDL's governor, estimated that the total debt of commercial banks to the government was around 20 billion USD – more than 50% of total state debts - (Salame, 2006b).

[77] The total amount of interest paid on TBs, using a more market-linked rate could have saved around USD 10 billion (Gaspard, 2005).

[78] Further explanation of this accommodation policy can be found in Appendix D (discussion of circular 788 and later events).

system, subscription in TBs remained constant despite sharp increases in TBs yields[79]. The reason for this is that speculation during that period was more profitable (EIU, 1992). BDL continued to try and defend the currency and control inflation. However, it failed. Finally, an exhausted, reserve-depleted and overpowered BDL raised the white flag on February 18, 1992. BDL announced that it would not defend the LP any longer since it lacked the needed foreign reserves allowing it to act. Actually, the BDL lost more than half its foreign reserves within only three months at the end of 1991 (Ayache, 1997). The LP lost half its value that year to reach LP 1,700 to the USD, a level to which it remains very close today. Many economists pointed the finger at speculation and profit seeking activities made by banks for this additional depreciation (Dibeh, 2002).

The reason why inflation and currency depreciation stabilised after this episode was political in nature. A new prime minister was appointed, Mr. Rafic Hariri, who owned a few large banks in the country and had enough political clout to affect the decisions of the Association of Banks (Wakim, 1998). He announced upon arrival to the government that his main concern was to safeguard the value of the LP and halt inflation (Saba, 2002). The banks followed suit and the Financial Sector Opposition to Inflation (FOI) was restored. BDL's actions became effective again and the banks listened (Salame, 1993). The old Lebanese system was thus recovered. Since then, both inflation and LP / USD rates have been stable (single digit for inflation and around 1,500 LP per USD).

5.7 Chapter Conclusions

The macro economic environment in Lebanon would not be enough on its own to explain the reason behind the high inflation rates nor the rapid depreciation in the value of the LP during the period of this study[80]. In fact, the big financial meltdown in Lebanon started between 1986 and 1987 due to the behaviour of banks (Hariz, 1992). Banks in Lebanon opted to become the main contributor to financing the public debt, and increasing speculation-related liquidity, instead of focusing on productive investments[81] (Yachoui, 1985; Mallat, 1988). The banks were also seeking higher Treasury Bill yields and were able to force such yields (Saba, 2006).

The Lebanese central bank (BDL) found itself in the middle of a battle to safeguard the national currency and control inflation as per the prerogatives given to it by the Code of Money and Credit. It needed to control liquidity (main source of inflation and speculation) while fighting the growing need for public financing. BDL wanted to avoid directly lending to the government since it was legally required to help the government find other ways to finance the state budget (Naim, 1990a,b,c; Hajj, 2006b). BDL tried to combat liquidity and used all the tools at its disposal, including raising the reserve requirement on many occasions; it even stopped extending any credit to the commercial

[79] Attained 22.5% in March 1992 and 30% in August of the same year.

[80] The introduction chapter provides information on the stability of the economic situation in Lebanon until late 1985.

[81] In general, the government through its political inability to halt excessive spending and corruption was happy to find refuge in being financed by banks. The banks in their turn were glad to lend to the government instead of extending normal loans to the private sector as the sovereign rating of the state is always more appreciated than the risk of normal loan seekers.

banking sector except to banks that were on verge of bankruptcy (Oueyss, 1989). However, the outcome of these actions proved to be largely fruitless.

BDL was, thus, fighting on many fronts: reducing liquidity, marketing Treasury Bills, trying to halt speculation, defending the LP, and fighting inflation. It needed support from two parties to ensure that these objectives could be met. The first was the government itself, while the second was the very powerful banking sector represented by The Association of Banks in Lebanon (AB). Generally speaking, BDL tried its best to halt inflation and decrease speculation but it failed. The reasons for this failure were the opposition of banks and the pressures they exerted on BDL to change its decisions. The banks fought BDL's actions hard and at least on one occasion took BDL to the highest court in the country for arbitration.

This chapter has effectively validated that BDL's independence, and its ability to follow its objectives of price control and currency stability, were at the mercy of a powerful interest group: the commercial banks and their Financial Sector Opposition to Inflation (FOI). This conclusion supports the views proposed by Posen and others in the literature. Posen (1993; 1995; 1998) stated that when FOI increases, CBI increases and inflation goes down. This view has been validated, to a certain extent, in the US by Dickens (1998) and in Germany by Maier *et al.* (2002). The case presented here validated this relation in Lebanon. The Association of Banks (AB) influenced the creation of BDL since it supported its view of an inflation-fighting institution. Over the years of prosperity in Lebanon, the commercial banks' FOI supported BDL's CBI; as a result, inflation was controlled and the currency remained strong. When inflation became a burden on banks, the banks pushed in the other direction, by reducing FOI and CBI, hence allowing inflation to rise. The banks confronted the central bank because they were benefiting directly from the effects of inflation on their balance sheet, similar to the Hong Kong and Brazil examples presented in this chapter. Inflation raised the value of their portfolios. Therefore, banks opposed any measure to control inflation and stabilise the economy since many banks were facing balance sheet problems and dwindling profits. Accordingly, inflation control could have forced their closure (EIU, 1992).

Moreover, banks were speculating on the foreign exchange market, and generating profits, going against BDL and its efforts to halt currency depreciation. The major source of bank profits during the study period came from speculation on the currency market (Gaspard, 1988). The stock of Euro-LP money used for internal speculation sabotaged the effectiveness of any policy measure taken by BDL to halt speculation and defend the value of the LP (Osseiran, 1987).

Finally, banks were influencing the yields on the TBs market in a fashion that is comparable to what Dickens wrote concerning the US in the mid 1950s. They were participating heavily on the TBs market, *forcing* higher yields while benefiting from the state's budget deficit and the willingness of BDL to find any solution rather than lending to the state directly. Banks were putting hurdles in the way of a bid system that could have reduced rates. Hence, they pushed to keeping rates artificially very high and

switched from foreign exchange speculation to TBs whenever suitable. Banks made a fortune on the TBs market[82].

In fact, banks were definitely able to undermine the independence of the Lebanese central bank and its efforts to reduce inflation and currency depreciation. Banks effectively reduced their FOI, thereby compromising BDL's CBI and the effectiveness of its actions against inflation and depreciation. The banks succeeded in making CBI non-sufficient and rendered BDL an institution unable to meet its obligations. This goes to support Posen (1995; 1998)'s theory and verifies the importance of FOI in the Lebanese context[83].

[82] Estimated today at more than USD 20 billion. R. Salame, current governor, stated that commercial banks worked to generate profits and managed to benefit from the conditions available in the markets at that time, to participate with and lend to the government at high rates when that was needed (Salame, 2006a).

[83] Mas (1995) argues that FOI is influential in developing nations with successful banking systems; the Lebanese case validates this argument, as demonstrated in this chapter.

6 THESIS CONCLUSIONS

What this research has explained within the Lebanese context is that Central Bank Independence (CBI) in itself is not sufficient to control inflation. Both the independence of the central bank and the support of the banking sector are needed to fight inflation within a national context. This outcome supports the views raised in the Systematic Review that the link, observed in previous research, between Central Bank Independence and inflation could be the result of statistical correlations. Furthermore, this research also highlighted the fact that national context is paramount and deserves further understanding since the conditions and factors affecting the relation between CBI and inflation are abundant. My research focused on the banking sector (and its Financial Sector Opposition to Inflation) aspect and emphasised that other factors remain to be further studied and understood.

This chapter starts with a theoretical positioning stemming from the literature review, as a background, before proceeding to presenting the final conclusions of this work. This sets the stage for presenting the contributions of this research and its limitations which will be discussed in the closing chapters.

6.1 Theoretical positioning

North (1977; 1992a; 2005), Monogios & Pitelis (2004) and Pitelis (2004) emphasise the role of national institutions in the overall national economic development and growth. For Walsh (2000), formal institutions matter; they alter the rules of the (economic) game and shape economic performance over time.

A good definition for institutions comes from North (2005) – a Nobel Prize winner in 1993 for his work on economic and institutional change. For him, institutions form the incentive structure of a society. Institutions are composed of, among others, the formal rules and constraints (constitutions, statutes and common law, regulations), and they enclose organisations (political bodies, economic bodies, social and educational bodies). According to North (2005), it is the institutional-organisational structure that has been responsible for the rapid growth of developing economies. Consequently, the political and economic institutions (and their interaction) are the underlying determinants of economic performance.

However, has the role of institutions and their interactions been sufficiently studied and analysed? The answer comes from Pitelis (2000; 1998; 1992) and North (1991; 2005); they argue that there is still a need for a detailed analysis of the nature and role of institutions within their national contexts. The corollary would be the need to understand what kind of institutional framework has been responsible for inflation control in some locations. This highlights the importance of Central Bank Independence (CBI) (from both legal and practical perspectives) and its relation to inflation control within a national context, which forms the backbone of this research.

6.1.1 CBI-inflation relation

As mentioned already, a considerable weakness of the CBI-inflation relation is the fact that many studies have tried to study this relation empirically and without analysis of the influence of economic, political and contextual factors. Any benefits from CBI would have to be evaluated as part of the specific context in which the central bank is operating (Heylen & van Poek, 1996). These benefits are never constant and will depend on all elements of the political-economic spectrum within the nation, and the actions of the central banks (Franzese, 1999). In fact the efficiency of CBI in controlling inflation could be attributed to simple mirroring of national political and economic preferences and interests (de Haan & Van t'Hag, 1995). The benefits could also be the fruits of the relation between central banks and the government, and to what degree the central bank is autonomous in practice (Franzese, 1999).

The above arguments pose the following challenge: how can one evaluate the CBI-inflation relation within a specific context? This challenge finds its answer in the need to move away from cross-country empirical research comparisons and focus on an in-depth analysis of CBI elements and influence within single countries (Berger & Woitek, 2005); including explicitly relevant characteristics of the country's legal, political and economic frameworks that could impact on the CBI-inflation relation (Hayo & Hefeker, 2002). This approach also helps to understand this relation more efficiently since independence is never absolute and all central banks may be subject to political pressures (Waller & Walsh, 1996).

6.1.2 Legal CBI vs. actual CBI

A legally independent central bank is one where the statutes grant it autonomy from the government in terms of objectives or instruments to reach these objectives (Cukierman, 1992). However, being legally independent by statute does not guarantee independence in practice. Therefore, interpreting statutes and trying to link legal CBI to inflation is not always sufficient (Hermes & Lensink, 2000), even though this is exactly what became a common key element in research concerning the CBI-inflation relation (Waller & Walsh, 1996). One could argue that trying to link legal CBI to inflation control could work in the case of the developed nations. However, the same does not necessarily hold in the case of developing nations (Forder, 1998).

Understanding the relation between central banks and national governments thus becomes of paramount importance. CBI's benefits could be eroded when national governments trespass the law and try to influence central banks or when fiscal policy and monetary policy are moving along separate paths (Mas, 1995). Furthermore, the whole essence of CBI theory has been to counter the government's appetite to influence inflation-favouring higher employment for ultimate political gains (dynamic consistency theory). Hence, when the government grants legal CBI and blocks actual CBI, it would be relocating the dynamic consistency dilemma instead of solving it (McCallum, 1997; Mas, 1995).

6.1.3 Interest Groups

Hayo & Hefeker (2002) state that CBI alone is neither enough nor sufficient to combat inflation. For them, CBI is only one of the needed requirements towards that objective and should not be treated as an exogenous variable to the economic reality. It has to be included as one of the elements supporting the path of price stability; an endogenous variable resulting from the preferences of societies. If combating inflation is one of these preferences, institutional design will follow to suit this choice (Forder, 2005). Furthermore, Hayo & Hefeker (2002) present arguments and empirical evidence to support the influence of powerful interest groups on monetary policy choices. Posen (1993; 1995; 1998) goes further and presents a view that states: CBI needs support; otherwise, it is not sufficient nor enough for inflation control. Institutional design is important but will always leave space for institutions to be influenced by major players in the national fabric. Central banks cannot escape this fact and their CBI is not enough to shelter them from many interest groups in the economy which either support or oppose their policies. Central banks need to feel comfortable that their actions will have a sponsor who will pay the political price of their stances. Central banks and CBI need to be defended by some influential group: the government or the financial sector.

6.1.4 Summary and impact on empirical work

A number of empirical studies find correlations between CBI and low inflation rates. The endogeneity of CBI suggests, however, that the correlation has no implications for causality. One problem with these empirical studies is the difficulty in distinguishing political influences from other factors such as the conduct of monetary policy in the face of political uncertainty. Thus, legal CBI may be a rather poor instrument for measuring monetary policy independence, and actual independence depends on the behaviour of governments and that of independent central bankers after they have been appointed. Another argument that throws doubt on the general effectiveness of independence (on inflation control) is the question of how credible independence really is. As McCallum (1995) has argued, just granting central bank independence does not solve the credibility problem but only shifts it to another level. In this framework, it is not CBI that causes monetary policy to seek low inflation. Rather, central bankers reflect the interest of a specific group, namely the private financial sector, which is ultimately the source of the preference for low inflation (Hayo & Hefeker, 2002).

The Systematic Review pondered on the real reasons behind nations awarding CBI since it is obviously not a substitute for other stabilisation elements. The conclusion reached was that CBI came as part of the role of legal, political and economic systems into the choice of the institutional design (Hayo & Hefeker, 2002). CBI and its application depend on many variables in the broad political-economic spectrum, making it a matter of degree rather than an absolute matter since all central banks could remain influenced by political aspiration (Franzese, 1999).

Moreover, the Systematic Review uncovered three categories or views concerning the CBI-inflation relation. The first belongs to researchers who believe that the higher CBI is, the more inflation will be controlled. They base their arguments on cross-country correlations done in the developed world.

The second category is at the other extreme: the same relation was rejected by other researchers who found many weaknesses and gaps in the methods used to understand its essence and direction (measurements, indices, correlations, etc.). Some of the researchers pertaining to this second category are not even convinced of the usefulness of CBI as an institutional design tool.

The third is in the middle, a neutral view on the relation, which states that it is contextual and depends on the country being studied – what applies in the developed world does not necessarily apply in the developing world. This neutral view emphasises that more work is needed to understand contexts in more detail. Single country approach should be paramount and will avoid measurement issues and weaknesses of research conducted so far. Furthermore, this view emphasises that CBI can be granted legally but in practice it needs support from *political sponsors* to survive and be able to affect inflation[84]: one identified sponsor is the banking sector and its Financial Sector Opposition to Inflation (FOI).

The empirical work conducted aimed to address some of the gaps identified in the literature and complete the analysis around the sufficiency of CBI to control inflation. The choice of conducting single country research – using Lebanon as the chosen context – helps to overcome the many criticisms marring the CBI field's insistence on the traditional cross-country approach. It also avoids CBI measurement reliability issues when comparing data from many countries, and addresses the lack of detailed information stemming from emerging nations. A major benefit in using this approach is the ability to study in relevant detail the national context, influence of interest groups, elements of legal and actual CBI, and other contextual factors that could have escaped detailed scrutiny so far. Furthermore, it helps to advance the field through addressing the lack of robust work (quality and quantity) on developing nations.

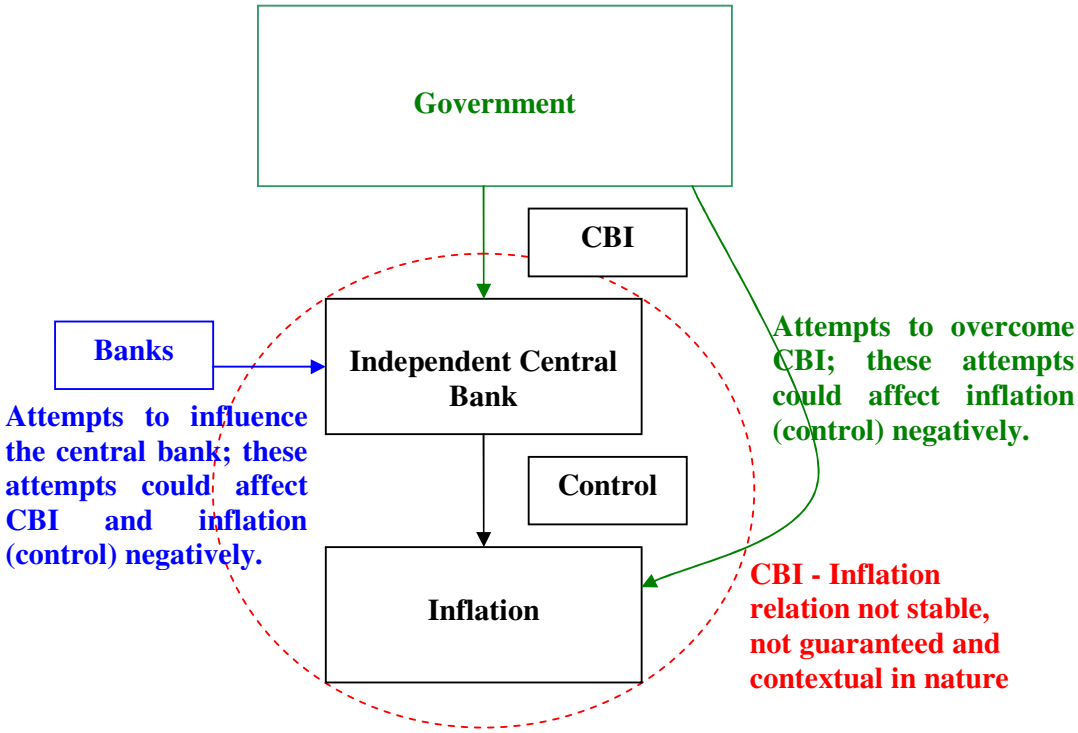
6.2 Additional empirical projects conclusions

Chapters 4 and 5 have provided the findings from the relevant research made to verify the independence of the Lebanese central bank and the impact of banks on inflation during the study period. This section does not aim to repeat these findings; instead it will create the final links between the Systematic Review outcome and the conclusions of the empirical work.

Figure 6-1 below depicts visually the arguments presented during the Systematic Review and what the empirical projects allowed the researcher to understand and explain regarding the relation between Central Bank Independence and inflation.

[84] CBI in itself does not guarantee independent actions – central banks could still be prone to influence from other interest groups in the nation.

Figure 6-1: Influence of banks on CBI and inflation



Chapter 4 has verified that the central bank of Lebanon is legally independent from statutes, turnover of governor (and full board), and *Political Vulnerability* perspectives. It further verified that actual independence from the political influence of the government was also prevalent. Consequently, the outcomes of Chapter 5 enabled the understanding on why an independent central bank was not able to halt the spread of inflation between 1985 and 1991; and also to qualify the importance of CBI - inflation within the context of the three views presented during the Systematic Review.

Both legal and actual CBI were found in Lebanon during the study period. However, since inflation was still prevalent, then we can conclude that the CBI - inflation relation cannot be proved in the Lebanese context. Therefore, the logic of some researchers in saying that CBI is neither sufficient nor needed to control inflation is correct in the Lebanese context. To explain the high inflation, we have to look for other players (interest groups) within the economy that could influence and induce inflation. The literature mentions the banking sector as a potential interest group and my DBA would have proved them correct: inflation in Lebanon was influenced by the financial sector which benefited from it regardless of CBI (legal and actual).

The above observations, in addition to evidence provided in earlier chapters, led to the following view: one could consider that the financial worries in Lebanon, during the study period, started through the government's unwillingness to control its spending. The government needed financing and tried to get it, among other sources, through the central bank. The independence of the central bank and its legal responsibility, does not

allow it to lend to the government directly unless under well-defined special conditions. The central bank was, in general, not influenced politically to finance the government but felt a necessary obligation to bridge some urgent financing needs and tried to obtain approval from Parliament as stipulated by the law. The only viable route to generate government financing was thus through commercial banks. Banks decided to benefit from this situation by riding the speculation wave and generating profits through excessive Treasury Bills yields. Had banks – as an interest group concerned with the stability of the Lebanese economy – decided to face the government, then we could have faced a different outcome for the study period. The government could have found itself stuck in the middle and could have been obliged to take the *politically incorrect* (from the politicians point of view) route of reducing spending and controlling corruption and leakages.

The relation between Central Bank Independence and inflation is not as straightforward or universal as some researchers claim. My research has shown that the strength, sense and validity of this relation could depend on specific national situations and conditions. These contextual conditions are not clearly identified using cross-country (statistical) studies, which is customary in the field, especially in developing nations where institutional designs are not necessarily efficient.

I have chosen the road of doing a detailed case study of one country to study the relation between Central Bank Independence (CBI) and inflation. The outcome of my research journey managed to put some doubt on the straightforward conclusion that the higher CBI is, the more controlled inflation is. Furthermore, my research outcome pointed out that this relation is contextually tailored and can be useful provided political sponsors (interest groups) are willing to assume the political price of inflation control measures taken by the central bank. One of the major fragile points of the CBI literature is whether central banks should only be independent from the government (Cardim de Carvalho, 1996). In this research, I show that independence needs also to be considered from the perspective of other players in the economy, mainly the commercial banks.

As this research has shown, in the Lebanese case (and also the examples from Brazil and Hong Kong), banks could at some crucial economic times opt to neglect traditional loan extension and focus on market speculation. The search of profits, and the cleansing of bad balance sheet assets, could push banks to drop their anti-inflationary stances (hence, reducing their Financial Sector Opposition to Inflation); some banks could even go to the extent of encouraging inflation.

The implication of the argument presented by Posen about the relative importance of banks (as interest seekers) over institutional design is that when FOI is weak, CBI is not a guaranteed route to achieve price stability (Mas, 1995). This argument makes the neutral view, on the relation between the independence of central banks and inflation control, a favourable one in developing nations.

7 RESEARCH CONTRIBUTIONS

This chapter presents this research in terms of contribution to scholarship, methodology, and theory. It also presents a section on practical findings and contributions. These are important insights uncovered through this research and provide relevant practical knowledge that is helpful to central bankers when addressing the independence of central banks and its relation to inflation, especially in developing nations. The chapter ends with sections on dissemination, a visual summary of presented contributions and some final reflections.

7.1 Contribution to scholarship

Contribution to scholarship or academic research (Boyer, 2000) can be determined on three levels: knowledge of the field, assessment of the contribution of others, and the critical evaluation of previous work. I am confident that this research has managed to provide enough contribution on these three levels.

The first contribution made to scholarship was through the Systematic Review which classified the relevant literature into three distinct categories: the first is composed of those researchers who had a positive and definite view on the impact of CBI on inflation. The second category is made of those researchers who believe that CBI is not needed to start with and hence, has no impact whatsoever on inflation. While the third category was reserved for those researchers sitting on the sidelines neither approving nor disapproving the CBI - inflation relation but mainly stating that other factors could influence both elements of this equation. This research has enumerated these factors and went forward to study one of them (Financial Sector Opposition to Inflation) that was put forward theoretically but was never observed in the depth that this research has achieved.

The Systematic Review has created a full depository of all relevant papers in the field and enumerated all their attributes (type, methods, geography, etc.). In addition, this depository gave the relevant outcomes of these papers and their limitations. In terms of advancing knowledge of the field, I believe my contribution to research is justified. The Systematic Review was, hence, able to present objectively the contribution of previous researchers and their papers. It uncovered their lines of thinking, arguments and allowed a better understanding of the issues facing the field in academic and practical terms.

The way the Systematic Review was conducted also ensured the emergence of an overall picture of the debates happening in the field. To use a human analogy, the Systematic Review enabled the creation of a full history of the field from the day it was born (the Dynamic Consistency theory), to the day it was established as a separate strain of the literature (Rogoff's solution and the resulting discussions), to adulthood when the difficult questions needed to be asked about the relevance of some theories and their relation with the outside world.

The literature gaps that this research identified play a crucial role in advancing the field while accepting the contribution of others. It has done so without overlooking the shortcomings of some arguments, such as the limitations of cross-country statistical

work in the developed world. The insights that this research provide on the importance of context when studying institutional design (such as CBI) and its relation to economic variables (such as inflation) are definitely important and constitute one of the major contributions of this work.

7.2 Methodology contributions

Some researchers were, to a certain degree, convinced that CBI was the only solution to solve inflationary worries in the world. However, their research focused on simple statistical analysis in the developed world which, at best, remain only a correlation and can never be convincing enough especially when adding a variable or removing another led to different outcomes. The basic assumption of their work was that since the correlation between CBI and inflation exists, then it must be relevant. However, nothing beyond statistical correlation has been thoroughly analysed or observed.

At the other extreme, the researchers who negated the existence of any relation between CBI and inflation were content to find loopholes in the logic (or methods) of the above group to prove their point. They also did not depart from the statistical correlations, even though some attacked the theoretical basis of CBI to annul any relation with inflation. This theoretical and statistical debate among these two groups was very important since it enabled the emergence of the third group emphasising the paramount importance of national contexts to study any relation between CBI and inflation. Still, the neutral view researchers confined themselves to theoretical enumeration of the contextual factors that could impact on CBI and inflation without a deep analysis of a particular country to prove their point or highlight the importance of one of these factors.

