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FORWARD GUIDENCE AS A SEPARATE UNCONVENTIONAL MONETARY POLICY TOOL[1]

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GELENEKSEL OLMAYAN BİR PARA POLİTİKASI ARACI OLARAK SÖZLE YÖNLENDİRME

Öz

2008 Finansal krizinin ardından gelişmiş ülke merkez bankaları tarafından geleneksel para politikası aracı olarak kullanılan kısa vadeli faiz oranları sıfıra yakın bir düzeye indirilmiştir. Ayrıca geleneksel olmayan para politikası araçları da kullanılmaya başlanmıştır. Bu doğrultuda gelişmiş ülke merkez bankaları tarafından uygulanan politikalardan biri de sözle yönlendirme politikasıdır. Politikanın amacı merkez bankasının politika oranlarının gelecekteki seyrine ilişkin sinyal vermektir. Bu politika her ne kadar finansal krizden önceki dönemde bazı merkez bankaları tarafından kullanılmış olsa da, finansal krizin ardından aktif bir şekilde kullanılmaya başlanmıştır.

Çalışmanın amacı, sözle yönlendirme politikasının faiz oranlarının sıfır olduğu bir düzeyde kullanılmasının değerlendirmesini yapmaktır. Çalışmada gelişmiş ülkelerin uyguladıkları sözle yönlendirme politikası literatürdeki yaygın sınıflandırmaya paralel olarak üçe ayrılarak incelenmiştir. Bu sınıflandırmaya paralel olarak öncelikle finansal krizden önce merkez bankalarının sözle yönlendirme politikaları üzerinde durulmuş, ardından krizden sonraki dönemde uyguladıkları söze yönlendirme politikaları ayrıntılı olarak ele alınmıştır. Son olarak bu politikanın para politikasının bir aracı olarak kullanılıp kullanılmayacağı tartışılmıştır.

Anahtar Kelimeler: Geleneksel Olmayan Para Politikaları, Sözle Yönlendirme, Finansal Kriz, Gelişmiş Ülke Deneyimleri

Abstract

In the aftermath of the financial crisis of 2008, short-term interest rates used as a conventional monetary policy tool were lowered to zero by the central banks of the developed countries. Unconventional monetary policy tools were also

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adopted. One example of these unconventional monetary policy tools is forward guidance. The aim of forward guidance is to signal the future policy actions of central banks. Although forward guidance was used by some central banks before the financial crisis, it became more common in the aftermath of the crisis.

The purpose of this study is to evaluate the policy of forward guidance adopted when interest rates are at or near zero, or in other words when there is zero lower bound. In this study, the policy of forward guidance adopted by developed countries is analyzed under three categories, which is in line with the classification commonly adopted in the literature. In accordance with this classification, the study will first focus on forward guidance adopted by central banks before the financial crisis, followed by the detailed analysis of the policy adopted in the aftermath of the crisis. Finally, it discusses whether this policy can be used as a monetary policy tool.

Keywords: Unconventional Monetary Policy, Forward Guidance, Financial Crisis, Developed Country Experiences

1. Introduction

In the aftermath of the financial crisis of 2008, the central banks of developed countries lowered short-term interest rates at the zero lower bound. As a result, it was no longer possible to implement a policy by decreasing short-term interest rates once used as a conventional policy tool. This led the central banks of developed countries to adopt unconventional monetary policy tools. One of the unconventional monetary policy tools adopted accordingly was forward guidance. Although it was commonly implemented in the aftermath of the crisis, it was not a policy tool emerging after the crisis. Forward guidance refers to strategies adopted by central banks to provide information about their future policies. The purpose of this policy is to increase the effectiveness of monetary policy at the zero lower bound (Shirai 2013: 4).

