



The Choice of Future Exchange Rate Regime in the West Bank and Gaza

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An issue that has received considerable attention over the past few years is whether the Palestinian Authority (PA) should introduce its own currency and if so under what type of exchange rate regime.¹ This issue will surely receive more attention in the coming years and will be discussed against the background of widespread consensus among economists and central bankers that monetary policy should be concerned primarily with price stability. There is also a renewed international discussion on the appropriate exchange rate regime for developing countries, following the capital account driven currency crises in emerging market economies in the late 1990s.² Over the past 10 years, countries with open capital accounts have tended to shift away from soft pegs in favor of either very hard pegs (including currency boards) or more freely floating regimes; even abandoning the local currency altogether in favor of complete dollarization is an option that has attracted some attention recently (see, for example, Fischer, 2001). It is too early to say, though, that a consensus has formed on the soundness of this bipolar view of exchange rate regimes.

A local currency can have significance that transcends its traditional roles as a unit of account, medium of exchange, and store of value; it can also be a national symbol, carrying cultural, political, and historical significance. At the same time, a cur-

rency has important economic implications, and the decision to introduce a currency, like any other major economic policy decision, should take into account its welfare implications. Currency introduction can be compared with a fixed investment; it can bring benefits to the Palestinian economy but with risks, and like fixed investment, currency reform is difficult to reverse.

The West Bank and Gaza is in a different position from other countries that have introduced their own currencies in recent years. The national currencies introduced in the countries of the former Soviet Union, for example, replaced an inconvertible currency that had lost its value and attraction after a bout of high inflation. It is not particularly difficult to convince people to shift to a new currency in such an environment. In the West Bank and Gaza, on the other hand, the currencies that are currently used—the Jordan dinar, the new Israeli sheqel, and the U.S. dollar—are all stable and convertible so it will probably be more difficult to convince people to shift to a new, untested currency. What is crucial is the public's confidence in the Palestinian policy institutions³—the PMA as well as the PA more generally—commitment and capacity to maintain the stability and convertibility of the new currency.

The purpose of this chapter is to discuss the key issues involved in the introduction of a Palestinian currency. It will argue that because the current setting works quite well, there is no need to rush ahead with the introduction of a Palestinian currency—indeed, on purely economic grounds, it is not obvious that it makes sense to introduce a Palestinian cur-

¹The topic has been discussed at two conferences organized by the Palestine Monetary Authority (PMA), in Gaza in December 1998 and in Cairo in November 1999.

²See Mussa and others (2000) for a recent review of exchange rate regimes issues.

Table 6.1 Economic Indicators for the West Bank and Gaza and Selected Economies¹
(In billions of U.S. dollars, unless otherwise indicated)

	Population (millions)	GDP	GDP Per Capita	Imports	Exports	Imports/ GDP (%)	Exports/ GDP (%)	(Exports + Imports)/ GDP (%)	Exports Per Capita (US\$)	Currency/ GDP (%)
West Bank and Gaza	2.8	4.2	1,529.8	3.4	0.7	80.5	17.5	98.0	268	---
Jordan	5.1	7.5	1,451.6	5.0	3.5	66.8	47.1	114.0	684	20.9
Israel	6.1	98.9	16,253.6	40.9	35.8	41.4	36.2	77.6	5,883	3.0
Estonia	1.5	5.1	3,448.3	5.0	4.6	96.9	89.1	186.0	3,073	7.6
Hong Kong	6.7	158.6	23,639.6	202.4	209.6	127.6	132.1	259.7	31,238	8.1
Panama	2.9	9.6	3,353.7	4.0	3.1	41.3	32.8	74.1	1,100	---
World average ²	33.4	173.6	6,087.9	39.1	39.1	44.7	39.7	84.4	2,705	7.5
World median ²	6.8	9.0	1,618.3	3.7	3.0	42.7	35.7	78.7	578	5.8

Sources: IMF, *World Economic Outlook* database; Palestinian Central Bureau of Statistics; and IMF staff estimates.

¹Data refer to 1999.

²180 countries were used for these calculations.

currency—and that the PA and the PMA should focus on preparing the ground so that a currency introduction would be successful. The scope for the PMA to conduct an independent monetary-cum-exchange rate policy under any form of exchange rate regime is extremely limited, and with considerable downside risks in the form of macroeconomic uncertainty and possible instability. For these reasons, this chapter argues that if a Palestinian currency were to be introduced, it would stand the greatest chance of success if it were under a currency board arrangement; indeed, it might be difficult to successfully introduce a Palestinian currency under any other type of regime. Thus, the important issue is credibility of the exchange rate/monetary regime rather than the usual fixed versus flexible exchange rate aspect.

A Brief and Selective Overview of the Palestinian Economy

A Small Open Economy

The West Bank and Gaza is a small open economy in the sense that it cannot affect world prices of its exports and imports. It is small. Its population is just under 3 million and the gross domestic product (GDP) was estimated at about US\$4.2 billion in 1999—roughly one twenty-fifth of Israel's GDP and less than one-half of the world median.³ The West

³Gross national income (GNI) was higher at approximately US\$5.1 billion mainly because of labor income earned in Israel

Bank and Gaza can be considered an open economy on the basis of two common measures of openness: (i) the magnitude of its balance of payments flows compared with the size of the economy, and (ii) the degree of restrictiveness of the trade and exchange regime. With respect to the former, the sum of exports and imports of goods and services equals almost 100 percent of GDP, a high level by international standards (Table 6.1).⁴ Other balance of payments flows are also important. Before the recent crisis, labor income from Israel and the settlements equaled almost 20 percent of GDP; foreign aid disbursements amounted to roughly 13 percent of GDP; and foreign direct investment equaled around 6 percent of GDP. There is no reliable information on the transfers from Palestinians living abroad, but these flows are generally considered to be substantial. In all, the balance of payments flows are very large relative to the size of the economy.

The exchange regime (that is, the legal and regulatory system that governs trade and foreign exchange transactions) is also very open, as it does not restrict payments and transfers for current or capital transactions. As regards the trade regime, the West Bank and Gaza is in a customs union with Israel, and the common external tariff, with a few excep-

and its settlements. Gross disposable income, which also takes into account current transfers from abroad, is even higher at about US\$5.5 billion.

⁴Imports equal roughly 80 percent of GDP, which is high by international comparison, whereas exports amount to around 18 percent of GDP, which is low (see Chapter 4).

Table 6.2 Consolidated Banking System*(In millions of U.S. dollars; balances at the end of the period.)*

	1996 Jan.	1996 Dec.	1997 Dec.	1998 Dec.	1999 Dec.	2000 Sep.
Net foreign assets	1,012	1,375	1,485	1,669	1,972	2,388
Net domestic assets	187	126	331	547	643	1,118
Net claims on the nonfinancial public sector	-27	-184	-167	-75	-103	266
Credit to the private sector	251	409	563	733	913	1,074
Other items (net)	-37	-99	-65	-112	-167	-223
Liabilities to the private sector	1,199	1,501	1,815	2,216	2,615	3,506
Demand deposits	++	485	543	605	673	868
Time and savings deposits	+++	1,017	1,273	1,611	1,942	2,637

Source: Palestinian Monetary Authority

tions, is set by Israel (see Chapter 4). The trade regime is quite complex, and although Israel's average most-favored-nation (MFN) tariff is reasonably low, at 8.8 percent, the tariff dispersion is very high. Palestinian exporters and importers are constrained, furthermore, by cumbersome trade and transportation restrictions imposed by Israel for its security concerns (see Chapter 3).