The research question of the DBA was thus born out of the above gaps in both scholarship (knowledge of the field) and the methods used to prove a certain argument. The main concern of the research was to study a developing world national context deep enough to both observe the importance of the CBI - inflation relation, and also lead to interesting practical outcomes that could advance our knowledge and practice. This is another contribution for this work, since it studied in depth the CBI - inflation relation within a specific national context.

The way this research has been conducted can also be considered as a contribution. This research was an original research based on publicly available data. It used many strategies for the analysis of data and presentation of findings such as narrative strategy, quantification and visual mapping. This research was also able to use the Logic Model as a thinking framework to channel the creativity and originality of the author. For reasons I will state in the next chapter, I was not able to conduct interviews to complement this research. However, the outcomes presented here can be considered as important when studying the field. This research avoided the pitfalls of statistical correlations and comparisons but instead focused on data analysis complementing what the archives stated. The Lebanese case study was very rich and emphasised the core importance of national factors and events in the developing world. In addition, the Alternative Template strategy of studying different interests impacting on the central bank (government first, then banks) proved to be very rewarding since the findings were

convincing in their significance. The same strategy can also be used for further research 1) in other developing countries or 2) to study the impact of other interest groups in Lebanon during inflation.

The concept of absolute reality cannot be realised or experienced. We, as researchers, can only observe, analyse and describe what we see. Throughout my DBA work, I have been quite faithful to this philosophical view. My research never claims to find the definitive answer to the validity of the relation between Central Bank Independence and inflation. This study presented a new way to look at the research question and studied a country that has not been covered in mainstream research.

7.3 Substantive contribution from the theoretical findings

The Central Bank Independence (CBI) relation to inflation control has so far been observed in cross developed countries' statistical correlation. This relation was considered to be an accepted fact. This research work took a different direction from this conceived wisdom and chose to take a more in-depth and contextual analysis of this relation within a single country. This was one of the identified gaps in the literature and our understanding of the nature of this relation.

This research has managed to put a "dent" in the commonly accepted "reality" of the field. It is divorced from the normal way of conducting research on Central Bank Independence and inflation relation and highlights the importance of the neutral view of researchers who believe that context (and several factors or interest groups) play a major role in the validity of the CBI-inflation relation.

What this research has achieved is to conclude that in one case, Lebanon, Central Bank Independence was neither sufficient nor enough to control inflation. It has also observed one of the theories in the literature (Financial Sector Opposition to Inflation) and how it affected inflation in Lebanon during a specific period of high inflation in the country.

What can be considered as a major contribution to both theory and practice is the description in depth of the role of banks in causing and fuelling inflation during a specific period of time regardless of the presence of a fully independent central bank in Lebanon. This throws doubt on the strength of the claims made in the literature that the higher CBI is, the more inflation can be controlled.

Another important contribution is to give an account of some of the methods used by banks to influence and oppose the actions made by the central bank to the extent of rendering them void in terms of controlling inflation. The importance of CBI from the government, in this case, is replaced by the importance of the ability of the central bank to defend its independence when facing another important and powerful interest group.

The research originality lies in the fact that Financial Sector Opposition to Inflation (FOI) was never studied within a complete national context; something that this research has addressed properly in Chapter 5. In addition, developing nations were always at the margin of mainstream research due to non-access or complications in understanding their structure, or the political dynamics of their economies. This

research approached this issue head-on by studying a developing nation that had a long history of price stability and then analysed what caused inflation during a specific period of time from two angles (those of the government and commercial banks). The studied case was rich with events and details and was a definite enhancement to the traditional cross-country analysis.

The value of this research to academia is manifold: a new categorisation of the literature, a clear understanding of gaps in research conducted so far, a new way of conducting research, and a call to review the commonly accepted wisdom on the topic.

In addition, this research has provided important insights into our practical knowledge of the pitfalls of central bank independence in the developing world. This research is applicable to other developing nations who have a developed banking sector and an established Central Bank Independence. The implications for these nations pertain to the way central bankers address interest groups in their economies, and how to curtail any negative impacts these groups could have on inflation control. Developing countries with a shallow financial system might not be able to benefit from Central bank Independence since it is challenging for their central banks to use the tools, as described in this research, to maintain price stability. For economies in transition considering new institutional arrangements for their central banks, this research holds some benefits in terms of how the relation between the central bank and other parts of the economic spectrum (mainly government and banks) can be addressed early on when offering Central Bank Independence or defining the key objectives of the central banks.

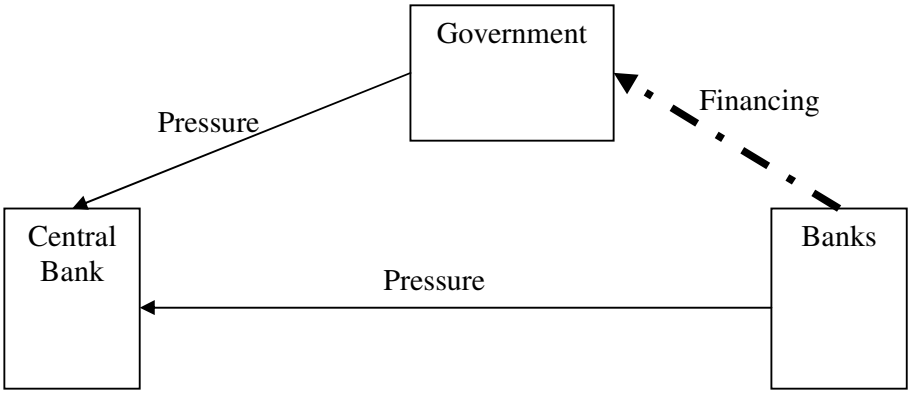
7.4 Practical findings and contributions

Where do all the above thoughts lead me when discussing Central Bank Independence and its relation to inflation control? I present the following points as the major take away lessons for central bankers especially in the developing nations. This section sums up the practical findings and contributions when it comes to Central Bank Independence and inflation control.

This research has shown that inflation could take a life of its own once it starts emerging into the national economic systems. Some interest groups could find in inflation refuge from their own problems and hence, adopt it as a solution. The way banks behaved in Lebanon after 1985 is the best example of that. This Lebanese example echoes other events mentioned in this research – in Hong Kong and Brazil. Therefore, inflation does not need to be always structural – it might start as a result of structural budget deficits such as in Lebanon – but its longevity and growth could be a contextual (interests based) situation. Inflation feeds on more inflation and stopping this spiral effect could be a very difficult one (even for an independent central bank). Therefore, it is clearly better to avoid inflationary pressures to start with. An independent central bank has much to offer in this respect since, as this paper demonstrates with the Lebanese central bank pushing the government to reduce its expenses, it has the ability and strength to help in settling the structural issues. This might not be enough, especially facing a more powerful banking sector determined to benefit from inflation; but independent central banks can still manage to reduce these effects provided a strong political will is abundant.

This leads me to state that inflation seems to be first and foremost a political issue. This paper presented the fact that in Lebanon politicians survive by providing economic favours to their partisans. These favours pushed the economy down the road of subsidies, and unnecessary spending. The fact that politicians do not own up to their fiscal responsibilities of assisting the independent central bank in its efforts to counter structural deficits, help inflation emerge (which ultimately leads to the interest groups taking advantage, as mentioned above). The political will of owning and supporting the actions of the central bank is crucial to ensure an acceptable level of control over economic variables. One of the worst things that can happen in an economy is a repetition of the Lebanese scenario explained in this paper when the independent central bank finds itself fighting on many fronts: political with politicians trying to secure free funding through the central bank; structural with the government spending growing without proper attention to fiscal and monetary consequences; and implementation when the policies set forward by the central bank are opposed by the banking sector. The best lesson, especially for an emerging nation, would be for the central bank to work with the authorities and interest groups without giving up its independence. When this becomes difficult, the independent central bank should use public opinion to influence the decisions of the adversaries. This policy has definitely borne fruit from banking in Lebanon facing the government. It was not very effective when it comes to the banking sector but that was linked to the public feeling of confidence loss in any policies, or their effectiveness. The following figures (7-1 and 7-2) present my view in this regard with some of the observations that emerged from this research. The arrows on the figures present links among different players: exerted pressure (political and financial), sense of provided financing and potential coordination.

Figure 7-1*:* Actual Scenario in Lebanon 1985-1991

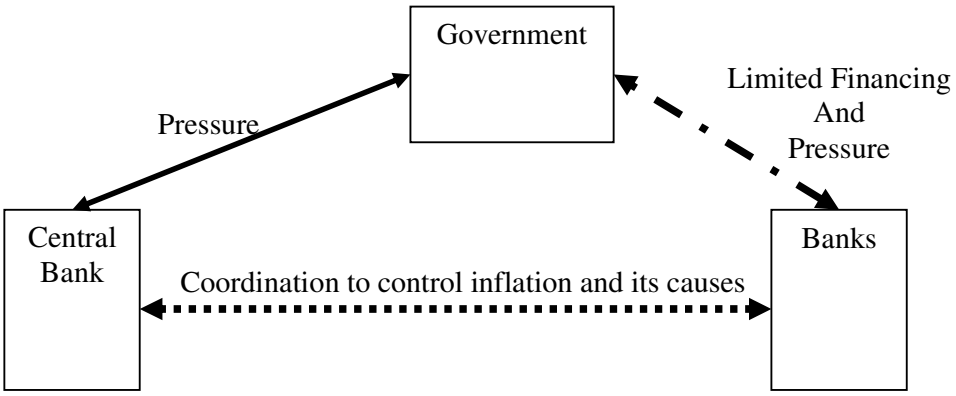


Observations stemming from this Scenario as presented in Chapters 4 and 5:

- Government did not pay enough attention to budget deficits or accumulating debt.
- Banks dropped their support for lower inflation and strong currency to generate profits and continue financing the government.
- Inflation raged with major depreciation of the currency.

- Central bank was under serious political pressure from 1) the government needing financing; 2) banks and their interests; and 3) the economic situation of high inflation and currency depreciation.
- The central bank, regardless of its independence, was unable to fight on all these fronts. It had no real political sponsor to cover its actions. Therefore, it clashed with both the government and banks. This rendered all its actions to control the economic situation inefficient.
- Situation was controlled only when banks *politically* regained their *lost* interest in keeping inflation low and halting the currency depreciation.

Figure 7-2: Best Scenario for Lebanon 1985-1991



Observations made by the author based on research insights:

- Government is pushed to consider its policies and reduce budget deficit.
- Banks persist in their support for lower inflation and strong currency.
- Inflation and currency depreciation would have been better controlled.
- Central bank ability to reciprocate the political pressure from the government.
- Central bank could benefit from its independence since a political sponsor is ready to assume the fight against inflation and cover its actions.

The above highlights the importance of keeping the public engaged and positive. When the national public loses faith and a crack appears in the confidence level with their national institutions or currency, the impact is surely negative. The Lebanese public lost faith in 1986 and was drawn into a speculation game against the national currency. Inflation and currency depreciation became the norm. No matter how much the central bank was trying to fight these negative consequences, banks (assisted by the public) were finding loopholes to overcome restrictions and create further speculation-based activities. Had the public decided to fight alongside the central bank and keep their Lebanese currency accounts (instead of using them to buy dollars), inflation and currency depreciation could have taken a different direction. It would not have necessarily been completely halted – with the power of banks' balance sheets being an important factor – but it could have kept inflation manageable.

This research has shown that an independent central bank cannot be safe by being solely independent from the government. Its actions need to be independent from the

government and any other interest group that could impact on them negatively. However, this can only be made by being totally embedded in discussion with the political authorities, the government, the interest groups, banks and the public. Independent central banks need not sacrifice their independence to any party, but they need to align themselves with strong political allies from all the mentioned groups to ensure their backing when taking tough measures in the economy. An independent central bank cannot fight everyone and emerge victorious. Some pragmatic compromises (not on the objective of price stability) could be made to ensure that allies are formed and remain loyal when facing inflation.

Central Bank Independence also relies on the strength and persistence of the central bankers in *living* this independence. As we have seen in this research, having a high calibre and well respected authority at the head of the central bank willing to defend its independence, goes a long way to safeguard this independence and create some positive results in the economy. An independent central banker needs to be diplomatic but aggressive when it comes to defending the price stability objective.

An independent central bank might also want to consider splitting its supervisory authorities away from its own responsibility. The reason behind this is what this research showed when speculation was raging – the central bank of Lebanon was not able to supervise the large number of banks involved in the currency depreciation schemes. It was very cumbersome for the central bank to issue circulars and not be able to follow up properly with supervision. Furthermore, awarding the supervision of the financial sector to a separate agency could relieve the central bank from many political pressures and might improve the outcome of supervision activities.

Another important lesson stems from the fact that the Lebanese central bank has the responsibility to improve the competitiveness and efficiency of the financial markets in the country. This might have led sometimes to the central bank being accommodating of the banking sector demands in terms of reviewing circulars or awarding higher Treasury Bills yields to banks, as shown in this research. It might be better to award this responsibility to a joint committee from the central bank and ministry of finance to ensure that the central bank would not be left alone facing all the requests coming from the banking sector in the name of improving its competitiveness or efficiency.

I will now present some guidelines that this research gives to central bankers to avoid any pitfalls on the implementation of their Central Bank Independence and enhance their ability to control inflation in their economies:

First, this research demonstrates that CBI has tangible benefits. An independent central bank has the ability to fight political influence and combat inflation with all means possible, including interpreting legal statutes. Another benefit is the fact that the independent central bank helps in difficult political situations. This independence makes the central bank a neutral element of conciliation using the rule of the law as a sole reference to relations among interest groups.

Second, independent central banks can help the government take the difficult decisions needed to control its budget. Cutting subsidies and adopting restrictive measures are a

means to an end. Reducing inflation is a common good that might require some sacrifices. Therefore, independence should be used to try to control inflation early on. In later stages, inflation could spin out of control and any benefits that price stability might guarantee would disappear.

Third, inflation feeds on structural deficits and then on its own dynamic capacity to feed on market uncertainties. Independent central banks should affect the structural deficits at the source (government) and then coordinate the fiscal demands with an appropriate monetary policy that guarantees the objective of price stability.

Fourth, political will is crucial for both independence and inflation control. Independent central banks should be ready to defend their independence but keep a pragmatic approach to align political allies next to them. Independent central banks need to know the limits of their independence or authority. Other interest groups in the economy could cause real damage and an appropriate approach needs to be crafted to address them in the best way possible.

Fifth, central banks can use their independence in better communication to the public. Keeping public confidence in the economy and the central bank is crucial. When a central bank is independent, it has more opportunities to better address the public and guarantee their support in tougher times. For example, the public will always appreciate an open and transparent address coming from a central banker who shows the will to attack the government when it is not doing enough to reduce corruption.

Finally, independent central banks need not perform all activities. It is perfectly legitimate to split supervision activities or financial sector development strategies to other bodies in the nation. This could create more room for the central bank to focus on its own primary objective of price stability.

I will close this section by providing what, in my view, would help the central bank of Lebanon address, in the future, similar problems as those presented in this research. Taking the above mentioned practical lessons and conclusions into consideration, the central bank of Lebanon should avoid the direct conflict with the banks. What I mean by direct conflict is the continuous power struggle that almost always ends in the favour of banks. During the period studied in this research, this direct conflict caused the central bank lots of its control, reputation, and inevitably led the public to cooperate with banks against the common good of keeping inflation under control. The central bank was able to catch on this fact when it adopted the expensive Treasury Bills yield policy. However, this was a little bit too late since the country had suffered from many years of price instability and depreciation in the value of the currency. Therefore, a common consensus, led by the central bank, among the different parties and interest groups within the economy is always a better approach guaranteeing the basic requirements of everyone, while confirming the importance of safeguarding the value of the currency. The central bank should always aim to play the role of the “peace maker” on the economic and political fronts in the same way it did during the political crisis explained in this research. In this case, the central bank would elevate itself from the status of a foe to that of a referee. This could still cause a certain degree of inflationary pressures in

the economy but these would be better controlled and would not necessarily result in financial meltdowns as we have seen in the presented research.

7.5 Summary of contributions

The following table (Table 7-1) presents the contributions of this thesis in many domains and shows their extent. The aim is to summarise the narrative provided in this chapter in one view.

Table 7-1: Thesis contribution summary

Domains of Contribution	*Extent of Contribution*		
	What has been confirmed?	**What has been developed?**	**What has been found which is brand new?**
Theoretical Knowledge	Field is new and needs additional research work.	The three views approach to the CBI - inflation relation. The summary tables detailing research types and themes.	Importance of national context that has been traditionally overlooked. A list of the issues & gaps that any future research needs to address.
Empirical Evidence	CBI - inflation relation is apparent in OECD nations. Evidence in the developing world is weak.	Need for in-depth analysis that goes beyond CBI measurements. The CBI - inflation relation is not sufficient nor enough in one developing nation (Lebanon).	Central Bank Independence from the government is not necessarily enough to combat inflation. The influence of the banking sector and its FOI is much more important and deserves additional research in other developing nations.
Methodological Approaches	Cross-country empirical statistical correlation research is dominant.	Single country research is needed to advance field knowledge. Using a mix of data analysis strategies to conduct in depth contextual CBI related research.	
Knowledge of Practice	There is a difference between legal and actual CBI. Both need to be present for CBI to be complete and hence, to enable any study of the CBI - inflation relation.	Using the models available in the literature to verify the independence of the Lebanese Central Bank. Extending the FOI concept and observing it in the Lebanese case.	A list of prescriptions and lessons from the Lebanese case that could serve to highlight the pitfalls of CBI and its relation to inflation in developing nations

7.6 Dissemination

The dissemination of this research programme occurred in formal academic settings and also in practical settings. Some parts of this work will also be used shortly to present journal articles and as presentations in conference papers.

The Systematic Review protocol, methods and findings were shared (personally and via the Cranfield Research Portal) with other research students at Cranfield who used them as a base for their own Systematic Reviews. I have also given training on this to some students. Many research students were very complimentary on how the Systematic Review, as presented in this dissertation, played a crucial role in their own understanding of the process and hence, in the way they conducted and reached the findings of their own research.

The findings of the Systematic Review were also shared with Dr. Thoarinn Petursson from the Icelandic Central Bank, and Mr. Nizar Merhi from the Finance Bank of Lebanon. Both were very supportive of the work and have provided positive feedback of the shared outcomes.

Finally, two practical sessions were held at ABN AMRO in 2006 and 2007 to discuss the implications of this research on the work of central banks in both the developing and developed world. These sessions were attended by members of the strategy group of the bank who stated they found the content challenging and important.

7.7 Final reflections

The findings presented in this research provided a surprising outcome; in the developing world, one would always expect to see that the government is the major cause of financial worries within the system in terms of benefiting from seignorage and pushing the central bank to finance its budget deficit. What this research showed is that the government requests could be effectively tamed and made relatively harmless to the economy. However, the real danger to price stability could come from a different side which, traditionally, would benefit from calm economic conditions. The implications of these findings would be twofold. In academia, these findings open the door to more in-depth investigations on the topic of Central Bank Independence and its relation to inflation from the point of view of various interest groups. In the practical world, the implications are that central bankers need not only worry about the role of governments in affecting their policies but also should be pragmatic to analyse and potentially include (or refuse) the interests of other groups who might be able to counter their efforts (refer to Figures 7-1 and 7-2 for my own understanding of the situation in Lebanon during the studied period). This opens a new way of looking at the field since until now, researchers focused on the government and its impact on CBI (and inflation). One of the contributions of this work is showing in enough detail that research could follow other routes of investigations. The field will thus grow further into a maturity that so far has not been complete. One other way the field could follow for research purposes could be the analysis of personalities, behaviours and interactions of central bankers. This road will open the debate about the relevance of personal elements and characters in the implementation of Central Bank Independence when controlling

inflation. People are different and behave differently under the same circumstances and pressures; inflation could be the outcome of submission to wills rather than just a normal economic outcome.

The implications of this research work on my practice as a banker are many. First, undertaking this research has highlighted the responsibilities of bankers towards the disadvantaged sectors in the economy. Seeking profit is important for banks, but this should not be done on the expense of price stability upon which the public relies to guarantee their livelihoods. This conclusion will surely be carried with me whether I remain in commercial banking or I move towards institutional policy making. Second, this research has opened my eyes on the importance of consensus and reaching Nash equilibrium in difficult situations. Changing the rules of the game mid way through could have real negative implications on everyone involved. Banks in Lebanon benefited from inflation for a while but when that source of income dried out, many banks had to declare bankruptcy. Winning, in banking terms, requires alignment of interests. This might lead to lower gains short term, but a much better outcome for the longer term. I will keep this lesson for future contract negotiations or even while implementing new policies in my professional career. Third, this research proved to me that people need to believe in strong willed and ethical characters for whom they will be happy to provide buy-in and support. The behaviour of leaders impacts everyone deeply. One needs to live what s/he believes in, otherwise people will not follow. This applies in politics but also in banking. If my colleagues don't see me practice what I preach, it will become harder for them to perform to what my expectations could be.

I should also mention that having completed the DBA degree will open new horizons for my personal and career development. I am definitely willing to continue on the academic route by conducting research or teaching on a part time basis next to my banking career. This will allow me to keep my academic curiosity alive while doing something that I truly enjoy: developing talents and ideas. I can never discount the fact that I might still end up working in the public field aiming to use my academic and practical experience for the advancement of my personal beliefs for the common good.

8 LIMITATIONS AND PROPOSALS FOR FUTURE RESEARCH

Following the panel review for Project 1 of the DBA (Systematic Review), I started working on a proposal for Project 2 (first empirical project) as requested by my supervisory panel. I made good progress including obtaining access to political and banking personalities in Lebanon for interviews. However on July 12, 2006 a major conflict involving Lebanon and Israel broke out. A fragile cease-fire has been negotiated; however, the situation in Lebanon continued to deteriorate on both the political and military fronts, with many western nations advising their citizens not to venture into the country. Obviously, this development had major effects on my DBA since my empirical studies were meant to be undertaken in Lebanon. The impact of this situation can be summarised as: my inability to travel to Lebanon due to security threats and travel (freedom of movements) restrictions; limited ability for personally collecting new sources and data. Nevertheless, I was able to receive new material from contacts in Lebanon through mail; and changing some of the methods that I was planning to follow. For example, I would not be able to conduct interviews as stipulated before.

There were three potential solutions for my DBA. These three solutions were discussed in a formal panel meeting in October 2006.

The least attractive solution was that of suspending my DBA for a year until hopefully the dust had settled in Lebanon and then decide on how to move forward. This was not a preferred option since the conflict may persist indefinitely. In addition, I would be losing the momentum I had built with the possibility that I might not be able to continue from where I left off. I am glad that this option was not followed since the situation in Lebanon deteriorated further in 2006-2008.

The second option was to change the country focus and drop Lebanon as the context of the DBA study and decide on another country that could form the focus of the empirical projects. There were two pitfalls that rendered this solution very difficult. The first was the fact that I would have needed lots of help and support from the supervisory panel to identify and access authorities in the new chosen country. The second is that I would not have had the same inclination to study another country about which I have no intimate knowledge; especially for the type of research I was undertaking where context is paramount. The panel did not approve this option.

The third option was to re-arrange my DBA empirical projects. Initially I was planning to rely on two sources of information towards my empirical work: archival research and interviews. Due to the mentioned circumstances, my DBA could not continue as planned and I needed to revise my methods. The preferred choice was to continue moving ahead using what was currently available in terms of research resources and following desk-based archival research as a means to overcome the difficult but not impossible situation. The panel approved this solution and I forged ahead to finish my DBA work accordingly.

The limitations that these circumstances imposed have been the inability to complement the collected data with views of people who lived through that period. This made the research entirely focused on the analysis of data available in the public domain. Some elements such as personality, characters and details of this sort could not be addressed. However, it was never going to be feasible to address all of these attributes. I strongly believe that what I have done suits my philosophical stance, aims and potential DBA outcomes.

8.1 Approach Limitations

The approach I used allowed me to reach the conclusions stated at the end of this project. Regardless of the difficult task of going through a large quantity of data and archival material, the outcome was very fruitful and sheds a good light on the topic and the gaps that still exist in the literature. The following points could be considered as limitations to my research methods.

The first limitation follows from this chapter's introduction in terms of my inability to conduct qualitative research, which according to Pettigrew (1992), could have helped in the classification and consideration of some events in the data. Qualitative data also helps in the analysis and understanding of people's perceptions, behaviours and motives during a certain event.

The research I have undertaken could leave some nuances and details that do not emerge directly from the archival research of documents or analysis of data in retrospect. However, this limitation could also be considered as a positive point since I can consider myself very objective and distant as I analysed data currently available and without being affected by subjective views of potential interviewees.

Data abounded from long Excel sheets of numbers and economic indicators to press clippings, magazine articles, theses, books, etc. This could have caused me *death by data asphyxiation* (Pettigrew, 1990). Therefore, I categorised data around two axes: time and actions – upon which all my analysis was based. This suited me extremely well and I was able to produce interesting patterns and insights. The limitation here is that there could have been, potentially, other axes to take into consideration. However, they could have rendered the research extremely complicated and a neat organisation of themes and outcomes following the Logic Model would not have been possible.

Some blind spots in data are bound to occur either because details are not available or discrepancies cannot be explained. The reliance on subjective assessment and experience of the researcher becomes crucial in this case.

