The Saban Center for
Middle East Policy
at The Brookings Institution

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Number 5, May 2005

Dollarization in Israel-Palestine

Sever Plocker

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Executive Summary

"*For a small economy, heavily dependent in its trade and capital account transactions on a particular large economy, it may well make sense to adopt the currency of that country*" —Professor Stanley Fisher, deputy managing director of the IMF in 2001 and governor of the Bank of Israel in 2005.

This paper is a proposal for a radical currency arrangement by which the U.S. dollar will become the only legal tender in Israel, completely replacing the Israeli shekel, which is also the dominant currency of the Palestinian Authority. The popular name for such an arrangement is "full dollarization," defined by the IMF as the use by a country of "the currency of another country, which circulates as the sole legal tender." Under the dollarization scheme, the United States will become the anchor and Israel the client country. This paper will present four perspectives on dollarization: the Israeli, the American, the Palestinian, and the economists', concluding with four appendices.

The Israeli Perspective

After three years of severe economic recession, followed by modest recovery in 2004, the new Israeli shekel remains a marginalized currency. Its future is bleak. The currency of the nearby European Union, the euro, is steadily gaining new users. Israel, which enjoys a limited economic association agreement with the European Union (under the framework of the European Neighborhood Policy), has not been invited to stand even at the back of the line of countries wishing to join the enlarged European Union. Another rising economic block, the monetary union of Gulf Cooperation Countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates) is closed to Israel in principle. Thus, in the not-so-distant future, Israel will find itself squeezed between two powerful monetary unions, both offering investors new supranational currencies. This currency alienation (as well as political alienation) from Israel's neighbors will have severe negative effects on exports from Israel and foreign investments in Israel. Short-term dollar capital flows in and out of Israel, motivated by currency risk only, will move the exchange rate of the shekel up and down in dangerous cycles. The status quo, therefore, is not an option.

The continuing use of the shekel in Israel will present an even higher barrier to the flow of trade, money, and international business. This could and should be changed by replacing the shekel with the dollar and liberating Israel, once and for all, from the burden of managing an independent currency. As the shekel is neither a source of national pride nor a symbol of Jewish sovereignty, replacing it with the U.S. dollar will not arouse any real opposition in Israel on patriotic grounds. On the contrary, the vast majority of Israeli citizens will see such a move as a blessing to the economy and as a unique way to

strengthen and cement Israel's "special relationship" with the United States.

The recent economic history of Israel could be interpreted as a never-ending search for the right exchange rate regime. The frequent shifting of exchange rate regimes was a significant drag on growth. From the assassination of Prime Minister Yitzhak Rabin in 1995 until 2003, the performance of the Israeli economy has been dismal. GDP per capita stagnated, despite very rapid growth of GDP per capita in countries similar to Israel. The 2.4 % per capita growth achieved in 2004 doesn't change the picture: according to a detailed estimate made by a leading private economic forecasting company, the actual GDP of Israel is 20% lower than its potential GDP; only 5% of this huge gap can be attributed to the terror wave; the rest is due to the monetary policy of high real interest rates, a policy basically motivated by fear of an exchange rate crisis.

Maintaining and managing a domestic currency thus puts an evidently heavy burden on the limited governance resources of the captains of the Israeli economy. If the same amount of soul-searching and public energy were to be invested in promoting growth, implementing structural reforms, and fighting poverty, no doubt the economic and social situation of Israel today would be much better. The policy zigzags of the Bank of Israel have been particularly damaging to the economy in the past few years, during the period of deep economic recession.

The true costs of continuously fluctuating interest rates are hard to measure but are certainly harmful to business decision-making, domestic and foreign investments, and to the valuations of firms on stock markets. They exacerbate the distorting effects of a restrictive and volatile monetary policy. A comprehensive assessment of the recent monetary policy in Israel, included in a two-volume history of the Bank of Israel, concludes that the policy was over-aggressive and led to a substantial slowdown of economic activity.[1]

Far from being a shock absorber, the so-called "sovereignty to devaluate" is—in the case of Israel—a shock amplifier, seen by economic actors and the public at large as an ineffective tool of economic policy. Accustomed to the frequent devaluation-inflation-recession cycles, Israelis are free from monetary illusions. They think only in real, inflation-adjusted, dollar-adjusted terms. New studies by young economists at the Bank of Israel reject the popular notion that freer exchange rate movements in Israel do not translate into inflation-deflation cycles. They do, and even more strongly.