This study focuses on forward guidance as primarily a communication tool. In this regard, forward guidance is analyzed in two categories: forward guidance before and after the global financial crisis. This study, first, focuses on the countries adopting forward guidance as a natural part of their monetary policy, followed by the analysis of forward guidance practices of the central banks of developed countries that adopted forward guidance as an unconventional monetary policy tool when interest rates decreased to values close to zero, becoming dysfunctional. The forward guidance practices initiated by the Federal Reserve Bank (Fed) after the financial crisis of 2008, and its different forms introduced by the Bank of Canada, the Bank of England, and the Bank of Japan were analyzed under three categories in the second section. Section 3 presents the literature

review focusing on the efficacy of forward guidance. The final section discusses whether it is possible to use this policy as a monetary policy tool in the future.

This study contributes to the literature with its analysis of the policy of forward guidance adopted by the central banks of the developed countries when interest rates are near zero. Also, this policy has not been addressed a lot in Turkey, which was one of the reasons for studying this subject. Finally, although it is difficult to come to a certain conclusion about whether the policy will be maintained when the conditions normalize, it can be argued that it may become one of the policy tools of central banks as its different versions have been adopted so far.

2. Forward Guidance as a Communication Tool

Before the financial crisis, central banks could reach a consensus on the fundamental principles of the monetary policy. Called as new neoclassical synthesis, the consensus is referred as "flexible inflation targeting" in the literature[2] (Mishkin 2011: 2-14). Flexible inflation targeting was considered as the most appropriate structure for monetary policy before the financial crisis of 2008, and its different forms were implemented by several central banks (Reichlin and Baldwin 2013: 10 ; Vayid 2013: 18).

Under inflation targeting regime, short-term interest rates are used by central banks as a monetary policy tool to ensure price stability. When central banks change nominal short-term interest rates as a monetary policy tool, the interest rates affect long-term real interest rates through wage and price stickiness and expectations theory. Having a decisive impact on investment and consumption decisions of households and firms, long-term interest rates affect aggregate demand and inflation through

[2] According to Mishkin (2011: 2-3), new neoclassical synthesis is made up of eight fundamental principles. The first one is that inflation is a monetary phenomenon every time and everywhere. The second one is that price stability has some important benefits. The third one is that there is not a relation between inflation and unemployment in the long run. The fourth one is that expectations play an important role in the economy. The fifth one is that when inflation is high, real interest rates need to increase. The sixth one is that monetary policy is related to the problem of time-inconsistency. The seventh one is that the central bank independence makes monetary policies more effective. The last one is that commitment to a credible nominal anchor is necessary for achieving good results from a monetary policy.

investment and consumption expenditures (Egert and MacDonald 2009: 280). This process, which describes the conventional monetary policy transmission, was inadequate after the financial crisis of 2008, thereby leading central banks to adopt unconventional monetary policies because of two reasons, which was also mentioned by Mishkin (2012: 19). First, financial distortion prevented specific credit markets from functioning properly. Secondly, negative shocks in economy cause the problem of zero lower bound. In this case, when interest rates are lowered to values close to zero, it becomes impossible to implement a policy by lowering interest rates. In this regard, unconventional monetary policies implemented by the central banks of developed countries have two objectives. The first one is to make financial markets functional again, and the second objective is to ease the implementation of monetary policies when interest rates at the zero lower bound (IMF 2013: 6). Following Mishkin (2012: 19), unconventional monetary policies implemented fall into four categories[3]. The first category includes providing liquidity for banks and financial institutions. The second category is asset purchases. The third category is quantitative easing that covers the expansion of central banks' balance sheets. The final category is forward guidance, which is explained by the management of expectations, that involves the commitments of central banks to keep interest rates low for a long period of time (Mishkin 2012: 19).

Before the 1990s, the communication strategy of central banks was based on sharing as less information as possible with the public. This strategy was founded on several justifications. First, sharing less information reduces the risks of asymmetric information. Secondly, markets may show so much reaction to monetary policy decisions. Thirdly, when central banks provide information on what kind of a monetary policy strategy will be adopted in the future, this restricts the policy to be implemented in response to the future developments. Finally, according to the common belief, transparency benefits monetary policy only a little (Yellen 2013a: 3-5). However, several central banks have become more transparent and focused more on communication policies in the last 10-15 years (Blinder et al. 2008: 7-8). As a matter of fact, for short-term interest rates to have an impact on long-term interest rates and aggregate demand, central banks are required to inform the markets of how monetary policies implemented by changing short-term interest rates will affect the short-term interest

[3] There are also studies classifying unconventional monetary policies differently. See Borio & Disyatat (2010), Meier (2009), Stone et al. (2011), IMF (2013).

rates in the future. Communication policy plays an important role in this regard (Goodfirend 2007: 30).

