TITLE

Central Banking in Modern Democracies: Public Tool or Private Monopoly?

AUTHOR

Dr Panagiotis Kotsios
Lecturer at Perrotis College, Marinou Antypa 54, 55102, Thessaloniki, Greece
Email panagiotiskotsios@gmail.com
Tel 00306979458015
Ms Stefani Stojmenovikj
Perrotis College, Marinou Antypa 54, 55102, Thessaloniki, Greece
Email stefani.stojmenovikj@gmail.com
Tel 00306947556973

ABSTRACT

Central banks are among the most powerful institutions in the world. They are granted a legal monopoly in the issuance of money, set interest rates, monitor the banking sector and generally control a country's money supply and monetary policy. Central banks' decisions and actions affect directly or indirectly almost every economic activity on the planet. However, most of these institutions decide and act independently from government, being managed from appointed and not elected officials. Moreover, these officials usually come from the banking sector, that their role is to monitor. These facts generate questions about the functionality of the system and its efficiency. The goal of this research is to investigate the status of central bank management and ownership across the world today, and examine both philosophically and ethically the arguments for and against central bank independence in modern democracies.

KEYWORDS: central banks, ownership, governance, independence, democracy

1. INTRODUCTION

The goal of this research is to investigate the status of central bank management and ownership across the world today, and examine both philosophically and ethically the arguments for and against central bank independence in modern democracies. The research starts with a short literature review about the history of central banks, their goals and functions, ownership status, independence from government, accountability and transparency rules. Next is an outline of the methodology that is applied in the research. The analysis part includes the results of the primary research and critical analyses of central banks' ownership structure and independence. In the last part of the study there is a summary of the conclusions.

2. LITERATURE REVIEW

2.1 HISTORY OF CENTRAL BANKS

The history of central banking goes back to the 17th century, to the founding of the Swedish Riksbank. The Riksbank was established in 1668 as a joint stock bank in order to lend the government funds and to act as a clearing house for commerce (Moenjak, 2014). A few decades later, in 1694, the most famous central bank of the era, the Bank of England, was founded also as a joint stock company to purchase government debt. Some authors argue that the modern-day notion of central banking should be dated from the 1844 Act, when the Bank of England received a monopoly on the issue of banknotes (e.g. Davies and Green, 2010). Other central banks were set up later in Europe for similar purposes. For example, the Banque de France was established in 1800 by Napoleon to stabilize the currency after the French Revolution and to aid in government finance. The other main European central banks took on these responsibilities in the last decades of the 19th century. An analytical outline of central banking institutions before 1900 can be found in Capie et al (1994). The number of central banks increased rapidly in the 20th century, with the establishment of 143 new institutions between 1900 and 1990 (Pringle and Mahate, 1993). The U.S. had two central banks in the early nineteenth century, the 1st (1791–1811) and 2nd (1816 to 1836) Bank of the United States. Both were set up on the model of the Bank of England, but their charters were not renewed due to concerns about concentration of power (Bordo, 2017). The Federal Reserve System was created much later, in 1913, and it belongs to a later wave of central banks, which emerged at the turn of the 20th century with the goal of providing financial stability. Today there are more than 180 central banks or monetary authorities around the world.

2.2 AIMS OF CENTRAL BANKS

Central banks were initially created in order to issue currency and provide banking services to governments. While these early central banks helped fund governments' debts, they were also engaged in banking activities. Because they held the deposits of other banks, they came to serve as banks for bankers, facilitating transactions between them. Because of their large reserves they also became the lender of last resort in periods of financial crises (Bordo, 2017). Their aims were also related with currency management and holding gold reserves. After World War II their objectives were extended to include high levels of employment and growth (Capie et al, 1994).

In a recent study, carried out in 2006, researchers Friseld, Roszbach and Spagnolo from the Swedish Riksbank, asked forty-seven central banks how they perceived their objectives. Around half responded that price stability was their primary objective (46%) and other objectives included preserving the value of currency (13%), providing efficient payment mechanisms (6%), preserving the purchasing power of domestic currency (4%), guiding banking operations (2%), monetary stability (2%) and other more complex objectives (27%). It must be mentioned that many central banks have high employment and economic growth as

basic targets set by law also. The specific set of goals that each central bank is trying to achieve is defined by governments and this has been named the target variable. The means that central banks use in order to achieve these targets, have been named the instrument variable (Davies and Green, 2010). The main instruments that a central bank can use to achieve its goals are the following (McDonell,and Brue, 2008; Mankiw, 2009): Open-market operations, meaning the buy and sell of government bonds, the reserve ratio, meaning the portion of depositors' balances that banks must have on hand as cash and the discount rate, meaning the interest rate that the central bank charges to commercial banks.

2.3 FUNCTIONS OF CENTRAL BANKS

Economists and central bankers have tried to come up with a satisfactory list of central banking functions. De Kock (1974) mentions that the main functions of central banks are: 1. 1. Monopoly of note issue; 2. Banker and adviser to the government; 3. Act as the custodian of cash reserves of commercial banks: 4. Act as a lender of the last resort; 5. Control the credit of the country; 6. Maintenance and management of foreign exchange rate; 7.Clearing house facilities; 8. Publication of statistical data and other useful information; 9. Keep and manage foreign exchange reserves of the country; 10.Control fluctuations in order to curb inflation. In 1983, an IMF paper authored by Collyns, offered a list of the functions of a central bank, categorizing them in five areas: currency issue and foreign exchange reserve management; banker to the government; banker to commercial banks; regulation of the financial system; and monetary and credit policy.