It is worth noting here that I am confident that these limitations, although important to disclose, did not cause any tangible negative impact on the way this work has been achieved or its outcomes.

8.2 Other Limitations and Proposals for future research

Research on the Central Bank Independence (CBI) - inflation relation remains a huge task and during the two empirical projects conducted, not all variables were studied. A good way to approach things was to concentrate on what could be appropriately observed and analysed. This is what I did while researching and writing this dissertation. I am well aware of my own and this research's limitations. I cannot study and research everything around the topic. I am assuming that this should not be the aim of the DBA but the target of research life after the DBA when more time and effort can be invested on this specific topic and knowledge in general.

The presented empirical work contributed to our understanding of Central Bank Independence from an institutional design perspective, i.e. CBI from which influential group in the economy, and whether this independence is sufficient to control inflation. The following points are considered to be the main limitations of this work while at the same time proposing ideas for future research on the topic.

This research shows that CBI from the government is not enough and alone will not be sufficient to control inflation. Other interest groups need to be taken into consideration when *offering* CBI and its impact on price stability. My research studied commercial banks and their influence on inflation. Other researchers in future work could study other influential groups such as industry, labour syndicates, etc.

Another conclusion of this research was that CBI can be useful to fight inflation under specific conditions; specifically when CBI is safeguarded and central banks are sheltered from interest groups' influence. This allows central banks to focus on their main objective of price stability (hence safeguarding the national currency). More research (case studies) of other nations and their national contexts would allow further understanding and more insights on this important point.

Other conditions in nations and societies could enhance CBI or take it away: the central bank in Lebanon was able, regardless of political influence, to keep its independence intact. More information and research is needed on institutional design in general and specific countries in particular. Awarding CBI is not the only institutional arrangement for controlling inflation within a certain nation. A national consensus awarding and protecting CBI (and allowing the independent central bank to control inflation) could be another solution that deserves attention in future research. This national consensus involves an agreement among parties that could suffer from inflation and the need for them to review their policies within a national benefit analysis (Chowdhury, 2002).

Heylen & van Poek (1996) argue that CBI could be beneficial to control inflation in situations where national governments are unstable. This was surely not the case in Lebanon; however, this view could be valid in other countries. Hence, more research in other developing nations could be useful for further validation of this argument.

The personality of the governor seems to be crucial. Dr. Naim in Lebanon was regarded as solid and willing to defend CBI. More research is needed to understand the behavioural traits of governors and the effect this could have on CBI and inflation.

Other limitations of the research are related to studying the impact (or coordination) between the fiscal and monetary policies. It is not uncommon that conflicts could occur between these two policies and could lead to an environment conducive to inflation.

In general, more work is needed in other countries to confirm and validate the results I reached in my work and help move the debate around the field forward.

BIBLIOGRAPHY

Aberbach, J. D., & Rockman, B. A. 1985. Governmental responses to budget scarcity: the United States. *Policy Studies Journal,* 13(3): 494-505.

Abernathy, W. J., Clark, K. B., & Kantrow, A. M. 1981. The new industrial competition. *Harvard Business Review,* 59(5): 68-81.

Abi-Abboud, F. 1987. *La politique monetaire au Liban.* Unpublished Science-eco. thesis, USJ, Lebanon.

Abou-Adal, G. 1988. *La politique monetaire de la BDL.* Unpublished Maitrise banque et finance thesis, USJ, Lebanon.

Abounayan, S. 1990. *Monetary policy of the central bank of Lebanon since 1975.* Unpublished MBA thesis, American University of Beirut, Lebanon.

Achi, G. 1991. Quelle politique de crédit pour la derniere décennie. *Le Commerce du Levant,* July 25(5260): 14-16.

Adam, C., Cobham, D., & Girardin, E. 2005. Monetary frameworks and institutional constraints: UK monetary policy reaction functions, 1985-2003. *Oxford Bulletin of Economics and Statistics,* 67(4): 497.

Ahumada, A., & Marshall, J. 2001. The banking industry in Chile:competition, consolidation and systemic stability. *BIS papers,* 4.

Aizenman, J. 1993. Soft budget constraints, taxes, and the incentive to cooperate. *International Economic Review,* 34(4): 819.

Al-Akhbar 2007. Economic news. *Al-Akhbar newspaper,* January 14 & 15.

Al-Anwar newspaper. Various issues. Beirut: 1982-1992.

Al-Diyar 1989. Decisions of the central bank's central council. *Al-Diyar newspaper,* September 7.

Al-Diyar newspaper. Various issues. Beirut: 1982-1992.

Al-Iktissad wal Aamal. Various issues. Beirut: 1986-1992.

Al-Marhubi, F., & Willet, T. D. 1995. The anti inflationary influence of corporatist structures and central bank independence: the importance of the hump shared hypothesis. *Public Choice,* 84(1-2): 153.

Alesina, A. 1989. Politics and business cycles in industrial democracies. *Economic policy,* 8: 58-98.

Alesina, A., & Gatti, R. 1995. Independent central banks: Low inflation at no cost? *American Economic Review,* 85(2): 196.

Alesina, A., & Perotti, R. 1996. Fiscal discipline and the budget process. *American Economic Review,* 86(2): 401.

Alesina, A., & Summers, L. H. 1993. Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence. *Journal of Money, Credit & Banking,* 25(2): 151-162.

Aliber, R. Z. 1975. Monetary independence under floating exchange-rates. *The Journal of Finance,* 30(2): 365.

Allison, G. T. 1971. *Essence of decision*. Boston: Little Brown.

Annahar 1983. Tahawil. *Annahar newspaper,* March 18.

Annahar 1985a. Decisions of the central bank's central council. *Annahar newspaper,* May 30.

Annahar 1985b. Decree 2875. *Annahar newspaper,* December 8.

Annahar 1987. Decisions of the central bank's central council. *Annahar newspaper,* February 5.

Annahar 1990a. BDL does not approve new passports. *Annahar newspaper,* March 14.

Annahar 1990b. Economic issues. *Annahar newspaper,* April 9.

Annahar 1990c. Naim under attack. *Annahar newspaper,* March 16.

Annahar 2006. Edmond Naim rais al-lira hamal iktinaatih wa wassal. *Annahar newspaper,* January 24.

Annahar newspaper. Various issues. Beirut: 1981-1993.

Araj, R., Aramieh, P., & Hatem, P. 1988. *The study of subsidies in Lebanon*. Beirut: USJ.

Arestis, P., & Bain, K. 1995. The independence of central banks: A nonconventional perspective. *Journal of Economic Issues,* 29(1): 161.

Arrow, K. J. 1962. The economic implications of learning by doing. *Review of economic studies,* 29: 155-173.

Arrow, K., & Debreu, G. 1954. Existence of any equilibrium for a competitive economy. *Econometrica,* 22(3): 265-290.

Assafir 1985. Economic issues. *Assafir newspaper,* May 25.

Assafir 1987. Economic issues. *Assafir newspaper,* January 25.

Assafir newspaper. Various issues. Beirut: 1981-1993.

Assaily, A. E. 1967. *Central banking in Lebanon*. Beirut: Khayat books.

Association of Banks in Lebanon 1981-1993. *Balance sheets of the banks*. Beirut: Association of Banks in Lebanon.

Awad, A. 1988. Quelle politique monétaire pour le Liban. *Le Commerce du Levant,* April 4(5154): 11-13.

Awad, F. 1992. Economics of coincidence. *Beirut review,* 82-95.

Ayache, G. 1997. *Azmat al maliyah al ama fi lubnan*. Beirut: Nahar.

Bachir, G. 2006. Men mashrouh rais aljamhouria ila hakim limasrif lubnan. *Al-Diyar newspaper,* January 24.

Badredin, A. 1998. *The bank of Lebanon* (2nd ed.). Beirut: Badredin.

Baines, A. C. 2001. Capital mobility, perspectives and central bank independence: Exchange rate policy since 1945. *Policy Sciences,* 34(2): 171.

Baltensperger, E., & Kugler, P. 2000. Central bank independence and sacrifice ratios: some further considerations. *Open Economies Review,* 11(2): 111.

Banaian, K., & Luksetich, W. A. 2001. Central Bank Independence, economic Freedom, and inflation rates. *Economic Inquiry,* 39(1): 149-161.

Banaian, K., Burdekin, R., & Willett, T. 1998. Reconsidering the principal components of central bank independence: the more the merrier? *Public Choice,* 97(1-2): 1.

Banque du Liban *Annual reports: 1973-1993*. Beirut: BDL.

Banque du Liban 1981-1994. *Bulletin trimestriel, issues 12-61*. Beirut: BDL.

Barrell, R., Kirby, S., & Riley, R. 2003. Changing the inflation target. *National Institute Economic Review,* July (185): 50.

Barro, R. 1995. Inflation and economic growth. *Bank of England quarterly bulletin,* 35(2): 166.

Barro, R., & Gordon, D. 1983. Rules, discretion, and regulation in a model of monetary policy. *Journal of Monetary Economics,* 12: 101-22.

Bartel, R. D. 1996. Federal Reserve independence and the people's quest for full employment and price stability. *Journal of Post Keynesian Economics,* 18(2): 231.

Barth, J. R., Nolle, D., Phumiwasana, T., & Yago, G. 2003. A cross country analysis of the bank supervisory framework and bank performance. *Financial Markets, Institutions & Instruments,* 12(2): 67.

Bartolini, L., & Prati, A. 2003. The execution of monetary policy: a tale of two central banks. *Economic Policy,* 18: 435-467.

BBME 1982-1992. *Annual report*. Beirut: British bank of the Middle East.

BDL 2007a. *Circulars*. Beirut: Banque du Liban.

BDL 2007b. *www.bdl.gov.lb.* (accessed 2007).

Bean, C. 1998. The new UK monetary arrangements: a view from the literature. *The Economic Journal,* 108(451): 1795.

Bean, C. 2003. Inflation targeting: the UK experience. *Bank of England. Quarterly Bulletin,* 43(4): 479.

Beblavy, M. 2003. Central bankers and central bank independence. *Scottish Journal of Political Economy,* 50(1): 61-68.

Beddies, C. 1999. Monetary policy and public finances: inflation targets in a new perspective. *IMF Staff Papers,* 46(3): 293.

Beers, D. T., Sargent, T. J., & Wallace, N. 1983. Speculations about the speculation against the Hong Kong Dollar. *Federal Reserve of Minneapolis: Quarterly Review,* 7(4): 14-22.

Beetsma, R., & Bovenberg, L. 2001. When does an inflation target yield the second best? *Scandinavian Journal of Economics,* 103(1): 119-126.

Beetsma, R., & Jensen, H. 1999. Optimal inflation targets, `conservative' central banks, and linear inflation contracts: comment. *American Economic Review,* 89(1): 342.

Berg, C. 2005. Experience of inflation-targeting in 20 countries. *Sveriges Riksbank Economic Review,* (1): 20-47.

Berger, H., de Haan, J., & Eijffinger, S. C. W. 2001. Central bank independence: an update of theory and evidence. *Journal of Economic Surveys,* 15(1): 3.

Berger, H., & Woitek, U. 2005. Does conservatism matter? A time-series approach to central bank behaviour. *Economic Journal,* 115(505): 745-766.

Bernhard, W., Broz, J. L., & Clark, W. R. 2002. The political economy of monetary institutions. *International Organization,* 56(4): 693-723.

Bhaskar, R. 1975. *A realist theory of science*. Leeds: Leeds Books.

Bibow, J. 2004. Reflections on the current fashion for central bank independence. *Cambridge Journal of Economics,* 28(4): 549-576.

Bindseil, U., Weller, B., & Wuertz, F. 2003. Central bank and commercial banks' liquidity management - what is the relationship? *Economic notes by banca monte dei paschi di siena SpA,* 32(1): 37-66.

Birnik, A. 2006. *Cross-border integration in the multinational corporation: The*

subsidiary management perspective. Unpublished PhD thesis, Cranfield, United Kingdom.

Bispham, J. A. 1982. The nature of the inflation process. *National Institute Economic Review,* May(100): 8.

Blaikie, N. 1993. *Approaches to social enquiry*. Cambridge: Polity Press.

Blaikie, N. 2000. *Designing social research: The logic of anticipation*. Cambridge: Polity press.

Blake, A. P., & Weale, M. 1998. Costs of separating budgetary policy from control of inflation: A neglected aspect of central bank independence. *Oxford Economic Papers,* 50(3): 449.

Blake, A. P., & Westaway, P. F. 1996. Credibility and the effectiveness of inflation targeting regimes. *The Manchester School of Economic and Social Studies,* 64: 28.

Blejer, M. I. 1998. Central banks and price stability: is a single objective enough? *Journal of Applied Economics,* 1(1): 105.

Blinder, A. S. 1996. Central banking in a democracy. *Economic Quarterly - Federal Reserve Bank of Richmond,* 82(4): 1.

Blinder, A. S. 1997. What central bankers learn from academics - and vice versa. *Journal of Economic Perspectives,* 11(2): 3-19.

Blomstrom, M., Lipsey, R. E., & Zejan, M. 1992. What explains developing countries growth? *NBER working paper,* No W4132.

Bouldoukian, M. 1988. Interview. *Alanwar newspaper,* June 15.

Boyer, E. 2000. Scholarship reconsidered. Princeton, New Jersey: The Carnegie foundation for the advancement of teaching.

Bouldoukian, M. 1989. *Views and acts*. Beirut: Printing house of the Armenian Catholicossate of Cilicia.

Briault, C. 1995. The costs of inflation. *Bank of England Quarterly Bulletin*, 35(1): 33-45.

Briault, C., Haldane, A., & King, M. 1996. Central bank independence and accountability: theory and evidence. *Bank of England. Quarterly Bulletin,* 36(1): 63.

Brooksbank, D., Connolly, M., & Morgan, B. 1999. Competitive bidding and regional development in the UK. *Public Money & Management*, 19(2):7-12.

Brown, K. H., & Yousefi, M. 1996. Deficits, inflation and central banks' independence: evidence from developing nations. *Applied Economics Letters,* 3(8): 505.

Brownbridge, M., & Kirkpatrick, C. 2000. Financial regulation in developing countries. *The Journal of Development Studies,* 37(1): 1-24.

Broz, J. L. 2002. Political system transparency and monetary commitment regimes. *International Organization,* 56(4): 861-887.

Brumm, H. J. 2000. Inflation and central bank independence: conventional wisdom redux. *Journal of Money, Credit & Banking,* 32(4): 807-819.

Brumm, H. J. 2002. Inflation and Central Bank independence revisited. *Economics Letters,* 77(2): 205.

Brunner, K., & Meltzer, A. H. 1977. The explanation of inflation: some international evidence. *American Economic Review,* 67(1): 148-154.

Bruno, M., & Easterly, W. 1998. Inflation crises and long-run growth. *Journal of monetary economics,* 41: 3-26.

Bruno, M., & Easterly, W. 1995. Inflation crises and long-run growth. *Mimeo, World Bank,* No 1517: 1-56.

Bsat, H. 1992. Bank secrecy management: its organizational and actual proceedings in Lebanon. *Internal bulletin, Banks Association of Lebanon,* 19-20.

Burdekin, R. C. K., & Laney, L. O. 1988. Fiscal policymaking and the central bank institutional constraint. *Kyklos,* 41(4): 647.

Burdekin, R. C. K., & Whited, H.-H. I. H. 2005. Exporting hyperinflation: The long arm of Chiang Kai-shek. *China Economic Review,* 16(1): 71-89.

Burns, A. F. 1976. The independence of the federal reserve system. *Challenge,* 19(3): 21.

Calderon, C., & Schmidt-Hebbel, K. 2003. Macroeconomic policies and performance in Latin America. *Journal of International Money & Finance,* 22(7): 895.

Campbell, A., Goold, M., & Alexander, M. 1995. Corporate strategy: the quest for parenting advantage. *Harvard Business Review,* 73(2): 120-132.

Campillo, M., & Miron, J. A. 1997. Why does inflation differ across countries. In C. D. Romer, & D. H. Romer (Eds.), *Reducing Inflation: Motivation And Strategy*: 335-357. Chicago: University of Chicago Press.

Canto, V. A., Findlay, M. C., & Reinganum, M. R. 1983. The monetary approach to stock returns and inflation. *Southern Economic Journal,* 50(2): 396.

Cardim de Carvalho, F. J. 1996. The independence of central banks: a critical assessment of the arguments. *Journal of Post Keynesian Economics,* 18(2): 159.

Carstens, A. 1994. Foreign exchange and monetary policy in Mexico. *Columbia Journal*

of World Business, 29(2): 72-77.

Castellani, F., & Debrun, X. 2005. Designing macroeconomic frameworks: a positive analysis of monetary and fiscal delegation. *International Finance,* 8(1): 87-117.

Castelnuovo, E., & Surico, P. 2003. What does monetary policy reveal about a central bank's preferences? *Economic Notes,* 32(3): 335-359.

Chaib, A. 1981. Economic and other determinants of exports. *BDL: Bulletin trimestriel,* 11: 14-19.

Chaib, A. 1984a. Banking in Lebanon. *Panorama,* 34: 13-23.

Chaib, A. 1984b. The Lebanese economy: performance and major changes. *Panorama,* 32: 35-44.

Chamoun, C. 1985a. Letter to central bank. *Ministry of finance,* March 12(#300).

Chamoun, C. 1985b. Letter to central bank. *Ministry of finance,* April 9(#403).

Chamoun, C. 1985c. Letter to central bank. *Ministry of finance,* June 10(#554).

Chamoun, C. 1985d. Letter to central bank. *Ministry of finance,* June 12(#567).

Chamoun, C. 1985e. Letter to central bank. *Ministry of finance,* May 16(#489).

Chamoun, C. 1985f. Letter to central bank. *Ministry of finance,* May 3.

Chamoun, C. 1985g. Letter to central bank. *Ministry of finance,* July 30.

Chamoun, C. 1985h. Letter to central bank. *Ministry of finance,* August 8.

Chamoun, C. 1987a. Letter to central bank. *Ministry of finance,* January 22.

Chamoun, C. 1987b. Letter to central bank. *Ministry of finance,* February 2.

Chandavarkar, A. G. 1987 . Developmental role of central banks. *Finance & development,* 24(4): 34.

Chang, R. 1998. Policy credibility and the design of central banks. *Economic Review - Federal Reserve Bank of Atlanta,* 83(1): 4.

Chowdhury, A. 2002. Does inflation affect economic growth? the relevance of the debate for Indonesia. *Journal of the Asia Pacific Economy,* 7(1): 20-34.

Christoffersen, P., Slock, T., & Wescott, R. 2001. Is inflation targeting feasible in Poland? *Economics of Transition,* 9(1): 153-174.

Clark, W. R. 2002. Partisan and electoral motivations and the choice of monetary institutions under fully mobile capital. *International Organization,* 56(4): 725-749.

Collis, D. J., & Montgomery, C. A. 1998. Creating Corporate Advantage. *Harvard Business Review,* 76(3): 70-83.

Collyns, C. 1982. Alternatives to central banks in small developing economies. *Finance & Development,* 19(4): 42.

Cooley, T. F., & Quadrini, V. 2001. The costs of losing monetary independence: the case of Mexico. *Journal of Money, Credit & Banking,* 33(2): 370-397.

Corbo, V. 1998. Reaching one-digit inflation: the Chilean experience. *Journal of Applied Economics,* 1(1): 123.

Corden, W. M., & Neary, J. P. 1982. Booming sector and de-industrialisation in a small open economy. *The Economic Journal,* 92: 825-848.

Courtney, H., Kirkland, J., & Viguerie, P. 1997. Strategy under uncertainty. *Harvard Business Review,* 75(6): 66-79.

Crafts, N. 1996. Deindustrialisation and economic growth. *The Economic Journal,* 106: 172-183.

Cukierman, A., & Webb, S. B. 1995. Political influence on the central bank: international evidence. *The world bank economic review ,* 9(3): 397-423.

Cukierman, A., Webb, S. B., & Neyapti, B. 1992. Measuring the independence of central banks and its effect on policy outcomes. *The World Bank Economic Review,* 6(3): 353-398.

Cukierman, A. 1992. *Central bank strategy, credibility, and independence: theory and evidence*. Cambridge, Mass.: MIT Press.

Cukierman, A. 1994. Central bank independence and monetary control. *Economic Journal,* 104(427): 1437-1448.

Cukierman, A., Kalaitzidakis, P., Summers, L. H. , Webb, S. B., & Canzoneri, M. B. 1993. Central bank independence, growth, investment, and real rates; a comment. *Carnegie - Rochester Conference Series on Public Policy,* 39: 95.

Cukierman, A., & Lippi, F. 1999. Central bank independence, centralization of wage bargaining, inflation and unemployment: theory and some evidence. *European Economic Review,* 43(7): 1395-1434.

Cukierman, A., Miller, G. P., & Neyapti, B. 2002. Central bank reform, liberalization and inflation in transition economies-an international perspective. *Journal of Monetary Economics,* 49(2): 237-264.

D'Amato, M., & Martina, R. 2005. Credibility and commitment of monetary policy in open economies. *European Journal of Political Economy,* 21(4): 872-902.

Daloul, M. 1990. Press statement. *Assafir newspaper,* March 4

Daniels, J. P., Nourzad, F., & Vanhoose, D. D. 2005. Openness, central bank independence, and the sacrifice ratio. *Journal of Money, Credit & Banking,* 37(2): 373-379.

De Grauwe, P. 2002. Central banking as art or science?: lessons from the Fed and the ECB. *International finance,* 5(1): 129-137.

De Haan, J. 1998. Commitment rather than independence: an institutional design for reducing the inflationary bias of monetary policy: a comment on Henriette M Prast / Reply. *Kyklos,* 51(1): 119.

De Haan, J., & Kooi, W. J. 2000. Does central bank independence really matter? New evidence for developing countries using a new indicator. *Journal of Banking & Finance,* 24(4): 643.

De Haan, J., Leertouwer, E., Meijer, E., & Wansbeek, T. 2003. Measuring central bank independence: a latent variables approach. *Scottish Journal of Political Economy,* 50(3): 326-340.

De Haan, J., & Van 't Hag, G. J. 1995. Variation in central bank independence across countries: some provisional empirical evidence. *Public Choice,* 85(3-4): 335.

De Jong, E. 2002. Why are price stability and statutory independence of central banks negatively correlated? the role of culture. *European Journal of Political Economy,* 18(4): 675.

De la Torre, J. 1981. Foreign investment and economic development: conflict and negotiation. *Journal of International Business Studies,* 12(2): 9-32.

De Long, J. B., & Summers, L. H. 1992. Macroeconomic policy and long-run growth. *Economic Review - Federal Reserve Bank of Kansas City,* 77(4): 5-29.

De Menil, G. 2000. From hyperinflation to stagnation. *Russian & East European Finance and Trade,* 36(1): 28.

Debelle, G., & Fischer, S. 1994. How independent should a central bank be? *Conference Series: Reserve Bank of Boston,* 38: 195-221.

Debelle, G. 1996. The ends of three small inflations: Australia, New Zealand and Canada. *Canadian Public Policy,* 22(1): 56.

Dedek, O. 2001. Bank consolidation in the Czech republic. *BIS papers,* 4.

Demertzis, M. 2004. Central Bank independence: Low inflation at no cost? A numerical simulations exercise. *Journal of Macroeconomics,* 26(4): 661-677.

Demirgue-Kunt, A., & Levine, R. (Ed.). 2002. *Financial sector and economic growth: a cross-country comparison of banks, markets and development*. Cambridge, MA and London, England: The MIT press.

Department of judicial reviews 1985. Advisory opinion. *Ministry of Justice,* October 9(#881).

Department of statistics and economic studies 1984. The Lebanese economy in 1984. *BDL,* 5-10.

Diana, G., & Sidiropoulos, M. 2004. Central bank independence, speed of disinflation and the sacrifice ratio. *Open Economies Review,* 15(4): 385.

Dibeh, G. 2002. The political economy of inflation. *Middle Eastern Studies,* 38(1): 33-52.

Dickens, E. 1998. Bank influence and the failure of US monetary policy during the 1953-54 recession. *International Review of Applied Economics,* 12(2): 221.

Director general of justice department 1985. Letter to the minister of finance. *Justice Department,* November 27.

Dolado, J. J., Griffiths, M., & Padilla, A. J. 1994. Delegation in international monetary policy games. *European Economic Review,* 38(5): 1057.

Dolmas, J., & Huffman, G. W. 2000. Inequality, inflation, and central bank independence. *Canadian Journal of Economics,* 33(1): 271.

Dornbusch, R., & Fischer, S. 1987. *Macroeconomics* (Fourth ed.). Singapore: McGraw-Hill international editions.

Dowd, K., & Baker, S. 1994. The New Zealand monetary policy experiment - a preliminary assessment. *The World Economy,* 17(6): 855.

Du Plessis, S. A. 2005. The democratic deficit and inflation targeting. *South African Journal of Economics,* 73(1): 93-104.

Dugger, R. H., & Ubide, A. 2004. Structural traps, politics and monetary policy. *International finance,* 7(1): 85-116.

