Palestine Economic Policy Research Institute

Monetary Policy in the Absence of a National Currency and Under Currency Board in West Bank and Gaza Strip

" Discussion Paper "

By :
Osama Hamed

September 2000

Palestine Economic Policy Research Institute

Monetary Policy in the Absence of a National Currency and Under Currency Boardin West Bank and Gaza Strip

"Disscussion Paper"

By

Osama Hamed

September 2000

The Palestine Economic Policy Research Institute (MAS) was founded in 1994 as an independent, non-profit institution to address the socio-economic policy making process through appropriate and relevant applied economic and social policy research.

MAS MISSIONS:

- ✧ Identifying developmental challenges and priorities and enhancing applied research.
- ✧ Promoting participation of civil society institutions in socio-economic policy formulation and decision-making.
- ✧ Providing technical support to PNA bodies to enable them to function more effectively.
- ✧ Broadening public debate on socio-economic issues and ensuring oversight of government performance.
- ✧ Disseminating information and enhancing transparency.
- ✧ Strengthening economic policy research capacity in Palestine.

P.O. Box 19111, Jerusalem and P.O. Box 2426, Ramallah
Tel: ++972-2-2987053/4, Fax: ++972-2-2987055,
e-mail: mas@planet.edu / Website: www.palecon.org

Palestine Economic Policy Research Institute

Monetary Policy in the Absence of a National Currency and Under Currency Boardin West Bank and Gaza Strip

"Disscussion Paper"

By

Osama Hamed

September 2000

Monetary Policy in the Absence of a National Currency and Under Currency Board in West Bank and Gaza Strip

Prepared by: Osama Hamed: Non Resident Research Fellow, MAS

Editorial Assistants: Karen Mann (English)
Translated to Arabic by: Samer Mahmoud

Layout Lina Abdallah

Palestine Economic Policy Research Institute (MAS)
Jerusalem and Ramallah
September, 2000

Foreword

Since its inception, MAS has accorded particular importance to fiscal and monetary policies. It has conducted a number of research papers (both published and unpublished) that were of great assistance to Palestinian policy makers during the initial establishment of Palestinian National Authority institutions.

Given the absence of a Palestinian currency, special attention has been directed to the alternative monetary policies available in this environment, plus the conditions required for the successful issuance of a national currency. Technical assistance is required to contribute and enrich the public debate on these issues and to enhance the capacity of policy makers to take appropriate decisions.

This paper by non-resident researcher Dr. Osama Hamed was originally planned three years ago as it is related to the transitional period, which is now coming to an end. Nevertheless, as it still remains relevant to the current situation, MAS has decided to publish it as a discussion paper. The need for the successful issue of a Palestinian currency is intensified by the prospect of sovereignty and technical assistance is as crucial as ever. MAS intends to invite specialized researchers to conduct analytical, in-depth studies on this important topic to enhance Palestinian national capacity to formulate appropriate policies and decisions.

As Director of MAS, I would like to take this opportunity to express my deep appreciation and thanks to Dr. Osama Hamed and also to the MAS technical and administrative team for their support.

I also extend my thanks and gratitude to TATF/ PECDAR for funding this publication.

Ghania Malhis
Director

Table of Contents

List of Tables

List of Figures

1. Introduction

The West Bank and Gaza Strip (WBGS) does not currently have a national currency because of political and economic constraints. While the currency arrangement in the WBGS once a Palestinian currency becomes feasible is beyond the scope of this paper, it is reasonable to assume that a Palestinian currency will be issued under a currency board arrangement, at least in the first few years. As long as the WBGS does not have a national currency or its currency is issued under a currency board arrangement, WBGS policy makers will not have the power to create money. The purpose of this paper is to investigate the need and the feasibility of monetary policy in the WBGS in this environment, given the continued expansion of the WBGS banking system and the vulnerability of the WBGS economy to external shocks.

In the absence of the power to create money, the ability of WBGS policy makers to influence domestic money supply will be contingent on the availability of foreign reserves, which are expected to be scarce. This paper argues, therefore, that monetary policy should be narrowly focused and rules-driven. It should focus on reducing money supply fluctuations caused by external shocks and on maintaining the stability of the banking system.

Section 2 of the paper discusses the demand and supply of money and the implication of a disequilibrium in the money market on economic growth. Section 3 investigates the vulnerability of developing countries in general and the WBGS to external shocks. It also explores possible adjustment mechanisms to external shocks and the conditions that justify sterilizing such shocks. Section 4 discusses monetary policy under different currency arrangements. Section 5 investigates the need and the feasibility of monetary policy in the WBGS in the absence of a Palestinian currency as well as under a Palestinian currency issued by a currency board. Section 6 discusses the need for lender of last resort support in the WBGS and the feasibility of providing such support in the absence of a Palestinian currency as well as under a Palestinian currency issued by a currency board.

2. Money and Economic Growth

2.1 Money Supply

The most widely used money supply measurement in recent years, particularly in developing countries, has been M2. This money supply measurement includes currency in circulation, customer deposits at commercial banks and other depository institutions, travelers' checks, and overnight repurchase agreements. In the WBGS, M2 consists of currency in circulation and bank deposits since repurchase agreements are non-existent, travelers' checks are rarely used, and no depository institutions other than commercial banks are in operation.[1]

Table 1: The Shares of the Three Circulating Currencies in Total WBGS Cash Purchases of Selected Big Ticket Items

	NIS purchases as % of cash transactions	JD payments as % of cash transactions	$ payments as % of cash transactions
Automobiles	50.4	47.1	2.5
Rent payments	26.0	67.0	7.0
Electrical appliances	85.3	12.8	1.9
Furniture	80.9	16.8	2.3

Source: based on a WBGS random survey conducted by MAS in June 1996.

The WBGS does not currently have its own currency. The main currencies in circulation are the new Israeli shekel (NIS), the Jordanian dinar (JD), and the US dollar (dollar). The NIS is the main medium of exchange in the WBGS. The NIS is used in almost all cash payments for non-durable goods and a substantial share of purchases of durable goods (Table 1). The dollar is the main store of value in the Gaza Strip and is used for large purchases and long term contracts. Both the dollar and the JD are used as a store of value in the West Bank and the currencies compete for use in large purchases and long-term contracts.

[1] There are broader measurements that include additional assets. A narrower definition, known as M1, includes only currency in circulation, travelers' checks and checking accounts at depository institutions.