Rapidly Expanding Banking System

The Palestinian banking system has expanded rapidly in the last six years, and today, 23 banks operate in the West Bank and Gaza compared with only a handful back in 1993. (Chapter 1 provides a fuller description of developments in the banking system.) Bank deposits of the private sector have increased sixfold since 1994 to over US\$3.3 billion (78 percent of GDP) by December 2000. Meanwhile, credit to the private sector increased tenfold to US\$926 million (22 percent of GDP) (Table 6.2). Foreign banks have a heavy presence and 14 out of the 23 banks are branches of foreign banks (nine Jordanian, two British, two Egyptian, and one Israeli). Together they account for over 80 percent of total deposits and almost 75 percent of total bank credit, but only a few foreign banks actually dominate the banking system. The largest three—Arab Bank, Cairo-Amman Bank, and Bank of Jordan—account for over two-thirds of deposits and well over one-half of the credit extended.

Three Currencies

A particular feature of the Palestinian economy is the absence of a local currency and the free circula-

tion of three convertible currencies—the Jordan dinar, the new Israeli shequel, and the U.S. dollar (see Box 6.1). The situation can be described as one of complete currency, asset and liability substitution, and for convenience, it will be referred to as dollarization although currencies other than the dollar are also involved. The present arrangement seems to work quite well and there is no evidence that it has adversely affected economic growth. The three currencies are convertible and reasonably stable and there are no restrictions on moving from one to the other.

From the theory of currency competition (e.g., Girton and Roper, 1980), we would expect that, over time, one currency would gradually come to dominate and even out-compete the other currencies because of economies of scale. Indications are that such forces are already in motion in the West Bank and Gaza, where over the past six years the U.S. dollar has gained ground in bank credit and deposits at the expense of the dinar and to a lesser extent the shequel. Nearly 60 percent of private sector deposits are now denominated in dollars compared with only 34 percent in early 1996, and for private sector credit the corresponding percentages are 54 and 11, respectively (Table 6.3). The share of the shequel in deposits and credit has not declined by as much as that of the dinar because of the close economic ties between Israel and the West Bank and Gaza. Information on currency in circulation is not available, but judging from check clearance data from the PMA, and from anecdotal evidence, the shequel is by far the most important currency in current transactions, and it will continue to be important so long as trade with and labor income from Israel remain significant. The

Box 6.1. The Use of the Jordan Dinar, the New Israeli Sheqel, and the U.S. Dollar in the West Bank and Gaza

The Protocol on Economic Relations of 1994 states that: "... the new Israeli sheqel (NIS) will be one of the circulating currencies in the [West Bank and Gaza] and legally serve there as means of payment for all purposes including official transactions. Any circulating currency, including the NIS, shall be accepted by the Palestinian Authority and by all its institutions, local authorities and banks, when offered as a means of payment for any transaction." Thus, the language in the Protocol serves to ensure that the sheqel cannot be discriminated against, but does not require it to be used.

The new Israeli sheqel is the most widely used currency as a means of payments for current transactions, both in cash and checks. Retail prices are almost exclusively quoted in sheqels. The high use of the sheqel reflects that Palestinian trade is overwhelmingly with Israel, the PA budget is executed (predominantly) in sheqels, and about 20 percent of the labor force works in Israel and its settlements (at least until the recent crisis) earning their wages in sheqels.

The Jordan dinar remains important for historic and institutional reasons; transactions between Jordan and the West Bank and Gaza are very limited. Before 1967, the dinar was the main currency used in the West Bank both for transaction purposes and as a store value. Today, municipalities in the West Bank still issue invoices and charge fees in dinars, although they accept sheqels as a means of payment. Jordanian banks, moreover, which dominate the banking system, pay wages in dinars and the

same applies to many of the largest companies, like PALTEL.¹ Since 1988, after the devaluation of the dinar, there has been a gradual substitution away from the dinar into the sheqel and the U.S. dollar. Nevertheless, around 23 percent of all bank deposits and credit are denominated in dinar and 15 out of 24 companies on the Palestinian Security Exchange are listed in dinars. The dinar denominated bank credit is mostly consumer loans to customers with income in dinars.

Transactions of larger amounts and rents are usually, and increasingly, made in U.S. dollars. The dollar has traditionally been an important store of value but has also, over the last six years, become increasingly used for domestic credit and for payments for durable goods, rents and investments.² Some features of the expansion of financial services are also contributing to an increased use of the dollar. For example, credit cards can only be held in dollars or dinars, but not sheqels. Stores are increasingly charging in dollars for credit card payments. Consequently, in order to avoid excessive currency conversion costs there is also a trend to have credit cards against dollar rather than dinar accounts.

¹Employees of other banks are mainly paid in U.S. dollars.

²Bankers reported that many customers have standing orders whereby the bulk of savings are held in dollars, while the sheqel account only contains a small amount to meet day-to-day transaction demands. When the balance in the sheqel account falls to a certain level, an automatic transfer is made from the dollar account to the sheqel account.

persistence of the dinar in bank deposits and credit is at first a bit more surprising given the low level of economic interaction between the West Bank and Gaza and Jordan. However, several structural factors contribute to the continued demand and use of the dinar in the West Bank and Gaza: Jordanian banks and many large enterprises, like PALTEL, pay their wages and salaries in dinar, and some fees are also paid in dinar. These factors ensure a minimum demand for dinar deposits and (consumer) loans. One cannot rule out the possibility that the present mix of currencies in use optimally reflects the public's preferences, although there is no way, of course, for the public to reveal any preference it may have for a local currency.

The absence of a local Palestinian currency obviously means that there is not much room for monetary policy. There is also no risk for a local currency crisis, which can be damaging to the domestic economy, and there is no reason for investors to

charge a currency risk premium on their investments. While capital outflows can occur regardless of whether a country has a currency or not, in the present situation capital outflows will at least not be triggered by changes in market sentiment over the stability of the currency. At the same time, the West Bank and Gaza does not get seigniorage from currency issue.³ These issues will be revisited later in this chapter.

Choosing an Exchange Rate Regime

In the past 10 years, there has been a trend among countries with open capital accounts to move away from soft pegs and managed floating exchange rate

³The PMA already earns seigniorage on unremunerated required reserves.

Table 6.3 Currency Composition of Deposits and Loans

	1996 Jan.	1996 Dec.	1997 Dec.	1998 Dec.	1999 Dec.	2000 Sep.	1996 Jan.	1996 Dec.	1997 Dec.	1998 Dec.	1999 Dec.	2000 Sep.
	(In millions of U.S. dollars)						(In percent of total)					
Total deposits ¹	1,249	1,707	2,067	2,390	2,832	3,686	100	100	100	100	100	100
New Israeli shequel	252	339	332	342	385	762	20	20	16	14	14	21
Jordan dinar	555	645	713	578	629	746	44	38	35	24	22	20
U.S. dollars	427	708	997	1,452	1,787	2,129	34	41	48	61	63	58
Other	16	15	24	19	30	49	1	1	1	1	1	1
Total loans and overdrafts ²	271	402	599	791	983	1,436	100	100	100	100	100	100
New Israeli shequel	94	122	177	192	201	436	35	30	29	24	20	30
Jordan dinar	144	174	166	200	206	224	53	43	28	25	21	16
U.S. dollars	33	105	250	388	561	763	12	26	42	49	57	53
Other	0	1	6	11	15	13	0	0	1	1	2	1

Source: PMA

¹Residents only.²Loans and overdrafts from resident banks to resident public and private nonfinancial sector and to nonresident nonfinancial sector.

regimes toward the ends of the spectrum of possible regimes—more or less freely floating rates or hard fixed rate regimes like currency board arrangements (as in Argentina, Bulgaria, and Estonia).⁶ Even the extreme—abandoning a local currency altogether (as in Panama) in favor of complete dollarization—has attracted interest after Argentina gave dollarization serious consideration in 1999, and Ecuador actually began to implement dollarization in 1999.⁷ That dollarization is now a respectable choice for an exchange rate regime is a recognition that the value of having a national currency does not always outweigh the costs. Having a currency means that the country can earn seigniorage and (in some cases) pursue exchange rate and monetary policy, but at the cost of exposing itself to currency crises and currency risk premia.⁸

⁶Mussa and others (2000) provides a recent overview of exchange rate regime issues. Fischer (2001) argues that soft peg systems have not proved viable over any lengthy period of time, especially for countries integrated or integrating into international capital markets. Frankel, Schmukler, and Servén (2000) emphasize verifiability as one reason why simpler monetary-exchange rate policy frameworks are becoming favored—the ease with which adherence to the framework can be verified by the public is crucial for credibility.