Price (1998) identified five main activities – setting interest rates, supervising commercial banks, managing government debt, running payment systems, and operating a branch network. In a more recent attempt, Singleton (2011) listed the following basic central functions: 1. Issuing legal tender banknotes and coinage; 2. Implementing and formulating monetary policy; 3. Providing banking and agency services for the government, and often manage the public debt; 4. Keeping cash reserves of commercial banks and assisting in the settlement of clearance balances between them; 5. Supervising and regulating the financial system, and in some circumstances acting as a lender of last resort; 6. Applying government policy on the exchange rate and keeping the national reserves of international currency; 7. Promoting economic development; 8. Advising governments on economic policy; 9. Participating in cooperative international monetary arrangements; 10. Other functions such as the provision of banking services to the public, consumer protection or the part ownership of a stock exchange. The functions of course may vary both between countries and within the same country over time. What is clear, in any case, is that central banks are very powerful institutions and that their role is of enormous importance in most economies and countries around the world today.

2.4 OWNERSHIP

Regarding the issue of ownership, one would imagine that all central banks are state owned institutions. However this is not always the case. According to Davies and Green (2010) many central banks, especially the oldest of them like the Bank of England, began as private sector companies; others started as public-sector agencies, like the Federal Reserve Board. The great majority are now state owned, though partial private ownership persists in a few cases. A research by the BIS in 2009, in a sample of 47 central banks, concluded that 77% were fully owned by the state or the public sector, 11% were majority or half owned by state or public sector, 9% were majority owned by the private sector and 11% had some other mixed ownership form. As examples of central banks with private ownership, the BIS research mentions:

- Belgium, South Africa and Turkey, where part or all of the shares of the central bank's capital are publicly listed and available for purchase by private individuals,

- the US Federal Reserve System and the Swiss National Bank, which have a mixed public/private ownership structure that is specified by law,
- Belgium, Greece and Italy which have central banks partly or wholly owned by private sector shareholders.

The development of the ownership structures of central banks is also recorder in the book by De Kock (1974). A recent research that focused on central banks with private shareholders is the one by Rossouw (2014) mentioning that on 2004 central banks with shareholders were to be found in Austria, Belgium, Greece, Italy, Japan, South Africa, Switzerland and Turkey, while the 12 Federal Reserve Banks in United States also have shareholders. However the central bank of Austria was nationalised in 2010, leaving the remaining as central banks with private shareholders.

2.5 INDEPENDENCE

A very contradictious aspect of central banking that has appeared along with the development of central banks is central bank independence from government. Central bank independence (CBI) refers to the freedom of central bankers from direct political or governmental influence in the conduct of policy (Walsh, 2005). CBI is considered to have two key dimensions: "political independence" meaning independence from political influence in defining its policy objectives, and "economic independence", meaning independence in the choice of policies in pursuit of monetary policy goals (Grilli, Masciandaro, and Tabellini, 1991). Debelle and Fischer (1994) named these two aspects "goal independence" and "instrument independence". Goal independence refers to a central bank's ability to determine policy goals without the direct influence of a fiscal authority, while instrument independence refers to the central bank's ability to freely adjust its policy tools in pursuit of monetary policy goals. The BIS (2009) determines the degree of a central bank's autonomy by four elements: 1. Clear and non-contradictory mandates; 2. Limited relationship to the state and no obligation to finance government activities; 3. Power to make policy decisions; 4. Appointment process and the term limits for its officers can be made by the state, but afterwards officials must be insulated from political influence.

What is astonishing is that in all the relevant literature there is only one theoretical argument in favour of central bank independence: political interference on monetary policy and the time-inconsistency problem. For example authors like Lastra (2006); Abel, Bernake and Croushore (2008); McConnell and Brue (2008) mention that independent central banks can be insulated from political pressures to pursue overly expansionary policies. In order to get re-elected or satisfy the general public, politicians may be tempted to increase spending and create inflation in the long run. It is claimed that a politically insulated central bank is more likely to be concerned with long-run objectives and be a better defender of price stability. The counterargument to central bank independence supports that it is inconsistent with democratic principles. Having monetary policy controlled by an elite group of policy makers that are insulated from democratically elected politicians can be undemocratic and risky for the general public (Mishkin, 2012; Cecchetti and Schoenholtz, 2015; Wood, 2015). Other arguments are related with independent central bank failures, like the period of Great Inflation in the US and the recent financial crisis. All these argument will be analysed in more detail later on this article.

Today the reality is that many central banks around the world are, legally at least, independent from government. An example is the European Central Bank (ECB), which mentions in its website "*Neither the ECB nor the national central banks (NCBs), nor any member of their decision-making bodies, are allowed to seek or take instructions from EU institutions or bodies, from any government of an EU Member State or from any other body*". Granting central bank independence is also a prerequisite for membership in the Eurosystem. Other examples include the Federal Bank of New Zealand that gained independence from

government on 1989, the Bank of England that gained operational independence with a Labour Act on 1997, the Bank of Japan on 1998, while the Fed that has enjoyed a high degree of insulation from political interference since 1951.

