UDC 365/8.7

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CENTRAL BANK AND MONEY STOCK STERILIZATION TOOLS

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ЦЕНТРАЛЬНИЙ БАНК ТА ІНСТРУМЕНТИ РЕЗЕРВУВАННЯ ГРОШЕЙ

Метою статті є дослідження причин використання грошових інструментів та поведінки влади в деяких провідних Азіатських центральних банках, що викликано інтересом професійних кругів до підприємств, баланси яких зростають після кризи в 1997.
Ключові слова: *центральний банк, резерви іноземної валюти, інструменти стерилізації*

Целью сттьи является рассматривать причины используемых инструментов и поведения денежных властей в некоторых лидирующих Азиатских центральных банках, что провоцируемый специальный интерес к профессиональным кругам с их растущими балансами предприятия после кризиса в 1997.
Ключевые слова: *центральный банк, резервы иностранной валюты, инструменты стерилизации*

Problem Statement. The term "central bank" depicts the bodies responsible for the implementation of the monetary policy, which, together with the fiscal one, are the main instrument of the economic policy. Looking in the retrospective, the central banks are comparatively young institutions. The first institution recognized as a central bank is the Swedish Riksbank founded in 1668 as a joint stock company and having received the privilege to grant loans to the government in case of necessity, as well as to act as a clearing house. Almost three decades later also the Bank of England was founded (1694) as a joint stock company for the purchase of government debt. By similar reasons in a number of other European countries central banks have been established later. History shows that at places they appear purposefully, by necessity, as a response to the created "monetary disorder" or as a result of deep political and social changes. A good example in support of the political and social changes is the creation of the Bank of Japan in 1882 during the Meiji Restoration, which represented a reformist movement against the Shogunate. Along with the central bank, during this period in Japan also many other structures and institutions appeared which built the foundation of the future economic development. Another example in this direction is Banque de France, which was founded in 1800 by Napoleon Bonaparte in view stabilizing the national currency, which suffered a collapse as a result of the hyperinflation during the French Revolution, as well as for the support of the government finances. By the beginning of the 20th century, in the world there were only eighteen central banks, among which there is also the Bulgarian National Bank (1879). The respected today Swiss National Bank appeared relatively later (1907), Federal Reserve System (1913), Bank of Canada (1935), etc. Today there are over 170 central banks in the world.

Apart from financing of the government debt, the "early" central banks performed also other activities, characteristic for the contemporary commercial banks, which helped them develop the expert power and gain solid experience. As they kept substantial share of the other banks' deposits (mortgage, sconto, lombard, etc.), they started to act as a peculiar bank for the bankers, facilitating the transactions between the banks and securing additional services. The large reserve volumes and the developed branch network of correspondent banks turn the central banks into a „vault" for the free resources of significant part of the credit institutions. These circumstances allowed them to become a last instance creditor during financial disturbances and crises, which is expressed in their readiness and willingness to urgently provide additional resources to the correspondent banks suffering temporary difficulties in view of avoiding liquidity breakdowns. By a special law, each country has delegated to the central bank the monopoly right to issue banknotes and coins, which are enforced as legal payment means. By issuing or withdrawing money from circulation, the central bank is influencing the amount of the interest rates and the credit, hence, also the overall economic activity. From this point of view, the expansion or the shrinking of the central bank's balance sheet shall reflect the policy of the government and their intentions concerning the monetary and financial stability.

Paper objective. The objective of the present article is to review the reasons for the used tools and the behaviour of the monetary authorities in some leading Asian central banks that provoked special interest in the professional circles with their growing balance sheets after the crisis in 1997.

A central bank's balance sheet Reviewing the central bank's balance sheet shall be useful to clarify some of the causalities and to follow up the mechanisms of transmitting the impulses by the monetary institution to the economic agents.