At the end of June 1998, the value of total deposits in the WBGS banking system was $2.2 billion. The shares of the NIS, the JD and the dollar in this total were 15.9%, 34.4%, and 48.5% respectively. No reliable data are available about the value of currency in circulation.

2.2 Money Demand

The main motives for money demand are for transaction purposes, precautionary needs, and speculation. Transaction demand for money is associated with the function of money as a medium of exchange. Hence, it is determined by the value of total transactions in the economy, which is in turn a positive function of income. Precautionary demand involves using money as a cushion to take advantage of unexpected economic opportunities or to pay for expenses incurred during emergencies. This demand varies positively with the degree of uncertainty. Speculative demand for money refers to holding money temporarily to avoid capital losses on alternative financial assets, such as bonds and stocks. Since monetary assets either earn zero interest or interest rates that are substantially lower than rates earned on alternative financial assets, this type of money demand is inversely related to market interest rates.

As in other developing countries, speculative demand for money in the WBGS is not significant because of the limited availability of alternative financial instruments. In contrast, precautionary demand for money in the WBGS is relatively large due to the high degree of uncertainty, both economic and political. Therefore, total demand for money in the WBGS is relatively high in comparison with countries at a comparable level of development.

2.3 Money Market Equilibrium and Economic Growth

To maintain economic stability, the rate of growth of a country's money supply should be in line with money demand. The main sources of change in money demand are economic growth and monetization. Economic growth raises total spending, which in turns results in higher transaction demand for money. It also increases national wealth, resulting in higher precautionary and speculative demand for money. An increase in the degree of monetization increases transaction demand for money.

If money supply increases at a faster rate than money demand, it will lead to inflation. However, in the short run, the resulting inflation rate may not be proportional to excess money supply, leading to a temporary increase in real GDP. As time goes on, the rate of inflation accelerates and the output effect of the monetary expansion dissipates.

If money supply does not increase as fast as money demand and prices are perfectly flexible, deflation re-establishes equilibrium in the money market without a decrease in real GDP. However, prices and wages tend to be downward inflexible. In view of price and wage inflexibility, excess money demand usually results in output contraction, at least in the short run.

3. Vulnerability to External Shocks

3.1 Sources of External Shocks in Developing Countries

External shocks are transmitted to the domestic economy either through the current account or the capital account of the balance of payments. Current account shocks are caused mainly by changes in terms of trade, defined as the ratio between the average price of exports and the average price of imports. Capital account shocks are usually triggered by changes in international interest rates.

Any deterioration in the terms of trade reduces the volume of imports that can be bought with the country's exports. If the country's balance of payments was in balance before the terms of trade shock, maintaining the same volume of imports after the shock will result in a current account deficit. To keep the balance of payments in balance, a deficit will have to be offset by capital inflows. Otherwise, it will have to be financed by foreign reserves or by borrowing abroad. By the same token, an improvement in the terms of trade may result in an increase in foreign reserves or a decrease in the country's foreign debt. A terms of trade shock in a developing country may be caused by factors particular to the raw materials exported by it, such as the impact of weather. It may also be caused by economic slowdown in industrialized countries. The vulnerability of the terms of trade of developing countries to changes in economic conditions in industrialized countries can be explained by the tendency of the prices of manufactured goods, which account for most of their imports to be more sticky than prices of raw materials, which dominate their exports.

Other things being equal, higher international interest rates result in capital outflows. Higher interest rates also increase the interest payment on the country's foreign debt. The impact of international interest rates on the foreign debt interest payment depends on the structure of the debt. Generally, it is more serious for fixed interest rate debt than for floating rate debt, and for the former, it varies inversely with maturity.

3.2 Adjustment to External Shocks

An unfavorable balance of payments reduces a country's disposable income. If a shock results in a balance of payments deficit, total expenditures become larger than national income. To re-establish its external balance, the country needs ultimately to adjust its expenditures to bring them in line with its income. Such adjustment can be either through expenditure reduction or expenditure switching.

Expenditure reduction can take the form of fiscal contraction and/or monetary contraction. Fiscal contraction reduces expenditures either through a decrease in government spending or a reduction in private consumption induced by a tax increase. Monetary contraction lowers expenditures by increasing domestic interest rates, which in turn decrease private investment.[2] Expenditure switching can be accomplished either through a real devaluation of the domestic currency or through administrative controls, such as foreign exchange restrictions and import controls.

Expenditure reduction re-establishes the country's external balance by reducing imports. The import reduction is achieved by decreasing aggregate demand, which reduces demand for imports as well as for locally made goods. This may result in excess production capacity and an increase in unemployment. In contrast, capital switching policies re-establish the external balance by increasing exports and by inducing a shift in domestic demand in favor of locally made goods, which in turn decreases imports. Currency devaluation achieves this result by reducing the relative prices of all exports and increasing them for all imports, leaving specific adjustments to the market agent. Administrative controls, on the other hand, focus on restricting imports deemed non-essential.

Economic adjustment to external shocks may require major structural changes in the economy. Adjusting to an unfavorable shock may require shifting resources from the non-tradable sector to the tradable sector, which in turn requires increasing the prices of tradables relative to non-tradables. Once the shift in resources takes place, it is usually costly or impossible to reverse. Hence, economic adjustment should be avoided if the shock is clearly of a temporary nature. In contrast, if there is strong evidence that the shock is permanent, the adjustment should be made to bring the structure of production and relative prices in the country in line

[2] Expenditure reduction through monetary contraction tends to have a negative effect on long-term growth.

with the post-shock economic reality. However, the adjustment to permanent shocks does not have to be immediate. If it is made too rapidly, it may result in bottlenecks and expensive mistakes. It may also lead to resource misallocation due to price overshooting. Additionally, a more gradual adjustment provides policy makers with a chance to re-evaluate the permanency of the shock and to change course if new evidence shows that the shock is not permanent.

3.3 Sterilization of External Shocks.

Adjustment to an external shock can be postponed or avoided altogether through sterilization, if the shock is perceived to be temporary. External shocks can be sterilized by using either fiscal or monetary instruments. In Kenya and the Ivory Coast, external shocks caused by fluctuations in the price of coffee, which account for most of their exports, have been sterilized by adjusting export prices (Page 1993). In Taiwan and Malaysia, external shocks caused by capital inflows have been sterilized by requiring commercial banks to purchase certificates of deposits issued by the central bank, and by shifting the assets of government controlled pension funds from commercial banks to the central bank.

