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## Treasury Bills and Central Bank Bills for Monetary Policy

Junesuh Yi<sup>a\*</sup>

*<sup>a</sup>Dongguk Business School, Dongguk University, Seoul, Korea*

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### Abstract

This study investigates the extent of use of treasury bills and central bank bills as monetary policy instrument by level of development of countries, and problems caused from using two securities simultaneously. Very interestingly, it is observed that advanced countries tend to have either treasury bills or central bank bills while less advanced countries use both bills. Also the advanced countries are discovered to use more treasury bills than central bank bills. It is also found that employment of two securities leads to bond market segmentation, profit deterioration of central bank, and increase of government debt. Based on these problems caused by using two bills simultaneously, I suggest that central bank bills should be integrated into treasury bills in those countries in which two bills are used at the same time. As for the integration, I recommend that maturity of two bills need to be adjusted before long, resulting in short- and long-term for treasury securities and mid-term for central bank bills.

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### 1. Introduction

One of the most important functions of a central bank is to stabilize prices through monetary policy. Therefore, a central bank issues either treasury bills on behalf of the government or its own central bank bills. However, most central banks of developed countries which own well established government bond markets employ treasury bills rather than their own securities as financial instrument for monetary policy. In the meantime, central bank bills are mainly used in developing countries such as China, Indonesia, and Chile.

In most cases, treasury bills are issued by governments through their central banks to resolve temporarily insufficient budget. Yet, treasury bills are also employed as one of open market operations (OMO) forms for monetary policy. Hence, by issuing treasury bills, central banks can raise short-term fund for governments and absorb surplus liquidity from financial markets simultaneously. For that reason, financial market participants are more likely to be confused when treasury bills are issued with unclear or mixed objectives. Issuance of treasury bills for the purpose of raising fund for governments may lead to unintended liquidity drain. In this case, an essential function of central banks, that is, price stabilization for monetary policy may be destroyed.

On the contrary, central banks are likely to issue their own securities in some countries in which government securities are insufficient. If governments are reluctant to issue treasury securities beyond budget deficit, central

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\* Corresponding author: Junesuh Yi. Tel.: +82-2-2260-8589; Fax: +82-2-2260-3684  
E-mail address: [jsyiee@gmail.com](mailto:jsyiee@gmail.com)

Banks may lack financial instruments required for open market operations. In addition, central banks use own bills for operational flexibility in monetary operations or for separation of monetary management from debt management. However, excessive issuances of central bank bills may incur loss and infringe on autonomy of central banks.

Therefore, this study examines by country issuing types of either treasury or central bank bills for monetary policy, and analyzes the extent of using two bills by level of development of those countries. I also investigate some countries where treasury securities and central bank bills are employed at the same time, and identify problems caused by using two securities. This paper suggests that maturity of two bills need to be adjusted in a short term and should be eventually integrated.

## **2. Monetary policy instruments**

Central banks generally perform the issuance of treasury and central bank bills for monetary policy in three types. First of all, central banks issue only treasury bills. The central banks issue bills classified by objective: bills for government funds and bills for monetary policy. Bills for government funds have relatively short-term maturity, e.g. one month or less. For instance, the United States issues two-week bills, named 'cash management bills'. Brazil also distinguishes cash management bills with short-term maturity from conventional treasury bills. New Zealand issues treasury bills with non-standard maturities matched to the days when cash is expected to flow in.

Secondly, central banks issue central bank bills instead of treasury bills for monetary policy to properly function. Most central banks that issue central bank bills directly lend fund to the government when it suffers budget deficit. That is, central banks use central bank bills as monetary policy instrument while they finance funds for government on a temporary basis. Monetary stabilization bond (MSB) issued by the Bank of Korea is an example of central bank bills.

Thirdly, central banks issue not only treasury bills but central bank bills. Central banks enforce monetary policy involuntarily and automatically by using treasury bills, and do it intentionally and deliberately by using central bank bills as well. In case of the two treasury- and central bank bills issuance, it is more likely to bring on several problems including market segmentation. The problems on the two different government bills and central bank bills are explained later in more details.

## **3. Use of bills by level of countries' development**

Very interestingly, it is observed that advanced countries tend to have either treasury bills or central bank bills while less advanced countries use both bills. According to the survey by Information System Instruments of Monetary Policy (ISIMP) of IMF on 84 countries as of 2008, 31% of developing countries and 41% of emerging market countries employ treasury bills and central bank bills simultaneously whereas there is no developed country using both types of bills<sup>1</sup>. In addition, developed countries make more use of treasury bills while emerging market countries use central bank bills more as in Figure 1. It is interpreted that central banks in developing or emerging market countries end up in issuing own bills because their governments are reluctant to issue treasury bills for liquidity management.