⁷Information on Ecuador is available from IMF (2000). Calvo has written extensively on dollarization and particularly useful are Calvo (1999a and b, 2000a and b). Furthermore, Berg and Borensztein (2000) analyze the pros and cons of dollarization as compared with a currency board arrangement, with particular reference to Argentina.

⁸Whether introducing a Palestinian currency will increase or reduce transaction costs would depend on the extent to which it would replace the other currencies.

Exchange Rate and Monetary Policy

For a small open economy like the West Bank and Gaza, exchange rate policy and monetary policy are intrinsically linked and are therefore usefully discussed together. In the standard Mundell-Flemming framework, a small open economy can benefit from monetary policy independence only under a floating exchange rate regime. In practice, however, for a small open economy like the West Bank and Gaza with weak policy credibility, the degree of monetary policy independence is likely to be extremely limited even under a freely floating regime. Attempts to pursue an independent monetary policy would likely lead to swings in the nominal exchange rate, with negative effects on domestic price stability and the soundness of the banking system. The extent of monetary policy independence will be influenced by the credibility of the policy institutions. This credibility will affect how the public will perceive attempts to pursue discretionary monetary policy. With weak credibility, an attempt to relax monetary policy unilaterally might simply lead to a higher risk premium and a sharp depreciation of the currency, or both. Thus, for small open economies, prudent monetary policy under a floating exchange rate regime usually involves following international monetary policy developments. Borensztein, Zettelmeyer, and Philippon (2001) find that interest rates in a group of small open economies followed quite closely changes in U.S. monetary policy, irrespective of whether their currencies were pegged or

floated.⁹ Thus, while in principle a small economy can adopt a floating regime and pursue an independent monetary policy, it is significant that even countries that would seem to be in a position to do so find that it is in their best interest to let monetary policy follow international monetary developments to avoid large swings in the exchange rate even if they do not have a specific target for the exchange rate. For the West Bank and Gaza, which is significantly smaller than the above-mentioned economies and lacks strong policy credibility and sophisticated financial markets, it would be unreasonable to expect that there would be much, if any, room to conduct independent monetary and exchange rate policy even under a floating exchange rate regime. In fact, the mere possibility of the PMA conducting discretionary monetary and exchange rate policies might lead to a high risk premium on investments in the new currency and might induce considerable macroeconomic instability.

A reasonable question might be that, if it is the combination of openness, smallness, and weak credibility that would prevent the West Bank and Gaza from having an independent monetary policy even under a floating exchange rate regime, is there a case for reducing openness, especially in the capital account? There is a real danger that a reduction in convertibility at the time a Palestinian currency is introduced would seriously undermine the public's confidence in and demand for the new currency. The public is now very familiar with operating in U.S. dollars, shequels, and dinars, and introducing a Palestinian currency with restricted convertibility would almost surely mean that a high degree of currency substitution would remain. The issue of convertibility is discussed in more detail in a later section.

The Exchange Rate as a Nominal Anchor

A nominal anchor helps tie down inflation expectations and is necessary (technically) in order for the price level to be uniquely determined. A com-

mon strategy is to use a fixed exchange rate as the nominal anchor for monetary policy. Mussa and others (2000, p. 23) point out that throughout history the values of national monies were fundamentally defined by linking their values to some external asset, such as gold, silver, or (under the Bretton Woods system) to the U.S. dollar, which in turn was pegged to gold. It is only since the 1970s that the major international currencies have floated in response to market pressures. The authors also make the point that for many developing countries it may simply be unreasonable to think that there can be a credible anchor for expectations about monetary policy and for the exchange rate if the authorities do not establish some guide for the value of the money they create in terms of some readily available alternative asset of stable value. Pegging the exchange rate is a simple, transparent, and time-honored way of providing such an anchor. These arguments all apply very much to the case of the West Bank and Gaza as well.

A fixed exchange rate is a suitable nominal anchor for monetary policy for several reasons (see, for example, Mishkin, 1998). First, under a fixed exchange rate the inflation rate of internationally traded goods is also fixed. Given the high share of imports in the Palestinian economy, this would have an important direct effect on overall inflation. Second, if the peg is credible, inflation expectations will be anchored to inflation in the country to whose currency the exchange rate is pegged. Third, an exchange rate target is simple and can be more easily understood and monitored by the public than other monetary policy targets. Fourth, a fixed exchange rate target can help mitigate the credibility problem since it forces a tightening of monetary conditions when there is a tendency for the domestic currency to depreciate and vice versa when there is a tendency for the currency to appreciate.

A fixed exchange rate furthermore helps avoid large swings in monetary conditions during periods of money demand uncertainty and instability.¹⁰ Currency demand for the new Palestinian currency would be difficult to predict during the period when it is introduced, and it might take several years until the public has arrived at some kind of equilibrium level of holdings of new currency. But even afterward, there is bound to be a great deal of uncertainty

⁹The eight economies are: Argentina, Australia, Canada, Hong Kong S.A.R., Mexico, New Zealand, Singapore, and South Africa. The magnitude of the response tended to be larger for countries with currency boards (the response was one for one in Hong Kong, for example) than in countries with floating regimes, but even in these latter countries there was a considerable effect on domestic interest rates (about one-half) from U.S. monetary policy.

¹⁰In fact, fixed exchange rates might strengthen money demand in so far as they reduce uncertainty about monetary policy (Ghosh, Gulde, Ostry, and Wolf, 1997).

about currency demand because of the continued rapid developments in the banking sector and the expansion of banking services.¹¹ An increase in banking services (for example, more ATMs and greater use of credit and debit cards) can be expected to be accompanied by a trend decline in currency demand.

There are circumstances when the policy of a fixed exchange rate conflicts with a target for low inflation. With rapid productivity growth in the tradable goods sector the equilibrium real exchange rate would appreciate (because of Balassa-Samuelson style effects) putting pressure on the actual real exchange rate to appreciate, and with a fixed nominal exchange rate such an appreciation will have to take place through inflation (as the price of nontradable goods rise).¹² This type of effect is one reason why inflation rates in Estonia and Latvia, for example, have been much higher than in the countries to which their respective currencies are pegged. Should this be a concern for Palestinian policymakers when choosing an exchange rate regime? There is a clear possibility that the West Bank and Gaza too could see strong productivity growth in the future (as discussed in Chapter 2), but while inflation can undermine economic growth, inflation caused by high productivity growth in the tradable sector could be described as benign.