Empirical research has been carried out in relation to CBI and its effect on monetary policy. The most widely employed index of central bank independence is due to Cukierman, Webb, and Neyapti (1992), although alternative measures were developed by Bade and Parkin (1984), and Grilli, Masciandaro, and Tabellini (1991), among others. Several authors including Alesina (1988); Grilli, Masciandaro, and Tabellini (1991); Cukierman, Webb, and Neyapti (1992); Jonsson, (1995) and Eijffinger, Schaling, and Hoeberichts, (1998) found that more independent central banks are associated with lower levels of inflation. Alesina and Summers (1993) however could not find any correlation between CBI and real economic performance. However, the empirical work attributing low inflation to central bank independence has been criticized on the basis that these researches may fail to measure other factors that affect inflation. For example Campillo and Miron (1997) found little role for central bank independence, after controlling for other potential determinants of inflation. Moreover, by comparing the implementation dates of CBI reforms with long-term inflation trends for 29 OECD countries, Daunfeldt and de Luna (2008) found that price stability had been achieved in most countries before their central banks became more independent.

2.6 TRANSPARENCY

The method that modern democracies have used in order to control the vast amount of power that they have granted to independent central banks is through accountability and transparency. Kaltenthaler, Anderson and Miller (2010) refer to central bank accountability as the ability of the governed to know the reasoning behind policy decisions, reward or punish policy-makers and have the power to remove them when their decisions don't reflect citizens' preferences for policy outcomes. Transparency is also a very important element of accountability (Eijffinger and Hoeberichts, 2002). Whatever arrangements concerning democratic accountability may exist, their scope is limited without transparency and the availability of information for the evaluation of a central bank's decisions and policies. A good example is the Reserve Bank of New Zealand (RBNZ), which in 1990 became the first central bank to adopt inflation targeting as a monetary policy regime, while putting great emphasis on transparency and accountability (Moejnak, 2014). There are public announcements of inflation targets and the reasoning behind changes in the interest rate, and accountability is conveyed through the fact that if the inflation target is missed without a good explanation, the RBNZ governor can be removed. The emphasis on transparency and accountability helped enhance the credibility of RBNZ's commitment to price stability in its conduct of monetary policy in New Zealand. On the contrary, the European Central Bank (ECB) is one of the most independent central banks in the world (Arnone et al, 2007), but is also considered to be one of the less transparent and has low levels of accountability when compared with other central banks (Davies and Green, 2010). Legal accountability of the G7 central banks have been compared in a research by Eijffinger and De Haan (1996) and large differences have been observed from country to country.

GOALS OF THE RESEARCH

Keeping in mind the long history of central banking, the very important role of monetary policy, the vast power that central banks are controlling today and the extensive literature on the topic, there is a number of important questions that arise. Should central banks be privately or state owned? Should they operate independently from democratically elected governments? Is that the optimal way to provide financial and monetary stability and economic growth? Are transparency and accountability the methods for ensuring that a central bank's decisions will coincide with the will of the general public?

3. METHODOLOGY

In order to answer these questions this research will apply a methodology which consists of three parts. Firstly in order to collect updated information about the topics of central bank ownership and independence, the authors have contacted electronically, through e-mail, the 76 central banks of the countries that are considered democratic according to the Democracy Index 2016. The Democracy Index is compiled by the UK-based Economist Intelligence Unit (EIU) and intends to measure the state of democracy in 167 countries, of which 166 are sovereign states and 165 are UN member states. In addition to a numeric score and a ranking, the index categorises countries in one of four regime types: full democracies, flawed democracies, hybrid regimes and authoritarian regimes. Full democracies refers to countries in which basic political freedoms and civil liberties are respected, and also have a political culture conducive to the flourishing of democracy. The functioning of government is satisfactory, media are independent and diverse, there is an effective system of checks and balances, the judiciary is independent and judicial decisions are enforced. Flawed democracies are countries that also have free and fair elections and, even if there are problems (such as infringements on media freedom), basic civil liberties are respected. However, there are significant weaknesses in other aspects of democracy, including problems in governance, an underdeveloped political culture and low levels of political participation.

The number of full democracies for 2016 was 19 and of flawed democracies 57. The questions that were sent to central banks were 6 in total, and they regarded three topics – Ownership, Management and Independence. The questions were the following:

A. Ownership
   1. Is the central bank in your country a state organization, a private company or a mixed ownership company (shares belonging to both the state and private shareholders)?
   2. In case it is a private or a mixed ownership company, are the shareholders published?

B. Management
   3. How is the central bank ’s governing board selected?
   4. Are they elected (from national elections) or appointed officials?

C. Independence
   5. Is the central bank independent from government by law?
   6. If yes, how is transparency for the central bank’s decisions secured for the general public?

The questions were short in order to try to increase the response rate, since it is usual to have low response rates in central banks researches (Blinder et al, 2017). The emails were sent during the summer of 2017, from the 30th of July until the 1st of August and answers were expected until the 20th of August. A reminder in all central banks was sent on the 5th of August.

Secondly, in the analysis part there is going to be a critical analysis of central bank ownership structure, based on the collected information, and thirdly there is going to be a critical analysis of the various arguments that have been put forward in favour and against central bank independence. The three parts of the analysis will hopefully provide some useful conclusions in the end.