As central banks became more transparent, their communication policies became more important. Accordingly, central banks started to provide more information on their policies. Although this tool, known as forward guidance, started to be used commonly after the crisis, it was not a new monetary policy tool that emerged after the crisis (Yellen 2013a: 8).

With the policy of forward guidance, central banks provide households and firms with information on the monetary policies to be implemented in the future. This policy may be more quantitative announcing the numerical values that interest rates will gain in the future or it may be verbal statements including less quantitative information (den Haan 2013: 2). The first one was adopted by some central banks before the financial crisis while the second one became more common following the crisis. In this regard, this study analyzes forward guidance in two sections. First, it focuses on countries adopting forward guidance as a natural part of monetary policy (Svensson 2014: 2). Next, it analyzes forward guidance adopted by the central banks of developed countries as an unconventional monetary policy tool when interest rates were at zero lower bound and lost their functions.

2.1. Forward Guidance before the Financial Crisis of 2008

Before the financial crisis of 2008, forward guidance was implemented by New Zealand, Norway, and Sweden, which are the countries having adopted inflation targeting regime. Forward guidance was adopted first by The Reserve Bank of New Zealand in 1997, then by the Norges Bank in 2005, and finally by Riksbank in 2007. However, these countries adopted forward guidance along with the traditional monetary policies when policy interest rates were above zero (Contessi and Li 2013: 1). These forward guidance practices, however, do not include any commitments to future actions. Central banks announce the estimated values interest rates will gain in the future. Estimated values are also revised upon reaching new information (Praet 2013: 28). There are some specific reasons why the policy of forward guidance adopted by these countries is considered as a natural part of monetary policy under flexible inflation targeting, which were also discussed by Svensson (2014: 3). First, the estimations of central banks on future policy rates give out information on monetary policies, increasing transparency. Secondly, estimated interest rates announced by central banks affect the market expectations of the future

policy rates, increasing the effectiveness of monetary policies being implemented. Thirdly, announcing the future values of policy rates provide economic actors with information and facilitate their decision-making process. Fourthly, announcing the estimations of future policy rates provide information on the appropriateness of policies implemented in response to alternative monetary policy expectations. Finally, the estimations announced on policy rates, unemployment, and inflation increase central banks' accountability towards external observations and other institutions.

However, different from the practices mentioned above, forward guidance was also adopted before the financial crisis when interest rates were at zero[4]. It was first implemented by the Bank of Japan (BOJ) in February, 1999 (February 1999–August 2000) under such circumstances (Shirai 2013: 4-11). For most, lowering interest rates to zero lower bound aroused theoretical curiosity and was regarded as a special case experienced by Japan. But following the 2008 financial crisis, this was no longer specific to Japan and turned into a reality experienced by many developed countries (Carney 2013: 13).

Forward guidance was also adopted in June, 2003 when policy rates were lowered to one percent by the Fed to enliven the US economy (Vayid 2013: 24). On August 12, 2003, the committee released a statements saying that "The Committee believes that policy accommodation can be maintained for a considerable period"[5], which meant that federal funds rate would be kept low longer than expected, and it was the first time then for the adoption of open-ended forward guidance as a fundamental tool of monetary policy (Yellen 2013a: 8-9).

2.2. Forward Guidance after the Financial Crisis of 2008

Some studies carried out before the financial crisis (Eggertsson and Woodford, 2003, 2006; Krugman 1998; Reifschneider and Williams 2000) claimed that monetary policies even be effective when interest rates were at the zero lower bound. It was argued this would be achieved through the commitments of the central banks to reach the future values of

[4] Since forward guidance is classified according to being adopted before or after the financial crisis, the forward guidance adopted by the Bank of Japan when interest rates were close to zero and the forward guidance adopted by the Fed in 2003 are mentioned under this subtitle.