The Exchange Rate Regime and Macroeconomic Performance

Does the exchange rate regime matter for macroeconomic performance? This would seem to be an essential question for a discussion of exchange rate regimes. Empirical studies of economic growth (like Barro, 1991), however, typically do not pay much attention to the exchange rate regime as a determinant of a country's long-term economic growth performance, in part because it is difficult to distinguish the exchange rate from other macroeconomic policy

variables (endogeneity problem). And, it is not clear *ex ante* how one should expect the exchange rate regime to affect economic growth. For instance, pegged exchange rates might foster trade and investment by reducing exchange rate uncertainty, but they might also reduce trade and investment by impeding needed relative price adjustments (Ghosh, Gulde, Ostry, and Wolf, 1997). A common finding is that output volatility tends to be higher under fixed than floating exchange rate regimes. In addition, Ghosh, Gulde, Ostry, and Wolf (1997) also find evidence of lower (and less variable) inflation under fixed than under floating rates but insignificant results for long-term per capita income. Aizenman (1991), and Ghosh and Pesenti (1994), find evidence that the adoption of pegs can foster investment and growth, while Levy-Yeyati and Sturzenegger (2000) find that fixed exchange rate regimes are negatively associated with long-term economic growth. In a study of currency boards, Ghosh, Gulde, and Wolf (1998) find evidence that on average, countries with currency boards had better inflation performance and higher growth than countries with either pegged or floating exchange rates, thus refuting the proposition that currency boards lead to sluggish growth.

One argument against fixed exchange rate regimes is that they may increase the exposure to speculative attacks and financial crises. But it will take some time before the Palestinian economy becomes so integrated with international financial markets that this becomes a real danger.

Another concern with fixed exchange rates—and more important to the case of the West Bank and Gaza—is the risk of overvaluation of the real exchange rate, caused by domestic policies that are not consistent with a pegged regime, by an appreciation of the anchor currency vis-à-vis the currencies of the main trading partners or by adverse economic shocks. The first two could in principle be remedied by pursuing sound fiscal policy and pegging to the exchange rate(s) of the main trading partner(s). It is more difficult to assess how important it would be for the West Bank and Gaza to be able to use the nominal exchange rate for relative price adjustments in response to economic shocks. First, adjusting the exchange rate might be useful, or absolutely necessary, in response to certain types of shocks but not to all. For example, if the shock is real in nature, like a terms-of-trade shock, allowing the exchange rate to adjust can help smooth output, whereas if the shock is nominal in nature, like a change in domes-

¹¹Chapter 2 also showed that the Palestinian economy exhibited unusually high output volatility over the past 30 years, and if this tendency were to continue, there might also be fluctuations in currency demand.

¹²The real appreciation comes about because the price of tradable goods is fixed (determined in the world market), while the price of nontradable goods rise. Higher productivity in the tradable goods sector allow real wages in that sector to rise and, in order to restore internal balance, the wages in the nontradable sector will also rise. In the absence of corresponding productivity growth, there will be an increase in the price of nontradable goods.

tic money demand, adjusting the exchange rate would not help.¹³ In the latter case, a fixed exchange rate would help smooth output, in line with the classic Poole (1970) analysis. Second, Calvo (1999b) argues that an exchange rate adjustment in response to a shock in the form of capital outflows is not an appropriate policy response since it might simply add to the problems by being contractionary and causing problems in the banking system, especially when there is a higher degree of asset and liability substitution. Third, being able to devalue in response to real shocks is important only in so far as the shocks do not affect the trading partners in the same way.¹⁴ Fourth, being able to devalue can be important if nominal wages exhibit downward rigidity. While it is an empirical matter how rigid wages are in the West Bank and Gaza in response to real shocks, the Palestinian labor market lacks the attributes that are usually thought to contribute to rigid wages, such as tight labor market regulations, strong labor unions, minimum wages, and generous unemployment benefits. There is little reason therefore to believe a priori that wages should be overly sticky. Finally, since the Palestinian economy is very open, the passthrough of a devaluation into high domestic prices is likely to be quick and large, implying that there might be little scope for achieving a lasting real exchange rate depreciation through a devaluation. Thus, an assessment of the merit of a fixed versus floating exchange rate regime requires a view on the likelihood that the Palestinian economy will experience real shocks of a magnitude that cannot be adjusted through prices and wages, and that are likely to affect the West Bank and Gaza differently from its main trading partners. In addition, large variations in the real exchange rate can inflict lasting damage on the real economy, and the real rate tends to be more stable under a fixed exchange rate.

¹³A decline in the grant terms of foreign aid can have a similar effect as a terms-of-trade deterioration. Currently, aid to the PA is predominantly in the form of grants and highly concessional loans, but if aid were to increasingly take the form of loans and with less concessionality (higher interest rates), the non-interest current account balance would (eventually) have to improve to finance interest and loan repayments. Such a current account improvement requires a real exchange rate depreciation. A case in point is Jordan in the 1980s, where the composition of external financing changed from being mostly grants to one with a larger share of commercial loans, and the dinar was devalued in the late 1980s.

¹⁴Assuming, of course, that the trading partners would undertake a similar policy response.

The Credibility Problem

The previous sections have argued that a fixed exchange rate would be a suitable nominal anchor in the West Bank and Gaza, while showing some of the tradeoffs involved between fixed and flexible exchange rate regimes. For the West Bank and Gaza, a more important aspect than the traditional fixed versus flexible exchange rate question is the issue of policy credibility, especially during the period when the Palestinian currency is launched and until it has gained widespread public acceptance. The credibility problem is very real because the Palestinian policy institutions are young and lack a track record on inflation (by default) and the PA's macroeconomic policy priorities have not been clearly articulated. It is not that the PMA has a poor reputation, it simply does not have any reputation when it comes to monetary policy.¹⁵ The credibility problem arises when policymakers cannot convince the public that they will stick to a policy that ensures the stability and convertibility of the Palestinian currency, if the public thinks that the policymakers might want to deviate from this rule because of short run benefits.¹⁶ The outcome would be higher inflation expectations and higher interest rates, even without the PMA or the PA actually trying (or having the slightest intention) to use monetary policy for short-term output and employment purposes.¹⁷ It would come about because they cannot credibly convince the public about their intention to adhere to the long-term optimal policy. Over time, the PMA and the PA, through consistent implementation of prudent economic policies, could build up a reputation for giving high priority to the stability of the new currency, but building up a reputation takes time and would likely involve a tighter (on average) monetary policy than what would be considered optimal. In an environment of young and inexperienced policy institutions, it would be unrealistic to expect the Palestinian public to have, from the onset, the same degree of confidence in a new, untested Pales-

¹⁵The introduction of a minimum credit to deposit ratio and a maximum foreign asset to total asset ratio for banks (as discussed in Chapter 1), however, might have raised some questions over the PMA's priorities.

¹⁶This is the so-called time inconsistency problem. See Kydland and Prescott (1977), and Barro and Gordon (1983).

¹⁷Low confidence in the new Palestinian currency would also manifest itself in a very gradual increase in its usage, and the Palestinian economy would be characterized by a high degree of currency substitution.

tinian currency as it has in the three currencies now circulating in the West Bank and Gaza, unless there is a simple and transparent monetary policy framework that effectively rules out the discretionary use of monetary and exchange rate policies. A currency board provides such a framework. Indeed, it might be impossible to successfully introduce a Palestinian currency under any other type of exchange rate regime.

Measures to Boost the Credibility of a Palestinian Currency

While a currency board would endow a new Palestinian currency with much needed credibility, it would still be crucial for the PMA and the PA to address, before introducing a currency, some issues that might otherwise undermine the viability of the new currency, regardless of exchange rate regime. This section will not discuss all conditions and aspects of a successful currency introduction, for which there is an entire body of literature; rather it focuses on two areas of reforms: fiscal discipline and bank supervision. There are of course other measures that are important, including reducing political risk and output volatility, strengthening governance, and improving access to world markets. In addition, technical and legal preparations have to be undertaken to pave the way for currency introduction.

