Can we explain the policymaking of the Bank of Japan during the lost 20 years with the social learning theory?

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Abstract

Japan, although currently the world's third largest economy behind the United States and China, has faced many challenges in recent years. The period from 1990 to 2010, in Japan, is even often referred to as "the lost 20 years". This name, which does not evoke anything positive, refers to a period when Japan faced weak economic growth and persistent deflation despite relatively low interest rates. During this period, the Bank of Japan has made many attempts to deal with this long crisis. It was a pioneer in developing and implementing so-called unconventional monetary policies. These monetary policies, such as quantitative easing, are now used by the majority of the world's major central banks, such as the FED. In this paper, I analyse and try to understand how the Bank of Japan made its monetary policy decisions during the last 20 years. I use social learning theory, to which I make several modifications, as a tool to analyse the policymaking of the Bank of Japan during the lost 20 years. Thanks to that, the paper also provides a reflection on the theory of social learning, described by Hall in his article of 1993. [...]
Master’s Thesis

« Can we explain the policymaking of the Bank of Japan during the lost 20 years with the social learning theory? »

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1. Introduction

Japan, although currently the world's third largest economy behind the United States and China, has faced many challenges in recent years. The period from 1990 to 2010, in Japan, is even often referred to as "the lost 20 years". This name, which does not evoke anything positive, refers to a period when Japan faced weak economic growth and persistent deflation despite relatively low interest rates. The Plaza Accords in 1985 doubled the exchange value of the dollar against the yen between 1985 and 1987\(^1\). The result was to fuel a speculative asset price bubble on a massive scale. The Bank of Japan (BoJ), in an attempt to reduce this speculative bubble, and thus keep inflation under control, sharply increased interest rates in 1990. This policy resulted in the bursting of the speculative bubble, the crash of the Japanese stock market and a debt crisis. The effects then manifested themselves in a banking crisis, which resulted in consolidations and numerous government bailouts.

In the 2010's, long after the bursting of this speculative bubble, the Japanese economy seems not to have fully recovered from this crisis. Indeed, Japan continues to fight against deflationary risks and still practices interest rates close to zero. Its demographics do not bode well either, as Japan is one of the countries with the lowest birth rate in the world. It is in this economic context that in 2012, Shinzo Abe became once again the Prime Minister of Japan. Under his influence, the government of Japan and the Bank of Japan implemented a bold economic policy in order to give the Japanese economy a new impetus. This economic policy, known as the Abenomics, is made of three arrows that refer to monetary policy, fiscal policy and structural reforms.

In this work, we are interested in the policymaking of the Bank of Japan during the lost 20 years. Central banks were founded by the various countries of the world in order to respond more effectively to financial crises. Some of the goals of these central banks is to maintain the economic stability of the country, or to ensure the economic prosperity of the country. They use monetary policy as a working tool. Many works, which we will briefly mention later, have discussed the mistakes and the reasons why the Bank of Japan failed in its task and did not succeed in bringing Japan out of the crisis for a little more than 20 years. We then will ask ourselves how the Bank of Japan made its monetary policy decisions. We decided to draw on

\(^1\) Werner, 'Monetary Policy Implementation in Japan'.
the social learning theory described by Hall to try to understand how the Bank of Japan made its policymaking during this period. The research question of this paper will then be:

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Social learning theory is often put forward to explain policymaking in the UK in the 1970s. The challenges of this work will therefore be multiple. In order to answer the research question, the work will be divided into several parts. Firstly, in the analytical framework part, we will explain the theory of social learning in more detail, while providing a critical approach. We will also explain how we will use this theory to analyze, and attempt to understand, the policymaking of the Bank of Japan. Secondly, we will review the various works that attempt to explain how central banks make decisions in the literature review. Thirdly, we will briefly introduce the different crises that Japan has experienced during the lost 20 years. Fourthly, we will move on to the analysis of the Bank of Japan's decisions by using the social learning theory. Then, in the last part, we will discuss the results of the analysis.
2. **Analytical Framework**

In this paper, in order to analyze the Bank of Japan's monetary policy decisions and try to understand them, we will draw on the concept of "policymaking as social learning" described by Peter A. Hall. First of all, let's talk about the assumptions that this theory makes. According to this theory, the main factors influencing a policy at time t+1 is the policy in place at time t0. Moreover, according to theorists of this theory, "policy responds less directly to social and economic conditions than it does to the consequences of past policy". Secondly, the key actors in policymaking are the experts in a given field. They influence decision-making by working directly for the state or by having privileged positions that bring them closer to decision-making. The role of politicians is therefore somewhat reduced according to this approach. The last assumption of this theory concerns the ability of the state to make decisions without being affected by any social pressure.

We now need to look in more detail at what the "social learning process" is. People learn when they acquire new information, such as that learned from past lessons, and then use this new knowledge to make new decisions. Social learning is very similar. Hall describes it as follows: "we can define social learning as a deliberate attempt to adjust the goals or techniques of policy in response to past experience and new information. Learning is indicated when policy changes as the result of such a process". To better understand the learning process, Hall posits that policymaking is a process that includes three central variables. The first is the goal that guides the policy. The second refers to the techniques or policy instruments used to achieve the goal. The third concerns the settings and details of the techniques or instruments put in place. A simple example that Hall uses to explain this concerns solving the financial problems of the elderly. The goal is to provide financial relief to the elderly, the instrument might be an old-age pension, and the settings would be the level of the pension.

These three types of policy change thus represent three different levels. The first level, "type 1", of changes are "settings", which do not affect either the instruments or the goal. These are often adjustments to the annual budget, for example, which is modified regularly. These adjustments are often made on the basis of experience, and new knowledge gained from the last adjustments made. The second level, "type 2", concerns the techniques/instruments used to

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2 Hall, 'Policy Paradigms, Social Learning, and the State'.
3 Hall.
achieve the goals of economic policies. The goals remain the same, but different techniques/instruments are used to achieve them, often because of bad past experience. Often when changing instruments, some “type 1” changes in settings can be observed. The third and final level, “type 3”, represents a radical paradigm shift, affecting goals, instruments and techniques, and settings. Hall cites the example of British economic policies during the period between 1970 and 1989. In moving from economic policies based on Keynesian theory to economic policies based on neo-liberal theories, the three variables constituting policymaking changed completely. These type 3 changes are rarer according to Hall. In contrast to type 1 and 2 changes, which are ordinary cases of policymaking, type 3 changes reflect a radical shift associated with a paradigm shift. Thus, according to Hall, type 1 and type 2 changes do not necessarily lead to a type 3 change. Furthermore, some type 3 changes do not necessarily correspond well to the claims of social learning. Indeed, often these type 3 changes are influenced by politicians and not by experts. These type 3 changes are therefore much more affected by political interests and social pressures. However, Hall believes that not all type 3 changes should be excluded from the social learning theory. According to him, even if politicians are involved in these changes and political and personal interests exist, politicians still try to solve the problems that led to the type 3 change. In order to solve these problems, they use the knowledge gained from previous policies. In Hall's case of British policymaking, during a type 3 change, the political parties, the city, and others participated in several intellectual debates to find solutions. Therefore, Hall does not totally exclude type 3 change from the social learning process.

The distinction into several types of changes is a key factor in understanding the process of social learning. In his text, Hall explains that type 1 changes fully correspond to the image of social learning. Type 2 changes are also important. They are distinct from type 1 changes and are evidence that when type 1 changes are no longer sufficient, type 2 changes are undertaken. Indeed, according to Hall, type 2 changes show a response to a lack of satisfaction with past policies, through the introduction of new instruments. It is therefore very useful to distinguish between these two types of changes, as this will allow us to observe and understand how the process of social learning takes place. It will also allow us to check whether Hall's claims are correct. If these claims are correct, then we will observe type 2 changes after a series of type 1 changes that did not satisfy the Bank of Japan. This will serve as a proof that the Bank is learning and adjusting its policies. Type 3 changes, if we observe them as they are much rarer than the other two types, would also help to understand the process of social learning. Although,
as mentioned earlier, type 3 changes may have other influences than just social learning. It may seem at first sight that this division into 3 types of changes is a bit simplistic. It would almost seem that making type 1 changes is something extremely easy. After analyzing the decisions of the Bank of Japan, we will be able to see whether this division is too simple, or on the contrary, that this division works very well.

This division into three types of change by Hall is not immune to certain criticisms, however. Type 1 and 2 changes are described in a general way and can fit very well into a theoretical framework. This is not necessarily the case for type 3 changes. Indeed, Hall describes these type 3 changes based on the case of Thatcher’s UK. Nevertheless, as we know, the paradigm shift in the UK in the 1970s was a radical and very strong shift. Learning is central to the theory of social learning, and should remain so for type 3 changes, as it is for type 1 and 2 changes. This is why it is hard to see the radical paradigm shift in the UK in the 1970s as the benchmark for type 3 reforms. In order to keep in line with the type 1 and type 2 changes, we need to put learning back at the center of type 3 changes. For this reason, in this work, we will consider that there is a type 3 change when the goals are modified, and that radical paradigm shifts are not necessary to observe type 3 changes. We assume that the changes in goals will be due to the learning of policymakers over the past years, notably through the various type 1 and 2 changes that have been implemented. It is true, however, that Hall makes some very interesting points in describing the paradigm shift in the 1970s in the UK. His description shows that the theory is not absolute, and that exceptions, or external influences, can also influence policymaking. We therefore do not exclude the possibility that in type 3 changes, as well as in type 1 and 2 changes, external influences are present in the Bank’s policymaking.

Social learning therefore takes place through three different types of change. We believe that these changes, and thus the process of social learning, can be observed through different cycles. In a cycle, type 1 changes are the most frequent, type 2 changes are somewhat rarer, and type 3 changes mark the end of a cycle, as well as the beginning of a new cycle. In this work, we will therefore try to see how social learning takes place through these cycles. We will call these cycles “learning cycles”.

Now that the broad outlines of social learning theory are introduced, let us look at how we are going to use it to try to understand how the Bank of Japan makes monetary policy decisions. We will look at the period between 1990 and 2013. The early 1990s in Japan was the
beginning of “the lost 20 years”\textsuperscript{4}, when Japan experienced many serious economic problems. These economic problems, such as low (or negative) inflation, weak growth, and a banking crisis, have forced the Japanese government and the Bank of Japan to take numerous actions to try to revive its economy. In 2013, the first three arrows of the famous "abenomics" were put in place. We will end the analysis with the implementation of qualitative and quantitative monetary easing (QQE) by the Bank of Japan, which represents one of the three arrows of the abenomics. After briefly introducing the various economic crises that Japan experienced during this period in order to contextualize ourselves, we will look at the monetary policy decisions taken by the Bank of Japan during this period. In order to apply and test the claims of theory of social learning, we will analyze the decisions taken by the Bank in terms of monetary policy one by one, in a linear fashion over time, while looking at the Bank's announcements to better understand their motivations. We will first look at what type of policy change we are dealing with (type 1, 2 or 3). We will then try to understand whether the main factors that influenced the new monetary policy decisions taken by the Bank of Japan (those taken at time t+1), are the past monetary policies (those taken at time t0), or whether other factors may have influenced these decisions. Given the extraordinary situation that Japan has experienced over the last twenty years, we believe that in the Japanese case the hypothesis that policies are influenced more by past policies than by social and/or economic causes may not always hold true. It is possible that the difficult economic conditions that Japan has experienced have influenced policymaking. It is not excluded that economic conditions mix well with social learning, as economic outcomes can be influenced (negatively or positively) by decisions taken by the Bank of Japan. Moreover, this detailed analysis of the decisions taken by the Bank of Japan will allow us to test and see if we can observe the learning cycles with the Japanese case.

We also need to explain why we have chosen to analyze the actions of the Bank of Japan through the social learning. To date, there are no studies using the social learning approach that attempt to understand the actions of the Bank of Japan in terms of monetary policy. Through this approach, that we lightly modified, we may be able to provide a new perspective and help understand how the Bank of Japan makes its monetary policy decisions. We also might be able to confirm that the generalization of the learning cycles can work.

\textsuperscript{4} ‘UPDATE 2-Japan Eyes End to Decades Long Deflation’.
3. Literature Review

As mentioned earlier, we will analyze the decisions of the Bank of Japan through the social learning approach. But before doing so, we will briefly introduce other approaches that also attempt to explain central bank decision-making. These approaches could obviously also have been chosen for this research work, as they are also very relevant.

To begin this review of the literature, we will first discuss what could be called the "policy board approach", which explains that central bank decisions are mainly influenced by the policy board, and in particular its members. To introduce this approach, we will first look at the work of Christopher Adolph, "Bankers, Bureaucrats, and Central Bank Politics". Adolph speaks of a "career and policy choices of bureaucrats". He explains in his work that monetary policy decisions are influenced by policy board members. He shows that several parameters affect the members, and therefore affect the decisions they take. He distinguishes several models. Firstly, the one that takes into account the "age effects". According to him, the youngest members are those most exposed to career incentives. While older members will be influenced by their previous jobs. He also explains that in countries that report their monetary policy votes without a big delay (that's the case of the Bank of Japan since its independence in 1997) career signals and bargains are easier to achieve. Therefore, career effects will get stronger in this case. He also highlights the "successful career rewards". Depending on the monetary policies put in place, policy makers could secure a post-central bank job. Adolph highlights an example related to inflation. The emphasis on lower inflation should in theory help central bank policy makers to join a private bank once their job at the central bank is over. High growth would help them to join government jobs. To summarize, he argues that past experiences (career experiences) and career incentives have an influence on the monetary policy decisions made by the central bankers. He also shows that "differences among central bankers, measurable through their career backgrounds, matter for monetary policy".

In the second part of his book, Adolph then looks at the influence that government can exert. He believes that governments have the possibility to influence monetary policy, despite the fact that central banks are independent. Indeed, governments, through the choice of central bankers, can succeed in influencing future monetary policy decisions. Moreover, through meetings between governments and central banks, governments can influence central bank

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5 Adolph, Bankers, Bureaucrats, and Central Bank Politics.
decisions. Adolph therefore believes that despite the independence of central banks, governments still have some influence on the monetary policy of central banks. Monetary policy is therefore not a purely technocratic process, but is a process that remains political, and democratic in a certain sense. Indeed, citizens have the power to change the government in place through votes (for example because they are dissatisfied with the monetary policy in place). The next government will then try to influence the monetary policy of the central bank to satisfy the voters. Of course, the government’s influence on the central bankers is limited. Indeed, central bankers are usually elected for a few years, which limits the governments' room for manoeuvre. Governments will often have to wait a few years before they can “punish” central bankers for not meeting targets, for example.

To summarize, in the first part of his book Adolph shows how policy board members influence the monetary policies of central banks. In the second part, he shows how governments can also influence monetary policy, for example through the selection of policy board members. He also shows that the people can to some extent also influence the monetary decisions of central banks. The first part of the book fits well with the policy board approach, which explains the decisions of a bank through the members of the policy board. The second part focuses on the influence of the government, while maintaining the importance of the policy board members. The second part of the book, through its emphasis on government influence, could also be relevant to the "external pressure approach" that we will introduce later in this literature review.