[5] http://www.federalreserve.gov/boarddocs/press/monetary/2003/20030812/

short-term interest rates; or it would remove the restrictive effect of the zero lower bound. Following the financial crisis, this theoretical argument, or the policy of forward guidance, started to be used as an unconventional monetary policy tool by most central banks after policy interest rates were lowered to near zero. When policy interest rates are at the zero lower bound, the objective of this policy is to explain the intended policy rate path of central banks. By this way, central banks aim both to achieve an additional expansion by signaling that policy interest rates will maintain at a low level for a period of time and to affect long-term interest rates through expectations (Filardo and Hofmann, 2014: 38). As a matter of fact, according to the theory of expectations, long-term interest rates are equal to the average of short-term interest rates expected to be realized in the future (Mishkin 2012: 25-26; Praet 2013: 25).

Forward guidance becomes functional through two channels. First, it works by affecting the inflation expectations of the public. If the central bank announces that it will keep the interest rates low for a period of time when nominal interest rates are zero, this will raise the inflation expectations. High inflation expectations decrease real interest rates and lead consumers to consume more today, thereby contributing to an increase in aggregate demand. Secondly, forward guidance takes a decisive role in shaping the expectations of the public on future economic stance (Plosser 2013: 3). However, for the policy of forward guidance to be effective, the commitments of the central bank are required to be convincing in the eyes of the public. Secondly, it is important to have open communication with the public. Thirdly, the path planned by the central bank needs to be interpreted accurately by the public (Filardo and Hofmann 2014: 38-39).

Following the financial crisis of 2008, different forms of forward guidance were implemented by firstly the Fed, the Bank of Canada, the ECB, the Bank of England, and the Bank of Japan. Forward guidance is discussed under a two or three-category basis in the literature. In terms of a two-category-based analysis "Delphic" and "Odyssean" classifications by Campbell et al. (2012) are taken as a reference. According to this classification, the forward guidance of central banks not including commitments is defined as "Delphic" while the one including commitments is defined as "Odyssean". In this study, a three-category-basis was adopted (Bank of England 2013: 21; Carney 2013: 15-16; Filardo and Hofmann, 2014: 40; Shirai 2013; 6-7; Vayid, 2013: 29-30). This classification was preferred as it helps analyze the multi-dimensional

structure of the forward guidance practices after the crisis in a more detailed way.

2.2.1. Open-Ended Forward Guidance

Open-ended forward guidance may give any qualitative information on the expected future path of policy to market participants. However, it is uncertain under what circumstances the policy is to be tightened or when it is to come to an end (Carney 2013: 15). Implementing such a policy gives central banks flexibility against unexpected circumstances, however it includes some disadvantages as providing the public with inadequate and uncertain information (Bank of England 2013: 21).

After the crisis, open-ended forward guidance was initiated by the Fed on December 16, 2008. The committee stated that low interest rates would continue "for some time" due to weak economic conditions. On March 18, 2009, the expression "for some time" in the forward guidance was replaced with "for an extended period". While the open-ended forward guidance left its place to time-contingent and state-contingent forward guidance in the USA, it was adopted by the European Central Bank (the ECB) on July, 2013. The ECB stated that the interest rates were expected to remain at its present level or at a lower level "for an extended period of time".

However, it is important to emphasize that the open-ended forward guidance implemented by the ECB includes both a "Delphic" and an "Odyssean" element, It includes a Delphic element since the future monetary policy of the ECB is based on the current information. It includes an Odyssean element since the ECB stated that it would keep its commitment to keeping inflation rates at a level close to or lower than two percent in the medium-term and would decisively take the necessary precautions to achieve this goal (Praet 2013: 30-31; Sharai 2013: 23).