Reflecting upon the experience of many countries trying to break out of the vicious cycle of devaluation-inflation, the late Professor Rudi Dornbush—a strong supporter of dollarization—wrote: "If anything, exchange rates have been the dominant instrument of destabilization." Israel's economy thus needs dollarization to gain a world-class stable currency that will provide it with a much-needed sense of permanence.

What will be the additional benefits of dollarization for Israel?

First, the total elimination of the prospect of a currency crisis, which in the case of Israel could mean—and has meant, in the years 1998 and 2002—a sharp devaluation of the shekel, preceded and followed by massive buying of dollars. With dollarization, Israel will avoid any possibility or probability of further crises of this kind (crises created by sudden outflow of speculative foreign currency) and create a stable environment conducive to growth.

Second, Israel will adopt not only the American dollar but also the monetary policy and the credibility of the Federal Reserve in Washington. But will the policy of

1 Nathan Zussman, "The Monetary Policy in Israel," in *Bank of Israel: Fifty Years of Pursuit for Monetary Dominance* (Hebrew), eds. Nissan Livitan and Haim Barkai (Jerusalem, 2004), p. 67.

Mr. Greenspan—the monetary policy of the anchor country—be appropriate for Israel, the small client country? The answer depends on the co-movements of outputs and prices in the United States and Israel: the more correlated the movements, the more symmetric the shocks, and the more alike the business cycles between the two economies, the better the initial conditions for adopting the dollar. Three economists, Alesina, Barro, and Tenreyro, looked for an econometric answer to the question, concluding that "Israel might be a good candidate for the euro, although it could also be well-served by the U.S. dollar."[2] The monetary policy of the U.S. Federal Reserve would thus "well-serve" the Israeli economy, even taking into consideration only economic developments up to 1990. Broadening the period under consideration to include the years up to 2004 makes the case for dollarization even stronger, as the Israeli economy during this time became much more integrated with the U.S. economy through bilateral trade, the high-tech industry sector, and capital markets and flows. Beginning in the early spring of 2005, Israel will become a country with an American citizen serving as governor of its Central Bank. The geographic structure of Israel's foreign trade has also changed considerably in favor of ties with U.S. markets in goods and services.

The rise in the share of trade with the United States is the result of the rapid growth of two U.S.-oriented sectors of the Israeli economy: diamonds and technology, which have paved the way for extensive U.S.-Israeli financial integration. The high-tech sector in Israel already has a double identity, Israeli as well as American. The raising of capital by the venture funds industry, direct investment, and public offerings of Israeli equity all depend on U.S. financial markets. From 1995 to the end of 2004 Israeli companies made 146 public offerings on U.S. stock exchanges and raised $14 billion. The total original value of deals in which Israeli high-tech companies were acquired by or merged with U.S.-based companies, from 1995 to 2004, is $22–$25 billion. Of the $32 billion invested by foreigners directly into the Israeli business sector, $27–$29 billion are of U.S. origin.

Dollarization will produce an additional push to expand trade between Israel and the United States and may even double its volume. An influential study by Andrew K. Rose and Jeffery A. Frankel of Harvard University and the University of California estimated the effect of full dollarization on the Israeli economy (based on the structure of exports and imports in 1995) would cause an additional 121% growth in trade, primarily with the United States, and an additional 17% growth in GDP.[3]

It is a well-known fact that high interest rates depress investments; because dollarization would lower the cost of capital in Israel, it would stimulate investments in the economy. According to the Bank of Israel, "apart from a temporary increase in 2002, gross domestic investment has been declining steadily, by a cumulative 33% since 1997." The high real interest rate, admits the Bank, "hampered the recovery of investment," lowering business sector investment by 25% in 2003 alone.

From 1998 to 2004 foreign direct investment (FDI) in the Israeli economy totaled $23 billion, 80% of it concentrated in the high-tech sector. This sum represents, on average, 2.5% of Israel's GDP. From 1998 to 2002 countries with a technology achievement index, as defined by the World Bank, similar to Israel's enjoyed foreign direct investment of 6.8% of their combined GDP. Even before the *intifada* scared away foreign investors, the Israeli economy lost potential FDI of an additional $20 billion, with all its beneficial impact on growth, exports, and welfare.

One central factor explaining the disappointing level of foreign investment in Israel was and is the exchange rate regime: unstable, changing, and moving towards

2 A. Alesina, R.J. Barro, and S. Tenreyro, "Optimal Currency Areas," *NBER Working Paper 9072* (2002): 16.
3 A.J. Frankel, and A.K. Rose, "An Estimate of the Effect of Common Currencies on Trade and Income," *Quarterly Journal of Economics* (May 2002).