Other authors also explain the monetary decisions of central banks through the policy board approach. This is the case, for example, of Philip Maier, who assumes that the policy board has the power to make monetary decisions. In his paper "How Central Banks Take Decisions"6, he looks at the composition of the policy board, and how they work. He argues that it is possible to positively influence central banks' monetary policy decisions through the proper selection of policy board members, as well as by changing the way policy boards function. By doing so, policy board members would be encouraged to participate more in discussions, become informed and reveal important information. All this would be beneficial, and the quality of policy board decisions would increase. The policy board is therefore at the center of decision-making according to Maier.

6 Maier, ‘How Central Banks Take Decisions’.
We will now try to look in more detail at the external pressure approach. This approach attempts to show that central bank decisions are influenced by external forces. The first author we will mention is John T. Woolley. In one of his works, he tries to show that despite its independence, the decisions of the American central bank (FED) are influenced by external institutions. He reviews several approaches, and tries to see which ones show evidence of an external influence on the FED. In his findings, he finds that presidents represent a source of pressure for the FED. Even if presidents do not always get what they exactly want from the FED, they are "usually not very unhappy with the policy they get". He also puts forward theories that congressional interests can influence the FED's decisions, although the evidence remains weak in his view. Woolley therefore believes that despite the independence of the FED, monetary politics is not over, and that future research will shed light on the external influences on the FED.

Dwyer takes a similar approach, explaining that external pressures influence the Bank. But she focuses on the case of the politicization of monetary policy in Japan. She shows in her work that the Bank of Japan is subject to external pressures despite its independence when making decisions. She explained that the politicization of monetary policy is due to the fact that many politicians criticize the decisions of the Bank of Japan. After the Bank of Japan became independent in 1997, the economic situation in Japan did not improve. Moreover, the fiscal situation and the restructuring of the Japanese market have also reduced the fiscal policy options available to the government. The importance of monetary policy as a key policy to revive the economy became even more apparent to politicians. In her view, all these conditions have played a role in the fact that many politicians have started to question the monetary decisions taken by the Bank. Politicians are therefore trying to influence monetary policies, especially through public comments that look like a form of activism for specific monetary policies. Dwyer notes that criticism is much more prevalent during economically worse times. For example, between 2005 and 2006, when deflation returned to Japan, public comments by politicians towards the Bank of Japan increased by over 35%. Dwyer then tells us that politicians have several ways of influencing monetary policy. One would be influence through questions and appointments. The Bank of Japan Act stipulates that the Governor of the Bank of Japan must report directly to the Diet at least twice a year. Hayami, who was governor of the

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7 Woolley, 'The Politics of Monetary Policy'.
8 DWYER, 'Explaining the Politicization of Monetary Policy in Japan'.

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Bank from 1998 to 2003, had to attend more than 130 meetings in his first 18 months as governor. In order to do so, he even had to abolish "short policy board meetings". The government, through the two chambers of the Diet, is responsible for approving the candidates for the Bank of Japan's top posts. Several political parties oppose the choice of these candidates, as they know that the person elected will have a strong influence on the monetary decisions of the Bank of Japan. Dwyer also shows that the government can try to influence the Bank through legislation. Every year from 1998 until the time of writing (2012), politicians have threatened to change the Bank of Japan's law to reduce its independence. Under the influence of all this public pressure from politicians, the Bank of Japan and its governors have even acknowledged that they find it difficult to conduct monetary policies without public confidence. Politicians have incentives to "politicize" monetary policy, especially to make it more in line with their electoral objectives.

These approaches are all very relevant in trying to understand how central banks make monetary decisions. In this paper we will focus on the social learning approach, as mentioned earlier. Social learning is a very different approach from those introduced in this brief literature review and may offer us a different perspective on how the Bank of Japan makes monetary policy decisions.

Our analysis, having a significantly different approach to the latter, will not test the claims of the approaches put forward during the literature review. However, these claims should be kept in mind when discussing the results of our analysis. Indeed, our analysis will allow us to observe the strengths and weaknesses of the social learning approach in the case of the Bank of Japan. The claims seen in the literature review may then prove to be complementary to the social learning approach, and will allow us to better understand the policymaking process of the Bank of Japan. Our approach is limited to monetary policy, making the assumption that it is the experts who make monetary decisions. This approach therefore contradicts the claims of the literature review approaches. Indeed, external influences, such as government and politicians, are at the heart of these approaches. It would therefore be natural to say that if our analysis shows that social learning is relevant and works well, the literature review approaches would be irrelevant. However, we do not believe this to be the case. First, it is not clear that the social learning approach can perfectly explain the actions of the Bank of Japan during the period. We may then be able to understand the actions of the Bank of Japan that cannot be explained by social learning through these different approaches. Of course, to say that these approaches
are complementary is to say that these approaches alone cannot fully explain the Bank of Japan’s decision-making. In this work, we will be able to find out whether the social learning approach is relevant. Unfortunately, it will not be possible to test the other approaches. This implies that further work, focusing on the other approaches, would be needed to test the effectiveness of these different approaches in the case of the Bank of Japan.

Before getting into the heart of the analysis, in the following section we will briefly introduce the various economic crises that Japan has undergone from the 1990s to the early 2010s.
4. **Review of Japanese crisis since the 1990s**

4.1 The burst of the Japanese asset price bubble

In this section, we will simply review the important economic events that Japan experienced between the period 1985-2013. The purpose of this is to give us some context, and then to focus solely on the decisions taken by the Bank of Japan in terms of monetary policy.

The Japanese speculative bubble, which started in 1986 and lasted until 1990, is an economic bubble that occurred in Japan. The bubble mainly affects financial assets, as well as real estate. In this summary course, we will discuss the various causes of this crisis, take a quick look at the consequences, and then talk about the government's response through its economic policies.

The event considered by many to be the trigger was the signing of the Plaza Accord in 1985 by the G5 members (Japan, US, UK, France and West Germany). The US complained about the exchange rate imbalance between the yen and the dollar. Many of the products that Japan exported to the US were of better quality as well as cheaper than US products, thanks in part to the advantageous exchange rate for Japan. These agreements are the direct cause of the endaka (literally "high yen" in Japanese). The endaka describes the revaluation of the yen, as well as the devaluation of the US dollar. Japan being an "export led" country, the revaluation of its currency was a blow, which can be seen in the fall in the GDP growth rate. Japan therefore decided to repatriate large sums of foreign savings in dollars and then convert them into yen. Some of these sums were then invested in the stock and real estate markets. One of the effects that could be observed as a result of these Plaza agreements is the rapid increase in asset prices. In particular the price of the stock market. Indeed, the "Nikkei 225" tripled in value between 1986 and 1989. At the same time, the price of land has also risen sharply. In 1990, the value of land was 5 times higher than in 1985. Beyond the increase in asset prices, a

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9 ‘JAPAN’S BUBBLE ECONOMY’.

10 ‘プラザ合意の副産物としてドル安が生んだ日本のバブルの萌芽 “A byproduct of the Plaza Accord was the weakening of the dollar, which spawned a bubble in Japan.” ’

11 ‘La Bulle spéculative des années 1985-1991 au Japon, à l’origine des formes urbaines actuelles ?’

12 Boltho, ‘WAS JAPANESE GROWTH EXPORT-LED?’

13 ‘Official Exchange Rate (LCU per US$, Period Average) - Japan | Data’.

period of economic boom allowed the bubble to inflate. After a setback in 1986, following the Plaza Accords, the Japanese economy recovered until the bubble burst. The increase in real estate investment played a significant role in this expansion.

In order to counter the negative effects of the yen’s appreciation against the dollar, the Japanese government has opted for an accommodating monetary policy. This monetary policy consists of lowering the official discount rate. This influenced the significant increase in the money supply and credit during the bubble period in Japan. It is worth noting that the growth of credit was stronger than the growth of the quantity of money. Under the influence of increasing financial deregulation and rising stock prices, bank borrowing, and capital market financing increased significantly. This has largely favored corporate indebtedness, as well as contributed to the rise in asset prices. In addition, the large increase in bank lending was used to finance investment in real estate, thus fueling the housing bubble. The Bank then tried to deflate the increasing speculation, and also tried to avoid a too big inflation. So, the Bank raised its landing rates in the end of 1989. After some years of low interest rates and monetary easing policies, the increase of the interest rates implemented by the Bank caused the bursting of the Japanese bubble.

Let us now quickly look at the consequences of the bursting of this speculative bubble. Asset prices fell, mainly in the major Japanese cities. Commercial, residential, and industrial land values have fallen sharply. Consumption and investment have also been affected, and have largely declined, under the influence of falling asset prices. Companies were also negatively impacted. Many Japanese companies held assets, which had a positive impact on their balance sheets and facilitated investment. As the prices of these assets fell, the balance sheets of companies deteriorated, and it became much more difficult for them to convince investors. The banking and financial sector had to deal with the consequences of easily available credit during the bubble boom. Banks had to continue lending knowing that the reliability of repayments was not guaranteed. The consequences of this crisis could be detailed on many pages, as they were so numerous and strong. It is so strong that the decade that began after the bubble burst has been dubbed the "lost decade".

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15 Noguchi and Poterba, *Housing Markets in the United States and Japan*.
16 Reuters, ‘Japan Raises Interest Rates’.
18 Vittorio, ‘Growth and Crisis in the Japanese Economy’.
In the years after the bubble burst, Japan experienced a decline in its GDP growth rate. The government, in order to redress the situation, increased public spending. The aim was to increase Japan's own domestic demand, by boosting consumption, so that it could finally emerge from recession. In addition to this fiscal policy implemented by the government, the Bank of Japan used its monetary policy. Indeed, the central bank has reduced interest rates. The aim is the same as that of fiscal policy. By lowering interest rates, the Bank of Japan hopes to stimulate the economy. Companies can borrow more cheaply and thus get a boost.

4.2 The financial crisis and the outbreak of the banking crisis of 1997 and 1998

Seven years after the bursting of its speculative bubble, Japan is experiencing another major crisis. This time, the crisis concerns its banking system. Let us first introduce the term "Jyusen". These are housing-loan corporations, considered as non-performing loans (NPLs). In other words, they represent the branches of Japanese banks that had the mission of spreading home loans to the whole population. The aim was to increase the number of homeowners among the Japanese, in order to comply with the government's wishes. The "Jyusen" therefore borrowed from the banks, and then lent to future owners\(^\text{19}\). The bursting of the real estate bubble and the ensuing fall in prices had harmful effects on the "Jyusen" system. Indeed, little by little, the Japanese were no longer able to repay their loans. In 1995, the value of the loans linked to the "Jyusen" was worth about 13 trillion yen. Of this, the losses are estimated at almost 6.5 trillion yen\(^\text{20}\). These NPLs are therefore a real burden for the banks that finance them. This is why in 1996, the Diet (Japan's bicameral parliament) introduced a law on the liquidation of these harmful "Jyusen". As a result of this law, the NPLs were dissolved, and a new branch of the Deposit Insurance Corporation of Japan (DICJ) took over their assets. In addition, the government implemented a partial write-off of the NPLs debt to their former suppliers. Although the government financed part of the NPLs losses (10% through the DICJ), the bulk of the losses were borne by the banks that owned the NPLs\(^\text{21}\). This is a huge loss for the latter. In addition to this law, in 1996, Japan introduced legal reforms to help combat problems with banks and credit. In that year, the DICJ was ordered to buy up assets from defaulting banks. New laws made it easier for healthy banks to merge with troubled ones.

\(^{19}\) Iwamoto, *Japan on the Upswing*.

\(^{20}\) Iwamoto.

Despite this, in November 1997, Sanyo Securities, an investment company, went bankrupt. In order to restructure its debt, it announced its bankruptcy. This bankruptcy was the first of many. The government failed to convince a healthy bank to merge with Sanyo Securities. Moreover, Japanese law did not allow the government to buy Sanyo Securities in order to save it\textsuperscript{22}. The central bank cannot lend money to Sanyo Securities either, for legislative reasons, which prevent it from lending to insolvent financial institutions. Sanyo Securities has to default on its call loans, which are estimated to be worth over 1 billion yen. Call loans are short-term loans that banks make to each other. These loans, which are very common and carry minimal risk, suddenly become very dangerous\textsuperscript{23}. After the collapse of Sanyo Securities, other financial and banking institutions realized that the government could do nothing to save them if they also collapsed. As a result of these events, the entire Japanese financial system came to a standstill; financial institutions no longer lent to each other. The effects of this paralysis are immediately felt in the country. For instance, they were fatal for the Hokkaido Takushoku Ginko, which also went bankrupt in November 1997. This city bank had, like many others, suffered losses from the bursting of the 1990 bubble. After the collapse of Sanyo Securities, and the decrease in call loans, Hokkaido Takushoku Ginko no longer had the funds to survive. Yamaichi Securities, which was the fourth largest investment bank in the archipelago, also went bankrupt.

The government, unable to let the situation deteriorate any further, tried to take things in hand through the Ministry of Finance. The Ministry of Finance acts as a mediator and incentive between the banking and financial institutions. Thanks to state subsidies through the DICJ, as well as the government's role as mediator, the Hokkaido takushoku Ginko was split in two and bought by two healthy banks. The government, through the DICJ, paid more than 1.7 trillion yen free of charge to the two banks, and also paid 1.6 trillion yen to buy the less secure loans of the former Hokkaido Takushoku Ginko. The government is also lending money to Yamaichi Securities, so that it can repay its debts during its liquidation.

In early December 1997, the government assured that it would guarantee all bank deposits until at least March 2001. The aim was to avoid a banking panic. The funding of the DICJ was also increased. The goal was to be able to respond more quickly. In February 1998,
two laws were passed by the Diet. The government is now allowed to give 10 trillion yen to the DICJ, in the form of Treasury bonds. In addition, the government is allowed to guarantee up to 12 trillion yen of the DICJ's assets if it were to borrow from the central bank and other private banks. The purpose of these laws is mainly to guarantee the deposits of savers with banks, and to be able to buy the (non-solvent) assets of the surviving banks (up to 13 trillion yen). Thanks to this, the banks will be able to repay their debts, even if the banks suffer losses.