Table 1. Open-Ended Forward Guidance

Central Banks	Dates	Statement Language
FED	16 December 2008	"The Committee anticipates that weak economic conditions are likely to warrant exceptionally low levels of the federal funds rate ***for some time***".
	18 March 2009	"The Committee will maintain the target range for the federal funds rate at 0 to 1/4 percent and anticipates that economic conditions are likely to warrant exceptionally low levels of the federal funds rate ***for an extended period***".
ECB	4 July 2013	"The Governing Council expects the key ECB interest rates to remain at present or lower levels ***for an extended period of time***. This expectation is based on the overall subdued outlook for inflation extending into the medium term, given the broad-based weakness in the real economy and subdued monetary dynamics".

Source: Federal Reserve Board, European Central Bank.

2.2.2. Time-Contingent Forward Guidance

Time-contingent forward guidance enables the public with information on when monetary policy will change. Although it is easy to interpret this policy, it has a disadvantage of not providing any information on how central banks will respond to unexpected situations in the economy (Bank of England 2013: 21). However, some think that time-contingent forward guidance is superior to open-ended forward guidance cause of some advantages related to explicitness and effectiveness (Shirai 2013: 7).

den Haan (2013: 3-4) specifically impact that time-contingent forward guidance was first adopted by the Riksbank, and a statement was released saying that "The repo rate is expected to remain at a low level until the beginning of 2011". The statement by the Bank of Canada released on the same day noted that "the target overnight rate can be expected to remain at its current level until the end of the second quarter of 2010 in order to achieve the inflation target".

Table 2. Time-Contingent Forward Guidance

Central Banks	**Dates**	**Statement Language**
Riksbank	21 April 2009	"The Executive Board of the Riksbank has decided to cut the repo rate by 0.5 percentage points to 0.5 per cent. The lower interest rate and interest rate path are necessary to dampen the fall in production and employment and to attain the inflation target of 2 per cent. The repo rate is expected to remain at a low level ***until the beginning of 2011***".
Bank of Canada (BOC)	21 April 2009	**"**Conditional on the outlook for inflation, the target overnight rate can be expected to remain at its current level ***until the end of the second quarter of 2010*** in order to achieve the inflation target".
FED	9 August 2011	"The Committee currently anticipates that economic conditions--including low rates of resource utilization and a subdued outlook for inflation over the medium run--are likely to warrant exceptionally low levels for the federal funds rate ***at least through mid-2013***".
	25 January 2012	"the Committee decided today to keep the target range for the federal funds rate at 0 to 1/4 percent and currently anticipates that economic conditions--including low rates of resource utilization and a subdued outlook for inflation over the medium run--are likely to warrant exceptionally low levels for the federal funds rate ***at least through late 2014***".
	13 September 2012	"the Committee also decided today to keep the target range for the federal funds rate at 0 to 1/4 percent and currently anticipates that exceptionally low levels for the federal funds rate are likely to be warranted ***at least through mid-2015***".

Source: Federal Reserve Board, Bank of Canada, the Riksbank

Although open-ended forward guidance implemented by the Fed had an impact on the market's expectation of the future policy, market expectations remained above the expectations of the Fed. This became apparent in mid-2011, in particular, and the markets started to expect that

zero bound interest rate policy would be given up in a few quarters and the Fed would continue with interest rate increases. In order to let down those expectations, the Fed passed on to time-contingent forward guidance including more explicit statements (Williams 2013: 43-44). Time-contingent forward guidance was initiated by the Fed on August 9, 2011 and the Fed stated that federal fund rates would be kept at a low level ***"at least through mid-2013"***. Then on January 25, 2012, it was extended to ***"at least through late 2014"***. On September 13, 2012, it was extended to ***"at least through mid-2015"***.