4. RESULTS AND DISCUSSION

4.1 QUESTIONNAIRE REPLIES

The response rate to the questionnaires was very small, as only 17 central banks from democratic countries replied. The sample was complemented with 2 central banks that the required information was easily accessible from their website, the Bank of Greece and the Federal Reserve, creating a total sample of 19 out of 76 central banks (25% of total). Replies were received from the following central banks:

Table 1: Central banks that replied to the questionnaire

DEMOCRATIC COUNTRIES				
No	**Country**	**Democracy Index Category**	**Democracy Index Score**	**Central Bank Name**
1	Denmark	Full democracy	9.20	Danmarks Nationalbank
2	Switzerland	Full democracy	9.09	Swiss National Bank
3	Australia	Full democracy	9.01	Reserve Bank of Australia
4	Austria	Full democracy	8.41	Oesterreichische Nationalbank
5	UK	Full democracy	8.36	Bank of England
6	Spain	Full democracy	8.30	Banco de España
7	Japan	Flawed Democracy	7.99	Bank of Japan
8	United States	Flawed Democracy	7.98	Federal Reserve System
9	Italy	Flawed Democracy	7.98	Banca d' Italia
10	Latvia	Flawed Democracy	7.31	Latvijas Banka
11	Greece	Flawed Democracy	7.23	Bank of Greece
12	Indonesia	Flawed Democracy	6.97	Bank Indonesia
13	Philippines	Flawed Democracy	6.94	Bangko Sentral ng Pilipinas
14	Croatia	Flawed Democracy	6.75	Croatian National Bank
15	Hungary	Flawed Democracy	6.72	Central Bank of Hungary
16	Romania	Flawed Democracy	6.62	National Bank of Romania
17	Serbia	Flawed Democracy	6.57	National Bank of Serbia
18	Malaysia	Flawed Democracy	6.54	Central Bank of Malaysia
19	Hong Kong	Flawed Democracy	6.42	Hong Kong Monetary Authority

A record of the received replies is presented in Appendix 1. From the central banks that replied 14 (73%) replied that they are state owned, and in the rest 5 (27%) private individuals and organizations had the whole or some share of the central bank's capital. The central banks with private shareholders were the following:

Table 2: Central banks from the sample with private shareholders

DEMOCRATIC COUNTRIES			OWNERSHIP	
No	**Country**	**CB Name**	**Ownership**	**Shareholders**
1	Switzerland	Swiss National Bank	Cantons and cantonal banks (52%) and private individuals (48%)	Publicized
2	Japan	Bank of Japan	55% state 45% private individuals	Publicized
3	United States	Federal Reserve System	Owned by commercial banks but profits over 6% are paid to the Treasury	Publicized

4	Italy	Banca d' Italia	Shares belong to a) Italian banks b) Italian insurance companies c) Italian foundations d) Italian social security, insurance bodies and pension funds. No shareholder may hold, directly or indirectly, a share of the capital greater than 3%	Publicized
5	Greece	Bank of Greece	State 8,93%, State organizations, Social insurance funds, private individuals 91,07% [1]	Not directly publicized

[1] The bank with an announcement on 29/5/2012 claimed that the Greek State indirectly controls about 70% of capital. Shareholders with share capital over 2%, apart from the Greek state, have no voting rights during general assemblies.

From these 5 central banks, the shareholders were directly or indirectly publicized in 4 of them, and only in the case of Greece the exact shareholders and their shares of capital are not officially publicized. All of the 19 central banks (100%) declare that they are governed from appointed, non-elected (from general elections) officials. Also all of them (100%) declare that they are independent from government. Moreover all of them use various effective transparency policies, including reports, publications, parliament auditions, press releases, speeches, conferences, seminars, statistical databases, multimedia content, website, contact facility etc. Additionally the Reserve Bank of Australia every year consults with the government in order to set targets.

4.2 CRITICAL ANALYSIS OF OWNERSHIP STRUCTURE

Most countries around the world have state owned central banks, with very few exceptions. What are the reasons for having a privately owned central bank? Are there any advantages or there is clear conflict with private ownership and the very important role that these institutions play for the general public? A basic argument in favour of private central bank ownership is that it is insulated from state control and political interference. According to the prevailing central bank theory, these may undermine the central bank's ability to effectively choose and implement monetary policy. Perhaps also, private ownership structure assists in avoiding the complex and time consuming bureaucratic procedures that are required for state agencies, thus creating time saving and more flexible management structures. Moreover, the BIS (2009) mentions that in cases of private ownership, all important policymaking powers are shielded from private shareholder influence and shareholders rarely have a say over financial arrangements, since financial and policy objectives can conflict. Roussow (2015) mentions that although private shareholders have no say over decisions about monetary policy, central banks report on these decisions to their shareholders, and this can be considered as an extra layer of control, that enhances governance, accountability and transparency. Furthermore, shareholding by commercial banks (as in the US and Italy) can provide an opportunity to assist commercial banks in financial distress, as was the case in Italy with the revaluation of the central bank in 2014. Finally, as mentioned again by the BIS (2009), all in all, different ownership models do not appear to affect the performance of the main tasks of the central bank and are instead mostly arrangements designed to satisfy local constitutional or practical needs.

On the other hand, as mentioned by Davies and Green (2010), central banks are clearly carrying out public objectives, so the case for private ownership is weak. Private shareholding can entail risks, as shareholders may challenge a central bank's actions. Moreover, where the shares are quoted . there can be inconsistency between stock exchange reporting requirements and policy-driven restrictions on disclosure. The BIS (2009) also mentions as a negative side that publicly listed shares can consume a significant amount of the central bank's time and resources (this is the case in Belgium, South Africa and Turkey). In cases where the shareholders are not publicized, this can create distrust about the central bank's ownership and goals, especially in the aftermath of the recent economic crisis. As mentioned by Roussow (2015), the Bank of Italy and the 12 US Federal Reserve Banks allow ownership is only to private banks. In this case there may be a supervisor to supervisee relationship, and there may be in some cases conflict between the interests of the general public and the actions of shareholding private banks.