Again, despite these measures put in place by the government, a second wave of bankruptcies occurred in the second half of 1998. This time it was the turn of the Long-Term Credit Bank of Japan and the Nippon Credit Bank to fail. The latter could no longer sell their assets for cash. Following the failure of these two major banks, the Diet intervened again and put in place the necessary tools to prevent this from happening again. The Resolution and Collection Corporation (RCC), a branch of the DCIJ, was created. The DCIJ can now help banks in difficulty before they fail. To do this, they transfer their bad debts to the RCC in exchange for money. Through this method, the government gives commercial banks the opportunity to easily sell their assets to the DICJ in exchange for currency.\footnote{Daly, Crisis and Change in the Japanese Financial System.}

The Long-Term Credit Bank of Japan and the Nippon Credit Bank were nationalized by the DICJ in 1998 and bought a large amount of assets (7.45 trillion yen) from fifteen other large banks, until the end of 1999. From then on, thanks to the fact that the government now had the necessary tools to save banks from bankruptcy, there were no more major bank failures in Japan.

4.3 Asian Crisis of 1997

In 1997, many countries in South-East Asia were affected by the crisis. Japan, at the time the world's second largest economy, had a GDP that accounts for about 50% of Asian GDP. Despite this huge GDP, and its great leadership in Asia, Japan was affected by the crisis that its neighbours are going through. Indeed, the rest of Asia corresponds to more than 40% of Japanese exports. On top of this, the value of the currency of many Asian rivals has fallen sharply, which is putting Japanese companies in difficulty and leading to even more bankruptcies. To illustrate this with figures, Japan's GDP growth rate fell sharply in 1997, from 5% to 1.6%. In 1998 Japan even experienced a recession, with a negative GDP growth rate. In
response to this recession, the Japanese government provided a fiscal stimulus of more than 8% of GDP\textsuperscript{25}.

### 4.4 The dot-com crisis of 2000

The internet bubble, a speculative bubble, specifically impacts so-called "technology" stocks. The sectors affected by this bubble are naturally those linked to computers and telecommunications. The inflation of the bubble began in 1995 with the listing of Netscape on the stock exchange. This computer company saw its share price rise drastically on the first day of its listing. During the next five years, investments in the IT sector continued to grow. This sector promised high returns, so naturally the amount of share issues, loans and bank credits grew. In 2000, many investors realized that they had raised the expectations of long-term gains\textsuperscript{26}. In addition, the US Federal Reserve raised interest rates, which impacted the yield curve of these investments. The speculative bubble burst around March 2000, and the entire IT sector was affected by an economic recession.

![Figure 1: Global technology stock price indexes](image_url)


\textsuperscript{25} Lechevalier and Monfort, \textit{Leçons de l’expérience japonaise}.

\textsuperscript{26} ‘Burning Up | Barron’s’. 
The Figure 1 shows the global technology stock price indexes from 1995 to 2006. We can see that compared to Europe, the effects of the internet bubble in Japan are less. If we look at the NASDAQ index in Figure 2, which represents the technology stock price index for the US, we see that the US was also much more affected than Japan. Despite this lesser effect in Japan, it is important to mention the internet bubble, which is still causing a slowdown in the economy. It is one of the elements, along with the economic slowdown caused by the Asian crisis, that might have weighed in the balance when the Bank of Japan decided in 2001 to use the quantitative easing method to try to get the country out of several years of low inflation (or even deflation), and a period of very low growth. These several years are referred to as the lost decade. Quantitative easing is a type of unconventional monetary policy aimed at stimulating economic growth. To achieve this, the central bank buys financial assets, either from the government or from private actors such as banks. The market will be flooded with liquidity, which will encourage commercial banks to lend, which in turn will encourage businesses and consumers to spend.

*Figure 2: US technology IPO’s*

4.5 Global economic crisis of 2008

In 2008, following the subprime crisis in the United States, a large part of the developed countries suffered an economic recession. During this crisis, the price of oil and agricultural products rose sharply. While Japan was relatively spared the financial impact of the subprime mortgage problems (Japanese banks had only a small amount of RMBS and CDOs), Japan did suffer a significant economic recession. The 2008 crisis had a strong impact on international trade, which fell by over 10%. Exports, which were worth about 18% of Japanese GDP in 2008, are of paramount importance in the Japanese economy. By analyzing data such as real GDP, or the growth rate of GDP per capita, we observe a clear drop in 2008 and 2009.

![Japan GDP/Capita annual growth rate](image)

*Figure 3: Japan GDP/Capita annual growth rate*
Data from World Bank

Indeed, in Figure 3, we see that the growth rate of GDP per capita decreased by -1.14% in 2008, then by -5.14% in 2009. Real Japanese exports also fell sharply. Among the reasons for this fall, we can mention the financial crisis that the rest of the world is going through at this time, and particularly the United States, which represents the destination of a large part of Japanese exports. Because of the financial crisis, prospects are no longer so certain, so households are postponing the purchase of unnecessary goods. Among the unnecessary goods are cars and electronic devices. Unfortunately, the latter account for a large part of Japanese exports. Another reason is the appreciation of the yen. The rise of the yen against the dollar
further hinders exports during this period. Another notable reason is related to the financial markets, which were hit hard by the crisis. As a result, the possibility of financing international trade has been curtailed.

**Figure 4: Fall in export value in Japan in 2009**
From Jun Saito (2018)

In Figure 4, we can clearly see that many export-oriented sectors have been heavily affected. The loss of one unit of production in the motor vehicle industry will reduce three units of production in the Japanese economy. The industry that has seen the biggest drop in export values is the motor vehicle industry, with a drop of over 50% in 2009. This fall had a significant impact on the recession experienced by Japan at that time. The Figure 5 below shows a decrease in total industrial production in Japan because of the fall in exports due to the 2008 crisis.

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27 'Why Was Japan Struck So Hard by the 2008 Crisis?’
The unemployment rate also increased under the influence of the 2008 crisis, whereas it had been decreasing since the end of the internet bubble crisis of the 2000s and the introduction of quantitative easing by the Japanese government.
In order to cope with the 2008 crisis, the Bank of Japan decided to use quantitative easing once again through its monetary policy. In addition to this, the government uses fiscal policy to try to revive its economy. The aim of the fiscal stimulus packages is to help businesses, consumers, and farmers to resist the increase in the price of agricultural products, oil, and metals. Indeed, among the many beneficiaries of these recovery plans, we can mention small and medium sized enterprises (SMEs), which are granted credit guarantees or receive loans when they are in difficulty. Banks can also benefit from government support. Banks involved in financing the local economy (and therefore exposed to the risk of bankruptcy) receive an injection of public funds. Households also receive cheques, with the aim of supporting consumption. The aim of these stimulus packages is therefore also to revive and stimulate consumption, by helping many economic actors.

Figure 7: Inflation rate in Japan
Data from World Bank
4.6 Why was it so hard for the Bank of Japan?

In our analysis, we will assume that the Bank of Japan makes decisions that are intended to serve the general interest of Japan. Of course, this is open to debate. However, this assumption raises some questions. If the Bank of Japan is trying to work for the general welfare, why is it so hard for the Bank of Japan to achieve its goals? Why is it so complicated to fix Japan’s economic problems for the Bank of Japan? We will briefly elaborate on some exploratory ideas that might explain why the Bank has experienced so many difficulties.

To address this issue, we will review the work of various authors. Let’s start with Paul Krugman. He believes that the Bank of Japan has faced a liquidity trap\(^{28}\). The liquidity trap describes a situation where interest rates are so low that economic agents prefer to hold onto money rather than spend it. When this happens, it becomes extremely difficult for a central bank to successfully stimulate the economy through its monetary policies. Japan, which cut interest rates steadily during the 1990s, suffers the consequences of the liquidity trap. Krugman also explains that it is not easy to create inflation. Even by increasing the money supply through quantitative easing, if economic agents do not consider this increase as permanent, the price increase will only be temporary. In Japan, economic agents believe that the Bank of Japan will reabsorb the injected money once growth is restored. This will cause prices to fall again. Krugman explains that it is difficult to give clear reasons why Japan has found itself in this liquidity trap. He mentions the demographic situation in Japan as a possible explanation. Growth prospects are low, due to the low birth rate and very low migration. The decrease in the labour force would reduce the expected return on investments. There would therefore be even less incentive to invest the money easily acquired through accommodating monetary policies. Krugman proposes three solutions for Japan to get out of this unfavourable situation. Structural reform, expansionary fiscal policy, and monetary policy. These three proposals correspond to the three arrows of abenomics, which certainly found inspiration in Krugman’s work. It is interesting to say a few words about the kind of monetary policy that Krugman proposes, because through the liquidity trap phenomenon it is supposed to be inefficient. According to Krugman, monetary policies only involve temporary changes in the money supply. However, a permanent change in the money supply is needed to create inflation. The Bank of Japan did not specify whether these changes were temporary or permanent for a long time. Economic agents

\(^{28}\) Krugman, ‘Japan’s Trap’.
then interpreted these actions as temporary, which makes monetary policies ineffective. Krugman believes that the Bank of Japan should announce that its changes are permanent in order to make monetary policy effective again. The Bank of Japan did this when announcing quantitative and qualitative monetary easing in 2013, saying that it aimed to achieve 2% inflation and maintain that rate. Krugman's work may therefore be one way of explaining why it is so difficult for the Bank of Japan to improve the economic situation in its country. It has faced a liquidity trap, which has "paralyzed" its working tool: monetary policy. Looking back, it is easy to say "the Bank should have simply announced a permanent inflation target from the start". But the Bank of Japan has tried many different monetary policies since the 1990s, right up to the Abenomics. As each decision is delicate, and can have huge consequences, the Bank of Japan has moved at its own pace while learning from its decisions, as we will see through the process of social learning.

Richard Koo explains that Japan faced a "balance sheet recession". Economic growth is affected when many private sector actors prefer to pay down debt rather than spend or invest. In Japan, as briefly mentioned at the beginning of this paper, due to the fall in land and stock prices, many companies were left with negative equity. Despite an accommodating monetary policy, Japanese companies preferred to pay off their debts rather than reinvest the money (which would normally have boosted the economy). Corporate investment, which is an important part of GDP, has therefore fallen significantly. For Koo, as for Krugman, monetary policy has therefore become ineffective. This approach can again help us understand how difficult it was for the Bank of Japan to act during this period of crisis.

So, we understand that the situation in which the Bank of Japan found itself was not easy. The crisis caused by the bursting of the Japanese bubble in the early 1990s made the country's economic situation very difficult. The Bank of Japan found itself in a situation where its monetary policy was ineffective. The Bank of Japan faced a balance sheet recession, and a liquidity trap. With our analysis, we will be able to observe, through the process of social learning, how the Bank of Japan tried numerous policies to try to recover the Japanese economy despite this situation.

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29 Koo, *The Holy Grail of Macroeconomics*. 
5. Analysis

We will now start our analysis by looking in detail at monetary policy. It should be noted that in Japan monetary policy is a task allocated to the Bank of Japan. Its role is to maintain the stability of the financial system\(^{30}\). We start the analysis after the Japanese bubble burst in 1991. The first measure taken by the Bank of Japan will be the monetary measure t0. Then, we will see which decisions were taken by the Bank of Japan. We will use the social learning framework to analyze the Bank’s decision.

5.1 First Learning Cycle: From the Japanese bubble burst to the independence of the Bank of Japan

Let’s then begin with a decision taken on the 1\(^{st}\) of July 1991. The Bank of Japan took the decision on that day to lower down its official discount rate. The latter was reduced from 6.0\% to 5.5\%. At the press conference on the 1\(^{st}\) of July of 1991, the Governor of the Bank of Japan explained the reasons behind this decision:

*The Bank reduced the official discount rate in order to adjust the interest rate levels, more precisely, to lower them slightly, taking into account the fact that both short and long-term interest rates have decreased slightly from their peak levels, while a slight recovery has been observed in price developments. With this rate cut, the Bank aims to maintain domestic demand-led growth in the long term by focusing on price stability*\(^{31}\).

The governor also gave an interesting explanation for the choice to lower the official discount rate, instead of focusing on market interest rates: *“I think it is feasible to provide a policy response simply by adjusting market interest rates. But in some cases, it is more appropriate to clearly show the Bank's intention by changing the official discount rate”*\(^{32}\). Thanks to this decision and the statement of the Governor of the Bank of Japan, we have an idea of the goals the Bank has in mind, as well as the techniques/instruments it uses to achieve them. We also have the settings used in this policy. The aim is to maintain price stability, using the official discount rate as an instrument. The settings here correspond to the decrease of 0.5\%, to obtain

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\(^{32}\) Mieno.
a rate of 5.5%. This first monetary measure therefore corresponds to the $t_0$ measure. We will now try to see with the following measures whether the social learning approach applies well to the case of the Bank of Japan during this period.

On the 14th of November 1991, the Bank of Japan reduced the official discount rate. Again, a reduction of 0.5%, which brings the rate to a value of 5%. According to the Governor of the Bank "when short and long-term market interest rates fall, it is appropriate to reduce the official discount rate again (...) in recent months, the Bank has pursued a monetary policy aimed at adjusting the overall level of interest rates appropriately by reacting promptly to changes in economic activity". The Bank of Japan is therefore continuing with the same logic as when it first reduced the official discount rate. The purpose and instruments are identical to those of the previous monetary decision. The settings are changed, with a 0.5% reduction in the official discount rate. Social learning fits well with this change in settings. The previous decision to reduce the official discount rate was not sufficient, and the Bank reacts by adjusting the rate. This change is therefore classified as a type 1 change, where policymakers adjust settings. It should also be noted that the governor refers to the economic situation in order to motivate his choice, which shows us that the economic situation is also important when making decisions.

On the 30th of December 1991, the Bank of Japan reduced the official discount rate by a further 0.5%. It is now 4.5%. Governor Mieno stated:

Taking into account the recent development of economic activity and financial conditions and bearing in mind that the first quarter is the period when companies formulate their business plans for the next fiscal year, the purpose of lowering the official discount rate is to further facilitate and secure the transition from an overly high-growth economy to a more balanced economy with stable prices, which is the Bank's current basic position on monetary policy.

The Governor's statement is rather conventional, simply explaining the purpose of the decision without saying more. Again, this is a type 1 change, and only settings are affected. Again,

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economic factors are mentioned by the governor. Regarding the social learning approach, the Governor used the expression “the purpose of lowering the official discount rate is to further facilitate.”\footnote{Mieno.} This shows that the precedent policy was not enough, and the Bank learned, and modified the level of the official discount rate to try to reach its goal.

On the 1\textsuperscript{st} of April 1992, the Bank of Japan lowered the official discount rate again. This time not by 0.5%, but by 0.75% to reach a rate of 3.75%. After a "classic" press conference by Governor Mieno, who nevertheless tried to spread confidence by saying "Japan's economy has remained solid in some respects recently", the Bank of Japan lowered the official discount rate to 3.75%\footnote{Mieno, ‘Press Conference by the Governor of the Bank of Japan’, 1 April 1992.}. Here, we observe that the Bank of Japan continues its logic of decreasing the official discount rate. Once again, we are faced with a type 1 change, where only settings are affected. The Bank adjusts, this time by 0.75% the official discount rate, which again fits well with the idea of social learning.