Dutton, D. S. 1978. The economies of inflation and output fluctuations in the United States, 1952-1974. *Carnegie - Rochester Conference Series on Public Policy,* 8: 203.

Economic editor 1988. Non residents accounts in French banks. *Assafir newspaper,* May 31.

Economic editor 1991. Treasury Bills in Lebanon. *Alanwar newspaper,* December 23.

Economic editor 1992. Wage increase and liquidity. *Alhayat newspaper,* March 1.

Editorial 1986. Lebanon's TBs to be sold publicly. monetary and banking data. *Economic review of the Arab World,* 20(2): 12-20.

Eijffinger, S., & Schaling, E. 1993. Central Bank Independence in twelve industrial

countries. *Banca nazionale del lavoro: quarterly review,* 184: 49-89.

Eijffinger, S., Van Rooij, M., & Schaling, E. 1996. Central bank independence: a panel data approach. *Public Choice,* 89(1-2): 163.

Eijffinger, S. C. W., & de Haan, J. 1996. Central bank independence--only part of the inflation story: a comment. *De Economist (Kluwer),* (4): 658-669.

EIU 1991. *Country report on Lebanon*. Beirut: Economic intelligence unit.

EIU 1992. *Country report on Lebanon* (2nd ed.). Beirut: Economic intelligence unit.

El-Khoury, M. 1984. Letter to ministry of finance. *Banque du Liban,* October 18.

El-Khoury, M. 1983. Speech (30/7/1983). *BDL: Bulletin trimestriel,* (3-4).

El-Khoury, M. 1993. Cheikh Michel rompt le silence. *Le Commerce du Levant,* July 29(5312): 12-20.

English, W. 1996. Inflation and financial sector size. *Finance and Economic Discussion,* 96: 16.

Erbmann, C. A., & Sheen, J. R. 1974. Some reasons for the low rate of inflation in Rhodesia since the unilateral declaration of independence. *American Economist,* 18(1)

Fadda, L. 1986. *The use of reserve requirements as a monetary tool: the Lebanese experience.* Unpublished MMB thesis, American University of Beirut, Lebanon.

Falcetti, E., & Missale, A. 2002. Public debt indexation and denomination with an independent central bank. *European Economic Review,* 46(10): 1825.

Fan, K., Ha, J., Leung, C., & Peng, W. 2003. The fiscal deficit and macroeconomic stability in Hong Kong SAR. *BIS papers,* No 20: 131-139.

Favero, C. A., & Spinelli, F. 1999. Deficits, money growth and inflation in Italy: 1875-1994. *Economic Notes,* 28(1): 43.

Fischer, S., Sahay, R., & Vegh, C. 2002. Modern hyper - and high inflations. *Journal of economic literature,* XL: 837-880.

Fischer, S. 1993. The role of macroeconomic factors in growth. *Journal of monetary economics,* 32(3): 485-512.

Fischer, S. 1995a. Central bank independence revisited. *The american economic review,* 85(2): 201-206.

Fischer, S. 1995b. Modern central banking. In F. Capie, S. Fischer, C. Goohard, & N. Schnadt (Eds.), *The future of central banking*: 262-308. Cambridge: Cambridge University Press.

Fischer, S. 1999. On the need for an international lender of last resort. *Journal of*

economic perspectives, 13(4): 85-104.

Fischer, S., & Modigliani, F. 1978. Towards an understanding of the real effects and costs of inflation. *Review of world economics,* 114(4): 810-833.

Forder, J. 1998. Central bank independence-conceptual clarifications and interim assessment. *Oxford Economic Papers,* 50(3): 307.

Forder, J. 1999. Central bank independence: reassessing the measurements. *Journal of Economic Issues,* 33(1): 23.

Forder, J. 2005. Why is central bank independence so widely approved? *Journal of Economic Issues,* 39(4): 843.

Franzese, R. J. 1999. Partially independent central banks, politically responsive governments, and inflation. *American Journal of Political Science,* 43(3): 681.

Fratianni, M., & Von Hagen, J. 1997. Central banking as a political principal-agent problem. *Economic Inquiry,* 35(2): 378.

Freund, W. C. 1985. Israel's triple-digit inflation. *Journal of Accounting, Auditing & Finance,* 8(2): 157.

Friedman, B. 1999. The future of monetary policy: the central bank as an army with only a signal corps? *International Finance,* 2(3): 321-338 .

Froyen, R. T., & Waud, R. N. 1995. Central bank independence and the output-inflation tradeoff. *Journal of Economics & Business,* 47(2): 137.

Fry, M., Julius, D., Mahadeva, L., Roger, S., & Sterne, G. 2000. Key issues in the choice of monetary policy framework. In L. Mahadeva, & G. Sterne (Eds.), *Monetary policy frameworks in a global context*: 1-216. London: Routledge.

Fuhrer, J. C. 1994. Goals, guidelines, and constraints facing monetary policymakers: an overview. *New England Economic Review,* September - October: 3.

Fuhrer, J. C. 1997. Central bank independence and inflation targeting: monetary policy paradigms for the next millennium? *New England Economic Review,* January - February: 19.

Fujita, M., & Krugman, P. 2004. The new economic geography: past, present and the future. *Papers in regional science,* 83: 139-164.

Gabillon, E., & Martimort, D. 2004. The benefits of central bank's political independence. *European Economic Review,* 48(2): 353.

Gal, M. S. 2003. *Competition policy in small market economies*. Cambridge, Massachusetts: Harvard University Press.

Gartner, M. 2000. Political macroeconomics: a survey of recent developments. *Journal*

of economic surveys, 14(5): 527.

Gascoigne, A., & Turner, P. 2004. Asymmetries in Bank of England monetary policy. *Applied Economics Letters,* 11(10): 615-618.

Gaspard, T. 2005. *Iktissad lubnan alsiyassi 1948-2002*. Beirut: Nahar.

Gaspard, T. 1988. *Recommendations for a short run monetary policy*. Beirut: Banque du Liban - direction de statistique et d'etude economique.

Gaspard, T. 1989. The gross domestic product in Lebanon in 1987. *Banque du Liban: Bulletin Trimestriel,* 4

Gavin, J. M. 1975. A strategy for national survival. *California Management Review,* 17(4): 5-10.

Geraats, P. M. 2002. Central bank transparency. *The Economic Journal,* 112: F532-F565.

Gerlach, S. 1999. Who targets inflation explicitly? *European Economic Review,* 43(7): 1257-1277.

Ghironi, F. & Rebucci, A. 2001. *Monetary rules for emerging market economies.* Unpublished Draft Article August 13, 2001. Boston College & IMF.

Goodhart, C. A. E. 2002. The constitutional position of an independent central bank. *Government and Opposition,* 37(2): 190-210.

Grammatikos, T., Saunders, A., & Swary, I. 1986. Return and risks of US bank foreign currency activities. *Journal of Finance,* XLI(3): 671-682.

Greenaway, D. 1994. Policy forum: the banking system and monetary control. *Economic Journal,* (427): 1422-1423.

Greenaway, D. 1997. Policy forum: UK macroeconomic policy after black Wednesday. *Economic Journal,* (443): 1126.

Greif, A. 1995. Micro theory and recent development in the study of economic institutions through economic history. In D. Kreps, & K. Wallis (Editors.), *Advances in Economic Theory*, vol. II: 79-113. Cambridge: Cambridge University Press.

Grilli, V., Masciandaro, D., & Tabellini, G. 1991. Political and monetary institutions and public financial policies in the industrial countries. *Economic Policy,* 6(2): 341-392.

Hadri, K., Lockwood, B., & Maloney, J. 1998b. Does central bank independence smooth the political business cycle in inflation? Some OECD evidence. *The Manchester School,* 66(4): 377-395.

Hajj, A. 2006a. Economic editorial. *Assafir newspaper,* January 24.

Hajj, A. 2006b. Raheel al hakem bil-kanoun. *Assafir newspaper,* January 24.

Hakim, S., & Andary, S. 1997. The Lebanese central bank and the treasury bills market. *Middle East Journal,* 5(2).

Hall, P. A., & Franzese, R. J. 1998. Mixed signals: central bank independence, coordinated wage bargaining, and European Monetary Union. *International Organization,* 52(3): 505-535.

Hall, S., & Hall, B. 2000. The independence of the Bank of England: an update. *Economic Outlook,* 24(2): 5.

Hamel, J., Dufour, S., & Fortin, D. 1993. *Case study methods*. Newbury Park, CA: Sage Publications.

Hannoun, R. 1986. *The finance company of Lebanon.* Unpublished MBA thesis, American University of Beirut, Lebanon.

Haque, N. 2000. *Republic commemoration lecture: On the development of financial markets in developing economies.* Center of banking studies, Sri Lanka.

Hariz, F. 1992. *The performance of Lebanese commercial banks in crisis years.* Unpublished MBA thesis, American University of Beirut, Lebanon.

Havrilesky, T., & Granato, J. 1993. Determinants of inflationary performance: corporatist structures vs. central bank autonomy. *Public Choice,* 76(3): 249-261.

Hawkins, H., & Mihaljek, D. 2001. The banking industry in the emerging market economies:competition, consolidation and systemic stability - an overview. *BIS papers,* 4.

Hawkins, J. 2003. Central bank balance sheets and fiscal operations. *BIS papers,* No 20: 71-83.

Hayo, B., & Hefeker, C. 2002. Reconsidering central bank independence. *European Journal of Political Economy,* 18(4): 653.

Haywood, C. F. 1982. Independence of the Federal Reserve: an examination of the evolving concept of an independent Fed. *American Bankers Association. ABA Banking Journal,* 74(6): 219.

Healey, N. M., & Levine, P. 1992. Unpleasant monetarist arithmetic revisited: central bank independence, fiscal policy and European Monetary Union. *National Westminster Bank. Quarterly Review,* August: 23.

Henry, B., Nixon, J., & Hall, S. 1999. Central bank independence and co-ordinating monetary and fiscal policy. *Economic Outlook,* 23(2): 7.

Hermes, N., & Lensink, R. 2000. Financial system development in transition economics. *Journal of Banking & Finance,* 24(4): 507-524.

4.Herrendorf, B., & Neumann, M. J. M. 2000. A nonnormative theory of inflation and central bank independence. *Weltwirtschaftliches Archiv-Review of World Economics,* 136(2): 315-333.

3.Herrendorf, B., & Neumann, M. J. M. 2003. The political economy of inflation, labour market distortions and central bank independence. *Economic Journal,* 113(484): 43-64.

1.Herrendorf, B. 1998. Inflation targeting as a way of precommitment. *Oxford Economic Papers,* 50(3): 431.

2.Herrendorf, B., & Lockwood, B. 1997. Rogoff's "Conservative" central banker restored. *Journal of Money, Credit & Banking,* 29(4): 476-495.

Hetzel, R. L. 1988. The monetary responsibilities of a central bank. *Economic Review,* 74(5): 19-31.

Heylen, F., & Van Poeck, A. 1996. Central bank independence: only part of the inflation story. *De Economist (Kluwer),* 144(1): 45-61.

Hoenig, T. M. 1993. China's economic growth with price stability: what role for the central bank? *Economic Review - Federal Reserve Bank of Kansas City,* 78(1): 5.

Holtrop, M. 1963. *Monetary policy in an open economy*. Princeton, N.J.: Princeton University Press.

Horsch, K., & Anderson, C. 1997. Interview with Robert K. Yin. *The Evaluation Exchange,* 3(1): 1.

Hoss, S. 1989. Press statement. *Al-Anwar newspaper,* January 7.

Hoss, S. 1991. *Ahd elqarar wal hawa*. Beirut: Dar elelem lilmalayin.

Huang, K. X. D., & Liu, Z. 2005. Inflation targeting: what inflation rate to target? *Journal of Monetary Economics,* 52(8): 1435-1462.

Huffman, G. W. 1997. An equilibrium analysis of central bank independence and inflation. *Canadian Journal of Economics,* 30(4): 943.

Hughes Hallett, A. 2004. A central bank for all seasons? The "lower inflation at no cost" proposition under conditions of political uncertainty. *Macroeconomic Dynamics,* 8(2): 207.

Hughes Hallett, A., & Viegi, N. 2002. Inflation targeting as a coordination device. *Open Economies Review,* 13(4): 341.

Husseini, H. 1990. Press statement. *Al-Diyar newspaper,* March 20.

Hutchison, M. M., & Walsh, C. E. 1998. The output-inflation tradeoff and central bank reform: evidence from New Zealand. *The Economic Journal,* 108(448): 703.

IFS 1981-1993. *International finance statistics*. Washington: IMF.

Iskandar, M. *The Lebanese economy 1981-82/1982-83/1990-91/1991-92/1992-93*. Beirut: M.I. Associates.

Iskandar, M. 1989. *The Lebanese economy on the eve of 1989.* M.I. Associates, Beirut.

Iskandar, M. 1991. *Causes for the depreciation of the Lebanese pound.* M.I. Associates, Beirut.

Ismihan, M., & Ozkan, F. G. 2004. Does central bank independence lower inflation? *Economics Letters,* 84(3): 305-309.

Iversen, T. 1999. Erratum: the political economy of inflation: bargaining structure or central bank independence? *Public Choice,* 101(3-4): 285.

Jacobs, J. 1969. *The Economy of Cities*. New York: Random House.

.Jalilian, H., Kirkpatrick, C., & Parker, D. 2003. The impact of regulation on economic growth in developing countries - a cross-country analysis. *Working paper,* No 54(IDPM): University of Manchester.

Jalilian, H., & Kirkpatrick, C. 2002. Financial development and poverty reduction in developing countries. *International Journal of Finance & Economics,* 7(2): 97.

Jordan, J. L., & Carlson, J. B. 2000. Money, monetary policy, and central banking. *Journal of Financial Services Research,* 18(2/3): 241-253.

Jordan, T. J. 1997a. Central bank independence and the trade-off between inflation and output stabilization. *Journal of Institutional and Theoretical Economics-Zeitschrift Fur Die Gesamte Staatswissenschaft,* 153(2): 367-383.

.Jordan, T. J. 1997b. Disinflation costs, accelerating inflation gains, and central bank independence. *Weltwirtschaftliches Archiv-Review of World Economics,* 133(1): 1-21.

Jordan, T. J. 2001. Monetary control uncertainty and inflation bias. *Journal of Economics-Zeitschrift Fur Nationalokonomie,* 73(2): 125-147.

Khalaf, N. 1985. Policy measure for the control of inflation in Lebanon. *BDL: Bulletin triemstriel,* 24: 6-21.

Khalaf, N., & Munla, N. 1984. Some propositions on the understanding and the control of inflation in the Lebanese economy. *BDL: Bulletin trimestriel,* 20: 14-22.

Khazen, E. 1990. Letter to central bank. *Ministry of interior,* March 13.

Khoury, J. 1988. *Depreciation monetaire au Liban.* Unpublished Science-eco. thesis, USJ, Lebanon.

King, D., & Yue Ma 2001. Fiscal decentralization, central bank independence, and

inflation. *Economics Letters,* 72(1): 95-98.

King, R. G., & Levine, R. 1993. Finance, entrepreneurship and growth. *Journal of Monetary Economics,* 32: 1-30.

Kneller, R., & Young, G. 1999. The UK economy. *National Institute Economic Review,* July(169): 8.

Kraft, E. 1995. Stabilizing inflation in Slovenia, Croatia and Macedonia. *Europe-Asia Studies,* 47(3): 469.

Krugman, P. 1994a. Competitiveness: a dangerous obsession. *Foreign Affairs,* 73(2): 28-44.

Krugman, P. 1994b. Does third world growth hurt first world prosperity? *Harvard Business Review,* 72(4).

Krugman, P. 1994c. Proving my point. *Foreign Affairs,* 73(4): 198-203.

Krugman, P. 1995. Dutch tulips and emerging markets. *Foreign Affairs,* 74(4): 28-44.

Krugman, P. 1996. A country is not a company. *Harvard business review,* 74(1).

Kuttner, K. N., & Posen, A. C. 2001. Beyond bipolar: a three-dimensional assessment of monetary frameworks. *International Journal of Finance & Economics,* 6(4): 369.

Kydland, F., & Prescott, E. 1977. Rules rather than discretion: the inconsistency of optimal plans. *Journal of Political Economy,* 85: 473-90.

Langley, A., Mintzberg, H., Pitcher, P., Posada, E., & Saint-Macary, J. 1995. Opening up decision making. *Organization Science,* 6: 260-279.

Langley, A. 1999. Strategies for theorizing from process data. *Academy of Management Review,* 24(4): 691-710.

Le Commerce du Levant 1979a. La BDL porte a 15% la réserve bancaire obligatoire. *Le Commerce du Levant,* June 4(4702): 10-11.

Le Commerce du Levant 1979b. Liban: augmentation de 3 a 4 pour cent du taux d'intéret sur les bons du Trésor et limitation des crédits au secteur privé. *Le Commerce du Levant,* June 18(4704): 8-9.

Le Commerce du Levant 1979c. La politique monétaire au Liban: relevement de la réserve obligatoire d'un point supplémentaire... et application du taux d'intéret de 50%. *Le Commerce du Levant,* November 12(4725): 9-12.

Le Commerce du Levant 1982a. Banque Centrale: le plafond des avances au secteur public est porté de 1 a 3 milliards de Livres. *Le Commerce du Levant,* November 8(4880): 8.

Le Commerce du Levant 1982b. Banque Centrale: le taux de réescompte ramené de 13 a 12%. *Le Commerce du Levant,* October 11(4876): 13-14.

Le Commerce du Levant 1982c. Objectifs de la BDL: soutenir la Livre et empecher l'exode. *Le Commerce du Levant,* March 29(4848): 20-21.

Le Commerce du Levant 1982d. Rapport de la Banque Centrale sur le développement économique et monétaire au Liban en 1977 a 1981. *Le Commerce du Levant,* January 25(4839): 8-12.

Le Commerce du Levant 1982e. Situation et politique monétaire de 1974 a 1982. *Le Commerce du Levant,* December 27(4887): 58-70.

Le Commerce du Levant 1983. Trois emissions simultanées de bons du trésor...mais les banques hésitent a s'engager a long terme. *Le Commerce du Levant,* June 13(4911): 6.

Le Commerce du Levant 1984a. Antoine Chader repond a Bakhos: nulle nécessité de contrôler les taux d'intérets. *Le Commerce du Levant,* July 30(4968): 32.

Le Commerce du Levant 1984b. Le diagnostic de la Banque Centrale. *Le Commerce du Levant,* September 17(4975): 17-25.

Le Commerce du Levant 1984c. Le relevement de 2% du taux d'intérets n'a pas suffi. *Le Commerce du Levant,* June 25(4963): 23.

Le Commerce du Levant 1986a. 4 circulaires de la BDL: 688, 689, 690, et 691. *Le Commerce du Levant,* December 15(5088): 27-28.

Le Commerce du Levant 1986b. 4 économistes jugent les initiatives de la Banque Centrale. *Le Commerce du Levant,* March 24(5050): 27-32.

Le Commerce du Levant 1986c. Bons du Trésor et réserve obligatoire: Chamoun s'oppose a la hausse au-dela de 18%. *Le Commerce du Levant,* February 17(5045): 27-30.

Le Commerce du Levant 1986d. Le circulaire No. 625. *Le Commerce du Levant,* February 24(5046): 30.

Le Commerce du Levant 1986e. Le FMI conseille au Liban: encadrez le credit; relevez le taux d'intéret. *Le Commerce du Levant,* July 28(5068): 25-26.

Le Commerce du Levant 1986f. L'économie libanaise jugée par le F.M.I. *Le Commerce du Levant,* August 25(5072): 16-17.

Le Commerce du Levant 1986g. Nouvelle politique de la BDL: quels effets sur les banques? *Le Commerce du Levant,* October 27(5081): 15-17.

Le Commerce du Levant 1986h. Que veut la Banque Centrale? *Le Commerce du Levant,* March 17(5049): 28-29.

Le Commerce du Levant 1986i. Réserves obligatoires: Naim change d'avis. *Le Commerce du Levant,* May 19(5058): 25-29.

Le Commerce du Levant 1989a. The gasoline is very cheap. *Le Commerce du Levant,* July 10(5215): 17.

Le Commerce du Levant 1989b. Should the central bank of Lebanon suspend the subsidies of the state. *Le Commerce du Levant,* June 26(5213): 13.

Le Commerce du Levant 1989c. The state is a bad salesman. *Le Commerce du Levant,* July 17(5216): 10-13.

Levine, R. 1997. Financial development and economic growth: views and agendas. *Journal of economic literature,* 35: 688-726.

Leybourne, S. J., & Mizen, P. 1999. Understanding the disinflations in Australia, Canada and New Zealand using evidence from smooth transition analysis. *Journal of International Money & Finance,* 18(5): 799.

Lightfoot, W. 1999. How to achieve central bank credibility. *International Economy,* 13(1): 56.

Lin, X. 1999. Central bank independence, economic behavior, and optimal term lengths: comment. *American Economic Review,* 89(4): 1056-1062.

Lippi, F. 1998. On central bank independence and the stability of policy targets. *Scandinavian Journal of Economics,* 100(2): 495-512.

Lippi, F. 2000. Median voter preferences, central bank independence and conservatism. *Public Choice,* 105(3-4): 323.

Lohmann, S. 1992. Optimal commitment in monetary policy: credibility versus flexibility. *The American Economic Review,* 82(1): 273.

Lossani, M., Natale, P., & Tirelli, P. 2000. Macroeconomics and politics revisited: do central banks matter? *Economics & Politics,* 12(1): 53.

Loungani, P., & Sheets, N. 1997. Central bank independence, inflation, and growth in transition economies. *Journal of money, credit, and banking,* 29(3): 381.

Lozano, L. I., & Uribe, J. D. 2003. Fiscal issues and central banks in emerging markets: the case of Colombia. *BIS papers,* No 20: 109-120.

Lucas, R. E. 1988. On the mechanics of economic development. *Journal of Monetary Economics,* 22: 3-42.

Lucas, R. E. 1986. Principles of fiscal and monetary policy. *Journal of Monetary Economics,* 17: 117-134.

MacFarlane, I. J. 1999. Australian monetary policy in the last quarter of the twentieth

century. *Economic Record,* 75(230): 213.

Machinea, J. L. (Coord.). 2004. *Productive development in open economies*. San Juan, Puerto Rico: Eclac: United Nations.

Maier, P., Sturm, J., & de Haan, J. 2002. Political pressure on the Bundesbank. *Journal of Macroeconomics,* 24: 103-123.

Makdissi, S., & Sadaka, R. 2003. The Lebanese civil war 1975-1990. *American University of Beirut working papers series,* 3: 1-27.

Makdissi, S. 1987. Political conflict and economic performance in Lebanon 1975-1986. *BDL: Bulletin trimestriel,* 34: 12-15.

Makinen, G. E. 1984. The Greek Stabilization of 1944-46. *American Economic Review,* 74(5): 1067.

Makinen, G. E., & Woodward, G. T. 1989. A monetary interpretation of the Poincare stabilization of 1926. *Southern Economic Journal,* 56(1): 191.

Maliszewski, W. S. 2000. Central bank independence in transition economies. *Economics of Transition,* 8(3).

Mallat, R. 1988. *The Economic Challenge*. Louaize: NDU Press.

Maloney, J., Pickering, A. C., & Hadri, K. 2003. Political business cycles and central bank independence. *The Economic Journal,* 113.

Mangano, G. 1998. Measuring central bank independence: a tale of subjectivity and of its consequences. *Oxford Economic Papers,* 50(3): 468.

Marshall, J. 2003. Fiscal rule and central bank issues in Chile. *BIS papers,* No 20: 98-106.

Mas, I. 1995. Central bank independence: a critical view from a developing country perspective. *World Development,* 23(10): 1639.

Masciandaro, D. 2004. Unification in financial sector supervision: the trade-off between central bank and single authority. *Journal of Financial Regulation and Compliance,* 12(2): 151-169.

Masciandaro, M., & Spinelli, F. 1994. Central banks' independence: institutional determinants, rankings, and central bankers views. *Scottish Journal of Political Economy,* 41(4): 434-443.

Matalik, I., & Slavik, M. 2003. Fiscal issues and central bank policy in the Czech republic. *BIS papers,* No 20: 122-130.

Maxfield, S. 1997. *Gatekeepers of growth: the international political economy of central banking in developing countries*. Princeton: Princeton University Press.

Mazboudi, Z. 1987. Political situation and the value of the currency. *Nadwat al dirassat al inmaiyah,* January: 24-37.

McCallum, B. T. 1995. Two fallacies concerning central-bank independence. *American Economic Review,* 85(2): 207.

McCallum, B. T. 1997. Crucial issues concerning central bank independence. *Journal of Monetary Economics,* 39(1): 99-112.

Midani, A. 1982. Determinants of the interbank rate in Lebanon. *BDL: Bulletin trimestriel,* 14: 14-19.

Mihaljek, D., & Tissot, B. 2003. Fiscal positions in emerging economies: central banks' perspective. *BIS papers,* No 20: 10-37.

Milesi-Ferretti, G. M. 1995. The disadvantage of tying their hands: on the political economy of policy commitments. *Economic Journal,* 105(433): 1381-1402.