"free float" of the shekel. This is in sharp contrast to the hard-pegging or fixed exchange rate regime in most of the small and technologically advanced countries. Only the New Zealand dollar is free to float on foreign currency markets.

Full dollarization in Israel will provide a great stimulus to American investments in Israel—including investments in the reformed financial sector—and give a considerable advantage to the Israeli economy. It will counter balance the negative influence of geographic distance and political risks. It will reduce the costs of doing business in Israel by eliminating the conversion fees and the necessity to hedge against fluctuations in the shekel-dollar rate. It will make the Israeli business environment much more inviting and accessible to the average American corporation. By sticking with the shekel, Israel will probably suffer another loss of potential GDP by a magnitude of up to 25%.

The main argument against dollarization—particularly a unilateral dollarization—used to turn on the ability of the Central Bank to act as a lender of last resort. By printing a sufficient amount of money, the Central Bank can avoid a collapse of the domestic banking system, in the case of a panic run on the banks. Deprived of money-printing freedom, as after dollarization, the Central Bank could find itself powerless to prevent a country-wide banking crisis. But is it really so? In country after country, when commercial banks run into troubles—including Israel during the famous collapse of commercial bank shares in 1983–1984—the answer was a government-organized rescue and use of taxpayers' money, not of the printing press. The support for the financial system was identified as a budgetary and not a monetary act. As such, it could be executed after dollarization (or any other form of currency union) with the same degree of efficiency. In the long-term, there is no alternative to prudent and responsible management of other people's money by the banks themselves, nor to wise and uncompromising banking regulation.

The high level of official dollar reserves in Israel makes dollarization a relatively simple act. After announcing the chosen exchange rate of the shekel versus the U.S. dollar, the Bank of Israel can buy all the shekels from the public by using a small fraction of its dollar wealth and keeping the rest to assure an orderly supply of liquidity to the growing economy. The only remaining step to dollarization is a bookkeeping operation, efficiently implemented in Europe (with the euro) and in a few Central American countries with the U.S. dollar. To sum up the already evident lessons from recent dollarization: dollarization is possible, feasible, and does not require impossible sophistication.

Dollarization works, even under especially unfavorable conditions. People get used to it in short order and seem to gain a feeling of ownership and even pride in dollarization. Dollarization provides an incentive, impulse, and example for a variety of previously unthinkable reforms. But it should be understood from the outset that dollarization is not a miracle drug to cure the Israeli economy of all its diseases. It supports structural reforms and helps to firmly establish fiscal responsibility, but it cannot compensate for bad policy. Neither can dollarization by itself solve wealth distribution problems, ease class tensions, or ensure peace and security. But it can, by creating an atmosphere of change and new beginning, be very helpful in those issues, provided there are social and political forces ready to make the necessary changes.

The American Perspective

From the American perspective, dollarization in Israel will be a net economic gain to the United States. By adopting the dollar as legal tender, Israel will give up one of the most precious prerogatives of a sovereign government, the money-printing machine, and transfer the profits from its use (the "seigniorage," estimated at $130 million in the first year alone) to the U.S. federal government—in fact extending to the United States a perpetual, interest-free, and growing loan. Using one proposed method of calculation and assuming some realistic assumptions about long-term interest rates in

the United States and inflation and growth in (dollarized) Israel, the total present value of the total gain to the United States from dollarization in Israel approaches $20 billion. Looking at those estimates, politicians and economists in America concluded that they represent a huge obstacle to a country interested in dollarization—and an unfair profit to the United States—and proposed ways to rebate the dollarizing country for the loss, including a special bill introduced in 1999 to the U.S. Congress by Senator Connie Mack, then chairman of the Joint Economic Committee ("International Monetary Stability Act").

The most important benefits to the United States from foreign dollarization, "greater capacity for capital and trade flows in both directions" and "greater economic stability and growth," were given attention in the testimony of Lawrence Summers, the secretary of treasury during the Clinton Administration, before the Banking, Housing, and Urban Affairs Committee during the 1999 hearings on "Official Dollarization in Emerging Market Countries." Dollarization, he concluded, "would clearly be in the economic and broader national interest of the United States."[4]

Econometric models predict that, as a consequence of dollarization, exports from the United States to Israel will rise substantially, perhaps by as much as $3 billion annually, not only replacing European products on Israeli markets but also creating new trade capacity. American companies operating in Israel and invested in Israel will save large sums now paid to banks and currency exchanges. Their profitability will grow. Conversion and hedging costs will disappear. Furthermore, as a result of dollarization in Israel, the pace of reduction in civilian American aid to Israel could be greatly accelerated and the assistance, still $660 million in 2003, could be completely phased out in three years time.