On the 27\textsuperscript{th} of July 1992, the Bank decided to adjust the official discount rate by reducing it from 3.75\% to 3.25\%. Governor Mieno explained in his press conference, as usual, the reasons behind this decision:

\begin{quote}
Short and long-term interest rates have recently continued to fall, and lending rates have also been falling steadily. But there are signs that the current situation is different from past phases of monetary easing. For example, the growth rates of financial institutions' loans and money supply have remained rather low in a situation where the demand for funds has remained weak mainly due to slow asset transactions, in addition to the ongoing economic adjustments (...) The Bank decided on today's measure believing that it was appropriate to further promote the effects of monetary easing on economic activity and to ensure the best possible transition of the economy to a sustainable growth path with price stability by further reducing this rate\footnote{Mieno, ‘Press Conference by the Governor of the Bank of Japan’, 27 July 1992.}.
\end{quote}

The previous reduction does not have the desired effect, so the Bank tries to adjust the official discount rate again to reach the optimal level. We are again dealing with a type 1 change, where
only the settings are modified. Here, the economic arguments are also put forward by the Governor, who talks about a worsening situation that affects a larger part of the economy.

On the 4th of February 1993, the official discount rate was reduced to 2.5%. The reasons, such as a decline in private consumption, or demand, are put forward by Governor Mieno. This is again a type 1 change. The Bank continues to give economic reasons, but we can also argue that the Bank is still adjusting its official discount rate because the previous policy is not giving the expected results. In August 1993, the Bank began to guide market interest rates downward. Governor Mieno already explained in February in a press conference the reasons behind this new strategy:

As far as economic conditions are concerned, there is no concrete evidence at present to ensure a future recovery in private demand. In this sense, the Bank’s assessment is that the downside risks to the scenario of an economic recovery in the second half of 1993 are beginning to increase. In fact, the Bank has already addressed these risks. In its money market operations, the Bank has directed short-term interest rates downward within a range consistent with the current Bank Rate of 2.5 per cent as a premise (...). As I mentioned earlier, when deposit rates were regulated, it was difficult, if not impossible, to change deposit rates without changing the Bank Rate. However, with the progress of interest rate deregulation, a framework has been established in which deposit rates change to reflect movements in market interest rates, even if the Bank rate remains unchanged. In this sense, it is true that the function of promoting a change in deposit rates, which is one of the functions of the Bank rate, has weakened, while the importance of controlling market interest rates has increased accordingly.\(^38\)

The Governor is quite clear in explaining why the Bank of Japan decided to start guiding market interest rates. We observe that the Bank is evolving in its policy decisions. On the 1st of July 1991, Governor Mieno said that he thought that policy responses could be made by simply using market interest rates, but that it was more appropriate to use the official discount rate to show the Bank’s intentions in a clear way. The Bank now uses both rates. This change can be considered as a type 2 change. Indeed, the Bank of Japan decides to use a new instrument (in this case market interest rates) to achieve its goal. The social learning theory applies well here.

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In August 1993, despite many type 1 changes (reductions in the official discount rate), the economy continues to suffer. Learning from the past, Japan decided to include market rates in their monetary policy instruments in the hope that they would work.

Despite this development, the Bank still reduced the official discount rate for the seventh time on the 21st of September 1993. The rate was reduced to 1.75%. This decision was taken in response to the diminishing probability of economic recovery in the remaining months of the year. It should be noted that this decision was a strong one, because the official discount rate of 1.75% is the lowest rate ever implemented by the Bank of Japan at that time. Governor Mieno spoke of the strength of this measure in his press conference:

*The reduction of the official discount rate is the maximum monetary policy measure that can be implemented in light of the present situation. The Bank is confident that the effects of this rate reduction, coupled with the cumulative effects of earlier monetary easing and the effects of the government’s emergency economic stimulus package that has recently been announced, will contribute to the economy’s transition to a path of sustainable growth with price stability (...) However, now that the Bank has lowered interest rates this far, the Bank cannot totally rule out the risk that unprecedentedly low interest rates may generate some ‘side effects’ apart from the intended effect of supporting normalization of economic activity, if I may exaggerate a little*.

The Governor expresses the Bank’s confidence in a healthy recovery of the economy thanks to this measure and other measures. Despite this, the Governor still points to the possibility of some risks due to this exceptional measure. This change can be classified as type 1 again, as the Bank decides to adjust the official discount rate again. Even if it is only the settings that change, these changes are still somewhat drastic and very strong, as the official discount rate has never been so low in Japan. It is difficult to omit the complicated economic situation in Japan from the parameters that influenced the Bank’s decision. Indeed, the situation in Japan continues to deteriorate, which is certainly also pushing the Bank of Japan to act. From a social learning perspective, this decision can be understood as the Bank still not being satisfied with its previous policy and continuing to adjust the official discount rate by learning from past policies.

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On the 14th of April 1995, the Bank again lowered the official discount rate, which was already at its lowest level in history. It was lowered by 0.75% to 1%. The aim was to address the risk that a further appreciation of the yen and the decline in stock prices would undermine the sustainability of the economic recovery trend, notably through a decline in corporate profits and a deterioration of business sentiment. Governor Matsushita is trying to reassure, especially those who are worried that by lowering the official discount rate, the bank will soon run out of solutions:

_The Bank does not have an overly rigid policy approach, such as setting limits on the official discount rate. If policy measures are feasible within the realm of acting flexibly and prudently in light of economic and financial developments, they will be effective and useful enough when taken together. Therefore, although the level of 1 percent is unprecedented in Japan, the Bank believes that this measure is within the scope of what can be considered an appropriate combination of policy measures.^

The Bank is again trying to reassure despite the introduction of this new historically low rate. As with the last decrease in the official discount rate, the rate is at a historically low level. This change in settings is classified as a type 1 change. Social learning makes sense here again. Indeed, the Bank sets a historical rate, for the second time, although it was a difficult decision to make. This shows that the Bank learns from the past, and finds it necessary to adjust the interest rate further to try to improve the situation.

On the 8th of September 1995, with deflationary risks still present, the Bank of Japan decided to reduce the official discount rate once again. The rate is now 0.5%. The Bank also announced at the same time that it would keep the market rate slightly below 0.5%. Governor Matsushita explained in a press conference the reasons behind this decision as usual:

_The Bank has downgraded its outlook for economic activity, recognizing emerging concerns that economic activity will remain sluggish for an extended period. Given this assessment, the objective of the latest policy action is to provide sufficient financial support for the economy to return to a recovery path to prevent the spread of_

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deflationary phenomena. The Bank has concluded that it is desirable to lower the Bank rate to make clear its strong commitment to this issue to both the market and the general public, which sends a strong signal. The Bank implemented a composite measure of lowering the Bank Rate and at the same time promoting a further decline in real market interest rates\(^\text{41}\).

We can still observe a type 1 change, this time a little different from the previous ones, as the Bank modifies the settings by decreasing the official discount rate as well as the real market interest rates at the same time. This double adjustment is again in line with social learning. Indeed, the Bank, seeing that its previous policy is not working perfectly, decides to decrease the official discount rate, as well as the real market interest rates, hoping to have a stronger impact.

In 1996, the Bank did not take any new monetary policy decisions. However, it is interesting to note that in a press conference by Governor Matsushita in May 1996, he stated the importance of the role of the official discount rate in the Bank’s monetary policy:

\begin{quote}
Nevertheless, the Bank judges that the fundamental role of the official discount rate has not changed. In other words, altering the official discount rate in light of significant changes in the Bank’s assessment of economic conditions still plays the role of announcing the change in the Bank’s basic policy stance to various economic entities with clarity and intelligibility\(^\text{42}\).
\end{quote}

This shows that the Bank is currently content with mostly type 1 changes, using adjustments to the official discount rate as the main policy measure.

As seen previously in this paper, in 1997 many important events occurred. The Asian crisis broke out. Many of Japan’s neighbors and economic partners, as well as Japan itself, were greatly affected. It was in this context that the Bank of Japan took several measures to help stabilize the economies of the affected countries. In addition to the Asian crisis, many Japanese financial institutions failed due to their massive NPL problem in 1997. First of all, the Nippon

Credit Bank, then other important financial institutions such as Yamaichi Securities, Sanyo Securities or Hokkaido Takushoku Bank. As a result of these numerous bankruptcies of major financial institutions, the concerns of market participants towards the Japanese financial system increased significantly. The worries had a direct impact on the financial markets, which saw stock prices fall sharply. In addition, in the call market, banks began to lend less and less, which decreased the liquidity of the market. This is what the Bank of Japan is trying to combat with its very favorable rates. It was in this climate of crisis that the Bank of Japan Act was amended in 1997. The existing Bank of Japan Act dated from 1942. From then on, the Bank officially became “independent” and promised more transparency. The 1942 law said that the Bank should pursue a monetary policy with the aim of maximizing economic potential. In addition, this law allowed the Minister of Finance to replace the Governor of the Bank if the latter did not act sufficiently in accordance with the government’s wishes. The new law promises the Bank’s independence in monetary policy matters, as well as in the choice of members of the policy board, which is responsible for taking decisions on monetary policy. On the 11th of June 1997, the governor welcomed this revision during a press conference: “the most remarkable event in the 115 years of the Bank’s history.” At the same press conference, the Governor discussed the possible mistakes made by the Bank before this reform: “The Bank has indeed undergone some valuable experiences that should be reviewed and reflected when conducting monetary policy, such as the emergence, expansion, and bursting of the bubble economy as well as inflation prior to the bubble period”. He then talks about the Bank’s ambitions: “We are determined to promote, in line with the aim of the revision of the Act, wide ranging reforms to further improve the transparency of policy management and the efficiency of the Bank’s operational management”. This press conference was extremely informative. The governor makes a strong mea culpa, admitting the responsibility and mistakes of the Bank of Japan, especially in the crisis due to the bubble. This is perfectly in line with the theory of social learning, where policy makers learn from the past and from their mistakes.

Looking in more detail at the concrete effects and changes brought about by the new Bank of Japan law, the main task of the Bank of Japan becomes that of maintaining price stability. As Ito notes, the Bank has no legal obligation regarding such objectives as “full employment”. Monetary policy decisions are taken by the Policy Board by majority vote at

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43 Ito and Mishkin, ‘Two Decades of Japanese Monetary Policy and the Deflation Problem’.
the new Monetary Policy Meetings (MPM). The Policy Board is composed of 9 members. These members include the Governor of the Bank of Japan, two deputy governors, and six experts in economics and monetary policy. These members have 5-year terms. Members of the Japanese government can participate in the Monetary Policy Meetings, but do not have voting rights.

This change can be understood as a type 3 change. Indeed, by becoming independent and having its “Bank of Japan law” modified, the Bank of Japan has seen its goals, as well as its functioning, change significantly. The aim was previously to maximize economic potential. Now the goal is to maintain price stability. As introduced in the analytical framework part, we have seen that type 3 changes refer to changes in goals. Here we clearly have one. In addition to this change of purpose, the functioning of the Bank has been totally reformed. Indeed, the government no longer has a say in the Bank’s decisions. The Bank of Japan now takes its monetary policy decisions through Monetary Policy Meetings. This type 3 change thus brings the learning cycle to an end. During this cycle we have mainly seen type 1 changes, a type 2 change and then a type 3 change.

5.2 Second Learning Cycle: From the independence of the Bank of Japan to the introduction of the Abenomics

We will now repeat the analysis of a learning cycle. From its inception, the Policy Board has faced a complicated situation. The average growth rate is close to 1%, one of the lowest observed rates since the beginning of the bubble crisis. In addition, financial institutions are becoming more and more febrile, as we have seen before with the various bankruptcies at the end of 1997. On the 9th of September 1998, the Bank, through its Policy Board, therefore decided to lower interest rates. This time, the Bank will only influence the overnight call rate, so that it remains at around 0.25% on average. According to the Bank’s publication, the Japanese economy continued to deteriorate, and prices remained weak. On the financial market side, private bank lending is also declining (probably influenced by the weakness of Japanese institutions at this time). The Bank foresees a future deterioration of the economy, and to avoid falling into a deflationary spiral it believes that interest rates should be lowered. This change can be judged as type 1. Although the Bank mainly used the official discount rate as an instrument since August 1993 the Bank also uses market interest rates. This change is therefore
a type 1 change, where the Bank lowers the interest rates again (this time the overnight call rate) and therefore changes the settings.

In November 1998, the lending attitude of private financial institution was quite tight, as they were facing some troubles regarding fundraising, as well as suffering from the bad performances of borrowing firms. Also, according to the Bank, capital market participants were more sensitive to credit risks, and borrowers were struggling to raise funds too. That’s why the Bank on the 13th of November, in order to facilitate corporate finance in terms of both financial institution borrowing and market procurement, introduced some new lending and operations measures. The first measure concerns the active utilization of commercial paper (CP) operations. The Bank extended the period of CPs to be purchased and speeded up the eligibility examination work of CP issuing companies. Before this measure, maturity date of CPs was within 3 months from the day after the purchase date. After the measure, it became 1 year after the purchase date. The second measure concerns the establishment of a temporary lending facility to support firms’ financing activities. The third measure was taken to create a new operation method to purchase bills drawn by financial institutions by interest rate bidding. To do so, the Bank will use corporate bonds and certificate loan receivables as collateral. Those new measures clearly represent a type 2 change. The goal remains the same, but the instruments to do so change. Until now, the Bank used quite often the interest rates instrument (official discount rate or overnight call rate) as an instrument. This time is different, as the Bank uses various lending measures as an instrument. By using the social learning theory, we can observe that the results of the long series of decreasing interest rates policy doesn’t give the expected results. Therefore, the Bank decides to introduce new instruments, as they know the interest rates alone are not working well enough.

In February 1999, the rate of decline of the Japanese economy slowed down (thanks to an increase in public investment). Despite this, the Bank said in a statement: “the psychology of businesses and consumers remains cautious, and private economic activity remains stagnant. Prices are also weak. The outlook for economic recovery remains unclear”. Regarding financial markets and trends, the Bank declares:

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46 Bank of Japan, ‘About Operation and Lending Measures Based on Recent Corporate Finance’.
Looking at financial trends, the sense of tightness over money market transactions and corporate finance has eased. However, long-term interest rates have risen sharply, and the yen has continued to appreciate. Stock prices are also generally weak. Such market movements may have a negative impact on the future of the Japanese economy\textsuperscript{48}.