Fiscal Discipline

Weak fiscal discipline is a classic buster of fixed exchange rate regimes, and the PA's fiscal position was fragile already before the onset of the crisis that broke out in September 2000, and it has deteriorated significantly during the crisis (see Chapter 1). Improving PA fiscal management is certainly necessary independent of whether a currency is introduced, but with a currency, weak fiscal discipline might lead the public to fear that the PA would want to resort to central bank financing of its budget deficits once there is a Palestinian currency. The PMA Law already allows some PMA financing of the PA's fiscal operations, and at the end of December 2000, PA borrowing from the PMA stood at US\$23 million. In order to convince the public that the new currency will not be used to finance budget deficits, the PA would have to show that it can control fiscal expenditure, in particular the wage bill. It would also be good policy—and under a currency board an absolute condition—for the PA to amend

the PMA Law to prohibit the PMA from lending to the PA.

A policy that rules out the PMA providing financing to the PA is particularly important given the uncertain fiscal outlook. First, the PA has not yet shown that it is willing to rein in the rapid expansion in PA employment, the central concern on the expenditure side. Second, the recent closures and turmoil have severely dimmed the revenue forecasts for 2001 and possibly 2002. Third, the rather generous tax incentives granted under the Investment Promotion Law of 1998 can significantly reduce revenue growth over the coming years. Furthermore, if the West Bank and Gaza and Israel would abandon the customs union arrangement in favor of, for example, a free trade arrangement, under which the PA would be responsible for collecting all of its tax revenues, there is bound to be an initial decline in tax collection. Finally, the outlook for aid disbursements is uncertain, and even if the amounts disbursed were to remain at current levels over the medium term, it is likely that a greater proportion will be in the form of loans.

Bank Supervision and PMA Operations

Sound central banking, like fiscal discipline, has its own virtue and should be an objective regardless of whether a currency is introduced or not. With a Palestinian currency, the negative consequences of any weaknesses in the PMA's operations or the effectiveness of its banking supervision would be magnified, since a currency crisis can easily cause a banking crisis, and vice versa.

Although the PMA has made considerable progress since its creation in 1994 (see Chapter 1), and its stature in the banking system has grown in the past two years, much remains to be done to strengthen the PMA's operations, in particular banking supervision. To start with, a key priority should be to strengthen the management of the PMA by appointing directors of departments and to appoint a board in line with the provisions in the PMA Law. With respect to bank supervision, it is crucial—given the dominant role played by foreign banks—that the PMA allow, even encourage, cross-border supervision by home country supervisors. Efforts are also needed to improve the on-site and off-site inspection capacity of the PMA. Finally, several legal, organizational, and logistical preparations would need to be made prior to the introduction of a domestic currency. For example, the exchange rate

regime and the related policies should be clearly spelled out in an amended PMA Law. A foreign exchange law would have to be introduced ensuring a competitive market. Prudential requirements also must be reviewed in order to contain foreign exchange risk. Some additional organizational changes may become necessary as well, including a possible division of the PMA into a proper currency board and a department handling the lender-of-last-resort facility (if any), banking supervision, payment settlement, and other issues.

Going for a Currency Board

Basic Principles

A currency board represents the simplest and most credible form of monetary policy rule. If one should be adopted, the PMA would supply (and redeem) currency only in exchange for foreign exchange at a predetermined exchange rate so changes in money demand would be fully accommodated by endogenous changes in the PMA's international reserves and the balance of payments.¹⁸ The main difference from a conventional fixed exchange rate is that under a strict currency board any supply of Palestinian currency would be matched fully by an increase in the PMA's international reserves, and the PMA would not extend any domestic credit, including to the PA. The backing rules and the fixed exchange rate would also be defined in law, making them more difficult to change and requiring broader political support than a conventional peg. Indeed, currency boards derive an important part of their credibility from the high political cost of abandoning them. Currency boards also derive their credibility from the fact that monetary policy is essentially on autopilot, with no room for discretionary policies. In practice, small countries typically cover a substantial part of their domestic liabilities with international reserves irrespective of exchange rate regime. For example, the Central Bank of Latvia operates a fixed exchange rate regime, but although it is not a currency board (as in Estonia and Lithuania), it nevertheless holds foreign exchange to back essentially all reserve money well in excess of the currency in circulation. Thus, to be successful, the PMA would have to back almost all its domestic lia-

¹⁸In some countries, redemption is limited to a number of designated banks through which other financial institutions must go. Such a restriction can help develop the interbank market.

bilities with foreign assets regardless of the choice of exchange rate regime, at least initially, but with the difference that a currency board would instill more confidence in a Palestinian currency, which in turn would induce greater use and holdings of the new currency.¹⁹ The Palestinian pound was quite successfully introduced and managed under a currency board in 1927–52 (see Box 6.2).

Several operational decisions would have to be made by the PA and the PMA related to the introduction of a currency under a currency board arrangement. Four of them will be discussed here: the choice of anchor currency, the choice of monetary aggregate to back with foreign exchange, the extent of foreign exchange backing, and the degree of convertibility and choice of legal tender.

Choosing the Peg

Deciding on the peg for a new Palestinian currency is not a trivial exercise and will involve a great deal of judgment. There is no easy and obvious choice, and at the same time, deciding on the anchor currency is probably the single most important decision for the success of a Palestinian currency board since the choice of peg can help alleviate some of the concerns with fixed exchange rates noted earlier. The West Bank and Gaza trades overwhelmingly with Israel and about 20 percent of the Palestinian labor force was employed in Israel before the turmoil that began in late September 2000. Thus, a case can be made for pegging a Palestinian currency to the new Israeli sheqel in order to minimize transaction costs and exchange rate uncertainties in the economy. Pegging to the sheqel would also significantly reduce the risk of competitiveness problems that the Palestinian economy might otherwise experience if the sheqel, for some reason, were to depreciate markedly, as it did in late 1998. Avoiding the type of competitiveness problems experienced by Argentina should be a priority. Argentina has a currency board with a peg to the U.S. dollar, but only approximately 15 percent of its trade is with the United States. The strengthening of the dollar vis-à-vis all major currencies in recent years and the sharp depreciation of the currencies of more important trading partners like Brazil (in 1999)

¹⁹The credibility of currency board arrangements is evidenced by the international experience. Countries that have introduced currency boards have on average seen a narrowing of the interest rate differentials vis-à-vis the anchor currencies throughout the yield curve (Mussa and others, 2000, p. 26).

Box 6.2. The Palestine Currency Board, 1927–52

Before World War I, under the Ottoman regime, the Turkish currency was used in what was then Palestine, but it became progressively replaced by the Egyptian pound, and in 1921, Egyptian gold, silver, and nickel coins became legal tender in Palestine together with the British gold sovereign, which constituted an important part of the coinage.¹ This arrangement was considered unsatisfactory given the weak economic links between Palestine and Egypt and because the government of Palestine lost out on seigniorage.

On November 1, 1927, the Palestinian government introduced the Palestine pound under a currency board arrangement, pegging it one for one to the British pound sterling. All currency issue was backed by reserves held in London. The Transjordan government also decided to adopt the Palestinian pound as its currency. Five months after the introduction of the Palestine pound, the Egyptian pound ceased to be legal tender in Palestine. The initial currency issued amounted to (P£ 2.9 million, and in the period up to 1940 there was a gradual increase—albeit with temporary sharp fluctuations—in the amount of currency in circulation. Currency demand rose significantly after 1941 and through the end of the British Mandate,

¹This box draws extensively on Smith (1998).

and the stock of Palestine pound peaked in May 1948 at roughly (P 60 million. The war of 1947–48 led to capital flight from Palestine on a large scale, and since the government of Palestine ceased operations with the end of the British Mandate on May 15, 1948, redemption centers for the Palestine pound were set up in Amman and London. By mid-1952 most Palestine pounds had been redeemed, and it was no longer legal tender anywhere.²

The Palestine Currency Board contributed to the revenues of the Palestine government in almost every year of its operations. It is interesting to note that the Palestine government, while under no obligation to do so, shared its seigniorage with the Transjordan government. When the government of Palestine ceased to exist, the seigniorage—and later also the surplus assets of the currency board when it was being wound down—was distributed to Crown Agents to repay any obligations the government had outstanding, and to the Hashemite Kingdom of Jordan. The Palestine Currency Board was closed on June 11, 1952.