Some countries even alter the bill type from central bank bills to treasury bills as the national economy develops. In Brazil, the treasury and the central bank issued their own bills until May 2002. However, the central bank stopped doing so to develop its domestic Treasury bond market. Instead, the treasury started issuing equivalent amount of treasury securities when the outstanding central bank bills expired. Meanwhile, in general the number of countries using treasury bills is almost same as that of countries using central bank bills.

In terms of maturity of central bank bills, most countries have one year maturity. The bills' maturity also shows different characteristics depending on the country's development so that the more developed counties present shorter maturity. For instance, the Bank of Poland even issues central bank bills with only seven day-maturity.

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<sup>1</sup> Nyawata(2012) summarizes the results of the 2008 survey.

#### **4. Treasury bills vs. Central bank bills**

Debates on which bills are more effective for monetary policy have long been continuous in academia and practice. However, it comes to conclusion that the use of treasury bills needs to take priority over the use of central bank bills because the issuance of own bills is more likely to harm the independency of central bank in the performance of monetary policy. Namely, potential deterioration of central bank profit caused by issuing own bills results in financial support from government. Others reasons for using treasury bills prior to central bank bills are that it provides comprehensive sight with respect to public finance sector, contributes to development of short-term bond market, and creates brand new financial instruments based on treasury bills. Cho (2011) also explains the advantage in use of treasury bills that they can make daily liquidity management more easily, reduce volatility of short-term interest rate affecting the entire financial market, and apply money market instruments to be fine-tuning for liquidity. Therefore, advanced countries enforce monetary policy through treasury bills, which play a major role in monetary market.

Nevertheless, the reason that some countries employ central bank bills is traced on development process of national economy. Most countries deliberately injected liquidity into the banking system to invigorate the transition process from centrally planned economies to free market. However, increased foreign exchange inflows and expanded loan portfolios of banks generated excessive liquidity which the countries need to absorb by open market operation. Under the circumstances, governments were less motivated to issue sufficient treasury bills due to concerns of too high fiscal surpluses. It implies that central bank bills are more popular in developing countries rather than in advanced countries.

In combined use of two bills, the decision on priority of bill issuance basically depends on independence and autonomy of central banks. It is possible to issue central bank bills first if central banks can satisfy concreteness and transparency to embark on bills issuance, maintain enough financial health to pay operating cost and loss, and clearly regulate on earning distributions and capital rising. The decision on selection of priority bills can be also affected by degree of monetary market development. Central bank bills tend to be issued in countries where Treasury bill market is shallow. In addition, how easily the central banks perform monetary policy and how willfully the monetary market develops influence the decision on which bills to be issued first.

Meanwhile, it is necessary for the treasury and the central bank to build up cooperation and to share information on issuing bills for financial stability on monetary market. Santoro (2012) indicates that supplementary financing program (SFP) at the request of the Federal Reserve is very useful to drain surplus reserves caused by large fund provision subsequent to the global financial crisis. The Federal Reserve sold treasury bills for SEP<sup>2</sup>. Cookie man (2011) also insists that the cooperation between two entities was one of the key factors to overcome the global financial crisis. Moser-Boehm (2006) finds that advanced countries have more meetings in several levels between the government and the central bank than emerging market countries do.

#### **5. Problems caused by issuance of two bills**

Simultaneous issuance of treasury bills and central bank bills bring on several problems in terms of bond market, profit of central bank, and national debt. Above all, fragmentation in bond market causes most concern. If two bills with same maturity present different yield curve, it could cause liquidity shortage and price distortion. It is estimated that such fragmentation in bond market tends to intensify when maturity of two bills is likely to be identical.

For instance, figure 2 displays actual yield curves of Treasury bond and central bank bond as of December 2007 and April 2008 in Korea. According to figure 2, interest rates of treasury bonds issued by government and of MSBs issued by central bank appear differently in spite of identical time-to-maturity of two securities. The yields of the two securities with one year maturity are same, but the yield of two years on MSB is higher than that on T-bond as of December 2007. In addition, two year-MSB presents a higher interest rate than even three year T-bond. Moreover,

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<sup>2</sup> Cecchetti (2009) emphasizes the importance of liquidity provision role from central bank in early stage of financial crisis.

the yield curves as of April 2008 show serious distortion of interest rate. The yields on MSBs rise as maturity becomes longer whereas the yields on T-bonds fall until the maturity of three years followed by interest rate reversal of short- and long-term, resulting in opposite direction of yields between MSBs and T-bonds. It implies that the term structure of interest rates is not reasonably formed. Unequal interest rates between T-bonds and MSBs issued by entities whose credit rate is identical make it difficult to perform benchmark to settle interest rates of corporate or other bonds. Such unstable benchmark interest rate plays a role as one of risk factors to establish issuing interest rate for other bonds, resulting in hindering stability of the entire bond market.