By taking these economic and financial conditions into account, the Bank wants to combat the possibility of increased deflationary pressures and ensure that the economic situation improves. On the 12\textsuperscript{th} of February 1999, the Bank introduced the "zero interest rate policy", or ZIRP\textsuperscript{49}. The Bank first announced that it would reduce the overnight call rate to 0.15\%, and then encourage further reductions in this rate if necessary, based on the market situation. The Bank also announced that it will maintain this "zero interest rate policy" until the Japanese economy shows signs of recovery, or until deflationary risks are averted. The Bank continues to use overnight call rates as a monetary policy tool, and drastically so. Indeed, Japan is the first country to introduce interest rates close to zero. Again, according to Hall's classification, this measure falls into a type 1 change, as only the settings are modified and adjusted. In effect, the interest rates are lowered, but fundamentally the instrument used does not change. However, the fact of reducing them so much and calling this reduction ZIRP is a very strong decision on the part of the Bank of Japan. It is one of the first central banks in the world to use such a low rate. That is why this policy could be classified in another category than type 1, which stipulates a “simple” change of settings. Although the classification of this policy in one category or another is debatable, it fits well with the idea of social learning. Indeed, the Bank learns from the results of the latest interest rate cuts and introduces this ZIRP which reflects the learning from past policies.

On the 13\textsuperscript{th} of October 1999, at a regular MPM, the Bank introduced new monetary measures aimed at optimizing the effects of ZIRP. The Bank therefore first announced that it was introducing short-term government bond outright operations. The Bank used to use conditional trading operations through a repurchase method. It will now use unconditional trading through outright-type operations in addition to conditional trading. Secondly, it announced a proposed expansion of "government bonds subject to repurchase agreement operations". At this MPM, the Bank also announced to continue with ZIRP. These changes can

\textsuperscript{48} Bank of Japan.
\textsuperscript{49} Bank of Japan.
be considered as a mix of type 1 and type 2 changes. Indeed, the introduction of short-term government bond outright operations can be considered as the introduction of a new instrument, as the Bank uses a new method to achieve its objectives. The measure related to the expansion of government bonds is a type 1 change, where only settings are affected. The Bank has already acted several times in anticipation of a future “problem” and is therefore acting based on its experience. Social learning works well in this case too.

At the end of 1999 the Japanese economy stopped its decline. A government stimulus introduced in 1998, as well as the ZIRP policy implemented by the Bank of Japan, had positive effects on the Japanese economy. The Japanese economy even grew slightly in 2000, driven by an increase in its exports. The Bank of Japan then decided on the 11th of August 2000 to put an end to ZIRP, and announced that it was setting the overnight call rate at around 0.25% on average\textsuperscript{50}. The Bank explained in its press release:

\begin{quote}
One and a half years have passed since then, and the Japanese economy has been greatly affected by the recovery of the global economy, the recession of financial system instability, the progress of technological innovation in the information and communication field, in addition to the support from macroeconomic policies. At present, the economic recovery trend is becoming clear, and it is highly likely that a gradual recovery will continue, centered on capital investment. Under such circumstances, the downward pressure on prices due to weak demand has retreated significantly. For this reason, it is probable that the Japanese economy has reached the "situation where the concern about deflation can be dispelled," which has long been a condition for canceling the ZIRP\textsuperscript{51}.
\end{quote}

The Bank also explained in its press release that the maintenance of the call rate at 0.25% is a very low rate, and that it remains in line with monetary easing, although less strong than ZIRP. This change again represents a type 1 change, where the Bank has decided to touch the settings by changing the interest rates again. It should also be noted that this is the first time in almost 10 years that the Bank has taken the decision to increase interest rates. The ZIRP had the effect

\textsuperscript{51} Bank of Japan.
the Bank expected, and based on its results it simply decided to raise interest rates little by little. This decision can therefore also be explained fairly well by social learning.

On the 9th of February 2001, the Bank of Japan took some measures to improve the liquidity supply method, and to try to ensure the smooth functioning of financial markets. To do so, the Bank of Japan introduced a Lombard type lending system. According to the Bank, those new loans, that are passively executed in response to borrowing applications from business partners, based on conditions clearly defined in advance, will ensure the smooth functioning of financial markets to maintain and ensure stability of the short-term market interest rates. The Bank of Japan also decided to increase the amount of the outright operations of short-term government bonds. The Bank also decided to change the official discount rate, which it had not touched since 1995. It decided to reduce the rate by 0.15% to 0.35%.52. According to the Bank, the diminution of official discount rate is expected to enhance the effects influenced by the Lombard type lending system: the stabilization of the short-term market interest rates. Here, the diminution of the discount rate, as well as the expansion of the outright operations of short-term government bonds can be considered as a type 1 change. Indeed, the Bank just changes the settings. However, the introduction of the Lombard type lending system is the introduction of a new instrument. Therefore, it is a type 2 change. The official discount rate is reduced because the Bank expects positive effects from coupling this reduction with the introduction of the Lombard system. This type 1 change comes about because the Bank decides to introduce a new instrument. The Bank continues to learn from its previous policies, and therefore tries to implement new and more efficient instruments while modifying the settings of the existing instruments.

On the 28th of February 2001, the Bank changed the official discount rate to 0.25%. The bank also changes the overnight call rate, which is now 0.15% 53. According to the Bank, the economic recovery has been slowed down, in particular due to slowdowns in overseas economies and falling share prices. The outlook has become uncertain. In addition, prices have weakened, and the Bank fears that the downward pressure on prices will increase further. The Bank is therefore reducing both interest rates, in order to support the economic recovery and contribute to price stability. These changes in interest rates only concern settings, and are

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therefore a type 1 change. The Bank cites economic reasons for its decisions. However, the social learning approach also helps to explain these decisions. Indeed, according to the Bank, thanks to its policy of interest rate cuts and in particular the ZIRP, it had succeeded (temporarily at least) in dealing with deflationary risks. The Bank therefore used this experience and decided to cut interest rates once again.

Less than a month later, on the 19th of March, the Bank judged that the economic situation is still not good. Prices have continued to weaken, and the Bank is concerned that downward pressure on prices may continue. It is interesting to see that in its press release the Bank goes back to the decisions it has taken over the last decade:

Looking back, over the past decade, Japan has taken large-scale policy responses. From a financial perspective, while repeated economic support measures have been taken, the Bank of Japan has continued its unprecedented low interest rate policy in the history of central banks inside and outside Japan and has provided ample funding. Nevertheless, the Japanese economy has not returned to a sustainable growth trajectory and has come to a difficult phase of being hit by the deterioration of the economic situation again. In view of these circumstances, the Bank of Japan decided that it was necessary to take drastic monetary easing, which would not normally be done, and decided to take the following measures at the Policy Committee / Monetary Policy Decision Meeting today54.

These words are very much in line with social learning. Indeed, we notice that the Bank has tried different measures, but as these still do not work the Bank tries so-called drastic measures. These drastic measures refer to the implementation of the “Quantitative Easing Policy” (QEP). First of all, the Bank announced a change in the operating target for money market operations. Indeed, from now on the main operational target will be the current account balance of the Bank of Japan, instead of the uncollateralized overnight call rates. The overnight call rates will be left to the market under an abundant supply of funds by the Bank of Japan, and the interest rate cap will be left by the supplementary loan system. The Bank also announced that this new policy will be maintained until the consumer price index (CPI) (excluding fresh food) is stable at 0% or higher, on a year-on-year basis. The Bank also took the decision to increase its current

54 Bank of Japan, ’Changes in Financial Market Regulation Methods and Further Monetary Easing Measures’.
balance by 1 trillion yen, to reach a total of 5 trillion yen. As a result of this, the Bank except
the overnight call rate to drop further from the previous guidance target of 0.15% and remain
at 0%. The Bank also said that it would increase the purchases of long-term government bonds
(that is worth around 400 billion yen per month) if the Bank thinks that it is necessary to provide
some liquidity. Here we have different type of changes. First, a type 2 change because the Bank
changes the operating target for money market operations (now the Bank of Japan’s current
account balance is used). It is a change in instrument for the money market operations, therefore
it is a type 2 change. Then, the announcement of the increase of its current balance to 5 trillion
yen is a type 1 change, as the settings (amount of the current balance) is modified. In
consequences, the overnight call rate decreases too, which is also a type 1 change. During the
previous ZIRP, the Bank said they will maintain it until the deflationary risks are gone. This
time, the target is a stable consumer price index at 0% or higher on a year-on-year basis. This
is also a change in the setting, which can be considered as a type 1 change. The increase in
purchases of long-term government bonds if needed is also a type 1 change. The fact that the
Bank explains that this time the policy will stay until the CPI is stable at 0% or higher on a
year-on-year basis fits perfectly to the social learning narrative. Last time the Bank did not give
any specific target and stopped the ZIRP as soon as it judges that the deflationary risks are gone.
The Bank did that, it failed, and the Bank changed its target for the Quantitative Easing Policy.

The 14th of August 2001, the Bank announced some changes in its financial market
regulation policy. In its announcement, the Bank explained that a risk that downward pressure
on prices is still present:

_Economic adjustments are deepening as industrial production is sharply declining due
to a fall in exports. Risks are increasing for the adjustments to spread to wider areas as
falling production is expected to cause an associated decline in domestic demand.
Recent capital market developments at home and abroad may also adversely affect the
real economy. A weaker demand could intensify downward pressure on prices in the
coming period_55.

That is why the Bank decided to change the outstanding balance of its current accounts, by
raising it from approximatatively 5 trillion yen to 6 trillion yen. The Bank also announced the

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increase in outright purchase of long-term government bonds from 400 billion yen per month to 600 billion yen per month. Those two changes can be considered as setting changes. Therefore, they represent a type 1 change. It also fits well the social learning theory. The Bank learns from the previous policy that isn’t working perfectly and adjusts its policy. It should also be taken into account that the Bank puts forward economic reasons.

On the 18th of September 2001, the Bank took some new decisions regarding its monetary policy. As the Bank did in August of the same year, the Bank once again decided to change the guideline for money market operations by increasing the outstanding balance of its current accounts above 6 trillion yen. The Bank also decided to reduce the official discount rate to 0.10%. The reason behind this decision is a direct answer to the bad effects caused by the terrorist attack in New York on September 11:

In response to a surge in demand for liquidity caused by the terrorist attacks in the United States on September 11, the Bank has taken every necessary measure, including a significant increase in the outstanding balance of current accounts held at the Bank exceeding eight trillion yen, in order to ensure smooth fund settlement and proper functioning of financial markets. In financial markets at home and abroad, disruption in transactions and settlements has so far been successfully avoided, reflecting ample liquidity provision by major central banks as well as appropriate responses by market participants. However, it is still necessary to carefully monitor the effect of the incident on global financial markets and economic activities. Should any event hamper smooth fund settlement or the functioning of financial markets, it could interrupt the permeation of monetary easing effects stemming from the policy measures taken so far. Against this background, the Bank found it appropriate to take the above measures in order to secure proper functioning of financial markets and to enhance the effective permeation of monetary easing effects.

Here we have some type 1 changes. The Bank changes the amount of its outstanding balance of current accounts, and the official rate. In this case, the change in the policy is not mainly influenced by the previous policy in this case, but by the exceptional event of the 11th of September 2001.

56 Bank of Japan, ‘Change in the Guideline for Money Market Operations and Reduction in the Official Discount Rate’.
57 Bank of Japan.
September in the United States of America. However, we can argue that the Bank uses the experience from the interest rates modifications to implement this type 1 change. The process of social learning still exists here even if the main factor behind this decision is obviously an external event.

The next change in monetary policy made by the Bank of Japan happened on the 19th of December 2001. In its press release, the Bank explained that the deterioration of the financial environment is inevitable, given the structural reforms implemented by the government. This deterioration could negatively affect economic activity and prices. To ensure that the financial markets remain stable, and to ensure that the economic recovery is supported monetarily, the Bank has taken several decisions. The first one concerns the conduct of money market operations, with the goal to set the outstanding balance of the current accounts of the Bank at a level between 10 or 15 trillion yen. The Bank continues its quantitative easing policy. The Bank also decided to increase the outright purchase of long-term government bonds, by increasing the monthly amount from 600 to 800 billion yen. The Bank decided to take some measures to strengthen the money market operations. All those changes are type 1 changes, as the Bank just changes the settings of its own policies. The social learning approach works here, as the Bank continues to adjust its policies in light of previous policies.

On the 28th of February 2002, the Bank once again made further policy changes. In its press release the Bank explained that as the end of the fiscal year approaches (end of March in Japan), there is a possibility that the demand for liquidity will increase. In order to avoid any risk of deflation and to pursue sustainable economic growth the Bank explains that it is important to put forward measures to protect and ensure the stability of the financial market. The Bank then decided to provide abundant liquidity, regardless of the Bank's target current account balances (which are around 10 and 15 billion yen). The Bank therefore allows itself to exceed this threshold if necessary until the end of the fiscal year. The Bank also decided to increase once again the outright purchase of long-term government bonds, from 800 billion yen per month to 1 trillion yen per month. The Bank also announced that it is reducing restrictions on Lombard loans. From the 1st of March until the 15th of April the Bank would apply the official discount rate to the Lombard-type lending facility, without any restrictions on the

duration. All those changes can be considered as type 1 changes. Social learning can help to understand this decision. The Bank knows that the settings put in place in the past policy may not be sufficient given the possible increase in demand for liquidity. Knowing this, the Bank decides to change its settings.

On the 30th of October 2002, the Bank of Japan announced in a statement that the Japanese economy has slowed down its recession, but is not yet showing signs of recovery. Moreover, stock prices are volatile, both in international markets and in Japan. The government is also still trying to resolve the NPL issues from the 90’s, which brings some instability on top of that60. The Bank announced then that it decided to modify the operating target for money market operations. Now the money market operations will aim at an outstanding balance of current accounts of the Bank at around 15 to 20 trillion yen. The outright purchase of long-term government bonds is increased and is now worth 1.2 trillion yen per month. The Bank also took the decision to extend the maturities for bills purchased in purchasing operations from six months or less to a year or less. Those changes belong to the type 1 changes group, as only the settings are modified. The social learning narrative and arguments continue to work well for this decision. The Bank learns by observing the effects of the previous policy, and decides to adjust it.

On the 17th of December 2002 the Bank took some measures to facilitate smooth corporate financing. The Bank decided to accept a broader range of loans on deeds as eligible collateral (loans with original maturity of more than five years and up to ten years are now accepted as eligible collateral). The Bank also relaxed the standards for the asset-backed commercial papers as eligible collateral. The goal of the Bank is to remove the concern about liquidity financing and continue to promote a good environment for financial institutions to extend loans61. Those measures represent a type 1 change, as the Bank just changes the settings of it. Once again, the social learning approach fits well. The Bank observed that previous settings were not enough and decided to modify it.