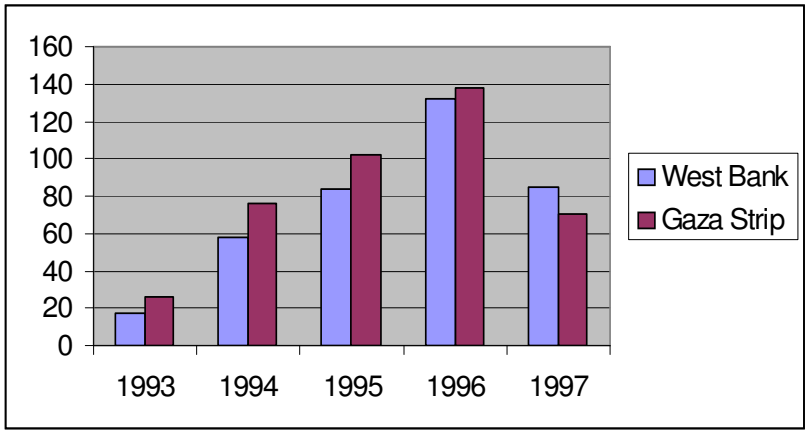
To avoid adjustment to temporary shocks and adjust gradually to permanent shocks, policy makers should take advantage of favorable external shocks to accumulate foreign reserves as a cushion against unfavorable shocks. Unnecessary adjustment can also be avoided if the country has access to foreign borrowing. A possible source of loans to finance a temporary external shock is the International Monetary Fund (IMF) compensatory financing facility, a lending program available to countries that face a temporary fall in commodity prices on the international market. Other sources of loans include the World Bank, the IMF conditional lending facilities, concessional loans provided by foreign governments, and private lenders in international financial markets.

3.4 WBGS Vulnerability to External Shocks

The WBGS economy is highly vulnerable to external shocks. The main sources of these shocks are border closures imposed by Israel, fluctuations in the demand for WBGS workers in Israel, changes in the exchange rates of the currencies circulating in the WBGS, and monetary shocks originating in Israel and Jordan.

3.4.1 Border Closures

Figure 1: Number of Closure Days: 1993-1997



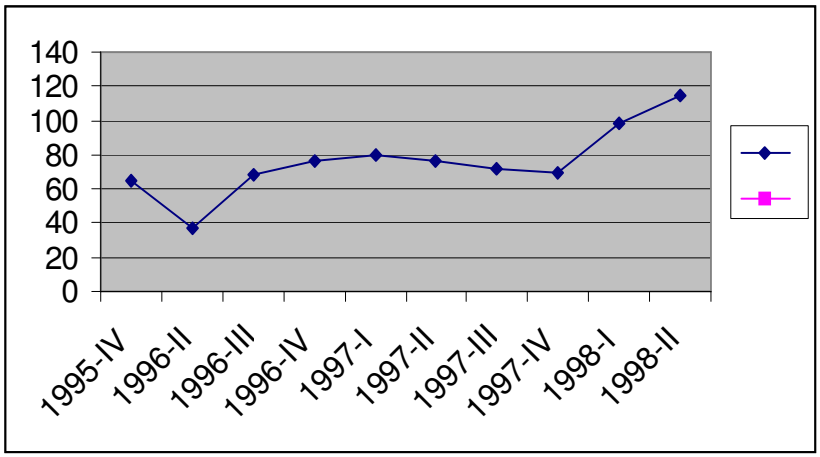
Border closures represent a major source of instability for WBGS money supply and economic growth. While Israel first imposed border closures in 1991 during the Gulf war, their frequency and intensity increased substantially in the post-Oslo period (Figure 1). A border closure prohibits the movement of people and goods between the WBGS and Israel and may close the crossing points between the WBGS and both Jordan and Egypt. A border closure may also be accompanied by an internal closure that prevents the movement of goods and people between communities within the West Bank.

An internal closure brings economic activity in the WBGS to a virtual standstill. While the economic effects of a border closure are not as devastating, they are still enormous. The short run economic effects include lost earnings by WBGS workers in Israel and the disruption of WBGS exports. Its long-term effects include increased uncertainty, which reduces investment and makes it very difficult for WBGS firms to compete in foreign markets.

3.4.2 Demand for WBGS Labor in Israel

Employment in Israel absorbed a substantial share of the WBGS labor force and the income earned by WBGS workers in Israel was one of the main sources of economic growth during the occupation. By 1992, the number of WBGS workers in Israel was 116 thousand, accounting for 34.6% of the WBGS labor force.

Figure 2: Number of WBGS Workers in Israel: 1995-1998 (in thousands).



The number of WBGS workers in Israel fell sharply following the establishment of the PNA in 1994. By the second quarter of 1996, it was down to 37 thousand but later increased again to 115 thousand by the second quarter of 1998 (Figure 2).

WBGS workers in Israel are concentrated in the construction sector, which is highly cyclical. In addition, the employment of WBGS workers in Israel has been frequently disrupted in recent years by Israeli border closures preventing them from reaching their jobs (Section 2.4.1). As a result, the income earned by WBGS workers in Israel is highly variable. This is very disruptive to the WBGS economy as it causes fluctuations in the national income and inflation rate, hence increasing economic uncertainty. This in turn inhibits private investment and decreases economic growth.

3.4.3 Monetary Policy Shocks

In general, if two countries, let us say X and Y, have significant trade relations and capital is allowed to move freely between them, a monetary expansion in one of them is transmitted to the other through the current account and the capital account of the balance of p. If monetary expansion in X results in higher output in X, it increases X's imports from Y, resulting in an output rise in Y and an improvement of Y's current account. The monetary expansion also puts downward pressure on market interest rates in X, leading to capital outflow from X to Y and resulting in an improvement in the capital account of Y.

The main sources of monetary policy shocks to the WBGS economy are Jordan and Israel. Trade relations between the WBGS and Jordan are very limited at the present time because of Israeli constraints. Capital mobility between them, on the other hand, is more or less free. Hence, a change in Jordanian money supply can be expected to be transmitted to the WBGS mainly through the capital account. In contrast, capital flows between the WBGS and Israel are negligible. Israel currently accounts for most of WBGS exports and imports and employs a large number of WBGS workers. Therefore, Israeli monetary shocks are channeled to the WBGS economy mainly through the current account.