²The Palestine Currency Board remained as the monetary authority in Jordan after Jordan's independence in 1946, and the Palestine pound continued to be legal tender in Jordan until September 1950 (notes) and June 1951 (coins) when the Jordan Currency Board was set up.

have eroded Argentina's competitiveness. Pegging a Palestinian currency to the new Israeli sheqel would help avoid a similar situation in the West Bank and Gaza. At the same time, the decision on anchor currency should be forward-looking, and as discussed in Chapters 2 and 4, the Palestinian economy can be expected to undergo a significant transformation in the coming years, bringing with it a great deal of trade diversification. Israel will surely continue to be a key trading partner, but it is unlikely to remain as dominant as it is today.²⁰

If the sheqel is not considered a suitable anchor currency, for whatever reason, the two most natural alternative candidates would be the U.S. dollar and the euro. These currencies would not only provide good anchors for price stability, but over the long

²⁰Under a currency board it is also sensible to back the currency with reserves held in the anchor currency (to avoid currency risk), and for a peg to the sheqel this would mean holding the reserves in Israeli banks or with the Bank of Israel (in the absence of off-shore markets for the sheqel). Today, the PMA avoids placing the counterpart to banks' required reserves in sheqel deposits in Israel and instead redeposits them with local banks, in part since the availability of these reserves might change with changes in the security situation.

term, Palestinian trade can be expected to increase considerably with the United States and the European Union, so they would also be increasingly suitable currencies from a transaction costs perspective. Trade diversification is also to some extent endogenous to the choice of exchange rate peg, so pegging the euro or the dollar might reinforce the trade diversification trend with either market. The results from the gravity model in Chapter 4 showed that trade with the EU could be expected to become more important than trade with the United States. Specifically, the gravity model predicted exports to the EU to be almost four times as large as exports to the United States and imports to be more than twice as high. From this perspective, the euro might be preferable. On the other hand, a substantial part of the Palestinian banking system is dollarized (60 percent of all bank deposits and over 50 percent of all bank credit), and this situation is unlikely to change quickly.²¹ Trade diversification also will take a long time, and the Palestinian economy will re-

²¹The high degree of dollarization is one reason why Argentina chose to peg to the U.S. dollar (Baliño, Enoch, and others, 1997).

main closely integrated with the Israeli economy for many years. During this time, a peg to the dollar or the euro will expose the Palestinian economy to serious risks of competitiveness problems.

What about pegging to a basket of currencies, for example the three discussed above? Pegging to a basket of currencies can help mitigate competitiveness concerns without giving up all of the benefits from a fixed exchange rate.²² It is not common, however, for a currency board to peg a currency basket. In fact, all existing currency board arrangements peg to a single currency. Aside from possible practical problems of reserve management and exchange rate risk to the currency board, pegging to more than one currency would reduce the simplicity and verifiability of the regime—crucial for the currency board's credibility. With a peg to the U.S. dollar, for example, the general public would know that they would always get the predetermined fixed exchange rate. This would not be the case, however, with a currency peg to a basket of currencies because the public would have difficulty verifying on a daily basis the PMA's compliance with the announced policy.

Reserve Cover: What Aggregate and How Much?

A crucial issue in setting up a currency board arrangement is the extent to which the issue of the national currency should be backed with foreign exchange reserves. The question can be broken down into two parts. First, a currency board has to define which monetary aggregate (for example, currency in circulation or reserve money) to use as a reference point and, second, to what degree this aggregate is backed by foreign exchange reserves. Excess cover would allow the monetary authority some capacity to act as a lender of last resort. Backing rules differ substantially across currency board arrangements.²³ In Djibouti and Hong Kong, the reference aggregate is currency in circulation. The currency board arrangements in Argentina and Estonia also include deposits of commercial banks at the monetary authorities in the reserve cover aggregate. This additional backing can help boost the credibility of the

currency board, especially when the monetary authorities allow commercial banks to use their legal reserves for short term liquidity needs or for payments and settlement services. An even broader monetary aggregate is used in Lithuania, where the reference monetary aggregate includes currency in circulation and all other central bank liquid liabilities, which include reserves and other deposits of commercial banks, government deposits, domestic currency denominated securities, and promissory notes issued by banks.

Currency boards typically have 100 percent of the chosen liability backed by foreign exchange reserves. In some cases, though, like Argentina, the backing is less than 100 percent to allow some limited room for independent monetary policy. In other cases, like Hong Kong, the backing is in excess of 100 percent (the law requires at least 100 percent) to allow a buffer for lender-of-last-resort activity.

In the West Bank and Gaza, it would seem sensible to back reserve money, that is, to cover not only currency in circulation but also banks' required reserves with the PMA to ensure their convertibility. Government deposits with the PMA should probably also be backed by foreign exchange (as in Bulgaria). How much of the liabilities should be covered? In order for a Palestinian currency board to begin with maximum credibility, it would be judicious to start off with at least 100 percent cover.

With the initial launching of the currency, currency in circulation will automatically be backed 100 percent by foreign exchange. The commercial banks' deposits with the PMA also are already fully backed with foreign exchange. What the PMA currently holds as reserves plus future profits of the PMA could be used as additional coverage going beyond the 100 percent

Lender of Last Resort

A currency board cannot inject domestic liquidity on a discretionary basis, so its capacity to act as a lender of last resort for banks with liquidity problems is very limited, much like the current situation for the PMA. For the time being, with the banking system dominated by foreign banks, the need for the PMA to be able to act as a lender of last resort is also limited. In fact, with still underdeveloped banking supervision and weak policy institutions more generally, establishing a lender-of-last-resort facility might create moral hazard problems and weaken bank discipline (Gale and Vives, 2000). On the other hand,

²²A paper on economic permanent status issues suggested that the West Bank and Gaza adopt a currency board with a fixed rate to a basket consisting equally of new Israeli shequels and Jordan dinars (ECF-DATA, 1998).

²³See Baliño, Enoch, and others (1997).

a limited lender-of-last-resort facility can add to the sustainability and credibility of the currency board arrangement by reducing the risk of banking crisis.

Under a currency board, the PMA could in principle establish credit lines with foreign banks (as Argentina has done) that it could use for lender-of-last-resort purposes. Alternatively, and perhaps more realistically, the PMA could set aside reserves in excess of the reserve cover as a lender-of-last-resort facility. These reserves could be generated over time from the PMA's profits or through budgetary (or donor) resources. It would be important to avoid creating any perception that the principles of the currency board were being violated, so the rules on how and when the facility can be used must be clear, and actual use should be accounted for in a transparent way. For transparency and to protect the currency board's integrity, the resources of a lender-of-last-resort facility (using excess reserve cover, fiscal resources or donor support) also should be kept separate from those of the currency board.

Moreover, the PMA should give priority to the development of a stronger and more efficient domestic money market that would allow illiquid but solvent banks to have access to liquidity from the domestic interbank market.