On the 25th of March 2003, the Bank took new monetary policy decisions62. Through its release, the Bank explains once again that the economic activity in Japan remains stagnant

61 Bank of Japan, ‘Measures to Facilitate Smooth Corporate Financing’.
without showing any clear signs of recovery. In addition, many doubts still exist regarding overseas economies, stock markets or the resolution of the problems linked to the NPLs. The Bank took then an important decision by setting a new guideline for money market operations. Prior to that decision, the conduct of market operations target was to reach a level around 15 or 20 trillion yen at the outstanding balance of current accounts held at the Bank. The Bank decided to modify this target and to aim at 17 to 22 trillion yen. The Banks explains that the establishment of the new government owned Japan Post also influenced this decision. The Bank also explained that considering the current uncertainty, including some geopolitical risks (the US just declared war on Iraq on the 20th of March of 2003), the Bank will not hesitate to provide liquidity even above the target if it is necessary to secure the economic stability. This change is a type 1 change, as the Bank changes the settings. The social learning approach alone cannot explain this change in this case. Of course, the previous policy result has probably an impact on the Bank when it decided to modify its policies. But, external events like the uncertainty caused by the US invasion in Iraq, or the costly establishment of a government Post service definitively influenced the Bank’s decision. In this case, the Bank had to react to those external events, and probably the previous policy is not the main reason why the Bank had to take those decisions. However, the experienced acquired by the Bank probably did influence what kind of answer the Bank gave to counter the risks caused by those external chocs. Therefore, the social learning process is still present.

On the 30th of April 2003, the Bank decided to change once again the target balance of the current accounts held at the Bank. The target is raised and is now around 22 to 27 trillion yen. The Bank also took the decision to include loans on deeds to Industrial Revitalization Corporation of Japan with government guarantee as eligible collateral63. The Bank explains in its release that the economic activity in Japan, as well as the overseas situation (US and Europe) are quite flat and uncertain. The Bank also explains that the SARS virus is a concern in Asia, and Asian economies can suffer from it. The Bank explains that concerning financial markets, the Bank provides enough liquidity, which avoid financial institutions some worries about it. But the stock prices are still weak and volatile. It seems that the Bank is worried about the influence stock price could have on financial markets and the economic activity. For those reasons the Bank decided to proceed to those type 1 changes we’ve just seen. Social learning narrative can fit, but external influences probably had a weight on the Bank’s decision.

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Less than one month later, on the 20th of May 2003, the Bank decided to change once again the guideline for its money market operations. The Bank gives similar explanations than on the 30th of April regarding the changes. Economic activity in Japan is still flat, but uncertainties concerning a recovery of Japanese economy, as well as European and US economy increased. Furthermore, the SARS virus is still worrying and impacting East Asian economies. Stocks are still unstable. Because of those uncertainties, the Bank said it wants to be careful. That’s why the Bank decided to change the target of its money market operations. From this day, the Bank will aim at the outstanding balance of current accounts help at the Bank at around 27 to 30 trillion yen. This change represents another type 1 change. Concerning the social learning theory, the same comments as for the change of the 30th of April 2003 can be made. External influences as SARS virus or economic reasons are given in the Bank’s statement. But the experience the Bank gained through the process of social learning influenced the type of answer the Bank gave. Therefore, the process of social learning can still be observed.

On the 11th of June 2003, the Bank decided to purchase asset-backet securities and asset-backet commercial papers. The Bank fixed a limit of 1 trillion yen for the purchases and specified some requirements on the asset-backed securities/commercial papers the Bank buys. The long-term securities must have a BB or higher rating by at least two rating agencies, and commercial paper must be rates A-1 by also by two rating agencies minimum. The Banks hopes that those asset-backet securities will help to promote smooth corporate financing by reducing credit risks through diversification. The direct purchase of those asset-backet securities/commercial papers is a “new activity” for the Bank. The goal of the Bank doesn’t change. So, we can consider this change as a type 2 change, where the Bank adds a new instrument to reach its goals. The social learning approach works well in this case. The previous policy doesn’t work well enough. The Bank changed the settings a few times already to facilitate the purchase of securities but wasn’t satisfied with the result. Therefore, the Bank introduces a new instrument, that will hopefully reach its goal.

On the 10th of October 2003, the Bank talks about its quantitative easing policy and shows that the goal of the QEP hasn’t changed a lot.

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65 Bank of Japan, ‘Purchases of Asset-Backed Securities’. 
The Bank of Japan is currently committed to maintaining the quantitative easing policy until the consumer price index (excluding fresh food, on a nationwide basis) registers stably a zero percent or an increase year on year. The Bank emphasizes that it is firmly committed to this policy until there are signs of improvement in the Japanese economy.

The change is that the Bank added a new condition. The Bank decided to use the QEP policy not only until the consumer price index is stable at 0% or increases on a year-to-year basis, but also until the Japanese economy in general shows good signs of improvement. This is an important nuance, when one considers that the Bank stopped the ZIRP policy just after a few months of “good” indicators. Now it seems the Bank wants to make sure to choose the good moment to leave the QEP. This goes well with the social learning theory, as the Banks is learning by its own experience. This is a type 1 change, as the Bank changes the settings (the settings being here the details about when to end the QEP). The Bank also explained on its release of the 10th of October that the business sentiment improved. The exportations and the production are expected to increase and will help the Japanese economy to recover. But, the Bank thinks that it is yet too soon for a sustainable economic recovery, because of some structural problems remaining in Japan. The Bank announced then that it will increase the upper limit of the target balance of current accounts: the new target balance is around 27 to 32 trillion yen. The Bank then decided to extend the maturity of the purchase of Japanese government securities with repurchase agreements from 6 months to 1 year. Those two changes are also type 1 changes, that are well explained by the social learning approach. The Bank learned from the results of the previous policy settings and adjusted it.

The 20th of January 2004 the Bank of Japan decided to change once again the target balance of current accounts held at the Bank. The Bank raised the target to “around 30 to 35 trillion yen”. The Bank explained in its release that even if the Japanese economy is recovering gradually and is expected to continue to recover in the future, the pace is still moderate. Also, the consumer prices are expected to decline a bit. This change is a type 1 change, as the settings only are affected. The social learning approach works well here too.

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On the 9th of April 2004, the Bank took the decision to introduce securities lending facility to provide the markets with a temporary and secondary source of Japanese government securities (JGSs). The Bank explained that in government securities markets, liquidity can decline depending on the periods. The Bank thinks that the introduction of a secondary source of JGSs to the markets can help fighting the decline in market liquidity. This change can be thought as a type 2 change. Indeed, the Bank uses a “new” instrument by introducing the lending of the securities lending. The social learning approach continues to be relevant. The Bank learned, and explained in its release that in government securities markets, problems regarding the decrease of liquidity exists according to periods. The Bank’s previous policy wasn’t enough to counter this issue. The Bank learned and adjusted its policy by introducing a new instrument.

On the 19th of May 2005, the Bank announced that it will continue with the same target for the money market operations (the balance of current accounts of the Bank will stay around 30 to 35 trillion yen). But this time the Bank also announced for the first time that in some cases (for example when the demand of liquidity is particularly weak), the Bank decided to allow the balance of current accounts to fall below the announced target. This is a type 1 change, as the settings are modified. The social learning theory can explain this decision too. The Bank has implemented an extremely accommodating monetary policy. However, the Bank has noticed that at times the demand for liquidity is weakening, and that its policy is not necessarily the most appropriate in these cases. Having learned from this experience, the Bank announced that it would allow the balance of current accounts to fall below the announced target.

Less than one year later, on the 9th of March 2006, the Bank announced the end of the Quantitative Easing Policy. The Bank changed its operation target of money market operations from the outstanding balance of current accounts at the Bank and came back to the uncollateralized overnight call rate. The Bank decided then to encourage the uncollateralized overnight call rate to stay at 0%, and therefore comes back to a ZIRP (zero interest rate policy). The Bank gave some detailed explanations about this big decision on its announcement. Since 2001, the Bank supplied a huge quantity of liquidity by using the current account balance as an operating target. The goal was to prevent a decline in prices in Japan, and to create some basis

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for a sustainable economic growth in Japan. The goal, as the Bank said, was to maintain the QEP until the consumer price index stays stable at 0% or growths on a year-to-year basis. In the announcement, the Bank said that Japanese economy is continuing to recover. Basing its judgment on various parameters, like the increase in exports, a robust corporate activity that has a positive influence on Japanese’s households, and a solid private consumption, the Bank of Japan expected a sustainable recovery. Also, the CPI was positive on a year-on-year basis. The Bank also expected the CPI to stay positive in the future. Concerning the monetary policy, as said previously, the Bank decided to keep the interest rates at zero. The Banks also said that the interest rates will stay at zero for a moment, and that according to the economic situation and the evolution of the prices the interest rate is expected to be increased. On the same day, the Bank also released a document called “The introduction of a new framework for the conduct of Monetary Policy”. In this document, the Bank reminds us of the principles of its monetary policy “contributing to the sound development of the national economy through the pursuit of price stability”. The Bank gave more details about the Policy Board members visions of the price stability. For them, the range of a good price stability would be a 0-2% measured by CPI inflation. The Bank didn’t say this range was a new policy target, but it was the first time the Bank used concrete numbers to describe their ideal inflation rate. That said, we have here a type 2 change, as the Bank changed the policy instrument (came back to the ZIRP). As the Bank didn’t explicitly say that the 0-2% price increase rate measured by CPI inflation is a target, so we can’t really affirm that it is change. But, this affirmation by the Bank shows that the social learning is on the process. The Bank learns from its previous experience and is now starting to think that this 0-2% rate would be adequate. Going back to the QEP exit, we can see that the Bank has changed from when it came out of ZIRP. At the time of the ZIRP exit, the Bank, based on various parameters, was convinced that the Japanese economy would continue its recovery. However, this was not really the case. For the exit from QEP, the Bank then also based itself on the evolution of the CPI on a year-on-year basis. This difference shows that the Bank learned from the failure of its exit from ZIRP and took another important parameter into account in making its decision. Social learning works well in this case and helps to understand the exit from QEP. It should be noted that here the economic parameters also have an influence on the Bank’s decision-making and cannot be totally excluded.

On the 14th of July 2006, the Bank decided to change the uncollateralized overnight call rate and will encourage it to remain at around 0.25%. The official discount rate also increased from 0.10% to 0.40%. The Bank’s position regarding the state of Japanese economy is similar to the one of the 9th of March. The Bank says Japan’s economy is continuing to expand moderately and is expected to continue to expand. Taking this into consideration, the Bank decided to raise the interest rates aiming at a desirable course of economic activity and at stable prices. In this recovery environment, the Bank judged that maintaining the ZIRP could have bad effects, as large swings in economic activity and prices. The Bank concluded by saying that low interest rates will probably be maintained for some time. In this case, we can observe a typical type 1 change, with a setting modification on the level of the interest rates. The social learning approach would say that the Bank is satisfied with the results of the previous policy and is then trying to increase the interest rates little by little without creating too much harm to the Japanese economy in order to get out of this extraordinary low interest rates situation.

On the 21st of February 2007, the Bank changed once again its guideline for money market operations. The uncollateralized overnight call rate will be encouraged to remain at around 0.5%, and the official discount rate (now called basic loan rate) is set at 0.75%. The Bank justified this decision by saying that Japanese economy is likely to continue its expansion. The Bank also says that CPI has been positive on a year-on-year basis and is likely to stay positive on a longer-term perspective. The bank judged then that the economy is in a good situation enough to slightly increase the interest rates again (the Bank also wants to avoid the risks of a too accommodative monetary policy). We observe that the stance of the Bank is similar to its previous one (14th of July 2006). The change is also like the one of that day, as it represents a type 1 change. Indeed, only the level of the interest rates is changed. Regarding the social learning approach, the comments made for the policy change of the 14th of July 2006 are also valid here.

In 2008, the global financial crisis was making the US economy suffer a lot. In its announcement of the 18th of September 2008, the Bank explains that the US Dollar is facing liquidity pressures. Those pressures are also impacting the liquidity on the Yen money market. That is why the Bank introduced a US dollar funds-supplying operations against pooled

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collateral. The bank agreed on a US Dollar-Yen swap with the Federal Reserve Bank of the US. The goal of the Bank of Japan was to maintain and facilitate money market operations and try to keep financial markets stable. In this case, it’s possible to describe this change as a type 2 change. The Bank of Japan introduced a new instrument (the swap of USD-Yen). However, the introduction of this new instrument can’t be explained well by the results of the previous policy. The Bank of Japan reacted to an external shock, and it is the main explanation behind the introduction of the policy. However, we think that the social learning approach is still present. Indeed, the reaction of the Bank is heavily influenced by all the knowledge acquired through past policies experiences.

On the 14th of October 2008, because of the development of the financial crisis, the Bank decided to introduce some measures to try to stabilize the financial markets. The Bank improved the liquidity in the Japanese government bonds (JGB) repo market, by adding some floating-rate JGBs, some inflation-indexed JBGs, and some 30 years JBGs to the list of JBGs available for repo operations. The Bank also said that the CP repo operations’ frequency will be increased to help corporate financing in the market. Those changes are typical type 1 changes, in which the Bank modifies the settings of its policies. In this crisis climate, it is hard to argue that the main reason behind this policy was the previous policy. It is quite clear that the Bank added those new options to fight the effects of the 2008 crisis. We have another case where the Bank reacts to an external shock. Even if the precedent policy’s results are not the main source of this settings adjustment, the social policy is still present. The Bank gained experience through previous policies experiences and used this experience to react to the crisis.

A bit later in October of the same year, on the 31st, the Bank explained what we all know nowadays: financial crisis in the United States and Europe became more severe. That is why the Bank expected the Japan’s economic activity to take a blow and suffer for some time. The Bank decided to change its money market operations’ guideline to help Japanese economy. The uncollateralized overnight call rate is now encouraged to be around 0.3%, and the official discount rate is at a level of 0.5%. As only the settings are modified, this decision can be defined as a type 1 change. The global crisis emergency is probably the main motivation behind the Bank’s decision on that day. However, the Bank has a great deal of experience in reducing

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interest rates, and the effects that such decisions can have. That is why the social learning approach is not totally excluded here. Thanks to its experience, the Bank did not "waste" too much time debating whether or not to cut rates in this crisis climate and was able to make this decision. Of course, it seems obvious that the main reason behind this decision is the global crisis. But the experience gained by the Bank probably had an influence as well.

On the 19th of December of 2008, the Bank changed the interest rates again77. The target for the uncollateralized overnight call rate is at around 0.1%. The official discount rate is at 0.3%. The Bank explained in its release that the exports are continuing to decrease, because of the recession in overseas economies due to the financial crisis. Japanese domestic demand also decreased, the employment rate too. Financial conditions also worsened. The Bank was expecting the economic conditions to keep worsening, and the inflation rate to decline too (the inflation rate was positive since the end of the QEP). Under those conditions the Bank expected the private financial institutions to use the advantage of the low interest rates and money market operations introduced by the Bank to fight the risks of economic recession. This is a type 1 change again. In this case, obviously we can argue that the effects of the global crisis are an important factor regarding this decision. But the social learning approach fits well too. The bank notes that the results of its latest policy are not sufficient. Based on these results, it decides to readjust the settings of its last policy.

In January 2009, the Bank took other decisions regarding the purchase of the corporate financing instruments. The Bank decided to buy more commercial papers to try to keep some stability in financial markets and corporate financing78. This is a type 1 change, as only the settings are affected. The previous settings are not working exactly as expected, and the Bank adjusts it. Therefore, the social learning approach fits well.