As Roussow (2014) mentions, central banks with private ownership are to a certain extent a relic of the past, given that this system of ownership was not adopted (with the exception of Pakistan) for central banks established after the 2nd World War. However the central Bank of Pakistan was nationalised in 1975, while the most recent nationalisation was that of the central bank of Austria in 2010. Consequently there is a very small number of privately owned central banks left, and in these countries the central bank's ownership status should probably be a topic of public debate.

4.3 CRITICAL ANALYSIS OF CENTRAL BANK INDEPENDENCE

Another important issue that should also be a matter of public debate is related with central bank independence. The largest economies of the world have granted some small or large degree of independence in central banks. The main arguments that have been put forth in favour of central bank independence are the following:

POLITICAL INTEFERENCE: As mentioned earlier, in all the extensive literature about central banking, surprisingly there is only one theoretical argument in favour of central bank independence: the possible negative consequences that irresponsible political interference can have on the money supply and inflation levels. If politicians choose to increase government spending in order to satisfy voters and get re-elected in the short run, this can have very negative effects on the price level in the long run. As explained better by Fischer (2015), the traditional economic case for CBI rests on countering inflationary biases that may occur in the absence of an independent central bank. One reason for such a bias is political pressure to boost output in the short run for electoral reasons. Another reason is the incentive for politicians to use the central bank's power to issue money as a means to finance government spending. Another reason is related with the time-inconsistency problem of monetary policy making, which can undermine the central bank's credibility in keeping inflation low and create higher inflation expectations in the general public. By delegating monetary policy to an independent and conservative (i.e. inflation averse) central bank, promises to keep inflation low become more credible (Bernanke, 2010).

The significance of central bank independence arises also from the different priorities between politicians and central bankers. Politicians are aware of the importance of price stability, but they tend to be less willing to sacrifice other goals, such as growth and employment, to the fight against inflation. Central bankers tend to be more concerned with the risks of inflation for a variety of factors, of which the most significant appears to be the close ties between central banks and the financial community. Banks are highly averse to both unexpected inflation and market instability, as their long-term interests depend upon the central bank's ability to control inflation (Goodman, 1991). Moreover, Maxfield (1997)

suggested that CBI reforms have been implemented, especially in less developed countries, to signal creditworthiness to foreign investors.

EMPIRICAL RESEARCH: The belief about the negative relation of CBI with inflation levels is backed by empirical research. Much of it appeared in the 1980s in papers by Bade and Parkin (1984), Alesina (1988, 1989), Alesina and Summers (1993), Grilli, Masciandaro and Tabellini (1991) and Alesina and Gatti (1995). By the late 1990s, the opinion that central bank independence improves monetary policy outcomes was also widespread in academic textbooks (Howells and Mariscal, 2006). Examples of more recent studies of the topic with similar results are those by Crowe and Meade (2008) and Anastasiou (2009).

TRANSPARENCY AND ACCOUNTABILITY: Concerns about the power issued to independent central banks and the effectiveness of their decisions have been addressed by various accountability and transparency mechanisms. As highlighted by Fisher (2016), a central bank's accountability is enforced by regular reporting on monetary policy actions and outcomes to the legislature, to the government and to the public. Accountability of the central bank helps deal with the potential conflict between independence and the fact that unelected officials are determining policies critical to a country's economy. Eijffinger and Hoeberichts (2002) also stress the importance of transparency as a very important element of central bank accountability. They support that when the reasons for a certain monetary policy decision lay open, it is easier to make a judgement and to hold central bank officials accountable for their behaviour. So, a central bank should be required to report at regular intervals on its past performance and future plans for monetary policy in accordance with the monetary objectives. The authors also describe a variety of transparency procedures that are applied in various countries around the world, including central banks' meetings minutes, reports, forecasts and audits. In addition, Howells and Mariscal (2006) mention several reasons why policy might be improved by transparency. Firstly, transparency makes monetary policy more predictable in the short and medium run. Predictability contributes to market stability since it improves public understanding of the rules that govern central bank decision making and reduces uncertainty. Secondly, greater disclosure of the policy making process ensures that market expectations by the private sector can be formed more accurately and efficiently (Blinder et al, 2001).

In contrast to the arguments mentioned in favour of CBI, there are many arguments that question and challenge the notion of central bank independence. Some of them are mentioned in the following paragraphs.

DEMOCRATIC CONTROL: A main argument has to do with the democratic limits of independence for an institution that plays a very important role in every country and economy. If we accept that democracy is the best type of political system and in a democracy everything should be controlled by the general public (or their elected officials in representative democracies), then monetary policy is just too important to be left in the hands of unelected individuals that are able to exercise it as they like without any legal consequences. This practice is clearly beyond democratic limits and raises questions about its purposefulness and effectiveness.