Assets	Liabilities
Foreign assets	Reserve money
Domestic assets	currency in circulation
Claims on government	reserves of commercial banks
Claims on the private sector	Commercial banks' deposits
Claims on domestic banks	Central bank securities
Claims on other financial sector institutions	Government deposits
	Others
	Equity capital

Central bank's assets and liabilities differ from those of the commercial banks. From pure accounting point of view, however, the growth of the assets means growth of the relevant liabilities. On their part, the central bank's liabilities are the assets of the commercial banks and of the other participants on the market. Since the assets represent the foreign exchange reserves of the country, where the central bank is expanding its balance sheet, it practically accumulates reserves. Therefore, while accumulating foreign exchange reserves, the central bank should be very cautious how to structure its liabilities, because that way it is expanding the monetary stock in circulation and is influencing the behavior and the preferences of the economic agents. Equity capital represents government transfers to the monetary institutions plus the profits accrued by it, adjusted by the realized losses.

The purchase of local assets reflects directly on their prices, which, in turn, influence the risk premium and the long-term interest rate. All other conditions being equal, the higher interest rates hold back the investment activity and slow down the economic growth. On the other hand, the growth of the reserve money will affect the liquidity in a short period of time, which in average term period shall have adverse effect on the prices. Taking into consideration the reviewed interrelations, one can state with high degree of certainty that the expansion of the central bank's balance sheet affects as the real, as well as the financial sector of the economy. Looking into retrospective, one can see that during certain periods the central banks have expanded too much their balance sheets by a number of reasons, the main among which is financing budget deficits generated by the lavish government expenses. As a result, the inflation goes up. The observations show also that upon bettering the economic conditions the central banks terminate too slowly the monetary stimuli, which is the cause of speculations concerning the "benefits" of their interference [1, 3].

During the crisis 2007 – 2009 and the period of recovery, an unprecedented growth of the central banks' balance sheets was observed. The monetary authorities showed enviable skills in handling this "dangerous tool" in view of preventing the deepening of the crisis. Most central banks faced the necessity to use unconventional monetary measures, through which liquidity was added to the commercial banks system and through them also to the economic agents. By definition of those monetary measures differ from the conventional ones, which are used by the central banks in calmer times. For example, the systematic financial shocks, which impose the implementation of unconventional measures, rearrange the main objectives and the policy followed by the monetary authorities. At normal conditions, the central banks focus on the maintenance of financial stability and in some cases also interventions on the money and currency markets for the purpose of smoothing the fluctuations. The shocks on the financial-credit system hinder the money transmission, whereby they put in the front line the financial stability as a main objective. Hence, the changes in the priorities of the policy maker affect also the measures of achieving the objectives [4]. Those salvation operations, however, lead also to a row of risks, which, if not neutralized in due time (for instance through sterilization), may have adverse effect.

On the other hand the central banks' balance sheets expansion makes them more exposed to the market fluctuation. A drop in the value of the foreign assets and/or the raising of the long-term interest rates may reduce the current value of the assets, while the liabilities do not remain unaffected. In this situation, the capital of the institution is exposed to a risk, which may endanger the credibility of its policy. Besides, the excessive expansion may result in risk of inflation, risk of financial instability, generated mainly by the excessive growth of the credit [2, 14] and a conflict with the managers of the debt of the country [1, 5-6]. In order those risk to not materialize, the monetary authorities must sterilize the relevant quantity of monetary stock.

Sterilization tools. Nowadays, the main tool for the implementation of the monetary policy is the interest rate. It is determined by the central bank, which is obliged to provide liquidity to the system at already specified price. The growth of the quantity of money in circulation, which is incompatible with the specified interest rate, should be withdrawn (sterilized) from the market in order to not create excessive supply and „press" the interest rate under the level adopted by the monetary authorities. The neutralization operations are carried out by the central bank with the help of foreign currencies interventions. The following tools are used for that purpose:

- reserves of commercial banks
- deposits of commercial banks
- government deposits, adopting sometimes the form of enforced transfers by the public institutions to the central bank
- central bank bonds.

Each of the mentioned tools has its advantages and inconveniences. Depending on the pursued goals, the currency exchange rate regime in the country and the economic cycle phase, the central banks resort to the use of one or a combination of more tools. The main tool is the required reserves, but we should mention that this measure is very powerful – even small changes in the required reserves percentage leads to serious deviations in the money multiplier. This tool acts as a tax on the bank deposits and reduces the relationship credits/deposits. For the period 2001 – 2010 among the Asian economies, China and India used most often the required reserves to withdraw the additional liquidity. As a percentage of the total amounts of assets, the reserves in China in 2001 were 56.5% and in 2010 – 55.9%, while in India this relation amounted to 20.5% and 22.5% [3, 82]. Researches show that the increase of the required reserves percentage is a serious load for the banks assessed at 0.3% of GNP. It is considered that this measure may „shift" the financial intermediaries from the regulated to the unregulated sector, which shall create additional problems for the monetary authorities [1, 7]. Usually the authorities undertake aggressive policy through the required reserves, when the level of the credit for the private sector is growing too fats and the economy is threatened by overheating.