On the 19th of February 2009, due to the strong economic and financial crisis’ bad influence, the Bank of Japan decided to expand the measures to ensure financial market stability and the measures to facilitate corporate financing79. Those measures can be described as type 1 change, as the Bank only changes some settings. Once again, both economic reasons due to the crisis situation and social learning can explain this decision.

One month later, the Bank took the decision to increase once again the number of outright purchases of JGBs to 21.6 trillion yen per year. The Bank also decided to start to buy stocks held by banks again to try to stabilize the financial market. Those two changes are again a type 1 change that concerns the settings of the policies only. The social learning narrative fits here, because the Bank is adjusting the previous policy.

On the 1st of December 2009, the Bank of Japan released an announcement called “Enhancement of Easy Monetary Conditions”. In this announcement, the Bank explained that a new funds supplying operation will be introduced with the aim of helping the economic recovery from the financial side. The Bank explained that the best thing to do to reach this goal is to use the monetary easing effects through another decline of the interest rates in the money market. The new operation was then the introduction of fixed interest rates (at the level of the uncollateralized overnight call rate 0.1%) 3 months operations with a total amount of loans of approximately 10 trillion yen. The Bank also acknowledged that the situation is hard for Japan’s economy, especially because of the return of the deflation. The decision to introduce a new funds can be considered as a type 2 change, as the Bank uses a new instrument. The social learning theory works well in this case too. The Bank notes that its current policy is not working. Based on past experience, it is setting up a new instrument to provide the necessary funds the economy needs. On the 18th of December 2009, the Bank clarified its inflation target:

The Policy Board has concluded that it is appropriate to further disseminate the Bank's thinking on price stability, by stating more clearly that the Policy Board does not tolerate a year-on-year rate of change in the CPI equal to or below 0 percent (...) On this basis, the Policy Board has agreed that each Policy Board member's "understanding" falls in a positive range of 2 percent or lower, and the midpoints of most Policy Board members' "understanding" are around 1 percent.

Until now, the Bank never gave a clear inflation target. The Bank gave some goals concerning the CPI, but it was under the specific conditions of the QEP. On the 9th of March of 2006, the Bank explained that the vision of its Policy Board members concerning a good price stability

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81 Bank of Japan, ‘Enhancement of Easy Monetary Conditions’.
would be between 0-2% measured by CPI inflation. Now, the bank gives a bit more concrete information by saying that it won’t allow a CPI equal to or below 0% and specifies that the “understanding” of most Policy Board members are around 1%. Since the last type 3 change, the goal of the Bank is to maintain price stability. Here, we can’t affirm that we have a type 3 change, as the Bank talks about a new “understanding” of the inflation, and not about a new inflation goal. However, the social learning is very relevant here. The Bank is learning and evolving because of its past policies experiences. The Bank’s “understanding” of inflation changed and, even if an inflation target is not clearly announced, we can observe a change in the Bank’s stance, that might lead to a type 3 change.

On the 17th of March 2010, the Bank of Japan decided to expand the fixed-rate funds-supplying operation introduced in December 2009. The goal is to continue to enhance easy monetary conditions, as the Bank says that Japanese economy is still in a situation in which a self-sustaining recovery is not yet possible. This is a modification of the settings, therefore a type 1 change.

The 15th of June 2010 the Bank announced a fund-provisioning measure to provide some support to the economic growth. According to the Bank, the economic growth rate and the productivity level are in critical conditions. The private financial institutions, as well as the firms, are the ones who usually have a big impact on the economic growth. The Bank wanted to help them by providing them some new funds to support them. The goal was to fight deflation’s risks and finally reach a sustainable growth with price stability. This measure can be considered as a new instrument, as the Bank creates a new fund and uses it. Therefore, this is a type 2 change.

The 30th of August of 2010, the Bank decided to modify the fixed-rate funds supplying operation, by providing additional funds of an amount of around 10 trillion yen with a six-months term (instead of three-months term). The reasons the Bank gave behind this decision are quite similar to the ones behind the last ones. Japan’s economy is struggling, the deflation risk is still strong and a sustainable growth path with price stability is still not reached. The Bank hoped that with those monetary easing measures, the situation will improve. This change

84 Bank of Japan, ‘Fund-Provisioning Measure to Support Strengthening the Foundations for Economic Growth’.
85 Bank of Japan, ‘The Fixed-Rate Funds-Supplying Operation against Pooled Collateral’.
is a type 1 change, with a modification of the duration (settings). Economic causes are mentioned by the Bank. The social learning approach is relevant and would say that the Bank learns from the previous policy and adjusts its policy.

On the 5th of October 2010, the Bank released an important announcement. The Bank of Japan decided to introduce a “Comprehensive Monetary Easing” policy\(^\text{86}\) (CME). On this announcement, the Bank explained that Japanese economy’s recovery pace is slowing down, mainly due to overseas economies slowing down as well, and that the growth rate is likely to be lower than the expectations of the Bank. The Bank also explained that uncertainty about the future, in particular the uncertainty about US economy, represents a risk for Japan’s economy. Also, even if the year-on-year CPI’s decline pace has slowed down, the CPI is still negative and threatening Japanese economy. For all those reasons, the Bank decided to introduce a comprehensive monetary easing policy based on three measures. The first one concerns a change in the guideline for money market operations. The uncollateralized overnight call rate is now encouraged to be at 0 to 0.1\%\). The second measure concerns the policy time horizon, based on what the Bank described as the “understanding of medium to long-term price stability”. Concretely, the Bank decided to maintain the ZIRP until it judges that the price stability is reached according to its understanding of the price stability of the Bank. The “understanding” of the Bank concerning price stability is a positive level of 2\% or lower, and the mean value of the price stability according to the policy board members is at around 1\%. The third and last measure concerns the establishment of an asset purchase program of 35 trillion yen. This program consists of purchase various financial assets, like government securities, commercial paper, corporate bonds, exchange-traded funds, Japan real estate investment trusts, and to conduct the fixed-rate funds supplying operation against the pooled collateral. As short-term interest rates are already at a very low level, the Bank decided to try to encourage the decline of longer-term interest rates and various risk premiums as well, in order to continue to enhance monetary easing in a greater way. It is not easy to describe what type of change the CME represents. The CME can be understood as a mixture of type 1 and type 2 changes of policies. The first and the second measures represent a setting change, so a type 1 change. Indeed, the interest rates are adjusted, and the policy will be maintained until the CPI evolution reach a positive level decided by the Bank. The last one can be viewed as a new instrument, as the Bank creates a new asset purchase program, including many different financial assets. Therefore, this

\(^{86}\) Bank of Japan, ‘Comprehensive Monetary Easing’.
third change would be a type 2 change. The social learning approach makes sense in this case. Indeed, this time the Bank is implementing a more ambitious program than those attempted before. First, it uses a ZIRP again. Then, the Bank also specified that it would maintain the CME policy until the change on a year-on-year basis of the CPI reaches a rate that is acceptable according to the Bank’s understanding of a good price evolution (between 0 and 2%). In addition to all this, the Bank implemented an unprecedented asset purchase program worth 35 trillion yen. The Bank seems to have learned from the last policies implemented (such as ZIRP at the end of the 20th century, or QEP in the early 2000s), and combines a lowering of interest rates with an ambitious asset purchase program. Moreover, this time the Bank explains that it will maintain this policy until the rate is acceptable according to its understanding, which is on average 1%. This is different from the QEP, where a stable level of 0% was sufficient for the Bank. The process of social learning seems obvious in the implementation of this CME.

On the 14th of March 2011, three days after the disastrous Tohoku earthquake and tsunami, the Bank decided to expand its CME policy. The Bank explained that it is expecting Japan’s economy to recover moderately soon and expects the year-on-year rate of change in the CPI to become positive soon too. But the Bank admitted that the damages of the earthquake and the tsunami can have some negative effects on the Japanese economy as a whole. That’s why the Bank decided to enhance its monetary policy. The Bank decided to keep the uncollateralized overnight call rate at around 0 to 0.1%. The Bank also took the decision to increase the amount of the asset purchase program to about 40 trillion yen in total (so a 5 trillion-yen increase). Those changes represent a type 1 change, that is reflected by a setting adjustment. Here we have another case of an external event that influence the decision of the Bank. The social learning approach seems weak here as the Bank explains clearly that this measure was taken to counter the economic damages the disaster could have on Japanese economy.

On the 4th of August of 2011, the Bank decided once again to enhance its monetary easing policy. The Bank explained that the Japanese economy is still facing many uncertainties, and abroad economies are facing some problems too, like Europe and its sovereign debt problem. Price stability will also take time to reach according to the Bank. For those reasons, the Bank decided to increase the total size of the asset purchase program to about

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50 trillion yen. This is another type 1 change. The social learning approach fits more for this adjustment than the previous one. The Bank learned from the results of the previous policy and “simply” adjusts its level.

In October of the same year, the Bank decided to increase again the total size of the asset purchase program by 5 trillion yen, to reach a total of 55 trillion yen. Even if the Bank was expecting Japanese economy to return to a “moderate recovery path”, the Bank thought that price stability was not yet reachable, and deflation negative pressure on prices was still existing. Therefore, the Bank decided to increase its monetary easing once again. This is a type 1 change. The social learning approach is coherent here.

The 14th of February of 2012, the Bank decided to continue with its enhancement of monetary easing strategy. This time the increase of the asset purchase program is not of 5 trillion yen but of 10 trillion yen, to reach a total amount of 65 trillion yen. The Bank explained that Japan’s economy’s future was still uncertain, and abroad economies are suffering too. The evolution of the CPI’s rate was around 0% on the year-on-year basis. So, the Bank decided to continue to support the Japanese economy by once again increasing its CME policy through the asset purchase program. This is a type 1 change. The social learning continues to be relevant. The Bank adjusts its policy by learning from the results of the previous one, that is not working perfectly. It should not be forgotten that the Bank again gives economic reasons for this adjustment though.

In April of 2012, the Bank announced another increase of the asset purchase program, to reach a total amount of 70 trillion yen. According to the Bank’s release, Japan’s economy was heading towards a recovery and the year-on-year rate of change in the CPI was expected to reach 0.5% soon. The Bank also said that “it will likely be not too long before” the CPI rate reach 1%, which corresponds to the mean “understanding” of a good price stability by the Bank. Risks were still existing, especially with the uncertainty of the European situation. The Bank of Japan decided to continue with the CME policy, and increase once again his asset purchase program to continue to support Japan’s economy toward a sustainable growth. This is again a

type 1 change. The social learning approach continues to deliver. In fact, the Bank keeps learning from the previous policy and adjusts it.

In September 2012, the asset purchase program was increased and reached the amount of 80 trillion yen\(^1\). According to the Bank, there were still many uncertainties concerning the global economy, as well as the Japanese economic growth and price stability. This change can be classified as a type 1 change again. The Bank continues to learn from its policies and adjust them. Therefore, the social learning theory suits well in this policy change.

On the 30\(^{th}\) of October 2012, the Bank continued with the expansion of the asset purchase program, by increasing it to about 91 trillion yen\(^2\). Doubts and uncertainties about Japan’s economy’s future motivated the Bank to continue and increase its aggressive monetary easing policy. This is a type 1 change. Here too, the social learning approach works well.

The 20\(^{th}\) of December 2012, The Bank increased the asset purchase program to 101 trillion yen\(^3\). The reasons stated by the Bank for taking this decision are similar to the previous ones. There was a high degree of uncertainty concerning Japanese economy, the situation abroad was not much better, and the CPI’s year-on year rate of change was still around 0% and is expected to remain at around 0%. This increasing in the asset purchase program is a type 1 change. The results of the previous policy are still not satisfying, so the Bank learns and adjusts it again.

The 22\(^{nd}\) of January 2013, the Bank decided to change the previous goal of price stability. The understanding of price stability for the Bank was around 2% or lower, in terms of the year-on-year rate of change in the CPI, and the mean understanding of the members of the Bank was around 1%. The Bank decided to set a clear goal of 2% in terms of year-on-year rate of change in the CPI\(^4\). On the same day, the Bank and the government released a joint statement, explaining that they want to strengthen their policy coordination\(^5\). Their goal was to fight the deflation, and finally achieve a sustainable economic growth. A few months later, on the 4\(^{th}\) of

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\(^3\) Bank of Japan, ‘Enhancement of Monetary Easing’, 14 February 2012.
\(^4\) Bank of Japan, ‘The “Price Stability Target” under the Framework for the Conduct of Monetary Policy’.
April 2013, the Bank of Japan announced the introduction of "Quantitative and Qualitative Monetary Easing"\(^{96}\) (QQE). The Bank said it wants to achieve the price stability target of 2% in terms of the year-on-year rate of change in the consumer price index as soon as possible, within a period of about two years. To achieve this, the Bank said it will double the monetary base and the amounts of outstanding Japanese government bonds and other assets over the next two years. The growth of the monetary base would be about 60-70 trillion yen per year. The Bank also announced that it would further lower interest rates through an increase in JGBs. The purchase of JGBs would increase by about 50 trillion yen per year. The Bank will also increase the purchase of exchange-traded funds as well as Japan real estate investment trusts, so their amounts outstanding would increase of 1 trillion yen and 30 billion yen respectively each year. The Bank also stated that it is ending the Asset Purchase Program used during the CME. It also explained in its press release that it expected to strengthen the dialogue with market participants to ensure that these new measures have optimal effects. The Bank announced that it would continue with QQE until the price stability target of 2% is reached and is considered as stable. The Bank expects that these new measures will not only affect long-term interest rates and asset prices, but that they will drastically change the expectations of markets and economic entities. The Bank hopes to put an end to the deflationary problems that Japan has experienced in recent years through QQE.

With the implementation of the QQE, we can observe a type 3 change, as well as type 1 and 2 changes. The type 3 changes concern the change in the goals of the Bank. Even if the Bank stated prior to this that its understanding of the inflation changed, here the Bank explicitly explains that now it has a 2% inflation goal. Then, in order to reach this new goal, the Bank also changes its instruments. Indeed, the Bank stops using the asset purchase program, and will mainly use JGBs to conduct its monetary policy. The settings are also modified, which means that we also have type 1 changes. Indeed, the drastic increase in purchases of JGBs and other assets is a type 1 change. From a social learning perspective, we see that the Bank uses all its experience to make this decision. It knows that the risks of deflation have persisted for too long and has been able to set a concrete target (2% inflation). It therefore decides to implement QQE, which in terms of quantity of money injected and purchases of JGBs and other assets is far superior to any policy taken by the Bank before.