Advocates of central bank independence also claim that independence is necessary to protect the economy from short-term political interference to increase the money supply, which can affect the price level in the long-run. Politicians are supposedly short sighted and don't see the negative long term negative economic effects. Somebody could easily say that this argument just doesn't stand. Politicians in reality make much tougher long-term decisions, they are very well informed about the time consistency problem (maybe much better than central bankers) and are more than capable to comprehend the negative effects of inflation. The difference is that in well-functioning democracies they do everything with the authorization and control of the public. If they make the wrong decisions, they can be hold accountable by law and the

general public in the following elections. In reality, all political decisions have long term effects, and there is no obvious reason why the time consistency argument is valid only for monetary purposes. If we accept the time consistency argument, we must also start striping the government from all its main functions and responsibilities.

Blinder (1998) believes it's a mystery why governments have chosen the delegate such powers in independent central banks, and have not done so for example in tax policy. Davies and Green (2010) reply that maybe tax policies inevitably have obvious distributional and macroeconomic consequences which elected politicians are not prepared to hand over to officials. Moreover, often we meet independent authorities operating within states, but their operation is strictly defined by government laws, their effectiveness is regularly audited by the government and the general public, and of course there are legal repercussions when they surpass the legal framework under which they are supposed to operate. On the contrary central banks are in pursuit of, and have in some cases achieved, a much higher degree of autonomy.

NOT REAL INDEPENDENCE: Others might say that in reality most central banks only claim to be independent. They have founded by laws voted by the government, they are responsible for the government's banking activities, their governors are appointed by the government, their goals and tools are determined by the government, they are audited by the government, and the government has the ability to change their legal charter whenever it seems fit. Also as correctly noted by Wray (2014), if a government decides to spend beyond budgeted amounts —perhaps in an attempt to replicate the experience of the Weimar Republic or Zimbabwe—the central bank would actually be powerless to prevent it. Ben Bernanke, former Chairman of the United States Federal Reserve, during a Congress hearing on 2012, said it clearly: "*of course we'll do whatever Congress tells us to do*": if the Congress is not satisfied with the bank's actions, the Congress can always tell the bank to behave differently.

Bruce MacLaury, 8th president of the Federal Reserve Bank of Minneapolis, on a report of 1976 defined independence this way: "*Although closely interfaced with commercial banking, the Fed is clearly a public institution, functioning within a discipline of responsibility to the "public interest." It has a degree of independence within the government—which is quite different from being independent of government. Thus, the Federal Reserve System is more appropriately thought of as being "insulated" from, rather than independent of, political—government and banking— special interest pressures".* However these views are not shared by all central bankers. The ECB for example has a much different perception and degree of autonomy.

ROLE IN THE GFC: Other criticisms against central bank independence are related with the effects of their decisions. Leaving aside the long history of independent central bank mistakes (like the Great Inflation of the 1970's in the US), new criticisms against central bank independence have been put forward for their role in the recent Global Financial Crisis. It can be claimed that these institutions have a portion of the blame for the outbreak of the financial crisis, since they have the responsibility of securing financial stability. Steve Roach, the former chief economist of Morgan Stanley, argued that the central banks themselves bore the prime responsibility for the crisis (2007): "*the current financial crisis is a wakeup call for modern day central banking . . . the art and science of central banking is in desperate need of a major overhaul—before it's too late"* .

Moreover, during the crisis central banks had to intervene at a grand scale to maintain financial stability. As described by Blinder et al (2017) in an ECB report: "*central banks … were either called upon or felt compelled to take many actions they had never (or rarely) taken before. Like lending to banks on a massive scale …against collateral that didn't quite meet Bagehot standards—an action which can easily slide into a "bailout" of an imperiled bank. Or lending to nonbank financial institutions. Or purchasing non-traditional assets such*

as mortgage-backed securities (the Fed), peripheral country debt (the ECB), and a wide variety of financial instruments (the Bank of Japan). Each of these unusual activities shares one attribute in common: There is a non-trivial chance that the central bank, and thus indirectly the country's taxpayers, will suffer a loss. For this reason, they are often called quasi-fiscal policies, a term that suggests that such actions constitute a kind of government spending, which they do in an actuarial sense. Public spending by the central bank crosses the traditional line between monetary and fiscal policy, suggesting to some that the central bank has strayed into the fiscal domain" (p.34).

Fels (2016) also supports that many of the central banks' decisions that are required to address today's greatest problems have significant distributive consequences and are thus in the "*realm of fiscal policy rather than monetary policy".* Moreover, Davies and Green (2010) claim that a government's inability to instruct the central bank to respond to a sharp downturn makes crisis management difficult. In circumstances in which the conventional weapon of monetary policy can no longer be used—the zero interest rate bound—further action must be coordinated by the central bank and the finance ministry working together. As put by Mr Stanley Fischer, Vice Chair of the Board of Governors of the Federal Reserve System on 2015: " *following the global financial crisis, we are living in a different world, one in which issues of financial stability have moved out of the shadows and into the center of our concerns. The resulting challenges are only beginning to be understood--and they need to be understood and taken seriously if we are to reduce the probability of future financial crises."*

RELATIONSHIP WITH THE BANKING SECTOR: Other criticisms come from the close relationship that central bankers have with private banks. Many central bankers used to work for the private banks that they later had to supervise, and this can create conflicts of interest. The role of bankers in effecting politics and central banking, even though obvious, remains to be discussed publicly. In his book about the role of private banks in central banking and politics, Adolph (2016) mentions : "*Arguably, no sector of the economy is more responsible for the economic crisis that began in 2007, yet no other sector has emerged more profitably, or with greater leverage over policy in the United States and Europe"* (p.2).