Milki, R. 1986. Et si la BDL empechait le reflux de la Livre? *Le Commerce du Levant,* December 8(5087): 84-85.

Miller, G. P. 1998. An interest-group theory of central bank independence. *Journal of Legal Studies,* 27(2): 433.

Mintzberg, H. 1989. *Mintzberg on management*. New York: Free Press.

Mintzberg, H. 1994. The fall and rise of strategic planning. *Harvard Business Review,* 72(1): 107-114.

Mohanty, M. S., & Scatigna, M. 2003. Countercyclical fiscal policy and central banks. *BIS papers,* No 20: 38-70.

Mohr, L. B. 1982. *Explaining Organizational Behavior.* San Fransisco: Jossey-Bass.

Monogios, Y. A., & Pitelis, C. 2004. On ultra rationality and the corporate and government veils. *The Manchester School,* 17(3): 382-402.

Moreno, R. 2003. Fiscal issues and central banking in emerging economies: an overview. *BIS papers,* No 20: 1-9.

Moser, P. 1999. Checks and balances, and the supply of central bank independence. *European Economic Review,* 43(8): 1569-1593.

Moukhaiber, N. 1986a. Le dilemme des intérets. *Le Commerce du Levant,* August 11(5070): 20-23.

Moukhaiber, N. 1986b. Joutes du monétaire. *Le Commerce du Levant,* June 2(5060): 24-26.

Moukhaiber, N. 1986c. L'économie politisée. *Le Commerce du Levant,* July 7(5065):

16-19.

Moukhaiber, N. 1986d. Réformes monétaire: Les demi-mesures. *Le Commerce du Levant,* June 16(5062): 14-15.

Mourmouras, I. A., & Dou-Ming Su 1995. On stabilization plans and central bank independence. *Applied Economics,* 27(10): 967.

Muscatelli, A. 1998. Optimal inflation contracts and inflation targets with uncertain central bank preferences: accountability through independence? *Economic Journal,* 108(447): 529-542.

Muscatelli, A., & Trecroci, C. 2000. Monetary policy rules, policy preferences, and uncertainty: recent empirical evidence. *Journal of Economic Surveys,* 14(5): 597.

Muscatelli, V. A. 1998. Political consensus, uncertain preferences, and central bank independence. *Oxford Economic Papers,* 50(3): 412.

Naffi, M. 1971. *The role of commercial banks in the economic development of Lebanon.* Unpublished Masters thesis, American University of Beirut, Lebanon.

Naim, E. 1985a. Letter to ministry of finance. *Banque du Liban,* December 18

Naim, E. 1985b. Letter to ministry of finance. *Banque du Liban,* March 25(#91)

Naim, E. 1985c. Letter to ministry of finance. *Banque du Liban,* April 13(#133)

Naim, E. 1985d. Letter to ministry of finance. *Banque du Liban,* May 22(#183)

Naim, E. 1985e. Letter to ministry of finance. *Banque du Liban,* June 20(#231)

Naim, E. 1985f. Letter to ministry of finance. *Banque du Liban,* October 22

Naim, E. 1986a. Press statement. *Assafir newspaper,* May 25

Naim, E. 1986b. Press statement. *Annahar newspaper,* August 10

Naim, E. 1988a. Interview. *Annahar newspaper,* October 10

Naim, E. 1988b. Press statement. *Annahar newspaper,* March 22

Naim, E. 1988c. Press statement. *Al-Anwar newspaper,* December 5

Naim, E. 1988d. Press statement. *Assafir newspaper,* December 9

Naim, E. 1989a. Interview. *Al Qabas,* August 13

Naim, E. 1989b. Interview. *Annahar newspaper,* June 26

Naim, E. 1990a. Interview. *Assafir newspaper,* December 15

Naim, E. 1990b. Interview. *Assafir newspaper,* March 20

Naim, E. 1990c. Press statement. *Al-Anwar newspaper,* March 8

Nasr, S. 1986. 10 mesures pour sauver l'économie du Liban. *Le Commerce du Levant,* August 4(5068): 16-19.

Nasution, A. 2003. Fiscal issues and central banks: Indonesia's experience. *BIS papers,* No 20: 154-157 .

Neyapti, B. 2003. Budget deficits and inflation: the roles of central bank independence and financial market development. *Contemporary Economic Policy,* 21(4): 458-475.

Neyapti, B. 2004. Fiscal decentralization, central bank independence and inflation: a panel investigation. *Economics Letters,* 82(2): 227.

Nielson, R. P. 1984. Industrial policy: the case for national strategies for world markets. *Long Range Planning,* 17: 50-59.

Nordhaus, W. 1975. The political business cycle. *Review of Economics Study,* 42: 169-90.

North, D. 1977. The new economic history after twenty years. *The American Behavioral Scientist,* 21(2): 187-200.

.North, D. C. 1989. Institutions and economic growth: a historical introduction. *World Development,* 17(9): 1319-1332.

North, D. C. 1991. Institutions. *Journal of Economic Perspectives,* 5(1): 97-112.

North, D. C. 1992a. Institutions and economic theory. *American Economist,* 36(1): 3-6.

North, D. C. 1992b. Institutions, ideology, and economic performance. *CATO Journal,* 11(3): 477-489.

North, D. C. 2005. Institutions and the process of economic change. *Management International,* 9(3): 1-7.

Nsouli, M. 2003. Interview. *Le Commerce du Levant,* October 12

Oatley, T. 1999. Central bank independence and inflation: corporatism, partisanship, and alternative indices of central bank independence. *Public Choice,* 98(3-4): 399.

Odell, J. S. 2001. Case study methods in international political economy. *International Studies Perspectives,* 2: 161-167.

Osseiran, F. 1987. Currency Substitution in Lebanon 1977-1986. *BDL: Bulletin trimestriel,* 35(4): 4-11.

Otero, J. S., & Ramirez, M. 2006. Inflation before and after central bank independence: the case of Colombia. *Journal of Development Economics,* 79(1): 168-182.

Oueyss, S. 1989. La BDL suspend les crédits. *Le Commerce du Levant,* June 19(5212): 12-13.

Oughourlian, J. 1982. *One Currency, One State*. Paris: Eres.

Ozkan, F. G. 1998. Partisan business and budget cycles with separate fiscal and monetary authorities. *The Manchester School,* 66(2): 178.

Ozkan, F. G. 2000. Who wants an independent central bank? monetary policy-making and politics. *Scandinavian Journal of Economics,* 102(4): 621-643.

Parker, S. 1998. Out of the ashes? *The Brookings Review,* 16(3): 10.

Pastor, M., & Maxfield, S. 1999. Central bank independence and private investment in the developing world. *Economics and Politics,* 11(3).

Peek, J., Rosengren, E., & Tootell, G. 1999. Is bank supervision central to central banking? *The Quarterly Journal of Economics,* 114(2): 629-653.

Persson, T., & Tabellini, G. 1993. Designing institutions for monetary stability. *Carnegie-Rochester conference series on public policies,* 39: 53-84.

Pettigrew, A. M. 1990. Longitudinal field research on change: theory and practice. *Organization science,* 1(3): 267-292.

Pettigrew, A. M. 1992. The character and significance of strategy process research. *Strategic management journal,* 13: 5-16.

Petursson, T. 2000. New focuses in central banking: Increased independence, transparency and accountability. *Monetary Bulletin, Bank of Iceland,* 4: 49-62.

Piga, G. 2000. Dependent and accountable: evidence from the modern theory of central banking. *Journal of Economic Surveys,* 14(5)

Piga, G. 2005. On the sources of the inflation bias and output variability. *Scottish Journal of Political Economy,* 52(4): 607-622.

Pitelis, C. 1992. Towards a neo-classical theory of institutional failure. *Journal of Economic Studies,* 19(1): 14-28.

Pitelis, C. 1993. Transnationals, international organization and deindustrialization. *Organization Studies,* 14(4): 527-548.

Pitelis, C. 1998. Productivity, competitiveness and convergence in the european economy: supply-side considerations. *Contributions to Political Economy,* 17(1): 1-20.

Pitelis, C. 2000. *International Business Lecture Notes.* University of Cambridge.

Pitelis, C. 2004. Corporate governance, shareholder value and sustainable economic performance. *Corporate governance,* 12(2): 210-223.

Poole, W. 1988. Monetary policy lessons of recent inflation and disinflation. *Journal of Economic Perspectives,* 2(3): 73-100.

Poole, W., & Meiselman, D. I. 1986. Monetary control and the political business cycle. *Cato Journal,* 5(3): 685.

Porter, M. E. 1990a. *The Competitive Advantage of Nations*. New York: The Free Press.

Porter, M. E. 1990b. New global strategies for competitive advantage. *Planning Review,* 18(3): 4-14.

Porter, M. E. 1996. What is strategy? *Harvard Business Review,* 74(6): 61-78.

Porter, M. E. 2000. Location, competition, and economic development: local clusters in a global economy. *Economic Development Quarterly,* 14(1): 15-34.

Porter, M. E. 2001. *How government matters: influences on prosperity, competition and company strategy.* Paper presented at the All-Academy session, Academy of Management, Washington, DC.

Posen, A. S. 1993. Why central bank independence does not cause low inflation: there is no institutional fix for politics. *Finance and the International Economy,* 7: 40-65.

Posen, A. 1995. Declarations are not enough: financial sectors of central bank independence. *NBER,* Macroeconomics Annual, 10: 253-298.

Posen, A. S. 1998. Central bank independence and disinflationary credibility: a missing link? *Oxford Economic Papers,* 50(3): 335.

Pospisil, J. 1997. Inflation and the independence of a central bank. *Eastern European Economics,* 35(2): 21.

Prahalad, C. K., & Hamel, G. 1990. The core competence of the corporation. *Harvard Business Review,* 68(3): 79-90.

Prast, H. M. 1998. Commitment rather than independence: an institutional design for reducing the inflationary bias of monetary policy. Reply to Jakob de Haan. *Kyklos,* 51(1): 127-128.

Prast, H. M. 1996. Commitment rather than independence: an institutional design for reducing the inflationary bias of monetary policy. *Kyklos,* 49(3): 377.

Protopapadakis, A. 1983. The endogeneity of money during the German hyperinflation: a reappraisal. *Economic Inquiry,* 21(1): 72.

Qorm, G. 1994. Siyassat iadarat al imar. *Abad,* January.

Qorm, G. 2001. *The Lost Chance*. Beirut: Matbouat.

Research department 1982-1992. *Lebanon quarterly reports*. Beirut: Banque Audi.

Rich, G. 2000. Monetary policy without central bank money: a Swiss perspective. *International finance,* 3(3): 439-469.

Rifai, R. 1988. *Effect of the Lebanese Treasury Bills on money supply and interest rates.* Unpublished MBA thesis, American University of Beirut, Lebanon.

Rogoff, K. 1985. The optimal degree of commitment to an intermediate monetary target. *Quarterly Journal of Economics,* 110: 1169-90.

Rogoff, K., & Sibert, A. 1988. Equilibrium political business cycles. *Review of Economic Studies,* 55: 1-16.

Romanelli, E., & Tushman, M. 1994. Organizational transformation as punctuated equilibrium: an empirical test. *Academy of Management Journal,* 37: 1141-1166.

Romer, C. D., & Romer, D. H. 1994. Monetary policy matters. *Journal of Monetary Economics,* 34: 75-88.

Romer, P. 1986. Increasing returns and long-run growth. *Journal of Political Economy,* 94: 1002-1037.

Romer, P. 1993. Idea gaps and object gaps in economic development. *Journal of Monetary Economics,* 32(3): 543-573.

Romer, P. 1994. The origins of endogenous growth. *Journal of Economic Perspectives,* 8(1): 3-22.

Rossi, S. 2005. Inflation targeting and sacrifice ratios. *International Journal of Political Economy,* 34(2): 69.

Rubli-Kaiser, F. 2001. Recent developments in inflation and monetary policy in Mexico: A perspective from the central bank. *International Financial Law Review,* 21.

Rugman, A. M. 1987. Strategies for national competitiveness. *Long Range Planning,* 20(3): 92-97.

Ruogu, L. 2003. China's monetary and fiscal policy. *BIS papers,* No 20: 107-108.

Saba, E. 1995. *Hiwar hawla eliktissad*. Beirut: Saba.

Saba, E. 2002. Al iktissad al lubnani men ayn wa ila ayn. *Al-Mustaqbal Al-Arabi,* February.

Saba, E. 2006. Al dayn alam biloumoulat. *Assafir newspaper,* June 29.

Saba, E. 1986. La stratégie de la Banque Centrale. *Le Commerce du Levant,* March 24(5050): 27-28.

Saidi, N. 1986. Economic consequences of the war in Lebanon. *BDL: Bulletin triemstriel,* 28: 5-17.

Salame, R. 1993. Le plan du Gouverneur. *Le Commerce du Levant,* August 26(5314): 12-15.

Salame, R. 2004. Press statement. *Annahar newspaper,* January 7.

Salame, R. 2006a. Interview. *Assafir newspaper,* Januray 19.

Salame, R. 2006b. Interview. *Assafir newspaper,* June 26.

Salame, R. 2006c. Press statement. *Al-Diyar newspaper,* June 16.

Salame, R. 2006d. Press statement. *Almustaqbal,* June 20.

Salame, R. 2006e. Public announcement. *Al-Diyar newspaper,* June 16.

Salame, R. 2006f. Statement. *Al-Diyar newspaper,* June 16.

Salame, R. 1993. Le plan du Gouverneur. *Le Commerce du Levant,* August 26(5314): 12-15.

Salibi, I. 1985. *The viability of the Lebanese banking system.* Unpublished MBA thesis, American University of Beirut, Lebanon.

Salibi, K. 2002. *Tareekh lubnan elhadith* (7th ed.). Beirut: Nahar.

Salloum, A. 1991. *Alsiyassah almaliah wal naqdiyah wal massrifiyah fi lubnan*. Beirut: Alharef.

Sanan, F. 1987. *La politique monétaire: Le seconde compromis.* Rapport economique Libanais, Beirut.

Sanan, F. 1991. Perspectives monétaires. *Le Commerce du Levant,* July 25(5260): 81-88.

Sargent, T. J. 1999. A primer on monetary and fiscal policy. *Journal of Banking & Finance,* 23(10): 1463.

Savvides, A. 1998. Inflation and monetary policy in selected West and Central African countries. *World Development,* 26(5): 809.

Scholtes, C. 2002. On market-based measures of inflation expectations. *Bank of England. Quarterly Bulletin,* 42(1): 67.

Shidiak, H. 1992. *Lebanon: fundamental determinants of the exchange rate, 1983-1991.* Unpublished MMB thesis, American University of Beirut, Lebanon.

Shouayri, S. J. 1985. *The bank of Lebanon: a recent evaluation.* Unpublished MBA thesis, American University of Beirut, Lebanon.

Shull, B. 1996. Federal Reserve independence: what kind and how much? *Journal of Post Keynesian Economics,* 18(2): 211.

Siklos, P. L. 2004. Central bank behavior, the institutional framework, and policy regimes: inflation versus noninflation targetting countries. *Contemporary Economic Policy,* 22(3): 331-343.

Simmons, B. A. 1996. Rulers of the game: central bank independence during the interwar years. *International Organization,* 50(3): 407.

Smith, K. G., Grimm, C. M., & Gannon, M. J. 1992. *Dynamics of competitive strategy*. Newbury Park, CA: Sage.

Société générale Libano-Européenne de banque 1982-1992. *Dealing room reports.* Beirut: Société générale Libano-Européenne de banque.

Solow, R. 1956. A contribution to the theory of economic growth. *Quarterly Journal of Economics,* 70: 65-94.

Soy, S. 1997. *The Case Study as a Research Method.* University of Texas at Austin.

Spiegel, M. M. 1998. Central bank independence and inflation expectations: evidence from British index-linked gilts. *Economic Review - Federal Reserve Bank of San Francisco,* (1): 3.

Stiglitz, J. 2000. The contributions of the economics of information to twentieth century economics. *Quarterly journal of economics,* 1441-1478.

Summers, L. 1991. How should long-term monetary policy be determined? *Journal of Money, Credit, and Banking,* 23(3): 625.

Svensson, L. E. O. 1997. Optimal inflation targets, "conservative" central banks, and linear inflation contracts. *The American Economic Review,* 87(1): 98-114.

Tambakis, D. N. 1999. Effective central bank independence and the inflation-output trade-off. *Journal of Macroeconomics,* 21(4): 729.

Temple, J. 1998. Central bank independence and inflation: good news and bad news. *Economics Letters,* 61(2): 215-219.

The Republic of Lebanon 1963. *The Code of Money and Credit* (2005 ed.). Beirut: BDL.

Thies, C. G. 2004. Individuals, institutions, and inflation: conceptual complexity, central bank independence, and the Asian crisis. *International Studies Quarterly,* 48(3): 579-602.

Thiessen, G. 1997. What can monetary policy do to help the economy reach its full potential? *Bank of Canada Review,* December: 79.

Tompson, W. 1998. The politics of central bank independence in Russia. *Europe-Asia Studies,* 50(7): 1157.

Tootell, G. M. B. 1999. Whose monetary policy is it anyway? *Journal of Monetary Economics,* 43(1): 217-235.

Tranfield, D., Denyer, D., & Smart, P. 2003. Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management,* 14(3): 207-22.

Uchida, H., & Fujiki, H. 2005. Optimal inflation target under uncertainty. *Japan & the World Economy,* 17(4): 470-479.

Uribe, J. D. 2001. The banking industry in Colombia: competition, consolidation and systemic stability. *BIS papers,* 4

Van de ven, A. H., & Huber, G. P. 1990. Longitudinal field research methods for studying processes of organizational change. *Organization Science,* 1: 213-219.

Van de ven, A. H., & Huber, G. P. 1992. Suggestions for studying strategy process. *Strategic Management Journal,* 13: 169-188.

Vijayaledchumy, V. 2003. Fiscal policy in Malaysia. *BIS papers,* No 20: 173-179.

Viotti, S. 2004. Swedish monetary policy. *Sveriges Riksbank Economic Review,* (2): 47-76.

Vyugin, O. 2003. Budget and tax problems and central banks: Russia's experiences. *BIS papers,* No 20: 218-223.

Wagner, H. 2000. Controlling inflation in transition economies: The relevance of central bank independence and the right nominal anchor. *Atlantic Economic Journal,* 28(1): 60.

Wakim, N. 1998. *Al ayadi al sawda*. Beirut: Matbouat.

Waller, C. J. 1989. Monetary policy games and central bank politics. *Journal of Money, Credit & Banking,* 21(4): 422-431.

Waller, C. J., & Walsh, C. E. 1996. Central-bank independence, economic behavior, and optimal term lengths. *American Economic Review,* 86(5): 1139-1153.

Walsh, C. 2000. Monetary policy design: institutional developments from a contractual perspective. *International finance,* 3(3): 375-389.

Walsh, C. E. 1993. Central bank strategies, credibility, and independence: a review essay. *Journal of Monetary Economics,* 32(2): 287-302.

Walsh, C. E. 1995. Optimal contracts for central bankers. *The American Economic Review,* 85(1): 150-167.

Walsh, C. E. 2000. Monetary policy design: institutional developments from a contractual perspective. *International Finance,* 3(3): 375.

Watanagase, T. 2001. The banking industry in Thailand: competition, consolidation and systemic stability. *BIS papers,* 4

Weick, K. 1989. Theory construction as disciplined imagination. *Academy of Management Review,* 14: 516-531.

Williams, G. 2000. Reviewing Bank of England independence: the report of the Bank of England commission. *Economic Outlook,* 24(3): 14.

Wolcott, H. F. 1994. *Transforming qualitative data*. Newbury Park, CA: Sage.

Wright, L., & Ross, J. 2001. The logic model: an A-to-Z guide to training development, implementation and evaluation. *Training and Development in Human Services,* August: 153-167.

Wrightsman, D. 1983. *An Introduction to Monetary Theory and Policy* (Third ed.). New York: The Free Press.

Yacaman, J. M. 2001. Competition and consolidation in the Mexican banking industry after the 1995 crisis. *BIS papers,* 4

Yachoui, E. 2002. *Iktissad lubnan*. Beirut: Librairie du Liban.

Yachoui, E. 1985. *Analyse de la politique monétaire au Liban.* USJ, 1985.

Yin, R. 1993. *Applications of Case Study Research*. Beverly Hills, CA: Sage Publications.

Yin, R. 1994. *Case Study Research: Design and Methods* (2nd ed.). Beverly Hills, CA: Sage Publications.

Yung, C. K. 2003. The fiscal response to the currency crisis and the challenges ahead - Korea's experience. *BIS papers,* No 20: 167-172.

Zonabend, F. 1992. The monograph in European ethnology. *Current Sociology,* 40(1): 49-60.

APPENDICES

Appendix A: Translation of main articles from the Code of Money and Credit

Article 13: The central bank is a moral person according to the law and enjoys complete financial independence. It deals with others as a merchant and follows the rules and regulations according to the commercial law. The central bank is not subject to any rules or regulations that apply to public entities. The courts of Beirut are the only valid reference to look into disputes between the central bank and any other entity.

Article 18: The governor of the central bank is appointed for the period of six years by the council of ministers. The vice-governors are appointed for the period of five years by the council of ministers after prior consultation with the governor. Both the governor and the vice-governors should have acquired educational degrees and professional expertise that allow them to pursue their work at the central bank. The terms of both the governor and the vice-governors can be renewed once or many times. The governor and the vice-governors will take oath in the presence of the president of the republic to pursue their responsibilities with integrity, devotion, and respect to the law.

Article 28: The central council of the central bank consists of the governor as president, in addition to the vice-governors and the general directors of both the ministries of finance and economy as members. However, the mentioned general directors will not represent the government in these meetings and have no responsibilities at the central bank other than this membership on the central council. The general directors will perform the same oath taken by the governor and the vice-governors in the presence of the president of the republic.

Article 43: All decisions taken by the central council of the central bank shall be communicated to the government representative (responsible for communication with the central bank). The government (representative and minister of finance) has the right to ask for suspension of any decision within a period of 2 days. This suspension shall be effective for 5 days. If no change is made on this decision by the central council of the central bank, then this decision shall become effective immediately.

Article 70: The sole purpose of the central bank is to safeguard the value of the currency in order to guarantee the base for economic and social progress. Specifically, the following constitute the major objectives of the central bank: a. Safeguarding the value of the currency; b. Safeguarding economic stability; c. Safeguarding the well being of the banking sector; d. Developing the financial and banking markets. The central bank acts to meet those objectives following the prerogatives given to it by virtue of the Code of Money and Credit.

Article 72: The central bank should propose to the government actions and initiatives that could positively impact on the budget deficit, inflation, general finances and economic progress in general. The central bank will expose to the government all the issues that it finds detrimental to the value of the currency and the economy in general. The government should consult the central bank on matters related to the national currency.

Article 88: The central bank can grant the treasury, upon the request of the minister of finance, for a maximum period of 4 months *advances* that cannot exceed 10% of the average amount of state revenues (calculated over a 3 year period).

Article 89: The government has the right to ask for the above mentioned *advances* whenever it is established by the ministry of finance and the central bank that the funds available for the state at the central bank would not be enough to face immediate (urgent) financing requirement. However, this right shall never be used more than once every 12 months.

Article 90: Other than the *advances* mentioned in articles 88 and 89, the central bank shall never extend any loans to any public (government-related) entity.

Article 91: In utterly urgent cases or under extraordinary events, the government could ask the governor of the central bank for financing. The central bank shall study this request together with the government and shall try to find other ways to meet the government request other than extending a central bank loan. These ways could include: external borrowing in the local or foreign markets, reducing government expenses, increase taxation, etc. Only after all other ways of financing have been exhausted can the central bank consider issuing a loan after studying and limiting any negative effects it could have on the internal and external value of the national currency.

Article 92: *sets the same conditions as in Article 91 for any public (not necessarily government) related entity.*

Article 94: The loans mentioned in Articles 91 and 92 shall never be extended for a period longer than 10 years.

Article 95: The value and interest of the loan shall be decided between the government and the central bank. This contract, in addition to all the supporting studies, reports, discussions and limitation, shall be forwarded to the Parliament for approval.

Article 115: The central bank shall open an account on behalf of the treasury to hold:

- The difference between the *official* value of gold and foreign reserves available at the central bank versus the actual price used to buy (or sell) these reserves
- The gains or losses made on the gold or foreign reserves resulting from changes in the *official* value of the national currency or any other major currency
- Other amounts related to non-replaced monies and coins

Article 116 as amended on October 5, 1973: …. Whenever the account mentioned in Article 115 becomes positive, then 20% of this amount shall be kept on behalf of the treasury at the central bank while the remaining 80% shall be transferred to the treasury.

Appendix B: Translation of main points from the correspondence between the minister of finance and governor of the central bank

This appendix goes through some of the correspondence between the governor of the central bank and the minister of finance regarding the transfer of book gains on the value of foreign exchange and gold reserves available at the disposal of the central bank. These book gains resulted from the devaluation of the Lebanese Pound over time, which led to the increase in terms of value of foreign exchange and gold reserves available at the central bank. The amount of transferred book gains by the central bank to the government amounted to USD 1.5 billion by 1984 (Ayache, 1997). The governor of the central bank refused to transfer any additional book gains after 1985 regardless of the insistence of the minister of finance. The governor wanted to halt inflationary pressures that could result from this extra liquidity. The value of book gains that were never transferred to the government amounted to USD 3 billion in 1997 (Dibbeh, 2002; Ayache, 1997).