A contraction of Jordanian money supply increases JD interest rates in both Jordan and the WBGS. An increase in JD interest rates may prompt WBGS depositors to shift funds from their dollar and NIS accounts to JD accounts, increasing the share of JD-denominated deposits in WBGS bank deposits. At the same time, higher JD interest rates may decrease demand for JD denominated loans, lowering total loans extended by the WBGS banking system. Furthermore, a decrease in Jordanian money supply may prompt branches of Jordanian banks in the WBGS to decrease lending to their relatively new customers in the WBGS to accommodate more established customers in Jordan. The tendency of commercial banks to discriminate against new customers under tight monetary conditions, known as credit rationing, is well documented in economic literature. While evidence of credit rationing has been based so far on banks operating in one country, there is no reason to expect a bank that operates in more than one country to behave differently. By the same token, a monetary expansion in Jordan lowers JD interest rates, decreasing bank lending and money supply in the WBGS.

A contraction of Israeli money supply decreases Israeli GDP, at least in the short run. This reduces demand for WBGS labor in Israel and for WBGS goods, thereby decreasing the WBGS money supply. Lower Israeli money supply also puts upward pressure on NIS interest rates, which may result in a decrease in NIS denominated loans in the WBGS. Similarly, Israeli monetary expansion increases WBGS money supply by expanding NIS lending and increasing Israeli demand for WBGS labor and goods.

3.4.4 Foreign Exchange Shocks

The main sources of foreign exchange shocks in the WBGS are the NIS and the JD. Following several years of double digit depreciation rates in the 1970s and 1980s due to high inflation rates, the NIS was relatively stable after 1985, when an Israeli government stabilization program resulted in a sharp decrease in the Israeli inflation rate, and hence the NIS depreciation rate. This relative stability continued until 1998, when the NIS depreciated by more than 18%. The JD exchange rate was more or less fixed against the dollar after 1988-89, when it lost more than half of its value against the dollar. However, the JD came under pressure again following the death of King Hussein.

The JD is used in the WBGS mainly as a store of value. Therefore, the main effect of JD depreciation on the WBGS economy is the decrease in purchasing power of WBGS savings held as JD cash or in JD denominated bank accounts. The economic impact of NIS depreciation is much more serious because Israel dominates WBGS foreign trade and the NIS is the main medium of exchange in the WBGS. Like JD depreciation, NIS depreciation decreases the purchasing power of WBGS savings. It also increases the WBGS inflation rate and reduces the real wages of WBGS workers in Israel, thus reducing WBGS aggregate demand and GDP.

4. Monetary Policy under Different Currency Arrangements

4.1 Central Bank and Currency Board

A central bank is a monetary authority that serves a broad range of functions. These include managing the country's money supply, issuing the national currency, acting as the central government's banker, serving as a lender of last resort for the domestic banking system, and regulating commercial banks. The central bank may operate under either a fixed or a flexible foreign exchange regime. Its main source of revenue is seigniorage; the revenue generated as a result of issuing a currency.

A fully-fledged central bank does not have to back its currency issue completely with foreign reserves. Hence, it has the power to create money. This enables it to adjust the size of domestic money supply in response to changes in economic conditions without being constrained by the availability of foreign reserves.

A currency board is a monetary authority with very limited power. Its main function is to issue the national currency. Unlike a fully-fledged central bank, a currency board is supposed to back its currency issue completely by foreign reserves. In other words, it cannot create money. The exchange rate of its currency is fixed in relation to a hard currency, referred to from now on as anchor currency, and the currency board stands ready to buy and sell its currency at the fixed rate. Optimally, the anchor currency is that of a major trading partner.

The currency board holds a certain portion of its reserves in anchor currency notes to satisfy domestic market demand for these notes. It invests the rest of the reserves in short-term securities denominated in the anchor currency. The interest income earned on these securities is the source of the currency board's seigniorage.

The first currency board was established in 1849 in Mauritius, a British colony at the time, at the initiative of the colonial authorities in response to a local financial crisis. However, by the end of the nineteenth century, the currency board was a standard feature in the economic arrangements between Britain and its colonies. At the same time, currency institutions that share many of the features of British colonial currency boards were established in French colonies. Later on, currency boards were set up in

American colonies (Panama and the Philippines) and in Italian colonies (Libya and Somalia). The seigniorage earned by the colonial currency board was usually transferred to the local colonial authority to be included in its budgets. The anchor currency of the colonial currency board was that of its colonial power and its reserves were held at the colonial power's central bank. Hence, the credibility and stability of the colony's currency was derived from the credibility and stability of the colonial power's central bank.

Most colonies dismantled their currency boards and replaced them with central banks when they became independent. By the end of the 1980s, currency boards were in operation only in Hong Kong, Singapore, and a few small islands such as the Falklands. Since that time, there has been a significant increase in the number of currency boards. In 1991, a currency board was established in Argentina as part of a policy package aimed at controlling inflation. Soon after, currency boards were set up in a number of Eastern European countries.

In its orthodox form, as implemented in most colonies, a currency board limits its activities to currency issue. It does not accept deposits from commercial banks or impose reserve requirements on them. It does not provide lender of last resort support to the domestic banking system. It does not accept deposits from the central government nor does it extend loans to the government. Last but not least, it does not conduct monetary policy. To ensure that the currency board sticks to its very limited mission and resists political pressures aimed at broadening it, orthodox currency boards advocate excluding government officials from the board of directors. Some advocates even argue for a majority of foreign nationals to be on the board of directors and for placing the currency board's assets abroad to keep them out of reach of the local political authorities (Hanke 1993).

Under an orthodox currency board, domestic money supply is determined by the balance of payments and the change in domestic lending. The impact of the balance of payments on domestic money supply is not sterilized. Hence, a balance of payments surplus results in an increase in money supply and a deficit in a decrease in money supply. If prices and wages are flexible, an increase in money supply resulting from a balance of payments surplus (deficit) raises (lowers) the overall price level in the country, which in turn eliminates the balance of payments surplus (deficit) by raising (lowering) imports and reducing (increasing) exports. In most countries, prices and wages are not fully flexible, especially downward.