The other widely used tool is accumulating commercial banks' deposits in the central bank. When the credit intermediation is expanding, it is quite natural also the reserves of the banking system in the central bank to grow. In case of necessity, the monetary authorities increase the interest rates for the surplus reserves until they accumulate the needed amount of money. The observations show that a number of central banks look at this instrument as obsolete and shift their preferences to the so called market orientated approaches [3, 86].

During the last years the monetary institutions of most Asian countries began to more often issue their own debt instruments. It is considered that this tool is too powerful and efficient and they resort to it in the cases when the quantity of the government securities is not sufficient for the realization of the set forth objective. On the other hand, however, the issuance of own bonds may have impact on the credit capacity and the propensity of the banking system to grant credits, reducing the investments for the private sector. The logic is as follows: purchasing the bonds issued by the central bank, the commercial banks transform their balance sheets, where the monetary resources decrease and the investments in securities increase. Thus, the banks achieve comparatively well and risk free yield without exerting much effort. A recent research shows that in some Asian economies the reverse correlation is observed between the growth of the foreign reserves and the growth of the bank credit [5, 122].

Selection of tools. The selection of tool for the sterilization of the monetary stock depends to a great extent on the relative expenses accompanying the operation and the peculiarities of the financial system. The expenses on the first three tools are related to the interest accrued by the central bank on the reserves of the commercial banks or on the deposits, and on the issued debt securities they are approximated to the yield. The condition of the economy is of vital importance, since this can increase or lower the expenses of the central bank on sterilization. For example, if the budget deficit of a country is too big and the government decides to finance it through issuance of government debt, the yield on the government securities shall grow, which shall "pull" also the yield on the debt securities of the central bank. Although preferred tool, at those conditions the central bank may resort to an alternative tool, for example increase of the required reserves percentage, because it will pay less.

The researches in this field show mixed results. For example, during most of the time since 2004 the percentage of consideration for the required reserves in China was under the yield on the one-year securities issued by the central bank, which justifies its use as a main instrument of absorbing liquidity [5, 123-126]. In Indonesia the picture is the same. When in 2006 the expenses on the issuance of bonds dropped, the central bank increased in quantity the new issues, ground in pure economic terms the usage of this tool before the others. If we have a look at another one of the fast developing countries and claiming regional economic influence, we shall see that the picture is more different. The issuance policy of the central bank of Malaysia at a certain moment coincides with the change of yield, i.e. when the yield on the securities grows the bank is increasing the issues. This is explained with the fact that in Malaysia no interest is accrued on the required reserves, so that each change of the relative expenses ensues solely from the fluctuation of the yield on the central bank's securities.

Conclusion. Although much criticized, the central banks continue to occupy their undisputed place in the contemporary financial system. The crises at the end of the last century and at the beginning of the current confirm this thesis. Although this assertion is contradicting to the modern theory of the Austrian economic school, the events of the last years confirm the role of the central bank and the necessity of the purposeful monetary policy implemented by it, because it is clearly seen that the market alone could not deal with such large-scale recessions or, if it could, it is not known for how long and at what price.

In view of the depicted circumstances, the central banks continue to enrich their palette of tools for the purpose of more efficient and more precise management of the monetary stock. The maintenance of large foreign currency reserves (assets of the central bank) inevitably imposes well structured liabilities. The usage of market sterilization tools, such as the debt securities issued by the central banks, are expected to have less destructive impacts in the long run compared to the required reserves. In this dynamic environment, the studying of the influence of the central bank's balance sheet on the financial markets and the real economy remains an issue of peculiar actuality as for the professional, as well as for the academic circles.

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Стаття надійшла до редакції 13.03.2013