Letter from the minister to the governor on April 9, 1985 (Chamoun, 1985b)
The minister insisted on the following points regarding the transfer of the book gains as it has been customary prior to 1985:

1. The law[85] is clear and until it is amended or cancelled, it needs to be followed.
2. There is no need to sell any of the reserves to guarantee a gain.
3. The *official* price set by the minister of finance in 1973 is still valid.
4. The gains have always been transferred to the government which validates, by practice, the essence of the law.

Reply of the governor on April 13, 1985 (Naim, 1985c)

1. The law is not clear and this ambiguity could cause a major catastrophe in financial terms caused by these book gains (inflation, currency depreciation, etc.)
2. The price set by the minister of finance in 1973 was temporary and cannot be considered *official* as the law stipulates.
3. Realised gains can only occur when actual buying or selling happens.
4. The transfer of unrealised gains could be considered lawbreaking as per the commercial laws of the state.

Reply of the minister on May 16, 1985 (Chamoun, 1985e)
In this reply, the minister reminded the governor of the importance to transfer the gains as requested in Article 116 of the Code of Money and Credit. He added that not transferring these amounts to the government would result in serious damage to the state. He ended the reply by giving the governor 10 days to comply.

[85] Articles 115 and 116 of the Code of Money and Credit as translated in Appendix A.

Reply of the governor on May 22, 1985 (Naim, 1985d)
The governor replied in a brief note refusing to transfer any amounts and proposed that an expert from another leading central bank would look into this dispute.

Letters of the minister on June 10 and 12, 1985 (Chamoun, 1985c: Chamoun, 1985d)
The minister totally rejects the decision of the governor and considers it null and void. This makes it imperative for the transfers to be made.

Reply of the governor on June 20 (Naim, 1985e)
We have received Your Excellency's letter but we still insist that realised gains need actual market participation. As for Article 43 of the CMC: it is clear and states that after five days of any suspension, our decision becomes legally effective.

Appendix C: Monetary Policy Instruments definition[86]

Central banks rely on a number of instruments available at their disposal in order to restore stability in their respective economies. An introduction and definition of these instruments is given in this section.

Reserve requirements
The reserve requirement is the most rigid of the available tools at the disposal of central banks, but can sometimes be the least effective. Reserve requirements are defined as the percentage of reserves against deposits that commercial banks have to maintain at the central bank interest free. An increase in the reserve requirements reduces the availability of funds for credit expansion and consequently leads to a decrease in the money supply through the multiplier effect. This in turn usually leads to higher interest rates and consequently to a lower demand for credit. A decrease in the reserve requirements produces exactly the opposite effect. Reserve requirements are imposed on bank liabilities, mainly deposits, and / or on bank assets, mainly loans to customers.

Reserve requirements is the easiest instrument to be used by the central bank, and at the same time the one which is the most difficult to comply with by the commercial banks. Every time the central bank observes an increase in the supply of money in the local market, it issues a new circular requiring commercial banks to deposit a higher percentage of their deposits in the form of reserve requirements at the central bank (interest-free), or in special Treasury Bills (TBs) carrying a relatively low interest rate, or in ordinary TBs to be bought from the primary market.

This instrument plays the role of a syringe, absorbing any excess liquidity from the market, and injecting all the necessary money needed for the economic performance of the country.

Discount rate and Interest rates
The discount rate is the rate at which the central bank lends to banks in exchange for promissory notes and other eligible papers. The central bank acts as the lender of last resort for commercial banks in need of liquidity. By manipulating the discount rate, the central bank can affect the volume of loanable funds as well as the general pattern of interest rates. If the central bank plans to adopt a contractionary monetary policy, then it would raise the discount rate and therefore limit the volume of funds available for credit expansion by increasing the cost of borrowing. This in turn would lead to higher interest rates and to a lower demand for credit which reduces economic activity. However, the effectiveness of a change in the discount rate depends on the response of commercial banks in the sense that the central bank cannot compel the banks to borrow even if the rate is made very attractive, and vice versa.

The interest rates, similar to any other price, are set in the market by the forces of supply and demand. The central bank does not set the interest rate but affects indirectly the forces of supply and demand in the market by affecting the overall level of liquidity.

[86] Sources: Dornbusch & Fischer (1987), Holtrop (1963), and Wrightsman (1983).

The discount rate at the central bank affects indirectly interest rates at commercial banks when banks ask the central bank to rediscount their bills, at times when shortage of liquidity in the market exists. However, if there is excess liquidity in the market, then changes in the discount rate will have little or maybe no effect on interest rates. In addition interest rates on TBs affect to an extent the interbank rate as well as the interest rates at banks. In general, the government would have to raise interest rates on TBs to finance its expenditures in the absence of any other form of government revenue.

Interest rates are considered to be one of the most important tools of monetary policy. Interest rate policy can affect the various sectors of the economy. The role performed by interest rates, as a tool of monetary policy, is of crucial importance and by controlling them the central bank can achieve 3 objectives:

- Interest rates can be decreased in order to encourage the extension of credit to the various sectors of the economy and consequently boost the economic activity, or to slow down the pace of credit expansion.
- Interest rates can be increased to put an end to, or at least reduce the pace of, the transfer of capital abroad.
- Interest rates on a certain currency could be modified to appreciate or depreciate its value vis-à-vis other currencies. Generally, interest rates on a currency are increased to stop speculation against it and make it more attractive to depositors.

The Credit Ceiling

The credit ceiling is defined as the maximum percentage out of total deposits that banks could extend in the form of credit to their customers. The establishment of a ceiling to credit given to the private sector is another tool that could be used by the central bank to set its monetary policy. The central bank can change the ceiling depending on whether it plans to follow a contractionary or an expansionary monetary policy. Furthermore, the central bank might introduce selective credit controls in order to channel funds into sectors that it believes are productive and would stipulate the economic performance of the country.

Open Market Operations

Open market operations denotes the process by which the central bank buys or sells TBs in the market in order to affect the overall level of liquidity. If the objective is to decrease liquidity, then the central bank will tend to sell TBs. The opposite is also true.

Moral Suasion

Moral suasion is defined as the influence than can be exerted by the governor of the central bank on the board of directors of commercial banks. In the case of Lebanon, this *instrument* was used during the years that witnessed high speculation against the LP in order to try to limit the daily fluctuations in the LP's exchange rate with no great success due to constant clashes between the central bank and the banks.

Appendix D: Central bank actions, banks reactions, and resulting outcomes[87]

- On February 26, 1982 BDL issued Circular 323 imposing a penalty effective April 1, 1982 on any shortage regarding the bank's reserve requirements. To further strengthen this move, BDL issued Circular 329 dated March 16, 1982 whereby also effective April 1, 1982 the accounting period for reserve requirements was reduced from 1 month to 1 week. The aim was to restrict the fluctuations in reserves within any given week. This period was later adjusted to 2 weeks by Circular 364 dated November 24, 1982. This change was made since it was more convenient for the commercial banks.

- The pressure exerted on the LP in 1984 and especially in September and October urged BDL to take tough measures. The value of the LP dropped to a historic low at that time of 8.05 LP/$ by October 1984. Hence BDL took the following steps to alleviate the pressures on the ailing LP:
  - A credit ceiling for banks was set at 30% as of September 30, 1984 and any excess over this amount was subject to a reserve requirement of 75% to be deposited in a special account at BDL. Later on, this was amended and banks could extend credit up to 60% of their total deposits or not exceeding 5 times the bank's capital. At the same time, BDL raised interest rates on TBs.
  - BDL issued Circular 504 dated October 2, 1984 whereby it lowered the maximum debit position in foreign currency that a bank can hold, from 50% to 15% of its capital, effective October 18, 1984. Banks were compelled to report day by day to BDL concerning their positions in foreign currency. Hence, banks were obliged to liquidate their foreign exchange positions on the market. The aim of this circular was to control speculation by lowering the amounts of currency that commercial banks could hold.
  - Circular 508 dated October 4, 1984 increased the reserve requirement on bank deposits in LP from 15% to 17% effective November 5, 1984. It also required all banks to hold 7.5% of the requirements in the form of TBs with maturities exceeding 6 months.
  - At a later stage, and to further squeeze the liquidity of banks, the accounting period for the reserves was reduced from 2 weeks to 1 week effective October 15, 1984 as stated by Circular 509 dated October 8, 1984.
  - Despite the above measures and the increase in the debit rate, speculators continued to borrow from commercial banks to speculate on the exchange market because the return on speculation outweighed the cost of borrowing.

- Since the Euro-LP funds were evidently used for speculation and further depreciated the LP, BDL issued Circular 514 dated October 22, 1984 whereby it imposed, effective November 26, 1984 a reserve requirement amounting to 100% on deposits

[87] Sources: Newspapers (Assafir, Al-Diyar, Annahar, Al-anwar) various issues, Al-Iktissad wal Aamal (1986-1992) ; BDL (2007a); Le Commerce du Levant (1982); Le Commerce du Levant (1984a, b, c); Le Commerce du Levant (1986a, b, c, d, e, f, g); Le Commerce du Levant (1979a, b); El-Khoury (1993); Milki (1986); Moukhaiber (1986a, b, c, d); Saba (1986, 1995); Wakim (1998); Midani (1982); Achi (1991); Awad (1988); Salloum (1991).

of non-resident banks as well as creditors (head office and branches) in local and foreign currencies. This measure faced opposition from banks, and the Association of Banks vowed to cancel it. Actually this measure did not succeed in curbing speculation. It only made speculation somewhat inconvenient since instead of speculating directly banks speculated indirectly; the non-resident bank could lend to individuals in Europe and these same individuals would deposit the money in their own account in the resident bank and convert the balance in LP to dollars. The only way to put a definite end to this speculation would have been to close the accounts pertaining to deposits of non-resident banks. In this case, all LP monies outside Lebanon would re-enter the country where they would have been within the control of BDL.

- On February 8, 1985 Circular 135 (originally issued on July 23, 1974) was modified; and Circular 537 was issued. It required, effective February 15, 1985, to put a deposit amounting to 15% in LP rather than in foreign currency against newly opened Letters of Credit. By requiring deposits in LP, banks had to demand local rather than foreign currency and consequently reduce the pressure on the local currency.

- To enhance the contractionary policy, at a time when banks were holding around LP 500 million in excess reserves, BDL issued on February 19, 1985 Circular 541 increasing the reserve requirement by 1% to become 18% effective March 25, 1985. The purpose of this circular was to decrease the banks' excess reserves and to curb inflation. However, the circular did not produce the expected contractionary pressures; for in order to meet the new requirements, banks had to liquidate part of their TBs. Consequently the effect of the contractionary policy of BDL was neutralised since the low penalty rate allowed banks to avoid the reserve requirements and instead use the money for speculation purposes.

- Circular 576 dated June 27, 1985 adjusted the calculation period for reserves to become based on 7 days. The aim was to include non-working days in the calculation of the reserve requirement. This was found necessary in order to avoid high fluctuations in the interbank rate which used to be very low on Saturdays when all banks deposited idle money at BDL and very high on Mondays when all banks discounted their bills.

- BDL issued Circular 619 effective January 24, 1986, raising the penalty rate (on the difference between reserve requirements and actual reserves) to 1% daily and 364% yearly. By imposing this high penalty rate, BDL was trying to push banks to comply with the required reserves since previously many banks bypassed the requirement and accepted to pay the 25% penalty because return on speculation was higher.

- Effective January 30, 1986, BDL imposed the calculation of the reserve requirements on a daily basis rather than weekly in order to restrain the use of those reserves for short term speculation. Circular 621 of February 13, 1986 required banks to calculate these requirements in such a way that their balances at BDL should not go below 18% of the weekly average of deposits in LP of the period two weeks earlier. By raising the penalty rate earlier and then shortening the calculation

period, BDL wished to reduce short term speculations by banks. However, these measures were not effective since commercial banks were using their excess reserves and proceeds from maturing TBs to speculate in the market.

- To further squeeze banks' liquidity and reduce their ability to expand credit, BDL issued Circular 621 dated January 28, 1986 and circular 625 dated February 13, 1986. These circulars increased the reserve requirement gradually beginning on March 13 to become 22% effective on March 27, 1986. This measure was accompanied by an increase in the discount rate to 30.13%.

The aim of raising the reserve requirement was to reduce the liquidity available at banks to speculate and increase BDL reserves in LP, and thus to help the LP appreciate in value. The banks' capacity to speculate was further restrained by the daily calculation of the reserves. However, there was a large opposition to these measures. The Association of Banks argued that raising both would burden the financial institutions already facing a liquidity problem. Local banks were under extreme pressure to abide by the daily reserve requirement, and a large number of foreign banks in Lebanon closed their branches since they were not able to cope with the constant changes in BDL circulars or could not understand their effects and consequences.

- The above pushed BDL and the Association of Banks to reach an agreement that led to circular 657 of June 10, 1986 reducing the reserve requirements to:
  - 10 % or
  - 9% for banks subscribing in TBs with 40% of their deposits or
  - 8% for banks subscribing in TBs with 50% of their deposits.

Moreover, the computation period on a daily basis was replaced by twice per week and the penalty rate was dropped to 120% from 364%. Moreover, BDL raised interest rates on TBs in the secondary market to reach 35%; and increased the discount rate to 24% (was 18% in 1985); while deposits at BDL had their interest rates raised to 16% at the end of 1986, compared to 12% at the end of 1985. Finally, a credit ceiling of 60% of deposits was imposed. The negative response of commercial banks to these measures led to a further pressure on the exchange rate. Banks recognised that the only way to earn profits was to speculate against the LP. Thus, the agreement between BDL and the Association of Banks did not last.

- On 18 November 1986, the central council at BDL met to elaborate a restrictive monetary policy for the year 1987 hoping to achieve two objectives: to protect the LP from any further depreciation and to upgrade its purchasing power. For this purpose, BDL adopted a project to amend articles 19 and 685 of the penalty code to forbid the banks to open any non-resident client credit account. The central council met again on December 3, 1986 and approved a series of measures which were the object of the following circulars:

  Circular 688: reserve requirements were raised from 10 to 13% as of 5 January 1987. The rate of TBs subscription for banks was limited to:
  - 30% for deposits < 1 Billion LP
  - 45% for deposits > or = 1 Billion LP

- 60% for any increase in deposits after December 4, 1986

Circular 689: forbidding banks to receive deposits, extend credit, or open credit accounts at non-resident banks or institutions. Banks are urged to close all of the above accounts previously opened within a period not exceeding the 14th of January 1987 with all transactions relating to these accounts forbidden as of 15 January, 1987. Any bank performing any transaction on these accounts after the allowed date will have to be submitted to a penalty rate on the amount of the transaction equal to the penalty rate imposed on short reserve requirements.

Circular 690: banks are reminded that extending credit in LP to non residents is forbidden. Furthermore, all credit extended to non-residents should be liquidated before December 31, 1989.

For 63 out of the 82 banks, it was impossible to comply with the obligations set by BDL regarding the required level of reserve requirements. Banks had to call in loans by exerting intense pressure on their customers within a short period of time as set by the circulars. These measures were considered to be harsh by the Association of Banks and took BDL to the highest court in the country for arbitration. On December 18, 1986, the Minister of Finance addressed to the Governor of BDL a memorandum in which he proposed some amendments on behalf of the banks. These amendments included that all measures taken against the use of the deposits in non-resident banks should be studied in close collaboration with the Association of Banks.

- After a number of meetings between BDL and the Banks Association, the case against BDL was dropped and BDL adopted a series of amendments that gave birth to Circular 700 dated January 8, 1987 with the level of the reserve requirement fixed as follows:
  - 5 Jan 1987 11%
  - 5 Feb 1987 12%
  - 5 Mar 1987 13%

- Circular 788 dated March 3, 1988 allowed banks to use part of their TBs subscription in the primary market (12%) to buy TBs in the secondary market with an interest rate of 45% at the time. In addition, BDL issued circular 794 dated March 23, 1988 exempting banks from up to 50% of the penalties set in 1987. These moves were not customary and seemed very accommodating for banks. The perception given was that BDL wanted banks to stop speculation and halt the LP depreciation and inflation. The way to encourage banks was to generate profits *legally* on the TBs market.

- Between 1989 and 1990 and in order to attract funds used in the interbank market for speculation purposes, BDL offered higher interest rates on those funds if deposited in its accounts. Its rates were slightly higher than those offered on TBs. Whereas interest rates on TBs for 3-6 months was 18-20%, the interest rates on these special deposits amounted to 21% for three days, 22.7% for 7 days, 23% for a month, 24% for 60 days and 25% for 91 days. This interest could rise from 30-70% depending on market conditions. This measure was another try by BDL to soothe

the market by offering banks what they desire: higher profits. This policy was effective in reducing speculation against the LP briefly.

However, these measures proved to be short lived. The Association of Banks and BDL clashed again later in 1990 and 1991 on reserves requirements, calculations and penalties; this led to another spiral of speculation, growing inflation and eventual collapse of the LP.

Appendix E: Governments, presidents and central bank boards

Prime ministers (and government change) in Lebanon
• Rashid Karami: 31 October 1961 - 20 February 1964
• Hussein al-Oweini: 20 February 1964 - 25 July 1965
• Rashid Karami: 25 July 1965 - 9 April 1966
• Abdullah Aref al-Yari: 9 April - 2 December 1966
• Rashid Karami: 7 December 1966 - 8 February 1968
• Abdullah Aref al-Yafi: 8 February 1968 - 15 January 1969
• Rashid Karami: 15 January 1969 - 13 October 1970
• Saeb Salam: 13 October 1970 - 25 April 1973
• Amin al-Hafez: 25 April - 21 June 1973
• Takieddin el-Solh: 21 June 1973 - 31 October 1974
• Rashid el-Solh: 31 October 1974 - 24 May 1975
• Nureddin Rifai: 24 May - 30 June 1975
• Rashid Karami: 1 July 1975 - 8 December 1976
• Selim al-Hoss: 8 December 1976 - 20 July 1980
• Takieddin el-Solh: 20 July - 25 October 1980
• Shafik Wazzan: 25 October 1980 - 30 April 1984
• Rashid Karami: 30 April 1984 - 1 June 1987
• Selim al-Hoss: 2 June 1987 - 14 October 1990 * Disputed: dismissal on 22 September, 1988 contested.
• Michel Aoun: 22 September 1988 - 13 October 1990 * Disputed: Appointment on 22 September, 1988 contested.
• Selim al-Hoss: 14 October 1990 - 24 December 1990
• Omar Karami: 24 December 1990 - 13 May 1992
• Rashid el-Solh: 13 May - 31 October 1992
• Rafiq al-Hariri: 31 October 1992 - 2 December 1998
• Selim al-Hoss: 2 December 1998 - 23 October 2000
• Rafiq al-Hariri: 23 October 2000 - 21 October 2004
• Omar Karami: 21 October 2004 - 15 April 2005
• Najib Mikati: 15 April 2005 - 30 June 2005
• Fouad Siniora: 30 June 2005 - present

List of presidents of the republic
• Fuad Chehab: 23 September 1958 – 22 September 1964
• Charles Helou: 23 September 1964 – 22 September 1970
• Suleiman Frangieh: 23 September 1970 – 22 September 1976
• Elias Sarkis: 23 September 1976 – 22 September 1982
• Bachir Gemayel: 23 August 1982 – 14 September 1982 (Assassinated 10 days prior to the beginning of his office term)
• Amine Gemayel: 23 September 1982 – 22 September 1988
• René Moawad: 5 November – 22 November 1989
• Elias Hrawi: 24 November 1989 – 24 November 1998
• Emile Lahoud: 24 November 1998 – present

Sources: Wikipedia, official websites of the Lebanese government and author

Historical review of the boards at the Lebanese central bank

	1963-1968	1968-1974	1974-1978	1978-1985	1985-1991	1991-1993	1993-1999	1999-Current	
Governor	P. Takla[1] (1963-1967) E. Sarkis[2] (1967-1968)	E. Sarkis	E. Sarkis[3] (1974-1976) J. Oughourlian[4] (1976-1978)	M. El Khoury[5]	E. Naim	M. El Khoury[6]	R. Salameh	R. Salameh[12]	
1st Vice Governor	J. Oughourlian	J. Oughourlian	J. Oughourlian	J. Oughourlian	H. Kanaan	M. Skayneh	N. Saidi	N. Saidi[7]	A. Jachi
	(1963-1968)	(1968-1973)	(1973-1978)	(1978-1983)	(1985-1990)	(1990-1993)	(1993-1998)	(1998-2003)	(2003 -)
2nd Vice Governor	C. Moharram	C. Moharram	C. Moharram[8] F. El Solh	F. El Solh	M. Jumblat	G. Ayyach	F. Mo'dad	F. Mo'dad	M. Joumblat
	(1963-1968)	(1968-1973)	(1973-1978)	(1978-1983)	(1985-1990)	(1990-1993)	(1993-1998)	(1998-2003)	(2003 -)
3rd Vice Governor	A. Badreddine	A. Badreddine	A. Badreddine	A. Badreddine	S. Akkari	M. Ghandour	M.B. Chatah[9]	M. Nsouli[10]	M. Nsouli
	(1963-1968)	(1968-1973)	(1973-1978)	(1978-1983)	(1985-1990)	(1990-1993)	(1993-1997)	(1998-2003)	(2003 -)
4th Vice Governor	Inexistent	Inexistent	Inexistent	Inexistent	M. Bouldoukian[11]	K.Kalaidjian	H. Samuelian	H. Samuelian	A.Balian
					(1985-1990)	(1990-1993)	(1993-1998)	(2003-2003)	(2003 -)

Source: www.bdl.gov.lb and author

1. P.Takla resigned with effect as of 16 June 1967 (Decree no 3537 dated 16/6/1967)
2. E. Sarkis was appointed as governor per interim on 18 December 1967 (Decree no 1910 dated 18/12/1967)
3. E. Sarkis resigned with effect as of 2 June 1976 (Decree no 10912 dated 2/6/1976). He was elected president of the Lebanese Republic for a six year term (1976-1982)
4. Mr. J. Oughourlian was appointed governor per interim from 12/6/1976 till 5/9/1978
5. M. El Khoury term ended on 6/9/1984. He was asked by the Council of Ministers to remain in office until a new governor is appointed (Minutes of the meeting of the Council of Ministers 4/9/1984)
6. M. EL Khoury and the four vice-governors resigned on 7 June 1993 with effect as of 1 August 1993 (Decrees no: 3541 and 3542 dated 7/6/1993)
7. N. Saidi was appointed as Minister of Economy and Trade and Minister of Industry on December 4, 1998 (Decree no 4 dated 4/12/1998). His position as First vice-governor was maintained by virtue of Decree no 64 dated 11/1/1999)
8. C. Moharram resigned with effect as of 5 January 1978 (Decree no 803 dated 5/1/1978) and F. El Solh was appointed on 16 January 1978 (Decree 831 dated 16/1/1978)
9. M. Chatah resigned on 8 May 1997. He was appointed ambassador of Lebanon to the United States
10. M. Nsouli was appointed as third vice governor with effect as of August 1, 1998 (Decree no 12697 dated 23/7/1998)
11. A 4th vice-governor was appointed for the first time on 6 May 1985 (Decree no 2478 dated 6/5/1985)
12. R. Salameh was appointed for another term of 6 years on 25 July 2005

Term of Office for the governors of BDL

- P. Takla: 1/8/1963 – 16/6/1967
- E. Sarkis: 18/12/1968 – 2/6/1976
- J. Oughourlian: 12/6/1976 – 5/9/1978 (per interim only)
- M. El Khoury: 6/9/1978 – 11/1/1985
- E. Naim: 12/1/1985 – 12/1/1991
- M. El Khoury: 13/1/1991 – 1/8/1993
- R. Salameh: 1/8/1993 – currently

Source: www.bdl.gov.lb and author

Appendix F: Papers supporting the CBI – inflation relation

- First two pages (192-193) present Citation and Data Identifiers describing all papers (including made analysis)
- Following three pages (194-196) present the major findings of all papers

Citation				Data Identifier				
Author	Title	Journal	Year	Empirical - Quantitative	Theoretical - Qualitative	Geography	Sample	Analysis
Alesina, Alberto//Gatti, Roberta	Independent central banks: Low inflation at no cost?	American Economic Review	1995		X			
Alesina, Alberto//Summers, Lawrence H.	Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence	Journal of Money, Credit & Banking	1993	X		World	16 Nations	Relation CBI, inflation and growth
Al-Marhubi, Fahim// Willet, Thomas D.	The anti inflationary influence of corporatist structures and central bank independence: the importance of the hump shared hypothesis	Public Choice	1995	X		World	20 Nations	Casual relation CBI and inflation
Banaian, K.//Luksetich, W. A.	Central Bank Independence, economic Freedom, and inflation rates	Economic Inquiry	2001	X		World	54 Nations	Measures of CBI
Bean, Charles	Inflation targeting: the UK experience	Bank of England. Quarterly Bulletin	2003	X	X	UK		Inflation targeting and its contribution to stable prices
Bean, Charles	The new UK monetary arrangements: a view from the literature	The Economic Journal	1998		X	UK		
Beetsma, Roel//Bovenberg, Lans	When does an inflation target yield the second best?	Scandinavian Journal of Economics	2001		X	None		
Brumm, Harold J.	Inflation and Central Bank independence revisited	Economics Letters	2002	X		World	42 Nations	Correction of a regression analysis
Burdekin, Richard C.K.//Laney, Leroy O.	Fiscal policymaking and the central bank institutional constraint.	Kyklos	1988	X	X	Industrial Nations	12 Nations	To quantify the effect CBI has on inflation and behaviour of fiscal authority.
Castellani, Francesca//Debrun, Xavier	Designing macroeconomic frameworks: a positive analysis of monetary and fiscal delegation	International Finance	2005		X			
Brumm, Harold J.	Inflation and central bank independence: conventional wisdom redux	Journal of Money, Credit & Banking	2000		X			A model using data from other sources
de Haan, Jakob	Commitment rather than independence: an institutional design for reducing the inflationary bias of monetary policy: a comment on Henriette M Prast / Reply	Kyklos	1998		X			
Uchida, Hirofumi//Fujiki, Hiroshi	Optimal inflation target under uncertainty	Japan & the World Economy	2005		X			
Temple, J.	Central bank independence and inflation: good news and bad news	Economics Letters	1998	X		Industrial Nations	18 Nations	Relation between CBI and inflation
Corbo, Vittorio	Reaching one-digit inflation: the Chilean experience	Journal of Applied Economics	1998	X		Chile		Analyze the process by which Chile reduced inflation in the 1990s.
de Haan, Jakob//Leertouwer, Erik//Meijer, Erik//Wansbeek, Tom	Measuring central bank independence: a latent variables approach	Scottish Journal of Political Economy	2003	X	X	Industrial Nations	22 Nations	Resolving the partial conflict between competing indicators of CBI using latent variables modelling.
Petursson, Thoarinn	New Focuses in central banking: increased independence, transparency and accountability	Monetary Bulletin, Central Bank of Iceland	2000	X	X	Iceland		Review of Iceland's CBI
Cukierman, Alex	Central bank independence and monetary control	Economic Journal	1994		X			
Eijffinger, S.// Van Rooij, M.//Schaling, E.	Central bank independence: a panel data approach	Public Choice	1996	X		Industrial Nations	10 Nations	Using the panel data estimation technique to study the relation between CBI and inflation.
Fischer, Stanley	Central-bank independence revisited	American Economic Review	1995		X			
Hadri, Kaddour//Lockwood, Ben//Maloney, John	Does central bank independence smooth the political business cycle in inflation? Some OECD evidence	Manchester School	1998	X		OECD	18 Nations	Electoral and partisan effects in inflation are identified. The correlation of the size of these effects across countries with level of CBI is investigated.
Cukierman, Alex//Miller, Geoffrey P.//Neyapti, Bilin	Central bank reform, liberalization and inflation in transition economies-an international perspective	Journal of Monetary Economics	2002	X	X	Transition Economies	26 Nations	Considers the association between inflation and CBI over the entire period between 1989 and 1998.