Hence, if a balance of payments surplus deficit is allowed to reduce money supply, it will decrease real GDP, at least in the short run.

The orthodox form of currency board has been challenged in recent years. It has been argued that such a board may have been suitable for colonies with rudimentary financial systems but is too limiting to be practical for more modern economies. In fact, the currency boards set up in the last few years tend to have a broader mission. Many of them are authorized to serve as a lender of last resort and some have the power to conduct limited discretionary monetary policy. Allowing the currency board to serve as a lender of last resort is justified by the need to maintain the stability of the domestic banking system. Giving the currency board some discretionary power to conduct monetary policy is rationalized by the need to avoid economic adjustment to temporary external shocks. The ability of a currency board to serve as a lender of last resort and/or to conduct monetary policy is contingent on the availability of foreign reserves in excess of those needed to back its currency issue. In other words, if the currency board is to serve these two functions, it should set aside special reserves for these purposes.

4.2 Monetary Policy Instruments

The main instruments of monetary policy are open market operations, discount lending, and the required reserve ratio. These three monetary instruments do not influence money supply directly. They do so indirectly by changing either the high-powered money or the money multiplier, where money supply equals high-powered money times the money multiplier. High-powered money consists of the sum of currency in circulation and bank reserves at the monetary authorities. The multiplier is a function of the required reserve ratio, the currency deposit ratio, and the average maturity of bank deposits.

Open market operations involve the purchase and sale of securities by the monetary authorities. A security purchase (sale) increases (decreases) bank reserves, which in turn increases (decreases) money supply. Discount lending refers to loans obtained by commercial loans from the monetary authorities. Increasing (decreasing) discount lending increases (decreases) bank reserves and money supply. Required reserves limit the capacity of commercial banks to create deposits, and hence make loans. Lowering (raising) the required reserve ratio increases (decreases) the money multiplier, which in turn increases (decreases) money supply.

In view of its ability to create money, a fully-fledged central bank can use any of the monetary instruments defined above to increase or decrease money supply without having to worry about the size of its foreign reserves. However, maintaining price and foreign exchange stability require it to keep the rate of growth of money supply in line with money demand.

The monetary authority in a country that has no national currency or has a currency issued under a currency board arrangement does not have the power to create money. Nevertheless, it can use any of the three monetary instruments available to a fully-fledged central bank to decrease money supply. It also has a limited power to increase money supply. Its ability to use open market operations and discount lending to expand money is constrained by the availability of foreign reserves, which in the case of a currency board should be in excess of those needed to back the board's currency issue. Its ability to expand money supply by using the reserve ratio, on the other hand, is not contingent on the availability of foreign reserves. However, to the extent that the monetary authority does not pay market interest on required reserves, lowering the reserve ratio to increase money supply will decrease the monetary authority's income and this should be taken into consideration before changing the reserve ratio.

Monetary policy has been used in recent years by the monetary authorities in a number of countries that operate under currency boards arrangements to correct day-to-day liquidity mismatches. In Hong Kong and Argentina, the monetary authorities have conducted open market operations to achieve this goal, using Treasury bills in the former and repurchase agreements along with reverse repurchase agreements in the latter (Balino 1997). In Lithuania, the main instrument of monetary policy has been the reserve ratio (Camard 1996).

5. Possible Monetary Policy Instruments in the WBGS

5.1 Need and Feasibility

In the absence of a national currency, the WBGS money supply is determined by the WBGS balance of payments and the change in domestic bank credit. Without a national currency, the Palestinian Monetary Authority's (PMA) ability to influence domestic money supply is contingent on the availability of foreign reserves. While establishing a currency board would help the WBGS to reclaim its seigniorage, it will not in itself increase PMA control over WBGS money supply since this would require the PMA to accumulate foreign reserves. Those reserves would have to be in excess of the reserves needed to back the national currency issue.

While colonial currency boards had no monetary policy discretion, most currency boards currently in operation have some discretionary power to engage in monetary policy. This is justified by the need to accommodate economic growth and to sterilize undesirable external shocks.

Monetary policy discretion in the WBGS cannot easily be justified on economic grounds. The lack of monetary discretion becomes a constraint to economic growth only if growth is driven by internal demand and/or financed by local resources. In the WBGS, economic growth in the last three decades has been financed mainly by external resources and this is not expected to change in the near future. During the period of occupation, WBGS economic growth was financed mainly by the income earned by WBGS workers in Israel. With the decline in the earnings of these workers in the post-Oslo period, the flow of funds from donors injected sufficient liquidity into the WBGS economy to accommodate economic growth, which has been inhibited by political uncertainty rather than by insufficient liquidity. While the WBGS economic growth rate may increase substantially once a permanent political settlement is reached, growth is expected to be financed mainly by Diaspora Palestinians and increased lending by the domestic banking system. This makes it unlikely for the lack of monetary discretion to constrain growth. Increased bank lending can inject $2 billion into the WBGS economy, assuming that the WBGS loan-deposit ratio reaches the 80% level of neighboring countries (MAS - Hamed 1996). Substantial investment funds

can also be attracted to the WBGS economy from Diaspora Palestinians if appropriate measures are taken. The main source of Diaspora investment in the post-permanent settlement period is expected to be from Palestinians in the Gulf, who have accumulated substantial financial assets over the last forty years.

While the need to accommodate economic growth cannot justify monetary policy discretion in the WBGS, a strong argument for limited monetary discretion can be made based on WBGS vulnerability to external shocks (Section 2.4). The vulnerability of the WBGS economy to external shocks is too high and the frequency of these shocks, particularly border closures, is difficult to predict for monetary policy to sterilize them completely. Additionally, most traditional monetary instruments are not effective in the current WBGS economic environment (Section 4.2). Finally, in the absence of a national currency as well as under a currency board, the ability of the PMA to influence WBGS money supply is constrained by the scarcity of foreign reserves. Hence, monetary policy in the WBGS in the foreseeable future should be targeted and rule-driven. It should target shocks directly either through an automatic stabilizer or well-defined rules. The remainder of this section presents two instruments that fit this criterion. The first, an unemployment insurance program, targets the variability of the income of WBGS workers in Israel. The second targets Jordanian monetary policy shocks by subjecting WBGS bank deposits used to acquire foreign assets to a lower reserve ratio and changing this ratio in response to changes in Jordanian monetary policy. The two instruments are designed in ways that do not leave a great deal of discretion to policy makers, thus minimizing technical errors and political manipulation. Finally, the two instruments are not costly to implement.