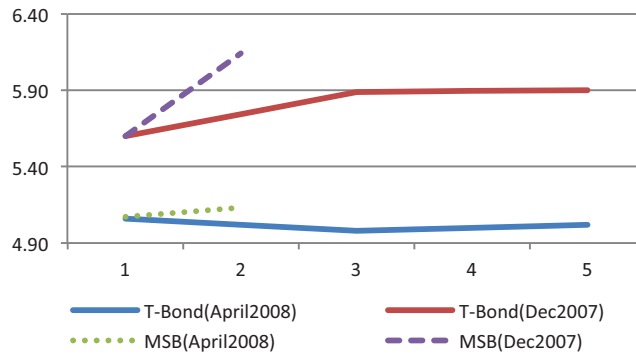


Figure 1. Interest rate on maturities of T-bonds and MSBs  
(Source: The Bank of Korea)

Second, the excessive issuance of central bank bills can lead to worsening of central bank profit. The increase of debt of central bank caused by issuing its own securities could adversely affect the financial soundness of it. The interest payment from issuing central bank bills could be followed by the increase in cost. In addition, a huge amount of interest due to the excessive issuance of central bank bills causes increased money supply, which is more likely to impede operational efficiency of monetary policy and monetary management.

Third, the increases in the issuance of central bank securities can eventually lead to a growth in the potential national debt. The increased interest expense caused by expansion of central bank bills balance may result in fiscal burden on the government. When central bank makes deficit, the bank makes it up by using its reserve. However, if the reserve is exhausted, then it is subject to replenishment funds by the government. Such fund provision by government implies that the issuance costs of central bank bills tend to be of quasi-fiscal characteristic, which is eventually counted in as potential national debt. Moreover, such arguments will become stronger because central bank bills are likely to be included in the national debt based on the recent standardized definition of the national debt by the IMF.

## 6. Policy Implications

We have examined pros and cons of the issuance of government bills and central bank bills for monetary policy and frequencies in use of two bills depending on the stage of national development. In some countries where two bills are issued at the same time, the integration of treasury bonds and central bank bonds may be inevitable to comprehensively consider the appropriate monetary management instrument. It is also crucial to develop the government bond market, solve the illiquidity and distorted term structure on bond market, and secure autonomy of the central bank for those countries. In order to minimize the side effects that may occur due to complete integration of these bonds, however, we need to establish strategies for win-win in short-term and integration in long-term.

For the win-win in short-term, it is first priority to adjust the maturity of two securities. Central bank bonds should be reshaped to issue mainly mid-term, whereas treasury securities should focus on issuing short-term with

less than one year maturity and issuing long-term with more than three year maturity. In other words, bond market should be segmented into treasury bills for short-term, MSBs for mid-term, and treasury bond for long-term respectively to avoid the maturity duplication of two securities. It could minimize confusion to the market participants. Issuance of treasury bills may as well play a role of benchmark rate for short-term market.

Central bank bills for mid-term market will be absorbed and eventually integrated into treasury securities after the bond market is stabilized. It is essential to expand the size of the Treasury bond market at the time when foreign financial institutions increase the purchases of government. However, in this case, treasury securities instead of central bank bills should be secured for open market operations. In other words, the government issues sufficient amount of treasury securities for both budget shortage and monetary policy, and needs to deposit them into the central bank which can adjust the money supply by using repos that are collateralized with treasury bills. In some countries such as India and Macedonia, treasury securities are issued for monetary policy at the request of central bank. The sufficient supply of financial instruments for monetary policy is an important factor to integrate treasury securities.

In summary, some countries issue either treasury bills or central bank bills for monetary policy and others issue two securities simultaneously. But, it proves that no advanced country issues two securities at the same time whereas most developing countries use both of the two securities. Advanced countries employ more treasury bills while the emerging market countries appear to use more central bank bills. In addition, the issuance of two bills leads to several problems. Therefore, this study suggests that the central bank bills in those countries where two bills are issued should be integrated into the treasury bills.

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