Citation				Data Identifier				
Author	Title	Journal	Year	Empirical - Quantitative	Theoretical - Qualitative	Geography	Sample	Analysis
Jordan, T. J.	Monetary control uncertainty and inflation bias	Journal of Economics-Zeitschrift Fur Nationalokonomie	2001		X			
Lohmann, Susanne	Optimal commitment in monetary policy: credibility versus flexibility	The American Economic Review	1992		X			
Grilli, Vittorio//Masciandaro, Donato//Tabellini, Guido	Political and monetary institutions and public financial policies in the industrial countries	Economic Policy	1991	X		OECD	18 Nations	Analysis of institutions, policies, and their effects on inflation and growth in selected OECD countries.
Berger, Helge//de Haan, Jakob//Eijffinger, Sylvester C.W.	Central bank independence: an update of theory and evidence	Journal of Economic Surveys	2001		X			
Rogoff, K.	The optimal degree of commitment to an intermediate monetary target.	Quarterly Journal of Economics	1985		X			
Svensson, Lars	Optimal inflation targets, “Conservative” central banks, and linear inflation contracts	The American Economic Review	1997		X			
Havrilesky, T.//Granato, J.	Determinants of inflationary performance: Corporatist structures vs. central bank autonomy.	Public Choice	1993	X		OECD	18 Nations	Explain the comparative inflation in the sample of countries chosen for the 1955-1987 period.
Cukierman, Alex	Central Bank Strategy, Credibility, and Independence: theory and evidence	MIT Press	1992	X	X	World	70 Nations	Review of CBI and link to economic variables
Loungani, Prakash//Sheets, Nathan	Central bank independence, inflation, and growth in transition economies	Journal of Money, Credit & Banking	1997	X	X	Transition Economies	12 Nations & 25 Nations	Review of CBI, inflation and growth
Cukierman,A.//Webb,S.//Neyapti,B.	Measuring the Independence of Central Banks and Its Effect on Policy Outcomes	World Bank Economic Review	1992	X		World	72 Nations	Explores the relation with inflation outcomes of 4 measures of CBI
Fischer, Stanley	Modern Central Banking	Cambridge University Press	1995		X			

Findings

Author	Year	Contribution	Results	Limitation
Alesina, Alberto//Gatti, Roberta	1995	CBI reduces average inflation and eliminates politically induced output variability since monetary policy is not under the direct control of governments with changing preferences.	CBI reduces average inflation and eliminates politically induced output variability since monetary policy is not under the direct control of governments with changing preferences.	CBI could achieve both lower inflation and lower output variability.
Alesina, Alberto//Summers, Lawrence H.	1993	While CBI promotes Price Stability, it has no measurable impact on real economic performance	Monetary discipline associated with CBI reduces the level and variability pf inflation but does not have either large benefits or costs in terms of real economic performance.	Results not conclusive since data was looked at only in a straightforward way; more detailed analysis of the relation between CBI and real performance is warranted.
Al-Marhubi, Fahim// Willet, Thomas D.	1995	Negative relation CBI and inflation remains even when a number of other explanatory variables are considered.	Other variables such as budget deficits, do have a significant effects on inflation rates, but these do not undermine the significance of CBI.	Statistical results not strong enough to allow a conclusive judgment on the importance of corporatism for inflationary pressures in industrial countries.
Banaian, K.//Luksetich, W. A.	2001	Countries with higher degree of economic freedom adopt structures leading to lower inflation; those with high degree of political freedom do not adopt similar structures.	Term of Office of the CB governor and the structure of the conflict resolution mechanism between CB and government are associated with lower inflation rates in 54 developing and industrialized countries.	Further research is necessary to measure override procedures (from the goal of price stability) for developing countries
Bean, Charles	2003	Adoption of inflation targets & operational independence in BoE made a real contribution to keep inflation low and stable.	The adoption of an inflation target has stabilized inflation but that did not come at the expense of growth.	None mentioned
Bean, Charles	1998	Delegation of monetary policy solves the time inconsistency problem	There are some mechanisms to ensure that the Bank of England could behave in a sensible fashion: better knowledge of government aspirations, open letters, and accountability.	Incompleteness of information to locate the optimal policy frontier for the UK economy
Beetsma, Roel//Bovenberg, Lans	2001	An independent central bank is better insulated from political pressure to relax monetary policy.	To eliminate excessive inflation and ensure efficiency of stabilization, society should combine an optimal inflation target with a central bank that attaches less weight to inflation stabilization than the public does.	Some qualifications of the analysis made could be unrealistic (the combination of a negative inflation target which is systematically overshot by the equilibrium inflation rate, and a weight liberal central bank)
Brumm, Harold J.	2002	Refuting King and Ma (2001) findings that CBI and inflation are not significantly related.	There is a strong negative inflation-CBI relation even when developing countries are included in the sample	None mentioned
Burdekin, Richard C.K.//Laney, Leroy O.	1988	Independent monetary policymaker can exert a significant influence on the course of fiscal policy and also on the inflation rate.	Cross country analysis suggest that when both fiscal and monetary policies are treated as endogenous variables, 2 way causality between fiscal & monetary policy is found to be important. CBI have retarded deficits in CH, US, west DE and exerted a negative effect on inflation rate.	None mentioned
Castellani, Francesca//Debrun, Xavier	2005	Analysis shows that the delegation of monetary policy to an independent monetary institution with a specific mandate to preserve price stability creates an expansive bias in fiscal policy justifying formal constraints on fiscal discretion.	Warns about the risks of an unbalanced institutional set-up where full fiscal discretion continues to prevail despite the establishment of stability-oriented monetary institutions. In that case, significant fiscal imbalances are possible, especially in countries subject to serious inflationary bias under monetary discretion. The situation in many emerging market economies may be interpreted along those lines, emphasizing further the need for those countries to strengthen their fiscal institutions	The utilized model was silent on the issue of shock stabilization
Brumm, Harold J.	2000	Paper finds strong negative relationship between inflation and CBI	A response to analysis made by other authors questioning the negative relation between CBI and inflation.	Regression analysis and usage of proxies
de Haan, Jakob	1998	Distinction between instrument independence and conservativeness (rather than commitment used in Prast 1996)	Instrument Independence is important to inflation but not conservativeness or other measures of independence (personnel, operations, etc.); Instrument Independence is the degree to which central bank can freely decide upon the use of its policy instruments.	No analysis of other components of CBI

Findings

Author	Year	Contribution	Results	Limitation
Uchida, Hirofumi//Fujiki, Hiroshi	2005	Deriving an optimal state-contingent inflation target for an economy under uncertainty	The inflation target can improve inefficiencies stemming from the lack of commitment to predetermined policies and the lack of coordination between monetary and fiscal authorities. This proposal is most attractive in some countries where there is a highly independent central bank.	Limitations in Japan
Temple, J.	1998	The purpose of this note is to sound a warning about the empirical study of central bank independence (CBI) and inflation.	In high income economies, central bank independence is associated with lower inflation. The regressions confirm that this effect remains present even when controlling for other variables. In larger samples including developing countries, however, the measured impact of CBI on inflation is very sensitive to the presence of high inflation economies.	None mentioned
Corbo, Vittorio	1998	The importance of the credibility of the independent central bank in controlling inflation	Of 3 analyzed effects (restrictive monetary policy, FX intervention policies and higher labour productivity), the enhanced credibility of the new policy influencing the formation of inflation expectations, was the most important to the successful reduction of inflation.	None mentioned
de Haan, Jakob//Leertouwer, Erik//Meijer, Erik//Wansbeek, Tom	2003	Legal indicators for CBI are latent variables (cannot be directly observed). In order to be included in empirical models, indicators need to be combined to construct proxies for CBI. It is therefore not surprising that different authors have come up with different proxies.	In contrast to the results of the study by Campillo and Miron (1997) - CM, the authors find that the CBI indicator using latent variables modelling is significantly related to inflation also when various control variables suggested by CM are included.	Nothing mentioned about LDCs
Petursson, Thoarinn	2000	Discusses various arguments for granting greater autonomy in monetary policy decisions.	Independent central banks usually achieve lower levels of inflation.	None mentioned
Cukierman, Alex	1994	Comments on CBI in LDCs	Within the group of industrial countries, there is a negative correlation between various proxies for CBI and inflation. If the experience of LDCs is any guide, legal independence alone may not suffice to deliver actual CBI in some of the economies in transition.	Essay article published before the real boom in the CBI literature
Eijffinger, S.// Van Rooij, M.//Schaling, E.	1996	Actual independence cannot be measured directly. There are unavoidable subjective elements in the construction of legal indices of CBI.	An independent central bank will contribute to lower inflation rates, lower money market rates and current account surpluses without effect on the economic growth rates.	No mention to differences between industrial and developing nations
Fischer, Stanley	1995	Review of main theories forming the basis of CBI.	The most important conclusion of both the theoretical and empirical literatures is that central banks should have instrument independence but should not have goal independence.	List of open issues on CBI
Hadri, Kaddour//Lockwood, Ben//Maloney, John	1998	To investigate whether the magnitude of partisan/electoral effects in inflation across countries was negatively related to CBI.	The results suggest a negative correlation between CBI and the effects of Partisan and elections effects in inflation	OECD based
Cukierman, Alex//Miller, Geoffrey P.//Neyapti, Bilin	2002	This paper develops extensive new indices of legal independence - CBI - for new central banks in 26 former socialist economies.	The evidence in the paper shows that CBI is unrelated to inflation during the early stages of liberalization. But for sufficiently high and sustained levels of liberalization, and controlling for other variables, legal CBI and inflation are significantly and negatively related. Inflation is characterized by the rate of depreciation in the real value of money.	Limitations of the indices of CBI
Jordan, T. J.	2001	Delegating monetary policy to an independent and conservative central banker decreases inflation bias for all types of control errors.	The occurrence of inflation bias is usually explained by the fact that governments increase money growth because they need seigniorage revenues or because they pursue an output goal exceeding natural output.	None mentioned
Lohmann, Susanne	1992	The “Lohmann” theory aims to provide a foundation for empirical results establishing the inverse relationship between the average inflation rate in a country and CBI.	Lohmann proposes that monetary policy be delegated to a partially independent conservative central banker.	Model explicitly the technology by which a sovereign policy making body commits to an institution.

			Findings	
Author	Year	Contribution	Results	Limitation
Grilli, Vittorio//Masciandaro, Donato//Tabellini, Guido	1991	A highly influential paper that established a model for CBI indicators followed by many authors.	In general, CBI leads to low inflation, irrespective of political institutions and budgetary problems. If central bank independence is on average associated with lower inflation, there is no systematic impact on real output growth, nor on its variability. Thus having an independent central bank is almost like having a free lunch; there are benefits but no apparent costs in terms of macroeconomic performance.	Neglecting behavioural elements from the CBI measures; Combination provided to construct overall CBI quite arbitrary
Berger, Helge//de Haan, Jakob//Eijffinger, Sylvester C.W.	2001	This paper reviews research on CBI.	The authors conclude that the negative relationship between CBI and inflation is quite robust.	Assuming that the costs of changing the rules of the game are prohibitive.
Rogoff, K.	1985	Seminal and highly quoted paper discussing the appointment of a conservative central banker	Delegating monetary policy to an agent whose preferences are more inflation averse than society serves as a commitment device that permits sustaining a lower rate of inflation than otherwise possible.	One of the earliest papers in the field
Svensson, Lars	1997	Introducing inflation targeting and its relation to central banks	With monetary authority acting under discretion, the inflation bias can be eliminated by imposing an appropriate inflation target. This has to be complemented by a central bank that attaches less weight to inflation stabilization than the public does. Central banks with a inflation target, under certain conditions may generate second best results.	None mentioned
Havrilesky, T.//Granato, J.	1993	Measures of corporatism strength– power of labour unions and leaning of government – and measures of the public sector's size have no effect on inflation performance, nor does the degree of dependence on imported oil.	Only the degree of CBI explains the comparative inflation performance. Reforms which would increase CBI will reduce long term inflation. An increase in genuine autonomy i.e. an institutional reduction in the range of permissible political pressures on monetary policy would improve a nation's long term inflation performance	Study limited to OECD countries
Cukierman, Alex	1992	Seminal work. Created a CBI index and reviewed the relation with inflation.	Discrepancies between actual and legal CBI are larger in developing than in developed countries. CBI affects the rate of inflation in the expected direction butt here are other factors as well.	Since CBI is also affected by factors that are difficult to quantify like personalities, it is likely that the unexplained fraction of the cross-country variation in inflation will remain non negligible.
Loungani, Prakash//Sheets, Nathan	1997	This paper documents two empirical relationships that have emerged as the former communist countries have taken steps to transform their economies.	Increased CBI is correlated with lower inflation rates. The CBI-inflation correlation is not well explained by initial economic conditions and persists after controlling for fiscal performance, the overall quality of economic reforms and the average tenure of central bankers. There is a strong and robust negative relationship between inflation and subsequent real GDP growth. Inflation's adverse effect on investment appears to be one significant channel to explain this relation.	Explanations on national context and initial economic conditions.
Cukierman,A.//Webb,S.//Neyapti,B.	1992	Producing four different rankings of CBI and exploring their relation with inflation with a large sample of 72 countries.	Legal independence is inversely related to inflation in industrial, but not in developing, countries. In developing countries the actual frequency of change of the central banker is a better proxy for CBI and is positively associated with inflation. There are larger divergences between actual practice and the law in developing than in industrial countries.	Fuller investigation of the vicious circle between inflation and lack of CBI.
Fischer, Stanley	1995	Review of major theories and empirical results focusing on central banking.	Central banks should have clear mandates including price stability, be transparent with goals announcements and be held accountable for them. Governments should be able to override central banks decisions. Central banks should not be required to finance the government deficit.	None mentioned

Appendix G: Papers with a negative view on the CBI – inflation relation

- First page (198) present Citation and Data Identifiers describing all papers (including made analysis)
- Following two pages (199-200) present the major findings of all papers

Citation				Data Identifier				
Author	Title	Journal	Year	Empirical - Quantitative	Theoretical - Qualitative	Geography	Sample	Analysis
Cardim de Carvalho, Fernando J	The independence of central banks: a critical assessment of the arguments	Journal of Post Keynesian Economics	1996		X			
Chang, Roberto	Policy credibility and the design of central banks	Economic Review - Federal Reserve Bank of Atlanta	1998		X			
Dickens, Edwin	Bank influence and the failure of US monetary policy during the 1953-54 recession	International Review of Applied Economics	1998	X	X	USA		Econometric and Archival evidence challenging the conventional belief that CBI is necessary to stabilize economies on non-inflationary growth paths.
Ismihan, Mustafa//Ozkan, F. Gulcin	Does central bank independence lower inflation?	Economics Letters	2004		X			
Fuhrer, Jeffrey C	Central bank independence and inflation targeting: monetary policy paradigms for the next millennium?	New England Economic Review	1997	X	X	World	70 Nations	Influence of CBI on inflation, inflation variability, real growth and unemployment.
Wagner, Helmut	Controlling inflation in transition economies: The relevance of central bank independence and the right nominal anchor	Atlantic Economic Journal	2000		X			
Forder, James	Central bank independence-conceptual clarifications and interim assessment	Oxford Economic Papers	1998		X			
Bibow, Jorg	Reflections on the current fashion for central bank independence	Cambridge Journal of Economics	2004		X			
Forder, James	Central bank independence: reassessing the measurements	Journal of Economic Issues	1999		X			
Forder, James	Why is central bank independence so widely approved?	Journal of Economic Issues	2005		X			
Hayo, Bernd//Hefeker, Carsten	Reconsidering central bank independence	European Journal of Political Economy	2002		X			
McCallum, Bennett T.	Crucial issues concerning central bank independence	Journal of Monetary Economics	1997		X			
Mas, Ignacio	Central bank independence: a critical view from a developing country perspective	World Development	1995		X			
Posen, Adam S.	Central bank independence and disinflationary credibility: a missing link?	Oxford Economic Papers	1998	X		OECD	17 Nations	Examining cross-sectional public and private sector behaviour from 1950-1989 for disinflationary credibility with monetary institutions.
Mangano, Gabriel	Measuring central bank independence: a tale of subjectivity and of its consequences	Oxford Economic Papers	1998	X	X	OECD	17 Nations	Review of existing indices
McCallum, Bennett T.	Two fallacies concerning central-bank independence	American Economic Review	1995		X			
Prast, Henriette M	Commitment rather than independence: an institutional design for reducing the inflationary bias of monetary policy	Kyklos	1996	X	X	OECD	16 Nations	Constructing indices of independence and commitment 1981-90
Lippi, Francesco	Median voter preferences, central bank independence and conservatism	Public Choice	2000		X			
Piga, Gustavo	Dependent and accountable: evidence from the modern theory of central banking	Journal of Economic Surveys	2000		X			
Posen, Adam S.	Declarations are not enough	NBER	1995	X	X	World	32 Nations	Regress the 1960-1989 average annual level of inflation on a measure of CBI, a measure of financial sector opposition to inflation (FOI), and some control variables.
Campillo, M.//Miron, J.A.	Why does inflation differ across countries	University of Chicago Press	1997	X	X	World	110 Nations	Explaining the differences in inflation performance across countries.

			Findings	
Author	Year	Contribution	Results	Limitation
Cardim de Carvalho, Fernando J	1996	The independence of central bank is an idea difficult to conceive, and is difficult to measure in any way. The indices are admittedly fragile.	The notion of CBI is a very peculiar result of very restrictive assumptions. The main point of fragility pervading the CBI literature: the notion that one could assign to central banks an intrinsic nature, that is to sustain the purchasing power of money by controlling its quantity.	The literature supporting CBI consists almost entirely of empirical propositions perfunctorily supported by fragmentary references to theoretical concepts such as the natural rate of unemployment and the neutrality of money.
Chang, Roberto	1998	Conclusion is that greater central bank independence seems to have no beneficial impact in inflation, except perhaps for a small group of developed countries	The inflation basis problem associated with time inconsistency may be solved if central bankers develop a good reputation with the public. It may also be the case that CBI emerges for reasons not related to these institutions but this does not help to have lower inflation. Chang argues that there might be no need for CBI.	The solution seems to lie in finding alternative, more accurate measure of CBI.
Dickens, Edwin	1998	Suggests that when the Fed became independent of democratic control, it became dependent on the influence of large banks.	The author argues that because of excessive banker influence, the Fed did not try to stabilize the economy during the 1953-1954 recession.	None mentioned
Ismihan, Mustafa//Ozkan, F. Gulcin	2004	Provides a potential explanation for the recent findings of no significant relationship between central bank independence (CBI) and lower inflation	In countries where inflationary finance is important and the productivity of public investment is high, delegating monetary policy making to an independent central bank may harm inflation performance in the long term. Results may provide a potential explanation for empirical findings of positive or no significant relationship between CBI and average inflation especially in developing countries.	Theoretical model without empirical data
Fuhrer, Jeffrey C	1997	The empirical results used to buttress the arguments in favour of high levels of independence--where high is measured relative to other developed countries in the OECD, for example - are quite fragile. This contradicts the conclusions of well established works.	Among the studied countries, no clear relationship is found between central bank independence and any measure of economic performance, either inflation or real activity. The only statistically significant relationships found indicate some real costs to increased independence, with no benefits in terms of lowered inflation.	None mentioned
Wagner, Helmut	2000	Controlling inflation in transition economies is a very complex task that cannot be solved by merely imposing legal independence on the central bank.	Actual CBI in a transition economy can differ from legal CBI to a large extent. That could cause CBI to be counterproductive since legal independence may be used to cover for a fiscal authority which tends to dominate. If monetary targeting and inflation targeting are seemingly not appropriate for transition countries, then they are left with the alternative choice of some kind of exchange rate targeting (pegging in the short term and later in the form of exchange rate bands).	No empirical study nor usage of data to support the findings
Forder, James	1998	The theory of policy credibility and the empirical work on CBI to date fell short of making a convincing case in economic analysis for CBI.	Much of the work involving CBI should be interpreted as blueprints for good policy, not institutional reforms. The evidence that CBI reduces inflation or brings other benefits is questioned. The measures of CBI used for empirical studies were mostly inappropriate. There is no real economic case for CBI.	Careful analysis on the net benefits of CBI
Bibow, Jorg	2004	The author challenges the time-inconsistency case for CBI.	The inflationary bias featured in the time-inconsistency literature has encouraged a one sided approach to CBI. The belief that CBI could solve any problem allegedly stemming from discretion seems thoroughly fallacious. Empirical studies linking (and causality) CBI and inflation lack robustness.	None mentioned
Forder, James	1999	The difficulties in measuring CBI have not been sufficiently overcome to allow persuasive or meaningful tests of hypotheses about it to be undertaken.	The nature of CBI on an empirical level has not been established. The source of this weakness is the failure to present a good measure of CBI. The difficulties for this are formidable. There is little, if any, disagreement that determining an appropriate measure of CBI to test the idea that independent central banks deliver low inflation is difficult and unavoidably involves arbitrary decisions.	The author's conclusion that we are back to square one in the study of CBI
Forder, James	2005	There are limitations to the CBI idea.	The relationship between CBI and inflation targets is complex, with the two sometimes seen as alternatives, sometimes complements, and sometimes perhaps with the latter being a form of response to doubts about the democratic legitimacy of the former. But a further reason to doubt the revolutionary character of the idea of CBI is that the argument in support of it has so many flaws which have largely gone without comments from its advocates.	None mentioned
Hayo, Bernd//Hefeker, Carsten	2002	This paper evaluated the conventional view that CBI is a necessary and/or sufficient instrument for achieving low inflation	The author's conclusion after reviewing the analytical arguments and empirical evidence is that the case of CBI being a necessary and/or sufficient instrument for achieving low inflation is far from convincing.	Future empirical research should take the relevant characteristics of a country's legal, political, and economic frameworks explicitly into account.
McCallum, Bennett T.	1997	Addressing the dynamic inconsistency issue and related inflationary bias.	Contracts between governments and central banks don't overcome the motivation for dynamic inconsistency, they merely relocate it. Argues that the literature's standard interpretation of analytical results is misleading in two respects: 1) it suggests that central banks are unable to behave in a manner that has no inflationary bias and 2) that central bank contracts devised and enforced by governments can eliminate the dynamic inconsistency (root of such a bias).	None mentioned
Mas, Ignacio	1995	Argues that the advantages of CBI have been overstressed and its drawbacks and implementation problems have been overlooked. Empirical tests purporting to support the central bank independence proposition are plagued by problems of simultaneity, reverse causality, missing variables and measurement errors.	CBI may not bring about its professed benefits in LDCs with shallow financial markets. CBI benefits may be eroded by conflicts between fiscal and monetary policy and by institutional design, so that problems of dynamic inconsistency are not solved but merely transformed. Less-developed countries wishing to establish a low inflation path should concentrate on instituting financial policy reforms that bolster opposition to inflation and institutional arrangements that force discipline on fiscal policy directly rather than indirectly through monetary policy.	Review of the Independent Fiscal Board proposal