5.2 Ineffectiveness of Traditional Stabilization Instruments

Traditional fiscal stabilization tools are not viable in the present WBGS economic environment. The Paris Protocol governing economic relations between the WBGS and Israel in the transitional period stipulates that WBGS value added tax, which accounts for most tax revenues in the WBGS, should be set at the same level or at most 2 points lower than that of Israel. The Paris Protocol also requires the Palestinian Authority (PNA) to adhere to the Israeli customs regime, except for a limited number of goods listed by the Protocol. As regards expenditure, there are still no

clear priorities to govern the annual budget. In addition, the relationship between the Ministry of Finance and other government agencies is yet to be defined and the public sector is under enormous political pressure to absorb employees.

Traditional monetary instruments are not effective in the present economic environment in the WBGS. The financial resources of the PMA are too limited for discount lending to be a viable monetary policy instrument. Open market operations are also not viable as a monetary instrument in the present environment. Government securities, the traditional vehicle of open market operations, are currently non-existent and none are expected to be issued in the near future because of PNA fiscal conditions. The PMA can use reserve requirement as a monetary instrument, subject to a Paris Protocol constraint that requires the reserve ratio on WBGS NIS bank deposits to be at least as high as prevailing ratios in comparable deposits in Israel. However, the PMA cannot raise the required reserve ratio significantly above that prevailing on comparable deposits in Jordan and Israel without risking a deposit flight from the domestic banking system.

5.3 Unemployment Insurance for WBGS Workers in Israel

The income earned by WBGS workers in Israel was shown in section 2.4.1 to be a major source of instability for the WBGS money supply. A significant decrease in the dependence of the WBGS economy on income earned by WBGS workers in Israel requires a substantial increase in the job creation capacity of the domestic economy. This requires major structural changes in the WBGS that are highly unlikely at the present time because of political and economic uncertainties. Moreover, even when such structural changes become feasible, they will take time. Hence, work in Israel will continue to be an important source of shocks for the WBGS economy in the foreseeable future.

A possible mechanism for reducing this vulnerability is an unemployment insurance program (UIP) for these workers. The UIP would serve as an automatic stabilizer for WBGS money supply, provided that its premiums are invested in foreign assets. Whenever the demand for WBGS labor in Israel is above normal, UIP premiums would exceed its insurance payments. This would result in a net withdrawal of liquidity from the

WBGS economy and the accumulation of UIP foreign assets. When demand is below normal, UIP insurance payments would be higher than its premiums, forcing the UIP to liquidate foreign assets and inject liquidity into the domestic economy.

To minimize administrative costs, the UIP should be made mandatory only for workers with Israeli permits and arrangements should be made with the Israeli authorities to deduct insurance premiums from these workers' paychecks. Coverage for workers without permits should be made voluntary. In the absence of a Palestinian currency, the UIP may invest the insurance premiums directly. Under a currency board arrangement, the investment of UIP premiums should be made by the banking department of the currency board, which would hold responsibility for all foreign reserves in excess of those needed for backing the national currency.

5.4 Dual Reserve Requirement

The WBGS is highly vulnerable to monetary policy shocks originating in Jordan and Israel. It is hard to think of possible policy instruments to enable WBGS policy makers to respond effectively to Israeli monetary shocks, which are transmitted to the WBGS economy though the current account due to dependence on WBGS workers in Israel as a source of income and Israeli dominance of Palestinian foreign trade. In contrast, it is feasible to reduce the vulnerability of the WBGS economy to Jordanian monetary shocks, which are transmitted through the capital account.

In view of limited domestic lending by the WBGS banking system, an earlier MAS study called for subjecting bank deposits used for lending in the WBGS to a lower required reserve ratio than those used to acquire foreign assets (MAS - Hamed 1996). The study argued that this policy would discourage the acquisition of foreign assets by WBGS banks and provide foreign banks with an incentive to commit funds for fixed investments in risk assessment systems, which are essential for a substantial expansion of lending in the WBGS. The same mechanism can also be used to mitigate the impact of Jordanian monetary shocks on the WBGS economy. This can be accomplished by increasing the difference between the required reserve ratio on Jordanian denominated deposits following undesirable monetary tightening in Jordan and decreasing it when Jordan pursues an expansionary monetary policy that is incompatible with prevailing economic conditions in the WBGS.

An increase in the reserve ratio differential raises the opportunity cost of acquiring Jordanian assets by WBGS banks, making it less likely for banks operating in both Jordan and the WBGS to ration credit in the WBGS as a way of reducing the impact of Jordanian credit rationing on more established customers in Jordan. The increase in the credit differential also softens the impact of Jordanian credit rationing on WBGS lending rates, thus reducing the decrease in credit demand resulting from Jordanian monetary contraction. Under a Palestinian currency board arrangement, an increase in the reserve differential also reduces the degree of currency substitution from the Palestinian currency to the JD. This also reduces the vulnerability of the Palestinian currency to Jordanian monetary shocks and makes it more likely for WBGS banks to extend loans denominated in the Palestinian currency.

6. Bank Stability and the Need for a Lender of Last Resort

6.1 Lender of Last Resort Support under Alternative Currency Arrangements

The lender of last resort refers to the function of the monetary authority as a provider of loans to commercial banks when nobody else is willing to do so. The lender of last resort function is essential for stabilizing the banking system during a bank run, when commercial banks face unexpectedly high deposit withdrawals caused by loss of confidence in the banking system due to major bank failures or political uncertainty. In such an environment, the lender of last resort provides the banking system with liquidity to prevent the failure of otherwise healthy banks.

While lender of last resort support is important to bank stability regardless of currency arrangements, the need for such support is particularly strong under a currency board arrangement (Caprio 1996). Under a currency board, the interest rates on deposits denominated in local currency may be higher than comparable deposits denominated in the anchor currency. The interest rate differential between the two types of deposits is a positive function of the market perception of policy makers' commitment to the fixed foreign exchange rate between the local currency and the anchor currency. Aware that the average maturity of commercial bank assets tends to be higher than the average maturity of its liabilities, a widening of this interest rate differential exposes the domestic banking system to financial losses. It may also result in a significant increase in the withdrawal of deposits denominated in the domestic currency. Under perfect information, these problems will be limited to weaker banks that do not have sufficient foreign reserves to exchange their deposits for cash. Under the more realistic condition of information asymmetry, deposit withdrawals will spread to otherwise sound banks. In such an environment, maintaining bank stability and a unified foreign exchange system for the domestic currency will require the injection of substantial liquidity by a lender of last resort. Otherwise, commercial banks may have to suspend the conversion to cash. At best, the suspension will make the deposits of these banks trade at a discount with respect to cash. Alternatively, it may result in the loss of public confidence in the banking system and the national currency.