The basic problem of the government of Israel in international capital markets is its inability to borrow in shekels, the domestic currency. This is seen by economists as a huge obstacle to financial stability and a potential source of crisis. Unable to sell its shekel bonds, the government of Israel asked the U.S. government to guarantee its dollar loans. Had Israel instead opted for dollarization in the summer of 2002, there would have been no need for U.S. guarantees. After dollarizing, the government of Israel could raise the money it needed to finance its budget by issuing bonds denominated in its new currency—the U.S. dollar—and selling them in world financial markets. Both countries could gain: Israel more financial stability, the United States more peace of mind.

The official position of the U.S. authorities regarding dollarization—as made public in testimonies and speeches—is one of positive neutrality. They welcome the outcome of dollarization but refrain from recommendation or *a priori* support for it. The official attitude of the U.S. government was first formulated in detail in 1999 by Summers, then U.S. Deputy Secretary of the Treasury, and reformulated in the statements, papers, and testimonies of Greenspan, Taylor, and Truman. The position of the United States is that the decision to dollarize should be left to the individual country; the United States will neither encourage nor discourage dollarization. But the United States would like to know in advance if, when, and how a country plans to dollarize. For largely unfounded reasons, the American administration seems to believe that by being an active or passive partner in dollarization, it may be held responsible—economically, monetarily, and morally—for its consequences. According to this belief, the United States will be forced to provide exceptional assistance to countries in which dollarization fails. And in the worst case, the dollarizing country will insist on taking its problems into account when formulating and implementing the monetary policy of the Federal Reserve, something the Federal Reserve opposes very vocally.

4 U.S. Congress. Senate. Banking, Housing and Urban Affairs Committee, Subcommittee on Economic Policy. *Official Dollarization in Emerging Market Countries.* 106th Congress, 22 April 1999.

Israel could—as a few countries have done recently—dollarize unilaterally. But a far better option is a formal agreement with the United States. No one will expect the Federal Reserve to give the Bank of Israel a seat in its decision-making bodies or the U.S. Treasury to freely distribute dollars to a dollarizing Israel. But cooperation mechanisms can be established and voices can be heard.

Dollarization in Israel will also serve American strategic interests in the Middle East, directly and indirectly. America's attention is predicted to be focused on the Middle East and Islamic world for many years to come. The growing usage of dollars in the region will become a common phenomenon and "dollar diplomacy" a reality in a literal sense. Having at least one well-developed country in the region (Israel) fully dollarized will make it easy for the United States to manage the new, complicated, and "monumental" geo-financial situation. And in the framework of the Israeli Disengagement Plan from Gaza, dollarizing Gaza and preventing monetary chaos there is a clear American interest.

The Palestinian Perspective

In considering dollarization in Israel, proper weight should be given to the Palestinian perspective. The Palestinian people have never had a currency of their own, never having had a state of their own. The Palestinian Monetary Authority has up to the present been prohibited from issuing a national currency, a limitation the Palestinian political and economic leadership accepts and even tacitly enjoys. But substantial parts of Palestinian finances are already dollarized.

Not having to manage a national currency has served the Palestinians very well and suited their interests, in peace and war. Even after the violence of the second *intifada* escalated, the dollarized Palestinian commercial banking system continued functioning in an uninterrupted manner, providing "near-normal" services to the local population.

Two independent commissions, one Israeli and one European, Israeli, and Palestinian, suggested it will be beneficial to the Palestinian economy not to rush to begin printing its own money. The possibility of introducing a Palestinian currency is not mentioned in any reform program approved recently by the new Palestinian government. It is not recommended by the World Bank or the IMF. A position paper presented in October 2004 to the influential Arab-International Forum on Rehabilitation and Development in the Occupied Territories in Beirut explicitly stated: "The Palestinian Authority should avoid introducing a Palestinian currency." Consequently, Palestinians enthusiastically welcome the idea of replacing the shekel with the dollar. From a Palestinian national perspective, dollarization in Israel means removal from Palestine of one additional symbol of Israeli occupation, the Israeli currency.