2.2.3. State-Contingent Forward Guidance

State-contingent forward guidance provides information on economic conditions likely to make a change in monetary policy (Bank of England 2013: 22). The reason why central banks made such a change in forward guidance was to provide the public with more information on the monetary policy strategy and the reaction-function adopted (Yellen 2013: 5). In this regard, it can be argued that state-contingent forward guidance is superior to time-contingent forward guidance because of two reasons. The first one is that state-contingent forward guidance provides information on the policy implemented by central banks through some specific statements (such as at least as long as the unemployment rate remains above 6-1/2 percent). Secondly, it increases the predictability of the future expectations for firms and households by providing accurate information on the future monetary policy and economic conditions. As a matter of fact, the most important drawback of time-contingent forward guidance is that it cannot accurately explain whether the extension of time is a result of worsening economic conditions or of an expansionary policy. State-contingent forward guidance aims to remove this uncertainty because this first case decreases aggregate demand, while the second one increases aggregate demand (Shirai, 2013: 7; Vayid, 2013: 29; Yellen 2013: 11).

However, state-contingent forward guidance also has some drawbacks. As stated by Plosser (2013: 5), state-contingent forward guidance does not provide information on how policies will change after threshold values are achieved by central banks. It is not also clear what kind of a policy will be adopted by central banks in response to developments apart from threshold values set for inflation and unemployment.

State-contingent forward guidance was initiated by the Fed on December 12, 2012. It was stated by the Fed that "as long as unemployment rate

remained above 6.5 % and inflation outlook remained below 2.5 % for 1-2 years period, and longer-term inflation expectations continued to be well anchored, low policy rates would be maintained". State-contingent forward guidance started to be implemented by Bank of England on August 1, 2013. This policy had two conditions. The first one was not to increase bank interest rates until they fell down to 7 % while the second condition was to continue with asset purchases as long as unemployment remained above 7 % (Dale & Talbot, 2013: 35-36). However, the Monetary Policy Committee (MPC) stated three knockouts invalidating these conditions, which are as follows[6]:

1. "in the MPC's view, it is more likely than not, that CPI inflation 18 to 24 months ahead will be 0.5 percentage points or more above the 2% target";

2. " medium-term inflation expectations no longer remain sufficiently well anchored";

3. "the Financial Policy Committee (FPC) judges that the stance of monetary policy poses a significant threat to financial stability that cannot be contained by the substantial range of mitigating policy actions available to the FPC, the Financial Conduct Authority and the Prudential Regulation Authority in a way consistent with their objectives".

State-contingent forward guidance was implemented by the Bank of Japan (BOJ) as a part of the Comprehensive Monetary Easing on October 5, 2010. The BOJ stated that zero interest rate policy would be maintained until price stability was ensured, and that this policy was related to the lack of any kind of risk factor (Filardo and Hofmann 2014: 40). On April 4, 2013, the BOJ started to implement quantitative and qualitative monetary easing (QQE) in order to solve the problem of deflation and achieve price stability target of 2 %. Forward guidance constitutes one main component of QQE (Shirai 2013a: 49-50). The policy of forward guidance adopted by the BOJ exemplifies both time-contingent and state-contingent forward guidance[7]. Because the bank set a time (about two years) for its price stability target of 2 %, which is an example of time-contingent forward guidance whereas the bank's statement that they would continue qualitative and quantitative expansion as long as required

[6] http://www.bankofengland.co.uk/publications/Pages/news/2013/096.aspx.

[7] In the studies by the Bank of England (2013) and Vayid (2013), the forward guidance adopted by the Bank of Japan (BOJ) is seen as open-ended forward guidance.

in order to achieve the price stability target of 2 percent is an example of state-contingent forward guidance (Shirai 2013: 9-10).