DISTRUST: Perhaps the relationship of central banks with private banks and politicians is the reason there is large citizen distrust towards central banks. According to Eurobarometer survey of public opinion 2017, only 34% of Europeans trust the European Central Bank (ECB), 17% don't know it and 49% declared that they distrust it. The results of Karthenahel, Anderson and Miller (2010) also confirm the feelings of distrust towards the ECB. According to the authors many Europeans are concerned that their voice or that of their country is not being heard in the ECB's policy-making and this democratic deficit is damaging levels of support for the integration process as a whole. Distrust against central banks is common in other countries around the world also. In the US for example, a large portion of citizens, academics and politicians are questioning the Fed system's functionality, especially in the aftermath of the GFC.

EMPRICAL RESEARCH WEAKSNESSES: Central bank independence has been backed by empirical research that has claimed to prove the adverse relationship between CBI and inflation and was quickly accepted by academics and politicians. However this empirical research has been criticized for a number of reasons. Pollard (1993) summarizes the most important methodological weaknesses:

1) There is difficulty in measuring central bank independence. The measures of CBI used in empirical studies have been calculated by establishing a set of factors thought to be relevant for independence, and then by analyzing charters and laws for compliance with these factors. With few exceptions, most indexes apply equal weight to each factor and obviously a legal measure of independence may not reflect a bank's de facto level of independence (Cukierman, 1992). There also may be bias in the factors selected to measure independence. Problems in

CBI measurement appear also in cases when in different studies there are different independence rankings of the same banks.
2) In most studies political factors that affect inflation are not included in the calculations.
3) Empirical use of these indexes may be problematic if CBI is an endogenous variable in the sense that countries with a commitment to price stability may have a greater propensity for independent central banks. If this is true, the establishment of an independent bank without a commitment to price stability will not bring inflation benefits.
From the authors' point of view, it is clear that low inflation is a result of high-inflation averse governments and not of central bank independence. Moreover, Cukierman (1992) and Bouwman et al. (2005) point out that legal indicators of CBI are often incomplete and unreliable because laws do not explicitly specify the limits of authority between CBs and governments. Thus, the actual degree of CBI may not be well measured by legal independence indicators. Daunfeldt and de Luna (2008) found that price stability had been achieved in most countries before their central banks became more independent. Klomand de Haan (2010) found no general significant negative relation between our indicators of central bank independence and inflation. Finally, in a number of studies, CBI has proven to be unrelated with real growth.
ACCOUNTABILITY: Another source of criticism for central banks is related with the accountability mechanisms. If we consider as the central bank's ultimate goal to safeguard the public's interest, there should be appropriate responsibility mechanisms when this goal is not achieved. Daunfeldt , Hellström and Landström (2013) mention that accountability is the notion that the governed are able to know the reasoning behind policy decisions and reward or punish policy-makers for the policies they choose. As noted by Davies and Green (2010), in the central bank context, accountability typically implies a duty to explain the reasons for decisions, after the event, and to answer questions on them. But rarely do any consequences, whether financial or otherwise, flow from these accounts. In most countries central bankers can be dismissed only for incapacity or gross misconduct, and not for incompetence. Walsh (2002) also notes that granting long terms of office to central bankers limits the extent to which central bankers can be held accountable.
From all the arguments that were mentioned in favour and against CBI, it is clear that CBI is lacking a solid theoretical background, while the empirical research that supports has structural weaknesses. On the contrary there are well-based logical arguments and proofs in favour of the view that central banks should be directly controlled from governments.

CONCLUSIONS

Through an analytical literature review, a primary research about the basic central bank characteristics in modern democracies and critical analyses of the central bank ownership and independence topics, this research has tried to shed light to the highly important topic of central banking. The authors, as most individuals, agree that central banks are necessary and their role in every modern economy is vital. But currently certain characteristics of central banks create suspicion and concern, especially in the aftermath of the recent financial crisis and the manner that it was confronted.
The first main research question was if central banks should be privately or state owned. From the primary research and the literature review on the topic it is concluded that most central banks around the world are state-owned. Keeping in mind the central role of these institutions for every economy, the impact of their decisions for the general public and the power they are granted, there is little space for private ownership and control. Private ownership is more likely to create suspicion and possible conflicts of interests rather than improve the central

bank's performance. In the small number of countries with privately owned central banks, the ownership status should probably be a topic of public debate.

The second question asked if central banks should operate independently from democratically elected governments and if that is the optimal way to provide financial and monetary stability and economic growth. Even though the idea of independent central banks was quickly adopted by academic and political cycles, it is clearly lacking solid theoretical and empirical justification. As Howells and Mariscal (2006) aptly put it: "T*he literature that has made central bank independence so fashionable presumes precisely this: that a legislative act …carries more credibility than a promise by government to follow a low inflation policy"*(p.9).

The reality is that for the cost of hypothetical inflation, we are in risk of submitting a monopoly of money printing to a small number of unelected officials with close ties with the banking sector. And as a monopolist, the central bank can choose to set either the quantity or the price of money, leaving the public to pay the bill. The recent global financial crisis is an example of the cost that societies pay when they lack efficient control mechanisms for the financial sector. We argue that monetary policy and financial regulation are clearly core government responsibilities and not targets that must be met by an independent central bank's governing board.