A window of opportunity for dollarization will open upon implementation of the Israeli Disengagement from Gaza plan. As Israel withdraws completely from the Gaza Strip, it will leave behind a monetary vacuum, and the question of an independent Palestinian currency will again become pressing. The government of Israel seems to neglect this problem, stating only (in a crucial decision adopted by the Knesset) that "the economic arrangements that are currently in effect between Israel and the Palestinians will remain valid after the disengagement, including…the monetary regime." But this is wishful thinking that takes no account of Palestinian political reality; against all the odds, withdrawal from Gaza may lead to a premature introduction of Palestinian currency.

By ending the regime of occupation, Israel will also end the official shekel regime in the Gaza Strip. What should replace it is not a new "Arafat dinnar" but the U.S. dollar, the sooner the better.

In undertaking dollarization, Israeli authorities should consult and involve the Palestinian authorities in all the considerations and preparations, treating them as equals. This is a necessity for a smooth implementation

of the passage from a shekel-based to a dollar-based economy. Debating dollarization as a concrete act will cluster together Israelis and Palestinians around an entirely new—and common—civilian agenda. Even if economics is a small factor in the push for peace, it may be a strong motive for preventing war. For the people in the streets of Afula and Gaza, the "peace dividend" is a statistical and abstract concept; foreign aid is suspicious, elitist, and corrupting; but dollarization will be a tangible feature of daily life.

Properly conducted and subjected to strict and prudent fiscal conditions, dollarization in Israel and Palestine will benefit all: the Israelis, the Palestinians, and the United States. It could even serve as a test case for a (possible and future) Dollar Middle East Monetary Union—just as the Free Trade Agreement between the United States and Israel served as a starting point for the Free Trade Agreements the United States has concluded since.

The Economists' Perspective

From the economists' perspective, dollarization is a puzzle. The puzzle was recently reframed by Anne O. Krueger, deputy managing director of the IMF: "Are countries—both their governments and their populations—willing to see their national currency disappear in return for apparently intangible benefits such as greater efficiency and access to a larger market?"[5] The answer to that question seems to be contrary to what is suggested by Krueger: yes, the populations—and frequently the governments—are willing to abandon a national currency in favor of a supranational one. The ones opposing and impeding such moves are the economists themselves. Although dozens of new research papers and new books with "dollarization" in their titles have been published in the past five years, the conclusions are often presented as elusive. In spite of all that uncertainty, one can marshal a substantial body of economic research supporting dollarization in a small and open economy similar to Israel's, making dollarization a viable proposal: "There is now an overwhelming body of evidence that countries can effectively solve the exchange rate problem—that is to say, they can effectively solve the exchange rate instability—by dollarizing. Dollarizing is a perfectly feasible way of insulating currency markets."[6]

Unable to formulate a clear position regarding dollarization or any form of currency unions, some economists tend to accuse the political decision-makers of nationalism and symbolism. But the truth is, nations, generally, do not take pride in national currency and are ready to abandon it without tears. So voted the vast majority of people in the ten nations that joined the European Union in May 2004. No doubt the European Monetary Union would never have been born if the decision had been in the hands of university economists.

The European Union and the European currency were visionary projects of motivated politicians. So should be the dollarization in Israel and Palestine. By replacing the narrative of bloody conflict with the narrative of a uniting new money, the dollarization process has the potential to encourage a positive phase in the Israeli-Palestinian relationship. Its realization suits well the leadership abilities of the newly appointed (in January 2005) governor of the Bank of Israel, Professor Stanley Fisher.

5 A. Krueger, Money and Sovereignty Exhibit Opening Address, the IMF, Washington, 15 April 2004.
6 B. Eichengreen, "What Problems Can Dollarization Solve?" in *The Dollarization Debate,* ed. Dominick Salvatore, James W. Dean, and Thomas D. Willett, (Oxford: Oxford University Press, 2003), p. 130.

The Author

Sever Plocker is currently the chief economics editor of *Yedioth Ahronoth,* the biggest and most popular daily newspaper in Israel. Born in Tashkent, Uzbekistan, he emigrated with his late parents from Poland to Israel. He earned M.A. degrees in economics and philosophy from the Hebrew University in Jerusalem.