Table 3. State-Contingent Forward Guidance

Central Banks	**Dates**	**Statement Language**
FED	12 December 2012	"the Committee decided to keep the target range for the federal funds rate at 0 to 1/4 percent and currently anticipates that this exceptionally low range for the federal funds rate will be appropriate ***at least as long as the unemployment rate remains above 6-1/2 percent, inflation between one and two years ahead is projected to be no more than a half percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored***".
Bank of England (BOE)	1 August 2013	"In particular, the MPC intends not to raise Bank Rate from its current level of 0.5% at least until the Labour Force Survey headline measure of ***the unemployment rate has fallen to a threshold of 7%, subject to the conditions below***". The MPC stands ready to undertake further asset purchases ***while the unemployment rate remains above 7%*** if it judges that additional monetary stimulus is warranted.
BOJ	5 October 2010	"The Bank will maintain the virtually zero interest rate policy until it judges, on the basis of the "understanding of medium- to long-term price stability,"3 that price stability is in sight, on condition that no problem will be identified in examining risk factors, including the accumulation of financial imbalances".
	4 April 2013	"The Bank will achieve the price stability target of 2 percent in terms of the year-on-year rate of change in the consumer price index (CPI) at the earliest possible time, with a time horizon of about two years". "The Bank will continue with the quantitative and qualitative monetary easing, aiming to achieve the price stability target of 2 percent, as long as it is necessary for maintaining that target in a stable manner". It will examine both upside and downside risks to economic activity and prices, and make adjustments as appropriate.

Source: Federal Reserve Board, Bank of England, Bank of Japan

In addition, the forward guidance adopted by the BOJ differs from that implemented by other central banks in two aspects. First, in developed countries like USA and England where medium-term and long-term inflation expectations are fixed at about 2 %, the goal is to keep this rate. However in Japan the main target is rise inflation expectations level about %2 and fixed it near of this levels. Second, there is not a condition for employment in the forward guidance implemented by the BOJ (Shirai, 2013a: 53).

Different from the previous practices, the state-contingent forward guidance initiated by the Fed in December, 2013 was prepared covering time-contingent forward guidance. In March 2014, the state-contingent forward guidance was replaced with the one considering the developments expected and occurring in accordance with the dual-mandate of the Committee. The Fed was not the only central bank that changed its policy of forward guidance in time. For instance, the state-contingent forward guidance that was implemented by the Bank of England in August 2013 underwent a change in February, 2014 when the unemployment was close to 7 % (Mester 2014: 6-7).

3. The Efficacy of Forward Guidance

Studies on the effectiveness of forward guidance are divided into two: studies analyzing the effectiveness of forward guidance before the crisis and after the crisis. The study by Gürkaynak et al. (2005) explored the impact of the monetary policy in the USA on asset prices. This study analyzed the impacts of both federal fund rates and the statements by the Fed. The study indicated that Fed's statements had a significant impact on longer-term Treasury yields.

The study carried out by Andersson and Hofmann (2009) analyzed the forward guidance practice of the Reserve Bank of New Zealand, the Norges Bank and the Riksbank. This study emphasized that the monetary policy decisions of these three central banks that adopted inflation targeting were predictable and shaped the longer-term inflation expectations of investors, independently of the publication of their own interest rate path. The study by Kool and Thronton (2014) analyzed whether the policies of forward guidance adopted by the New Zealand, Norway, Sweeden, and the USA made the future values of short-term and long-term interest rates more predictable. This study drew some conclusions indicating that the forward guidance in New Zealand, Norway, and Sweden made short-term interest rates more predictable for

market participants in the short run. However, the study did not report a similar finding for the USA, or the forward guidance in the USA did not make the process more predictable.

In their study, Fujiki and Shiratsuka (2002) analyzed the effectiveness of zero interest rate policy for the period of February 1999 and August 2000 in Japan. They found out that the policy implemented was quite effective and flattened the long-term interest rates. Nevertheless, they stated that this was a result of the economic situation of the country then, and it was not possible to draw a general conclusion for the formulation of the monetary policy. Okina and Shiratsuka (2004) studied the impact of the monetary policy commitments on the yield curve for Japan when the interest rates were at zero. They concluded that the commitments of the Bank of Japan shaped the market expectations of the short-term interest rates, decreasing the long-term interest rates and flattening the yield curve whereas it did not eliminate the financial market expectations of deflation. Oda and Ueda (2005) analyzed the impact of the monetary policy on medium-term and long-term interest rates adopted after the policy interest rates were reduced to zero by the Bank of Japan in 1999. The study analyzed this process in two categories: the period when the Bank of Japan made a commitment to implement a zero bound interest rate policy (February 1999-August 2000) and the period when a quantitative monetary easing was implemented. The study found out that zero rate commitment decreased the medium-term and long-term interest rates.