Legal Tender and Convertibility

Introducing a currency raises the issue of whether the new currency should be sole legal tender.²⁴ The question is really to what extent there is a need to introduce a distortion in the system in favor of the demand for the new currency to ensure its success. A weak form of distortion would be for the PA to offer (for a limited period) discounts if taxes are paid in the new currency. A somewhat stronger form of distortion would be for the PA to *require* all taxes to be paid in the new currency and to make all its domestic payments in the new currency as well. An even stronger form of distortion is to make the new currency sole legal tender (currently, all three circulating currencies are legal tender in the West Bank and Gaza, as stipulated by the Protocol on Economic Relations of 1994), while allowing the other three currencies to circulate freely. As a legal tender,

²⁴A currency does not have to be defined as legal tender for it to be legally used, just as credit cards and checks can be used for payments although they are not legal tender. Merriam Webster's Collegiate Dictionary defines legal tender as: *money that is legally valid for the payment of debts and that must be accepted for that purpose when offered.*

a currency cannot be rejected as a means of payment for any transaction by the rest of the economy. A freely circulating currency can be used in non-government transactions, such as private contracts, mutually agreed upon by the relevant parties. Finally, the strictest form would be to make the new currency sole legal tender and prohibit the circulation of other currencies.

There are clear risks with these types of distortions, especially the more restrictive ones. Prohibiting the use of the three currencies now circulating is unlikely to help instill confidence in the new currency; in fact, it is likely to have the opposite effect. Such a decision would also be difficult, if not impossible, to enforce given the large amounts of U.S. dollars, dinars, and shequels already circulating in the West Bank and Gaza. The experience in countries where foreign currency deposits are allowed has been that measures to reverse that authorization through forced conversion, as occurred in Bolivia and Mexico in 1992, and in Peru in 1985, had severe adverse effects, and actions to force people to hold the local currency were followed by capital flight and a serious loss in government credibility (Baliño and others, 1999).

At the same time, there is probably a need to introduce some weak form of distortion to ensure a minimum demand for the Palestinian currency. It would be sensible if the PA were to conduct all its domestic operations and demand taxes to be paid in the new currency, while allowing other currencies to be also legal tender in the rest of the economy, at least until the new currency had received widespread acceptance in the West Bank and Gaza. It is very important that the other currencies be allowed to circulate freely, including by allowing banks to continue to accept deposits and extend credits in these currencies. The authorities would need to issue an unequivocal commitment to convertibility and against any future introduction of restrictions on the use of the three circulating currencies beyond the requirement that taxes be paid only in the new currency. The problem is also a practical one and relates to estimating the demand for the new currency and the various denominations of it to ensure that sufficient balances are held by the PMA to accommodate this demand. In 1950, when the Palestinian currency was being redeemed for dinars, the Jordan Currency Board had underestimated the demand for dinar coins, and when it could not satisfy this demand, it was obliged to overturn a previous decision in order to retain the legal tender status

of Palestinian coins while more dinars were produced (Smith, 1998). To avoid such a situation, it would be more appropriate to allow all four currencies to serve as legal tender, and revisit this issue once the new currency is widely in use.

With respect to convertibility, one of the advantages of a currency board is that its robustness permits a very liberal exchange arrangement (Bennett, 1994). Indeed, because the monetary base can expand only on the basis of purchases of foreign exchange, the currency board would work most effectively and smoothly under complete current account convertibility and a high degree of capital account convertibility. The restrictions on foreign exchange payments are very few today in the West Bank and Gaza, an arrangement that would be appropriate to maintain after a new currency is introduced.

Two More Issues: Seigniorage and the Exit Option

From an analytical view point, the existing currency arrangement is similar to a currency board arrangement, but with two differences. First, with a Palestinian currency the PMA would earn seigniorage on the currency issue, revenue that now goes to the central banks of Israel, Jordan, and the United States. Second, the authorities can abandon the currency board arrangement and devalue the currency if the situation becomes untenable. For this exit option, however, a currency (devaluation) risk exists for which investors will require compensation through a devaluation risk premium, and the premium will be higher the more investors think it is likely that the option to devalue will be exercised.

Seigniorage

A tangible benefit of introducing a Palestinian currency is that the PMA, rather than the central banks of Israel, Jordan, and the United States, would receive the seigniorage from currency issue.²⁵ How much seigniorage does the PMA forego by not having a currency? We estimate this to be roughly US\$12

²⁵In principle, Israel, Jordan, and the United States could share seigniorage with the PA. Although seigniorage sharing is more common in monetary unions, it is not unheard of in cases when a country unilaterally adopts the currency of another country. In fact the government of Palestine shared seigniorage with the government of Transjordan, which had unilaterally adopted the Palestine pound as its currency (see Box 6.2).

million a year (0.3 percent of GDP). Before showing how this estimate was derived, the concept of seigniorage used here should be clarified. Seigniorage is usually defined as the change in the volume of domestic currency, but this is not the most meaningful measure of seigniorage in an analysis like this. Under a currency board, the PMA will have to back all of its currency issue with foreign exchange reserves so the change in the volume of currency does not translate into seigniorage that can be spent by the PMA or the PA. Therefore, a more meaningful definition of seigniorage is the PMA's gross profit, which is the interest earnings on its reserves. This is also the definition of seigniorage central bankers often have in mind. The two measures lead to different flows of seigniorage but are the same in present value terms when the initial stock of currency is zero.²⁶

Under a currency board, the amount of seigniorage the PMA would earn is determined by the stock of Palestinian currency the public would demand and the interest rate the PMA earns on its foreign exchange reserves. The currency demand can be broken down into overall currency demand and the share that will fall on the local currency.

The main factors that determine overall currency demand are the economy's state of financial development, the opportunity cost of holding currency (inflation and deposit interest rates), and the annual growth in income or expenditures. Currency in circulation tends to become less important with technological developments in the payments systems that allow less holdings of currency for a given amount of transactions (for example, credit and

²⁶For example, if a country introduces a currency and in year 1 issues 100 units of local currency (M) and no more after that, then, using the conventional definition, seigniorage (S_1) would be 100 in the first year and zero in the subsequent years. Using the gross profit definition, seigniorage (S_2) would be the interest (i) earned each year on the stock of currency (to be precise, on the reserves backing the currency). Berg and Borensztein (2000) show that the two definitions are the same in present value terms, except for the initial stock of currency, M_{t-1} , which is zero when a new currency is introduced:

$$S_1 = M_t - M_{t-1} + \frac{M_{t+1} - M_t}{(1+i)} + \frac{M_{t+2} - M_{t+1}}{(1+i)^2} + \dots$$

$$S_2 = \frac{iM_t}{(1+i)} + \frac{iM_{t+1}}{(1+i)^2} + \dots$$

and rearranging the right-hand side of the first equation we get:

$$S_1 = -M_{t-1} + \frac{iM_t}{(1+i)} + \frac{iM_{t+1}}{(1+i)^2} + \dots = S_2 - M_{t-1}$$

debit cards, checks, and ATM machines). That is why more developed countries (as measured by GDP per capita) tend to have lower currency-to-GDP ratios.

The more important question for the PMA is how this overall currency demand would translate into demand for a Palestinian currency. The key factor (again) is credibility—the credibility of the authorities' (not only the PMA, but the PA more generally) commitment and capacity to ensure the stability and convertibility of the Palestinian currency. If people are confident that the new currency will hold its value and remain convertible, the transition period (when the new currency replaces the others) will be shorter and the steady state currency substitution will be smaller.²⁷ It is safe to assume, though, that even after a transition period, when people gradually shift toward the new currency, there will still remain a considerable degree of currency substitution in the West Bank and Gaza, at least for some time.