Given the importance of the lender of last resort function to the stability of the domestic banking system, some advocates of orthodox currency boards opposed to such support call for subjecting commercial banks operating under a currency board arrangement to 100% reserve requirement (Hanke 1997). This ends bank lending, thus eliminating the role of banks as financial intermediaries and their power to create money. While ending bank lending ensures the convertibility of the local currency, it also deprives the domestic economy of one of its main sources of investment funds. This is particularly a problem in a developing country where the bond market, the stock market, and non-bank financial intermediaries, which provide alternative sources of investment funds in industrialized countries, are either weak or non-existent.

A fully-fledged central bank has an unlimited lending capacity to serve as a lender of last resort because of the central bank's power to create money. In contrast, a monetary authority in a country that has no currency or issues a currency under a currency board arrangement can provide lender of last resort only if it has sufficient foreign reserves. In the currency board case, foreign reserves have to be in excess of those needed to back the national currency issue.

6.2 Lender of Last Resort Support in the WBGS

6.2.1 Lender of Last Resort Support During the Occupation

Soon after Israel occupied the West Bank and Gaza Strip in 1967, Israeli currency was made legal tender in both these areas. At the same time, Israel banned the circulation of other currencies in the Gaza Strip, while allowing the Jordanian dinar to circulate alongside Israeli currency in the West Bank. The Israeli currency seigniorage generated in the WBGS during the occupation was retained by Israel and not transferred to the WBGS budget administered by the occupation authorities, as was the case with seigniorage generated by the previous colonial currency boards.

Between 1967 and 1980, only Israeli banks were allowed to operate in the WBGS. Since these banks had access to lender of last resort support from the Bank of Israel, no special arrangements were needed to provide lender of last resort support to the WBGS banking system.

In 1980, the Bank of Palestine won an Israeli court battle to lift the freeze placed on its operations since 1967 and non-Israeli banks were allowed to operate in the WBGS. By the end of 1993, there were two non-Israeli banks with 13 bank branches in the WBGS. The two non-Israeli banks operating in the WBGS between 1980 and 1993 had no access to lender of last resort from the Bank of Israel. In fact, they were required to post at the door of each of their branches a sign informing their customers that the Bank of Israel did not bear any responsibility for the safety of their deposits.

Lending by non-Israeli banks in the WBGS in the 1980s and early 1990s was very limited. In addition, 8 of the 13 non-Israeli bank branches in operation during this period belonged to a Jordanian bank, the Cairo-Amman Bank, which had access to lender of last resort from the Central Bank of Jordan. The absence of a WBGS lender of last resort was therefore not critical to bank stability.

6.2.2 Lender of Last Resort Support under the Paris Protocol

The Paris Protocol governing economic relations between the WBGS and Israel in the transitional period requires the continued circulation of the Israeli currency, the NIS, in the WBGS. Nevertheless, the Protocol does not have a provision to reimburse the WBGS for the NIS seigniorage generated in the WBGS and does not require the Israeli central bank to serve as a lender of last resort for the WBGS banking system. These are both common features in a monetary arrangement between a dependent economy and a dominant economic partner. A case in point is the Rand Currency Zone (RCZ), which links South Africa with two small dependent economies, Lesotho and Swaziland. Under the RCZ, Lesotho and Swaziland are required to allow the circulation of the South African currency, the rand, in their countries. In return, South Africa reimburses these two countries for the rand seigniorage generated within their borders. In addition, the South African central bank is required to serve as a lender of last resort for Lesotho and Swaziland.

The PMA was created under the Paris Protocol and was given many of the functions of a central bank, including the responsibility to serve as a lender of last resort. However, it does not currently have the financial resources to provide lender of last resort support to the WBGS banking system. It

cannot create money, does not receive any of the seigniorage generated in the WBGS, and does not yet have a credit line in any of the currencies that circulate in the WBGS.

6.2.3 The Need for a Lender of Last Resort in the Present Environment

Bank penetration in the WBGS has increased substantially over the past five years. By the end of June 1998, 21 banks and 96 bank branches were in operation in the WBGS. Total deposits in the WBGS banking system jumped from $219 million at the end of 1993 to $2,237 million at the end of June 1998.

Table 2: Locally Chartered Banks in the WBGS Banking System

Year	Number of Banks		Number of Branches	
	Locally chartered	Foreign	Locally chartered	Foreign
1993	1	1	5	8
1994	2	5	9	25
1995	3	9	11	38
1996	4	12	20	51
1997	9	12	29	60
1998[a]	9	12	35	65

Source: The Palestinian Monetary Authority.
a: end of June figures.

Despite the enormous expansion of the WBGS banking system in the post-Oslo period, the lack of a lender of last resort has not yet represented a serious problem for the WBGS banking system. This is due to limited domestic lending and the dominant role played by foreign banks, which can count on their head offices and home central banks as a source of liquidity. Given the sharp increase in the number of locally chartered banks in the last two years and growing public sentiment against the limited credit offered by banks, the role of locally chartered banks in the WBGS banking system may increase substantially in the next few years (Table 2). Furthermore, bank lending is expected to increase substantially once a permanent political settlement is reached, and may increase before then because of mounting political pressure. In such an environment, the lack of an effective lender of last resort would become a worrisome source of instability for the WBGS banking system.

To serve as a lender of last resort in the absence of a national currency, the PMA needs to raise sufficient foreign reserves and/or obtain lines of credit in the three circulating currencies in the WBGS. Towards this end, the Bank of Israel should be pressed for a NIS credit line since the WBGS is required to make the NIS legal tender during the transitional period. A strong case can also be made for obtaining a JD line of credit from the Central Bank of Jordan because of the role played by Jordanian banks in the WBGS banking system. Efforts should also be made to obtain a dollar line of credit from international agencies.