\(^{96}\) Bank of Japan, 'Introduction of the "Quantitative and Qualitative Monetary Easing"'.
The timing of the introduction of QQE is particularly interesting, as QQE was introduced after the arrival of Shinzo Abe as head of the Japanese government, as well as after a change of the Governor of the Bank of Japan. Abe's government would have put great pressure on the Bank of Japan to implement an even more accommodating monetary policy. The aim is to take joint action with the Japanese government in order to turn the Japanese economy around once and for all. The government and the Bank of Japan joint statement of January 2013, announcing that they want to "strengthen their policy coordination in order to overcome deflation and achieve sustainable economic growth" shows it. It may therefore be that QQE related changes are not only influenced by the social learning process. It is worth recalling that Hall believes that despite the possible influence of politicians in type 3 changes, the social learning process is still present. In the case of the QQE, introduced by the Bank of Japan in cooperation with the Japanese government, the social learning process is definitively present. In the years before the introduction of the QQE and the change in the inflation goals, we observed how the Bank of Japan’s approach regarding the inflation evolved. Through this second learning cycle, we’ve seen how the Bank’s past policies and mistakes lead to this change of understanding of the inflation first, and change of goal regarding the inflation then. This type 3 change is the result of learning over several years. Also, the QQE is not a “radical paradigm shift”, despite the "bold monetary easing" it represents. We can argue that the Bank of Japan continues its monetary easing logic, but on a larger scale. The Bank has certainly used all its expertise acquired over the last few years of quantitative easing to implement the QQE. What is different from the last few times here is the presence and influence of the Abe government in the implementation of the QQE. Through their releases, the government and the Bank of Japan have announced that they want to cooperate. The “abonomics” is a three-arrow policy. One monetary, one fiscal, and one structural. The Bank of Japan, in charge of the monetary arrow, has therefore agreed with the government that the three arrows should be coordinated, and that Japan should benefit from them to the maximum. This type 3 change therefore ends the second learning cycle.

6. Discussion about the analysis: strengths and weaknesses

Having seen in detail the decisions taken by the Bank of Japan between the bursting of the Japanese bubble and the implementation of the monetary policy introduced after the arrival of Shinzo Abe as head of government, we will now discuss the validity of social learning as described through the learning cycles. We will discuss its strengths and weaknesses and we will see whether this theory allows us to understand the Bank's policymaking during the period under study.

It should be recalled that the first assumption of social learning theory is that the main factors influencing a policy at time t+1 is the policy in place at time t0. Policies, their goals, instruments, and settings are adjusted by being influenced by past experiences and information learned through previous policies. Moreover, policies respond more directly to the consequences of the last policy in place than to social or economic conditions. Thus, Hall divides the process of social learning into three types of change. Through those three types, we can observe and understand the process of the social learning. Also, the three-type division allows us to observe the different learning cycles.

Overall, we have observed many cases where social learning theory works well to explain and understand the Bank of Japan's monetary decision-making. The interest rate adjustment policies through regular cuts during the 1990s fit very well with the social learning narrative. Indeed, we have observed that the Bank adjusts its interest rates little by little, observing the effects of each rate cut carefully. When the interest rate cut is no longer sufficient, the Bank introduces new instruments. When the instruments started to weaken, we observed a type 3 change. The Bank changed its goal and became independent. Then, the Bank introduced the ZIRP, which was a first in the world. The Bank obtained some positive results and decided on the 11th of August 2000 to end ZIRP. Unfortunately, the exit from ZIRP was premature and the Japanese economy did not continue its recovery momentum. The Bank reacted relatively quickly by being the first central bank to use a Quantitative Easing Policy on the 19th of March 2001. Until the end of QEP, the Bank of Japan regularly adjusted its QEP, which again fits well with the social learning theory. In March 2006, the criteria for discontinuing the QEP (different from those for discontinuing the ZIRP) were met, and the Bank therefore ended the QEP. The Bank then increased interest rates for some time, while gradually adjusting the level of the increase. This part is also in line with the foundations of social learning. In 2008, following the
global financial crisis, the Bank lowered its interest rates again step by step and provided liquidity to the market. On the 5th of October 2010, after noticing that its existing policies were not working as it had hoped, the Bank introduced the CME, an even more ambitious policy than the QEP. The Bank adjusted the CME until the introduction of the QQE, which represents the second type 3 observed. The QQE, that represents the end of the second learning cycle we observed, considers all the experience gained over the past years. We see that the Bank has clearly used the experience and knowledge gained from its previous policies to implement new policies to achieve its new goals. One could argue that the Bank simply reacts to the economic conditions by taking new measures, saying that it does not show the process of social learning. Let’s take the example of the reduction of interest rates. The Bank would simply adjust the setting in response to the economic conditions. In economic theories, central banks lower their interest rates in order to stimulate economic growth. Lower financing costs can in theory encourage borrowing and investment, which in turn stimulates economic growth. However, when interest rates are too low, there is a risk of creating excessive growth, or of creating too much inflation. Rate increases, on the other hand, are used to slow inflation and bring growth back to more sustainable levels. Changes in interest rates are therefore an extremely sensitive operation, which can have significant consequences for an economy. With this in mind, the social learning theory makes even more sense. Of course, we cannot completely ignore the importance of economic factors in the 1990s in Japan. But in the various interest rate adjustments by the Bank of Japan, we have a good example of social learning. The Bank adjusts its rates little by little, because it knows interest rate manipulations can have big manipulations. It carefully observes the results and consequences of each of its changes, and then adjusts its interest rates. In addition, during the 1990s the Bank of Japan lowered interest rates several times to levels never reached before. That’s why, even if interest rates are considered as a setting adjustment, their modification express the process of social learning. The type 2 changes, that are rarer than type 1 changes, always happened after a series of unsuccessful type 1 changes. Then, the rarest type of changes, the type 3, happened twice. As we started the analysis of the first learning cycle after the burst of Japanese bubble, and not exactly after the previous type 3 that happened in Japan, we might have omitted some elements to fully analysis the cycle. Even with that, we could observe the process of learning through the few years of the first learning cycle we observed. The second cycle, that we analyzed from its beginning to its end, showed us the complete process of learning through a cycle. A lot of setting modifications, some new instruments (through all the monetary policy initiatives), and finally a change of goal after some years of learning. We could observe through this second cycle how the Bank’s vision on
inflation evolved, influenced by the learning of the Bank during this period. We also observed that the Bank acted differently in the two learning cycles. In the second cycle, which starts after the Bank’s independence, it seems that the Bank has more freedom of action. Indeed, it often introduces new instruments to implement its monetary policies, which were often unprecedented at the time of their introduction. Overall, we can say that the decisions of the Bank of Japan during the “20 lost years” that we analyzed through two learning cycles shows that learning plays a major role when it comes to the Bank of Japan’s policymaking.

Although the social learning theory work well overall to explain the Bank's policy decisions, we have observed several cases where the assumptions of the approach are not respected. We have observed two cases where we cannot claim that social learning is the most important influence on the Bank's decision-making. The first case is when economic factors, which are not supposed to be the most influential in the Bank's decision-making, have a strong influence on the Bank's decision-making. The second case is when external shocks directly influence the Bank's decisions. These two cases are related, as external shocks often lead to complicated economic conditions.

Let us first discuss the cases where economic factors are not negligible. It should be noted that when the Bank makes decisions, it gives economic arguments to explain them. Based on this, without reflecting on the existence of an influence as explained by social learning theory, it would be easy to simply state that all decisions taken by the Bank are influenced by economic factors. But, just as social learning theory assumes, we believe that in many cases it is the previous policies and their outcomes that have the greatest influence on the Bank of Japan's decision-making. However, in some cases the Japanese economy was in too dire a situation for us to ignore the importance of economic parameters in the Bank of Japan's decision-making.

For example, in September 1993, the Bank cut interest rates to the lowest level in its history. Although the social learning approach can explain this decision well, it is difficult to reduce the importance of the poor state of the Japanese economy at the time of the decision. The economic factors then added to the social learning, and both influenced the Bank. The Bank used the “positive” results of ZIRP as the basis for its decision to end the policy. Economic factors certainly played an important role in this decision as well. Indeed, the Bank also used economic parameters to decide to exit ZIRP. On the 19th of March 2001, when the QEP was set up, economic parameters certainly also had a significant weight (even if social learning works very well in the case of the QEP as we have seen). Moreover, the exit conditions for QEP differ from
those of the exit conditions for ZIRP. This clearly shows that the Bank has learned and made this change taking into account the lessons of the past. When exiting the QEP, however, it is difficult to omit the economic parameters, as the Bank clearly used the CPI as one of the indicators for exiting the QEP. In the 2008 crisis, economic parameters are of course extremely significant in the Bank's decision-making. Although the experiences gained over the years obviously influenced the type of reaction the Bank had in 2008. We will talk briefly about the 2008 crisis when we discuss external shocks. When the Bank then sets a specific target for the evolution of the CPI, this shows that the Bank gives importance to economic factors when making its decisions. But again, these decisions are influenced by past experience.

Let us now turn to the influence of external shocks. In the review of Japanese crisis since the 1990's, we saw the crises that Japan went through during the two decades. Then, during the analysis, we observed that several external shocks forced the Bank to take decisions. Among these shocks we can mention for example the attacks of September 11, 2001, in the United States, which forced the Bank to take certain measures. In 2003, the Bank took decisions after the SARS virus caused panic in Asia. The global crisis of 2008 can also be seen as an external shock, which had an immense influence on the global economy. The Bank of Japan had to take decisions to try to counteract the bad consequences of this external shock. The triple disaster of March 2011 also had a direct influence on decisions taken by the Bank.

However, even when it is economic factors or unexpected crises that push the Bank to act, we do not think that these factors are incompatible with the social learning approach. On the contrary, it is very natural to combine them. In the event of an unexpected and sudden crisis, the Bank will take into account the results of these previous policies in order to react to the crisis. The same applies to economic parameters, which are very strongly linked to the Bank's previous policies. Therefore, even if the hypothesis that policy responds more directly to the consequences of the last policy in place than to social or economic conditions is not entirely correct, the social learning approach remains extremely relevant in the case of the Bank of Japan over the period observed. Indeed, during a crisis situation, the Bank has shown that it uses the experience it has gained from its past experiences to try to deal with the crisis situation. As a result, the social learning process remains present in the decision-making process and its influence is never zero.
Another point to which we must now return is that concerning the division into three types of change and its usefulness. After analyzing and classifying the different decisions of the Bank of Japan into these three types, it seems that this classification is relevant and provides a good understanding of the social learning process. However, there are some cases where this division into three types may seem a little simplistic, and sometimes it is not clear if we are observing a change influenced by learning, or just some routine changes. First, concerning the simplistic argument, type 1 changes are presented as regular adjustments. In Hall’s description, it seems then that type 1 changes are easier to make. However, we have observed that the Bank has made several type 1 changes that were very difficult to undertake. For example, in September 1993, the Bank made a type 1 change by adjusting its official discount rate, lowering it to its lowest historical rate. Although in this case it is quite clear that only settings are changed, the change has a very strong symbolism, and it would perhaps be reductive to describe this extremely strong change as a simple type 1 change. The same remark could be made in the following cuts, where the Bank continued to break records by lowering the official discount rate. With the introduction of ZIRP, which in itself can be considered as a simple type 1 change (as the Bank changes its settings and reduces the official discount rate to close to 0%), this remark is still valid. Regarding the type 1 changes, some of them (especially when the Bank was lowering the interest rates continuously), can also be understood as routine changes. Therefore, one could just say that the process of learning is not observable in all type 1 changes.

Apart from that, as said before, this division into three types of changes allows a good understanding of the social learning process. The Bank of Japan first tries to react through changes in settings (for example with the large series of interest rate cuts in the 1990s, even introducing ZIRP). When these adjustments no longer work, or do not work sufficiently, the Bank introduces new instruments. Once the instruments are ineffective, the Bank faces a type 3 changes. Then the whole cycle starts again, with type 1 changes, type 2 changes, such as the introduction of the QEP, which benefit from new adjustments. We can really observe the process of learning through all those policies. For example, the exit conditions of the QEP are not the same as those of the ZIRP, because it had not worked well. Later, after several changes in settings, the Bank introduces a new policy through the CME, which represents a mix of type 1 and type 2 changes. A few years later, after several type 1 adjustments, the Bank introduces the QQE, which represents a type 3 change, mixed with type 2 and type 1 changes.
7. **Conclusion**

We can conclude by saying that the social learning theory is on the whole very consistent in the case of the Bank of Japan over the observed period. We observed how learning influenced the Bank’s decisions. The Bank learns from its decisions, from the results obtained through its policies, and from the mistakes it makes. The analysis of this twenty-year period shows that the policymaking process is largely influenced by the Bank’s experiences and depends on past results. Even in crises, the influence of the experience gained over time is non negligible. The division of the process of learning on 3 different types of changes, as well as the learning cycles, also helps us to have a clear vision of how the learning is done.

We believe that the theory of social learning does not necessarily need to be strict and assert that learning alone influences decisions. Social learning can leave room for other elements that also influence policymaking, while keeping learning at the center of policymaking. Indeed, in the case of the Bank of Japan, we observed that the process of learning is extremely important for policymaking. But we also observed several cases where other elements influenced policymaking. Moreover, other theories, such as those seen in the literature review, can complement our understanding of policymaking. For example, Adolph's theories can be very interesting to explain the introduction of the QQE. Indeed, following the installation of Haruhiko Kuroda as Governor of the Bank of Japan in March 2013 by the new Abe government, the Bank of Japan implemented QQE (which the Abe government wanted to fully implement its three arrow policies, the abenomics). Woolley and Dwyer's approaches also make sense. Indeed, the QQE implementation highlights the evidence of the Abe government's influence in the Bank of Japan's policymaking. However, we should note that during the type 1 and type 2 changes observed in our analysis we could not notice or test these other approaches. This may be due to the fact that we have focused solely on the Bank of Japan and its decisions. Therefore, it would be interesting in a future work to come back to this analysis with a look at the members of the policy board, the interventions of politicians and governments (notably in the media) aiming to criticize and/or influence the decisions of the Bank of Japan. This combination of approaches would certainly provide a very comprehensive look at how the Bank of Japan makes its monetary policy decisions.

Let’s conclude with a few words about the social learning theory in general. Our initial question was « *Can we explain the policymaking of the Bank of Japan during the lost 20 years*...
with the social learning theory? ». Having revisited the recipe for social learning described by Hall, by making it broader, less strict, by adding the idea of learning cycles, and putting learning at the center of the theory, we allow the theory of social learning to be more general. This new recipe can provide insights into the process of policymaking by putting the learning at the center of decisions. After the review and the analysis of the Bank’s policymaking during the lost 20 years, we can definitively answer by yes to our initial question. Of course, this revisiting of the theory is not perfect and may be subject to criticism. For example, type 1 changes can be seen as reductive, or as routine and not related to learning. Ideally, it should be clear which type 1 changes are directly related to learning. Despite these necessary improvements, we hope that this revisiting of social learning will allow this extremely interesting theory to return to the center of discussions on the policymaking process.
8. Bibliography


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