The studies on the effectiveness of forward guidance after the financial crisis showed that the policy usually had an impact on long-term interest rates. The study by Chehal and Trehan (2009) compared the time-contingent forward guidance adopted by the Bank of Canada between April 2009 and the second half of 2010 and the open-ended forward guidance adopted by the Fed. This study indicated that the statement by the Bank of Canada saying that the interest rates would remain at the same level till the second quarter of 2010 had an impact on the interest rates in the beginning but this was temporary. In this study, the authors also stated that the market participants saw only a small difference between open-ended forward guidance and time-contingent forward guidance. Woodford (2012) evaluated the effectiveness of the time-contingent forward guidance adopted by the Bank of Canada on April 21, 2009 and by the Fed on August 9, 2011 and January 25, 2012. This study stated that for both countries, the policy of forward guidance decreased the expectations of the future interest rates. Following the same methodology adopted by Gürkaynak et al. (2005), Campbell et al. (2012) analyzed the

impact of the statements by the Fed. They concluded that the statements by the Fed had important impacts on long-term bond yields both before and after the financial crisis. Raskin (2013) evaluated the effectiveness of time-contingent forward guidance adopted by the Fed in August 2011 and January 2012. This study concluded that the opinions of investors on the FOMC reaction-function of the forward guidance adopted in August 2011 were statistically and economically significant. However, a statistically significant result was not obtained for January 2012. One of the reasons for this was that the time-contingent forward guidance adopted in January 2012 was expected by the market.

4. The Future of Forward Guidance

Although forward guidance was commonly used by developed countries after the crisis, it contains some problems. For example, forward guidance may lead to time inconsistency since it may emerge as a need for central banks to increase policy interest rates after announcing that policy interest rates will be kept low for a period of time, especially when the economic conditions start to normalize. In such a case, economic actors may not find the commitments of central banks convincing (IMF 2013: 8). Also, economic actors may become highly dependent on the statements released by central banks (Williams 2013: 45-46). Nevertheless, this should not mean that forward guidance will lose its impact. It is known that there are two different perspectives on the possible tendency of forward guidance, which was also put forward by Filardo and Hofmann (2014: 49). The first one is regarding the forward guidance practices as a result of central banks' becoming more transparent while the second one is seeing forward guidance practices as a result of post-crisis situation and not expecting the policy to be implemented when the situation has normalized. Time will show which perspective will triumph over another.

It is inevitable for forward guidance to change in time, depending on the economic situations of countries. For instance, Mester (2015: 8) stated that she expected the explicit forward guidance which was adopted when there was a recession and the interest rates were at zero bound in the USA to maintain its function as a communication tool when the conditions normalized. Williams (2013: 46) also argues that forward guidance is expected to continue being an important part of the monetary policy of the Fed in the following years.

5. Conclusion

As central banks became more transparent, communication policies became more important. As a result of increasing transparency, central banks started to provide more information about their policies. Known as forward guidance, this tool gained more importance after policy interest rates fell down to zero after the financial crisis, thereby losing effectiveness. Various forms of forward guidance were adopted by the central banks of developed countries but firstly by the Fed. The main purpose of forward guidance implemented by the central banks of developed counties is to achieve an additional expansion by providing information on the intended policy path as it is not possible for them to implement a policy by lowering short-term interest rates when the rates are at the zero lower bound.

Although forward guidance has some risks like time-inconsistency and making markets excessively dependent on central bank statements, time will show whether countries will continue implementing these policies when unusual conditions come to an end. As mentioned above, in the beginning, explicit forward guidance was adopted in the USA on December 16, 2008. This policy, in time, was replaced with time-contingent and state-contingent forward guidance. Then state-contingent forward guidance, different from the previous practices, was revised, this time also covering time-contingent forward guidance. In March 2014, state-contingent forward guidance was replaced with the forward guidance considering the developments expected and occurring consistent with the dual-mandate of the Committee. These forward guidance practices of the Fed can be interpreted as a sign indicating that different forms of forward guidance may be adopted in the future, depending on the changing economic conditions.

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