In order to get a sense of the amount of Palestinian currency that could be demanded, and hence the scope for seigniorage, it is necessary to know how much currency is now circulating in the West Bank and Gaza. This is not a simple exercise. Looking at the currency-to-GDP ratios in other countries can give some indication. Thus, we have calculated this ratio for the 100 members of the IMF whose income per capita is closest to that of the West Bank and Gaza. The median ratio is 5.5 percent, with the ratio for 90 of the 100 economies lying between 4 and 7 percent.²⁸ Applying the 5.5 percent ratio to the West Bank and Gaza gives a stock of currency in circulation of roughly US\$230 million. Assuming that all of this currency demand is met by holdings of the new Palestinian currency (or more correctly, that there is no currency substitution beyond the average of the above 100 countries) and assuming that the PMA earns 5 percent interest on its foreign exchange reserves that back the currency issue, the

²⁷Amon and Spivak (1996) use a model where the new currency gradually gains acceptance over a long period of time, as people are gradually convinced about the stability and convertibility of the new currency's value.

²⁸While some countries have considerably higher currency-to-GDP ratios—for example, Jordan, where it is close to 18 percent of GDP, in part because the dinar is also used in the West Bank and Gaza—the variation across countries is very small. The median for the Middle East and North Africa Region is 5.5 percent, and, if instead of 100 countries, the 20 countries closest to the West Bank and Gaza in terms of GDP per capita are chosen, the median currency to GDP ratio is 4.6 percent; for 50 countries it is 5.3 percent.

PMA's gross profit (from interest on the currency issue, and before salaries and other costs) would be US\$12 million (0.3 percent of GDP).²⁹

Even if seigniorage were to be twice this amount (if either the currency-to-GDP ratio or the interest rate earned on reserves, or both, is higher than in this example) it would still represent less than 2 percent of PA annual fiscal revenue. In reality, though, over the medium term after a currency introduction, seigniorage might well be substantially smaller than in this example if, as is likely, currency substitution would remain important. Also, the seigniorage from currency issue that would actually be transferred to the PA budget as profits from the PMA would be less since the amounts we have given here are on a gross basis, before deducting salaries and other administrative costs (including for printing money) to the PMA.

The Exit Option and Currency (Devaluation) Risk

As mentioned earlier, a main advantage of having a currency, as opposed to full dollarization, is the possibility to devalue if the real exchange rate becomes seriously overvalued. The country pays for this exit option through the currency (devaluation) risk premia that investors will charge on investments in the Palestinian currency. In a sense, the currency can be viewed as insurance paid through the risk premium.

The Possibility to Devalue

Naturally, a currency should not be introduced with the expectation or intention that it would be devalued, because it would deprive the currency of all credibility. In the long run, however, if severe real exchange rate misalignments occur that are not offset by adjustments in the real economy, a switch to a different exchange rate or exchange rate arrangement may become necessary.³⁰ Thus, having its own currency would allow the Palestinian authorities to devalue if the situation were to become untenable, for example, after a prolonged deterioration in the terms of trade. The latter is tantamount

²⁹If the currency to GDP ratio were 4 percent, seigniorage would be US\$8 million (0.2 percent of GDP); at 7 percent it would be US\$15 million (0.4 percent of GDP).

³⁰Such a misalignment could occur following higher rates of inflation compared to the anchor currency or following real shocks that affect the Palestinian economy more severely than the anchor currency's economy.

to a depreciation of the equilibrium real exchange rate, which would warrant a real exchange rate depreciation. In turn, this is usually easier to achieve through an adjustment of the nominal exchange rate than through downward adjustment of wages and prices because the latter is typically associated with a loss in output. This option is (obviously) not available to the West Bank and Gaza under its present arrangement.³¹

Devaluation Risk

Because a country with a fixed exchange rate—even under the strictest form of currency board—can always exit the arrangement and devalue the currency, investors will require a currency (devaluation) risk premium on their investments. The currency risk premium will manifest itself in higher interest rates. The experience from other countries is that markets can charge substantial premia for currency risk and the possibility of eliminating such premia is a main reason why a country might decide not to have its own currency. Reducing the risk premium can bring important gains to an economy through lower interest rates and lower transactions costs, which in turn can promote investment and growth. For industrial countries, with deeper financial markets, most of such risks can be hedged away, so the effect of exchange rate variability on investment, trade, and growth is relatively low. This is not the case for less developed economies like the West Bank and Gaza.³²

³¹The devaluation of the CFA franc in early 1994 is an example of how the option to devalue was used when the real exchange rate adjustment, required in response to a prolonged terms-of-trade deterioration, proved too difficult to overcome through internal adjustment.

³²There is also country risk: the risk that debts will not be honored or that assets will be confiscated. Country risk usually accounts for the largest part of interest rate differentials. Country risk exists whether a country has a currency or not, but it might be positively linked to currency risk since, in the absence of a local currency, there is no risk that the authorities will have to defend the exchange rate through excessive debt accumulation, sharp increases in interest rates, or through capital controls, all of which might increase the risk of default or confiscation. And, there is no risk of devaluation-induced banking distress. On the other hand, the possibility to devalue might reduce country risk by improving the prospects for the domestic economy in the face of real shocks. The country risk premia charged on the Brady bonds of Panama (dollarized) have been consistently lower than the premia charged on the Brady bonds of Argentina (currency board), although, the premia have moved in tandem, suggesting that the absence of a currency has isolated Panama from swings in market sentiment toward emerging markets (Berg and Borenstein, 2000).

Moving to a More Sophisticated Monetary Framework

No currency arrangement is optimal forever, and as the Palestinian economy and economic policy institutions develop, a more sophisticated monetary framework might become desirable. It is clearly easier to move to such a framework (for example, managed float) from a currency board arrangement than from complete dollarization. Under a currency board, the PMA (and the PA more generally) could build up its policy credibility with the public by strictly adhering to the currency board principles and implementing sound fiscal policy, so that eventually a more flexible exchange rate regime, if deemed desirable, could be adopted. As shown in the IMF study (Eichengreen, and others, 1999), it is also easiest to leave a currency board (or a fixed exchange rate more generally) from a position of strength, or when there is pressure on the exchange rate to appreciate.

Concluding Remarks

An issue that will receive considerable attention in the future is whether to introduce a Palestinian currency, and if so under what type of exchange rate regime. This chapter argues that an introduction of a Palestinian currency would stand the greatest chance of success—in the sense of receiving a higher degree of public acceptance—if it were introduced under a currency board arrangement and if the introduction followed reforms to significantly strengthen fiscal management and bank supervision. The case for the currency board is based on the need to bestow the new currency with the highest possible credibility. Palestinian institutions, including the PMA, are young, and many of them are still in the process of establishing themselves. In such an environment, it would be unreasonable to expect the Palestinian public to have, from the onset, the same confidence in a new Palestinian currency as it has in the three currencies now circulating in the West Bank and Gaza, the new Israeli sheqel, the Jordan dinar, and the U.S. dollar, unless there is a transparent and simple institutional framework that effectively constraints the scope for discretionary monetary policy. A currency board provides such a framework. Introducing a Palestinian currency under any other form of exchange rate regime is very likely to lead to a slower transition to the new

currency and to lead to a higher degree of currency substitution.

A fixed exchange rate under a currency board is not without risks, however. One key concern is the risk of overvaluation of the real exchange rate. This risk can be mitigated by the choice of exchange rate regime and by supportive macroeconomic and incomes policies. Strengthening the PA's fiscal policy management and the PMA's bank supervision capacity would help reduce the risk that domestic

policies cause an overvaluation of the fixed exchange rate. Deciding on the appropriate anchor currency for the West Bank and Gaza is perhaps the single most important question but also the most difficult one. There is no obvious and easy solution. The problem of identifying an appropriate anchor currency in the wake of what might be a process of fundamental transformation of the Palestinian economy can be one argument for waiting with the introduction of a Palestinian currency.