The third and final question is if central banking transparency and accountability are the methods for ensuring that a central bank's decisions will coincide with the will of the general public. From the literature review and the analysis of the arguments in favour and against central bank independence, it is clear that most central banks were not, are not, and perhaps should never be independent from governments. In modern democracies their role is just too important to be left in the hands of non-elected officials. The various accountability and transparency policies that are applied are providing some level of democratic control and are certainly steps towards the right direction. However they cannot fully justify this vast transfer of responsibility from democratic governments to private individuals,

The main argument in favour of CBI, which is related with the time consistency problem, could be dealt with by an independent authority of experts that will continuously monitor the government's monetary policy and inform the public, and not the other way around. Alternatively, if there are independent central banks, they should probably operate in a strict regulatory framework like the examples of Australia and New Zealand. Clear legislation, goal setting by the government, frequent reporting, strict accountability measures and increased transparency rules can secure a central bank's effectiveness in achieving its public goals.

From the whole analysis it is clear that most modern democracies should reassess the notion and substance of central banking and address methods and practices that could possibly jeopardize economic development and the effective functioning of democracy in the long run. This research is of course limited by the low response rate and from the fact that it does not cover all the extensive literature about central banking. However it does point out some interesting directions for future research, including topics like public opinions about central bank ownership and independence and the relation of CBI with real economic performance and social indicators.

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APPENDIX 1 Questionnaire replies

Central Bank Name	Ownership	Share holders	Governors	Elected or not	Independence	Transparency
Danmarks Nationalbank	State owned	N/A	Appointed	Non elected	Yes	Reports, Press releases, Statistics, Speeches, Website, Contact
Swiss National Bank	Cantons and cantonal banks (52%) and private individuals (48%)	Publicized	Appointed	Non elected	Yes	Reports, Publications, Press releases, Speeches, Interviews, Bulletins, Speeches, Contact
Reserve Bank of Australia	State owned	N/A	Appointed	Non elected	Yes	Consultation with government, Reports, Presentations to parliament, Communication program, Media releases, Appearance in committees, Bulletin, Minutes, Speeches, Website, Contact
Oesterreichische Nationalbank	State owned	N/A	Appointed	Non elected	Yes	Reports, Audits, Presentation to Financial Committee, Researches, Forecasts, Statistics, Website, Contact
Bank of England	State owned	N/A	Appointed	Non elected	Yes	Reports, Hearings, Minutes, Discussions, Press releases, Statistics, Speeches, Seminars, Conderences, Website, Contact
Banco de España	State owned	N/A	Appointed	Non elected	Yes	Reports, Publications, Press Releases, Multimedia, Website, Contact
Bank of Japan	55% state 45% private individuals	Publicized	Appointed	Non elected	Yes	Reports, Publications, Statistics, Minutes, Press Conferences, Speeches, Website, Contact

Federal Reserve System	Owned by commercial banks banks but profis over 6% are paid to the Treasury	Public ized	Appointed	Non elected	Yes	Reports, Congress auditions, Minutes, Press releases, Spublications, Conferences, Speeches, , Website, Contact
Banca d' Italia	Shares belong to a) Italian banks b) Italian insurance companies c) Italian foundations d) Italian social security, insurance bodies and pension funds. No shareholder may hold, directly or indirectly, a share of the capital greater than 3%.	Public ized	Appointed	Non elected	Yes	Reports, Parliamentary auditions, Publications, Statistics, Lectures, Conferences, Speeches, Press releases, Website, Contact
Latvijas Banka	State owned	N/A	Appointed	Non elected	Yes	Reports, Publications, Statistics, Multimedia, Speeches, Website, Contact
Bank of Greece	State 8,93%, State organization s, Social insurance funds, private individuals 91,07% (however the bank with an	Not directl y public ized	Appointed	Non elected	Yes	Reports, Parliament auditions, Publications, Press realeases, Statistics, Speeches, Webiste, Contact

	announcement on 29.5/2012) claimed that the Greek State indirectly controls about 70% of capital)					
Bank Indonesia	State owned	N/A	Appointed	Non elected	Yes	Reports, Publications, Press releases, Minutes, Speeches, Website, Contact
Bangko Sentral ng Pilipinas	State owned	N/A	Appointed	Non elected	Yes	Reports, Press releases, Highlights of discussions, Letter to president, Briefings, Seminars, Conferences, Statistics, Multimedia, Website, Contact
Croatian National Bank	State owned	N/A	Appointed	Non elected	Yes	Reports, Publications, Bulletin, Presentations to parliament, Statistics, Seminars, Minutes, Lectures, Speeches, Conference, Website, Contact
Central Bank of Hungary	State owned	N/A	Appointed	Non elected	Yes	Reports, Announcements, Report to minister, Minutes, Statistics, Seminars, Press releases, Website, Contact
National Bank of Romania	State owned	N/A	Appointed	Non elected	Yes	Reports, Press releases, Bulletins, Presentations to parliament, Minutes, Statistics, Speeches, Website, Contact
National Bank of Serbia	State owned	N/A	Appointed	Non elected	Yes	Programme, Reports, Gazette, Press releases, Press conferences, Publications,

						Statistics, Social media, Website, Contact
Central Bank of Malaysia	State owned	N/A	Appointed	Non elected	Yes	Reports, Publications, Press releases, Speeches, Educational programs, Multimedia, Website, Contact
Hong Kong Monetary Authority	State owned	N/A	Appointed	Non elected	Yes	Reports, Bulletins, Presentations, Meetings, Statistics, Seminars, Minutes, Speeches, Website, Contact