In view of the limited financial resources under the current currency arrangement in the WBGS, access to the lender of last resort should be limited to locally chartered banks. In the absence of a national currency, the liquidity needs of foreign bank branches should be satisfied by their head offices and home central banks. This should be made clear in formal agreements between the PMA and the home central banks of the foreign branches operating in the WBGS. The scarcity of financial resources also calls for a strict bank regulatory regime to reduce the need for bank borrowing from the lender of last resort. The regulatory regime should apply equally to regular commercial banks as well as to Islamic banks. In other countries, Islamic banks tend to invest heavily in real estate and equity but this not acceptable in the current WBGS economic environment. The main features of such a regulatory regime can be summarized as follows.[3]

First, the capital ratio should be at least 8%, the ratio mandated by the Basel agreement on capital adequacy.

Second, a liquidity ratio of at least 35% to 40% should be imposed on bank assets denominated in each of the three circulating currencies.

Third, in view of the circulation of multiple currencies in the WBGS, strict limits should be placed on bank currency exposure.

Fourth, direct bank investment in equity and real estate should not be allowed.

Fifth, strict limits should be placed on lending to members of a bank's board and its management.

[3] For more information about bank regulation and supervision in the WBGS, see MAS -Hamed 1995.

6.2.4 Lender of Last Resort under a WBGS Currency Board

If the WBGS issues a national currency under a currency board, the domestic banking system's need for a lender of last resort increases significantly (Section 5.1). In view of the fact that a currency board cannot create money, the feasibility of having a lender of last resort in a country that operates under a currency board is contingent on the availability of sufficient foreign reserves in excess of those needed to back the domestic currency. Hence, if the WBGS issues a national currency under a currency board arrangement, commercial banks should not be allowed to extend loans denominated in the national currency until sufficient foreign reserves are accumulated to provide the banking system with a lender of last resort. This means that the deposits denominated in the national currency may have to be subjected to a 100% reserve requirement for a certain period of time. During this period, all bank lending will have to be denominated in foreign currencies and efforts should be made to encourage such lending, including reducing the reserve ratio on deposits used in domestic lending relative to those used to acquire foreign assets.

A possible source of foreign reserves that can be used to finance lender of last resort support is the seigniorage earned as a result of issuing a national currency. Other sources are financial assistance or loans from other countries or from international organizations, such as the IMF and the World Bank. Given the scarcity of foreign reserves, the bank regulatory regime should continue to be strict to reduce the need for the services of the lender of last resort. In addition, access to the WBGS lender of last resort should continue to be limited to locally chartered banks.

References

Arnon, A and Spivak, A. (1994). *Economic Pros and Cons of Introducing a Palestinian Currency*. Monaster Center for Economic Research, Ben-Gurion University.

Balino, Tomas and Enoch, Charles. (1997). *Currency Board Arrangements: Issues and Experience.* International Monetary Fund.

Bennet, Adam. (1993). The Operation of the Estonian Currency Board. *Staff Papers.* International Monetary Fund.

Camard, Wayne. (1996). Discretion with Rules: Lessons from the Currency Board Arrangement in Lithuania. *IMF Paper on Policy Analysis and Assessment.* International Monetary Fund.

Caprio, G., Dooley, M., Leipziger, D., and Walsh, C. (1996). The Lender of Last Resort Function under a Currency Board: The Case of Argentina. *Open Economies Review, vol. 7.*

Collynus, Charles. (1983). *Alternatives to the Central Bank in the Developing World*. Occasional Paper No. 20. International Monetary Fund.

Connolly, Michael. (1995). The Uses of a Currency Board: Argentina - April 1, 1991 to the Present. *Economic Notes, vol. 24* (3).

Gavin, Michael. Adjustment to a Terms of Trade Shock: Nigeria. In Dornbusch, Rudiger. (1988). *The Open Economy: Tools for Policy Makers in Less Developed Countries.* Economic Development Institute: World Bank.

Guma, X.P. (1985). The Rand Monetary Area Agreement. *South African Journal of Economics, vol. 53 (2).*

Hanke, Steve et al. (1993). *Russian Currency Board and Finance*. Routledge.

Hanke, Steve. (1997). Sound Money and Banking. In Pin Neo, Magie, ed. *Currency Board System: A Stop-Gap Measure or a Necessity? A Symposium.* Singapore Board of Commissioners for Currency Board.

Honhan, Patrick. (1992). Price and Monetary Conversion in Currency Unions: the Franc and the Rand Zone. *Journal of International Money and Finance, vol. 11 (4).*

Krugman, Paul. (1988). External Shocks and Domestic Policy Responses. In Dornbusch, Rudiger. *The Open Economy: Tools for Policy Makers in Less Developed Countries.* Economic Development Institute: World Bank.

Liviatan, Nisan. ed. (1993). *Proceedings of a Conference on Currency Substitution and Currency Boards.* World Bank Discussion Paper 207, World Bank.

MAS – Palestine Economic Policy Research Institute. *Economic Monitor*, various issues.

_____Hamed, Osama. & Shaban, Radwan. (1995). *Bank Regulation and Supervision in the West Bank and Gaza Strip.* MAS. (limited circulation).

_____Hamed, Osama. (1996). *The Palestinian Banking System: Reality and Potential.* MAS.

MAS-World Bank. (1997). *Development under Adversity? The Palestinian Economy in Transition.*

Page, Sheila. (1993). *Monetary Policy in Developing Countries.* Routledge

Perry, Guillermo. ed. (1996). *Currency Boards and External Shocks: How Much Pain, How Much Gain?* World Bank.

Pin Neo, Magie. ed. (1997). *Currency Board System: A Stop-Gap Measure or a Necessity? A Symposium.* Singapore Board of Commissioners of Currency Board.

Schwartz, Anna. (1993). Currency Boards: Their Past, Present, and Possible Future Role. *Carnegie-Rochester Series on Public Policy, vol. 39.*

Spiegel, Mark. (1995). Sterilization of Capital Inflows through the Banking Sector: Evidence from Asia. *Economic Review.* Federal Reserve of San Francisco, 1995, no. 3.

World Bank. (1994). *Developing the Occupied Territories*, vol. 2. Private Sector Development.

Zarazaga, Carlos. (1995). Argentina, Mexico, and Currency Boards: Another Case of Rules versus Discretion. *Economic Review.* Federal Reserve Bank of Dallas, Fourth Quarter.