			Findings	
Author	Year	Contribution	Results	Limitation
Posen, Adam S.	1998	The paper does not find evidence that the costs of disinflation are lower in countries with independent central banks. It also finds no evidence that independence inhibits collection of seignorage revenues of political electoral manipulation of policy.	The results raise questions about some explanations of the negative correlation between CBI and inflation. Interest groups effect or social preference could explain the negative correlation between inflation and CBI. This paper's findings cast doubt upon the empirical relevance of government time-inconsistency problems as an explanation for inflation in industrialized democracies. The paper finds no evidence to support that the mechanism by which CBI leads to low inflation is the enhancement of credibility of commitments to price stability	Measurements of CBI or the appropriateness of the assumptions behind CBI need to be specified.
Mangano, Gabriel	1998	The paper scrutinizes the two indices of central bank independence most commonly used in the empirical literature.	Mentions an impressive interpretation spread, a major criteria spread but a negligible weighting spread in CBI indices: indices involve lots of subjectivity. Examines the robustness of the empirical common knowledge on CBI benefits. Finds that, when rankings produced by various CBI indices are regressed with average inflation, 87.5% of regression coefficients are not significant.	Specification of the elements to be used to determine the central bank's operational status.
McCallum, Bennett T.	1995	Literature of CBI is significantly flawed by two fallacies that the author states and defends.	Fallacies are: there is no trade-off between flexibility and credibility and the contract a la Walsh does not actually overcome the motivation for dynamic inconsistency. It merely relocates it. The author states that the literature is misleading in two ways: it underestimates the likelihood of good monetary policy performance by an independent central bank and it misrepresents the beneficial effects coming from central bank contracts or arrangements devised and enforced by the government.	None mentioned
Prast, Henriette M	1996	Distinguishes between commitment and CBI. Establishing an index for commitment.	This paper argues that for political/economic reasons commitment is to be preferred over CBI. No significant effect of overall CBI on inflation. However, price stability may be enhanced by a combination of two or three institutional arrangements, namely the central bank's governor term of office, his authority in case of conflicts and his influence on the formulation of monetary policy.	All empirical studies, including this paper, neglect the importance of exchange rate policy. Usually, the decision to participate in an exchange rate mechanism is political.
Lippi, Francesco	2000	Studying how the independence and the conservatism of a central bank relate to the structure and stability of the median voter preferences.	A high and stable degree of inflation aversion of society (i.e. of the median voter) may lead to establish a dependent central bank which is highly inflation averse. This suggests that the negative correlation between inflation and central bank independence indices detected by several empirical studies may reflect a link between inflation and some deep features of social preferences.	To identify the pure effects of CBI, one should control for the different social attitudes towards inflation.
Piga, Gustavo	2000	Stating that representative-agent approach to monetary policy is seriously flawed and does not provide a sound basis for deriving institutional solutions to the inflationary-bias.	CBI is an erroneous reply for the society's need to reduce the negative effects of inflation while keeping the liberty of reacting to economic shocks when needed. He arguments that CBI can be modelled according to the political will.	None mentioned
Posen, Adam S.	1995	Arguing that any observed negative correlation between inflation and CBI is spurious	If there is a negative correlation between CBI and inflation, it exists because countries with a financial sector most opposed to inflation are also the most likely to be eager for their central banks to be independent from political control. The strength of the opposition of the financial sector against inflation both determines the degree of central bank independence and the level of inflation.	Reducing inflation is not necessarily always a concern for the financial sector
Campillo, M.//Miron, J.A.	1997	Analysis of the degree to which prior inflation experience, optimal tax considerations, time-consistency issues (other than CBI), and other factors are important determinants of inflation across countries.	Institutional arrangements play almost no role in determining inflation outcomes. CBI is not important to determine inflation rates. Other fundamental economic factors (openness, stability, optimal tax considerations, etc..) play a robust role when it comes to inflation. Financial sector opposition to inflation does not explain much of the inflation variation across countries. Prior inflation experience plays a non-negligible role in determining inflation performance.	Observations number and crude proxies.

Appendix H: Papers with a neutral view on the CBI – inflation relation

- First two pages (202-203) present Citation and Data Identifiers describing all papers (including made analysis)
- Following three pages (204-206) present the major findings of all papers

Citation				Data Identifier				
Author	Title	Journal	Year	Empirical - Quantitative	Theoretical - Qualitative	Geography	Sample	Analysis
Banaian, King//Burdekin, Richard//Willett, Thomas	Reconsidering the principal components of central bank independence: the more the merrier?	Public Choice	1998	X		World	21 Nations	Link between different attributes of CBI and inflation performance
Chowdhury, Anis	Does inflation affect economic growth? the relevance of the debate for Indonesia	Journal of the Asia Pacific Economy	2002	X	X	Indonesia		Inflation and economic growth in Indonesia
de Haan, Jakob//Kooi, Willem J	Does central bank independence really matter? New evidence for developing countries using a new indicator	Journal of Banking & Finance	2000		X	LDC	82 Nations	A new indicator of turnover rate of governors & link to inflation
de Jong, Eelke	Why are price stability and statutory independence of central banks negatively correlated? the role of culture	European Journal of Political Economy	2002	X	X	OECD	18 Nations	Is the relation between CBI and inflation related to culture as defined by Hofstede's dimensions.
Temple, J.	Central bank independence and inflation: good news and bad news	Economics Letters	1998	X		Industrial Nations	18 Nations	Relation between CBI and inflation
Franzese, Robert J.	Partially independent central banks, politically responsive governments, and inflation	American Journal of Political Science	1999	X	X	Industrial Nations	18 Nations	Relation between CBI and inflation using annual data 1972-1990
Waller, Christopher J.//Walsh, Carl E.	Central-bank independence, economic behaviour, and optimal term lengths	American Economic Review	1996		X			
Walsh, Carl E.	Monetary policy design: institutional developments from a contractual perspective	International Finance	2000		X			
King, David//Yue Ma	Fiscal decentralization, central bank independence, and inflation	Economics Letters	2001	X		World	42 Nations	Adding the degree of tax centralisation as an explanatory variable to the relation between CBI and inflation.
Leybourne, Stephen J.//Mizen, Paul	Understanding the disinflations in Australia, Canada and New Zealand using evidence from smooth transition analysis	Journal of International Money & Finance	1999	X		Industrial Nations	3 Nations	Investigating the disinflation experiences of three countries, Australia, Canada and New Zealand.
Cukierman, Alex//Miller, Geoffrey P.//Neyapti, Bilin	Central bank reform, liberalization and inflation in transition economies-an international perspective	Journal of Monetary Economics	2002	X	X	Transition Economies	26 Nations	Considers the association between inflation and CBI over the entire period between 1989 and 1998.
Maliszewski, Wojciech S.	Central bank independence in transition economies	Economics of Transition	2000	X		Transition Economies	20 Nations	Analysing recent changes in central bank laws and the relationship between inflation and CBI in transition economies.
Muscatelli, Anton	Optimal inflation contracts and inflation targets with uncertain central bank preferences: accountability through independence?	Economic Journal	1998		X			
Moser, Peter	Checks and balances, and the supply of central bank independence	European Economic Review	1999	X		OECD	22 Nations	Analysing the institutional conditions under which policymakers can credibly commit to an independent central bank.
Oatley, Thomas	Central bank independence and inflation: corporatism, partisanship, and alternative indices of central bank independence	Public Choice	1999	X		OECD	10 Nations	Testing 8 different indices of CBI in a model of inflation that incorporates a larger set of economic and political control variables than are found in previous analyses against pooled cross sectional data spanning 10 OECD countries and 21 years.
Heylen, Freddy//Van Poeck, Andre	Central bank independence: only part of the inflation story	De Economist (Kluwer)	1996	X	X	OECD	18 Nations	Empirical relevance for CBI dependent and explanatory variables in the 1970s and 1980s.
Hermes, Niels//Lensink, Robert	Financial system development in transition economics	Journal of Banking & Finance	2000		X			
Otero, Jesus//Ramirez, Manuel	Inflation before and after central bank independence: the case of Colombia	Journal of Development Economics	2006	X		Colombia		Study the inflation before and after CBI in Colombia

Citation				Data Identifier				
Author	Title	Journal	Year	Empirical - Quantitative	Theoretical - Qualitative	Geography	Sample	Analysis
de Haan, Jakob//Van 't Hag, Gert Jan	Variation in central bank independence across countries: some provisional empirical evidence	Public Choice	1995	X	X	OECD	22 Nations	Testing 7 hypotheses to explain variation in CBI across countries.
Herrendorf, Berthold//Lockwood, Ben	Rogoff's 'Conservative' central banker restored	Journal of Money, Credit & Banking	1997		X			
Gartner, Manfred	Political macroeconomics: a survey of recent developments	Journal of Economic Surveys	2000		X			
Berger, Helge//Woitek, Ulrich	Does conservatism matter? A time-series approach to central bank behaviour	Economic Journal	2005		X	Germany		Time series approach to the Bundesbank behaviour
Kuttner, Kenneth N.//Posen, Adam C.	Beyond bipolar: a three-dimensional assessment of monetary frameworks	International Journal of Finance & Economics	2001	X		World	41 Nations	Assess the effects of differing monetary frameworks on the behaviour of inflation and exchange rates.
Goodhart, C.A.E.	The constitutional position of an independent central bank	Government and opposition	2002		X			
Lippi, Francesco	On central bank independence and the stability of policy targets	Scandinavian Journal of Economics	1998		X			
Beblavy, M.	Central bankers and central bank independence	Scottish Journal of Political Economy	2003	X		Transition Economies	4 Nations	Using a questionnaire survey to look at how central bankers in the Czech republic, Hungary, Poland and Slovakia view various criteria of CBI.
Debelle, G.//Fischer,S.	How independent should a central bank be?	Conference series: Federal reserve of Boston	1994	X	X	OECD	17 Nations	Evaluating inflation performance using GMT and CWN indices
Posen, Adam S.	Central bank independence and disinflationary credibility: a missing link?	Oxford Economic Papers	1998	X		OECD	17 Nations	Examining cross-sectional public and private sector behaviour from 1950-1989 for disinflationary credibility with monetary institutions.
Posen, Adam S.	Declarations are not enough	NBER	1995	X	X	World	32 Nations	Regress the 1960-1989 average annual level of inflation on a measure of CBI, a measure of financial sector opposition to inflation (FOI), and some control variables.
Dickens, Edwin	Bank influence and the failure of US monetary policy during the 1953-54 recession	International Review of Applied Economics	1998	X	X	USA		Econometric and Archival evidence challenging the conventional belief that CBI is necessary to stabilize economies on non-inflationary growth paths.
Hayo, Bernd//Hefeker, Carsten	Reconsidering central bank independence	European Journal of Political Economy	2002		X			
Mas, Ignacio	Central bank independence: a critical view from a developing country perspective	World Development	1995		X			
Fry, Maxwell et al.	Key issues in the choice of monetary policy framework	Routledge	2000	X		World	94 Nations	Aspects of monetary policy frameworks used by central banks and governments in their attempts to achieve their various goals.

Findings

Author	Year	Contribution	Results	Limitation
Banaian, King//Burdekin, Richard//Willett, Thomas	1998	Caution in using the Cukierman index as a measure of CBI	Most of the 15 attributes of CBI as per Cukierman's index are insignificant & / or have a positive relation with mean inflation rates.	No insights into the aspects of institutional design that would be important for effective CBI
Chowdhury, Anis	2002	Good review of CBI literature and analysis of financial indicators for Indonesia	The usefulness of inflation targeting and CBI is far from settled. It is complex for both theoretical and country specific reasons.	More analysis of the Indonesian case.
de Haan, Jakob//Kooi, Willem J	2000	Constructing the turnover rate of the central bank governors (TOR) in 82 developing countries over the period 1980 - 1989.	The authors' general conclusion is that central bank independence only matters if high inflation countries are taken up in the sample. Only in that case there is a clear and significant relationship between CBI and inflation (variability). There is no robust (directly or not) relationship between CBI and economic growth.	Some countries were not included in the sample analysis
de Jong, Eelke	2002	It has been suggested that the negative relation between CBI and inflation is caused by a third factor. The author investigated if culture in the sense of common values is this factor.	The acceptance of differences in authority and inequality—mostly represented by Power Distance and sometimes by Masculinity—is the best candidate for being the factor correlated with inflation and central bank independence.	Study limited to OECD countries
Temple, J.	1998	The purpose of this note is to sound a warning about the empirical study of central bank independence (CBI) and inflation.	In high income economies, CBI is associated with lower inflation. The regressions confirm that this effect remains present even when controlling for other variables. In larger samples including developing countries, however, the measured impact of CBI on inflation is very sensitive to the presence of high inflation economies.	None mentioned
Franzese, Robert J.	1999	This paper stresses the point that the monetary policy making autonomy of central banks is at the end a matter of Degree and the effects of any given institution are contextual.	The results confirm that the anti-inflationary benefits of CBI are not constant but depend on every variable in the broader political economic environment to which autonomous central banks and governments respond differently. Conversely, the inflationary impacts of such variables depend on the degree of CBI.	It would be useful to have an extension into the less developed countries
Waller, Christopher J.//Walsh, Carl E.	1996	The appointment of a conservative central banker increases the optimal term length and leads to lower average inflation but need not increase the volatility of output.	The literature has lacked an acceptable means of parameterizing independence. The models are unable to capture adequately the notion of political independence (degree of independence from partisan political influence) that seems key to the empirical relationship between independence and inflation.	How to measure empirically partisanship influence and political independence
Walsh, Carl E.	2000	Independence is never absolute and all central banks may be subject to political pressures.	CBI with a loss function based on the output gap is not sufficient to ensure that discretion delivers optimal policy.	None mentioned
King, David//Yue Ma	2001	The addition of the degree of tax centralization makes CBI perform appreciably better as an explanatory variable.	Centralized countries have higher inflation. When relating CBI to inflation, other variables must be considered. Centralization helps CBI in many samples of countries.	The conclusions from this sort of analysis are tentative because the number of observations is modest and many data are pretty crude.
Leybourne, Stephen J.//Mizen, Paul	1999	While most empirical papers consider the direct link between inflation targets, CBI and inflation performance; fewer, like this one, consider the impact of other simultaneous reforms.	The process of transition is related to two factors: CBI and the general slowdown in economic activity which occurred during the early 1990s in all OECD countries. Other reforms to the labour market and fiscal policy were less influential. The paper suggests that the reforms made a large contribution to the transition in consumer price indices. They were not the only cause, however, since there was a marked and in some cases prolonged decline in GDP.	Experience in other non-industrial countries
Cukierman, Alex//Miller, Geoffrey P.//Neyapti, Bilin	2002	This paper develops extensive new indices of legal independence - CBI - for new central banks in 26 former socialist economies.	CBI is unrelated to inflation during early stages of liberalization. But for sufficiently high and sustained levels of liberalization, and controlling for other variables, legal CBI and inflation are significantly and negatively related.	Limitations of the indices of CBI
Maliszewski, Wojciech S.	2000	CBI is a powerful device to protect the price stability but not for stabilizing the price level.	CBI helps to facilitate the stabilization process and protection from inflationary bias. However, in periods of severe macro imbalances, this institutional arrangement may not be effective enough to stabilize the economy. CBI is not a substitute for other elements of stabilization. In further analysis, an inverse relationship emerges between inflation and indices of CBI. However, the robust relationship is present only at a high level of economic liberalization.	Further research based on behavioural measures is useful to check the robustness of the results

Findings

Author	Year	Contribution	Results	Limitation
Muscatelli, Anton	1998	The paper examines some problems which arise when monetary policy is designed for an independent central bank and where the central bank's preferences are unknown.	Two key conclusions emerge from the paper. First, even with optimal targets, CBI may not always be desirable because central banks may have distorted preferences relative to society. Second, if the delegation solution is preferable, and the independent central bank responds to information about supply shocks, the central bank may be made more accountable by allowing it to set its own inflation targets.	Issues with the model used
Moser, Peter	1999	The legal independence of central banks is significantly higher in those OECD countries whose legislative processes are characterized by extensive checks and balances.	The negative relation between legal independence and inflation is larger in countries with checks and balances than in countries without checks and balances. What almost the whole literature neglects is that the benefits of central bank independence depend on the existence of some costs of withdrawing the independence. In the literature, reasons for these costs are never specified.	None mentioned
Oatley, Thomas	1999	The statistical relationship between CBI and inflation is not independent of the measurement of central bank independence. In other words, existing CBI indices are not perfect substitutes.	Support for the central bank independence hypothesis survives a relatively inclusive set of control variables. But this support is not independent of the particular index upon which analysis relies. Complex measurements of CBI appear to provide little value added, as the nuanced distinctions they provide appear to obscure rather than sharpen the primary distinctions between levels of CBI.	CBI indices and control variables
Heylen, Freddy//Van Poeck, Andre	1996	Studies investigating CBI empirically tend to confirm a negative relationship between average inflation and CBI. A careful analysis of these studies indicates various weaknesses.	The potential benefits of CBI should be considered in combination with other political and structural factors that determine inflation. CBI is more beneficial in countries with unstable governments, not committed to exchange rate regimes. The natural rate of unemployment also affects the CBI-inflation relation.	A full survey of variables
Hermes, Niels//Lensink, Robert	2000	Review of main theories on CBI.	Establishing an independent central bank in transition economies is a difficult process and that real independence can only be obtained when a reliable legal and political infrastructure is in existence.	None mentioned
Otero, Jesus//Ramirez, Manuel	2006	The modelling exercise indicates that the independence of the Central Bank did not affect the autonomous level of inflation, but it changed the response of inflation to disequilibria in the goods and money markets.	The disequilibria in the goods and money markets are found to have a larger effect on inflation before Central Bank independence, suggesting that monetary policy simply accommodated these disequilibria. Such accommodation is now effectively forbidden by the Constitution, as the Central Bank cannot lend money to the non-financial private sector, and requires unanimity of its Board of Directors to lend money to the government, something that has not happened thus far.	None mentioned
de Haan, Jakob//Van 't Hag, Gert Jan	1995	The predictions based upon the theory that delegation of authority by politicians to central banks is used as a commitment device are not supported.	New light on the literature in which a negative relationship between CBI and inflation is reported. However, the observed negative relationship between CBI and inflation may simply be a reflection of the underlying preferences (& political structure) of the economy in question. Those economies with a strong anti-inflationary preference and a high degree of political stability are likely to have CBI. This implies that more CBI may not be enough to reduce inflationary bias in high inflation countries.	None mentioned
Herrendorf, Berthold//Lockwood, Ben	1997	Review of the delegation instruments that could be applied in the case of monetary policy.	The authors' results suggest that, except in very special cases, a combination of weight-conservatism with a linear inflation contract, or an employment target, or an inflation target, dominates the solutions discussed in the literature, which consider only one of these delegation instruments. The delegation of monetary policy to a weight-conservative central banker can be desirable.	None mentioned
Gartner, Manfred	2000	This paper surveys political macroeconomics, covering its development from Rogoff's conservative central banker to the most recent discussions of monetary policy and institutional design.	The author tend to doubt whether the standard model of time inconsistency provides a satisfactory explanation to rationalize the inflationary proclivities in the industrialized world. There is also a call to deal with warnings on criticism on the CBI-inflation relation, in addition to other warnings.	None mentioned
Berger, Helge//Woitek, Ulrich	2005	Providing proof that many of the criticisms justly levelled at the traditional cross-country approach for CBI can be avoided by turning to a single-country time-series analysis.	A single-country approach to CBI avoids the necessity of producing reliable measures of central bank characteristics across different countries. An even more important advantage is that it allows a more detailed analysis, especially of the dynamic properties of central bank behaviour. In addition, it makes it much easier to distinguish between central bank independence and political conservatism.	Extending the analysis to other countries on a country by country basis

Findings

Author	Year	Contribution	Results	Limitation
Kuttner, Kenneth N.//Posen, Adam C.	2001	Analysing and comparing the effects of CBI, exchange rate regimes and inflation targets on inflation and exchange rate behaviour.	Hard exchange rate pegs are brittle. CBI is associated with a reduction of exchange rate volatility, and in the level of inflation. Inflation targeting also significantly reduces average inflation.	Research needs to be extended towards more emerging market economies
Goodhart, C.A.E.	2002	Reviewing the progress of the CBI idea.	Independent central banks are a very recent fashion – if compared to an independent judiciary – and like all new fashions are fragile and subject to alteration.	None mentioned
Lippi, Francesco	1998	The benefits of an independent central bank depend on the size of the inflationary bias versus the variance of policy targets.	A policymaker with stable policy targets is more likely to benefit from an independent central bank than a policymaker with unstable policy targets. This suggests an association between the stability of policy targets and CBI.	None mentioned
Beblavy, M.	2003	Administering the questionnaire survey of CBI (based on the GMT index)	Central bankers in Central Europe and industrial countries agree very strongly on the importance of two pillars of CBI, which can be roughly identified with goal independence and freedom to implement these goals; and a system of how credit is granted by central bank to a government that gives the central bank powers to determine terms of the relationship and limits the extent of such credit.	Some elements of CBI indicators like Turnover rate of governor, role of the government representative on board, pursuing price stability.
Debelle, G.//Fischer,S.	1994	In dealing with CBI it is important to draw a distinction between goal and instrument independence.	Central banks need to be given a clear mandate and clear incentives to perform and they must be accountable for their actions (utility or loss function that specifies what to maximize versus a specific contract that penalizes inflation). That implies that central banks should not have goal independence.	Research needs to be extended towards more LDC economies
Posen, Adam S.	1998	The paper does not find evidence that the costs of disinflation are lower in countries with independent central banks. It also finds no evidence that independence inhibits collection of seignorage revenues of political electoral manipulation of policy.	The results raise questions about some explanations of the negative correlation between CBI and inflation. Interest groups effect or social preference could explain the negative correlation between inflation and CBI. This paper's findings cast doubt upon the empirical relevance of government time-inconsistency problems as an explanation for inflation in industrialized democracies. The paper finds no evidence to support that the mechanism by which CBI leads to low inflation is the enhancement of credibility of commitments to price stability	Measurements of CBI or the appropriateness of the assumptions behind CBI need to be specified.
Posen, Adam S.	1995	Arguing that any observed negative correlation between inflation and CBI is spurious	If there is a negative correlation between CBI and inflation, it exists because countries with a financial sector most opposed to inflation are also the most likely to be eager for their central banks to be independent from political control. The strength of the opposition of the financial sector against inflation both determines the degree of central bank independence and the level of inflation.	Reducing inflation is not necessarily always a concern for the financial sector
Dickens, Edwin	1998	Suggests that when the Fed became independent of democratic control, it became dependent on the influence of large banks.	The author argues that because of excessive banker influence, the Fed did not try to stabilize the economy during the 1953-1954 recession.	None mentioned
Hayo, Bernd//Hefeker, Carsten	2002	This paper evaluated the conventional view that CBI is a necessary and/or sufficient instrument for achieving low inflation	The author's conclusion after reviewing the analytical arguments and empirical evidence is that the case of CBI being a necessary and/or sufficient instrument for achieving low inflation is far from convincing.	Future empirical research should take the relevant characteristics of a country's legal, political, and economic frameworks explicitly into account.
Mas, Ignacio	1995	Argues that the advantages of CBI have been overstressed and its drawbacks and implementation problems have been overlooked. Empirical tests purporting to support the central bank independence proposition are plagued by problems of simultaneity, reverse causality, missing variables and measurement errors.	CBI may not bring about its professed benefits in developing countries with shallow financial markets. The benefits of CBI may be eroded by conflicts between fiscal & monetary policy and by institutional design, so that problems of dynamic inconsistency are not solved but merely transformed. LDCs wishing to establish a low inflation path should concentrate on instituting financial policy reforms that bolster opposition to inflation and institutional arrangements that force discipline on fiscal policy directly rather than indirectly through monetary policy.	Review of the Independent Fiscal Board proposal
Fry, Maxwell et al.	2000	Data collected through a questionnaire completed by 94 central banks in diverse economic groups.	Low inflation is associated with periods of stable inflation. Explicit targets appear to be an attempt to build credibility through transparency. Measuring characteristics of monetary frameworks could be subjective. Instrument independence is important for central bankers when compared to goal independence.	None mentioned