In various stages of his career he provided economic consultations to businesses, financial institutions, and prime ministers of Israel. Mr. Plocker won two prestigious prizes for journalism in Israel: the prize to the leading Business and Economics Editor given by the Social and Economics Research Institute in Jerusalem, and the National Sokolov Prize for outstanding achievements in journalism, given on the 50th anniversary of Israeli independence. Mr. Plocker has published hundreds of articles and commentaries in Hebrew and English and appears frequently on television programs. During the fall and winter of 2003 Mr. Plocker was a visiting fellow at the Saban Center for Middle East Policy at the Brookings Institution where he analyzed the economic crises in Israel. Mr. Plocker is married to Nelly and is the father to two, Anat and Daniel.

Dollarization in Israel-Palestine

The Israeli Perspective

After three years of severe economic recession, followed by modest recovery in 2004, the new Israeli shekel is still a marginalized currency. Its future is bleak. The nearby European currency, the euro, is steadily gaining new users. Israel, now in an Association Agreement—an upgraded but basically unchanged Free Trade Agreement—with the European Union, hasn't been invited to stand even at the back of the line of countries wishing to join the enlarged European Union, as have Romania, Bulgaria, and Turkey.

The enlargement of the European Union should be understood as a watershed event for Israel, painfully described by Alfred Tovias: the "European Union will be transformed into an economic and political entity of 28 countries…all Mediterranean non-Arab countries will be E.U. members [except for] Israel…This quantum change in the level of [European] economic integration is bound to discriminate against whomever stays out of the area of integration. This is particularly grave for countries in the E.U.'s outside periphery and with strong economic links with it, like Israel."[7] Dr. Nellie Munin, former minister of economic affairs in the Israeli Delegation to the European Union, harbors no illusions: Israel could not and would not join the European Union, as "the E.U. does not see the State of Israel becoming, even in the remotest future, a member in the E.U."[8] Furthermore, "Israel's membership in the European Union may turn out to be an impossible proposition," recently wrote Dr. Oded Eran, Israel's Ambassador to the European Union, adding his own rather sobering reflection: "Israel does not belong to any association of states and it is geo-politically isolated."[9]

The most far-reaching prospect for Israel in the context of the enlarged European Union is the so-called "European Neighborhood Policy" initiative, described by Giancarlo Chevallard, head of the Delegation of the European Commission to Israel as "the roadmap to an upgraded relationship which could possibly lead to a strategic partnership…common borders [between the European Union and Israel along the Mediterranean Sea] should become factors of cooperation."[10] This policy has been perceived in Israel as a vehicle for upgrading the bilateral relations with Brussels, but intensive negotiations ended with—to quote Dr. Eran again—a "restrained and tentative," i.e. negative, response of the European Union.

7 A. Tovias, "Mapping Israel's Policy Options Regarding Its Future Institutionalized Relations with the EU" *CEPS Middle East Working Paper* 3 (January 2003): 3.
8 N. Munin, "The EU and Israel: State of the Play," (Hebrew) The Ministry of Finance, Jerusalem, (2003): 193.
9 O. Eran, "Israel and Europe—Options for Future Relations," *The Herzliya Conference Series Working Paper,* (December 2004): 3.
10 Delegation of the European Commission to the State of Israel, *Newsletter* 72, (March 2004).

Another rising economic block, the monetary union of Gulf Cooperation Countries (GCC) (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates) is closed to Israel in principle. At their summit in Muscat in December 2001, the heads of the GCC decided on "a timetable requiring the GCC to establish a customs union by 2003 and integrate their exchange rates by the same date" and "to adopt a common currency by 2010."[11] The first two required steps have already been implemented: the GCC created a customs union with a common external tariff rate of 5% and officially and completely fixed their exchange rates in terms of the U.S. dollar, thus choosing the dollar as an anchor currency. Regarding the common currency planned for 2010, neither a name nor a rate of exchange has yet been decided, although two leading economists from the Saudi Arabian Monetary Authority suggested recently that "the probability is that the new currency would also be linked to the dollar" and its exchange rate "could be set as one to one (to the dollar)."[12] The GCC Monetary Union is predicted to be "an enlarged, unified market whose present GDP exceeds $300 billion" and to serve as the "Middle East's largest and most liquid capital market," attracting huge foreign investments.[13]

Thus, in the not-so-distant future, Israel will find itself squeezed between two powerful monetary unions, both offering investors new supranational currencies. What are the chances for the Israeli shekel in such economic surroundings? In discussing the possibility of effective dollarization in New Zealand, economists from the Reserve Bank of New Zealand formulated a "major difference between the European context and what applies to New Zealand," namely, "for small European countries the status quo was not an option. A currency union of one sort or another was emerging."[14] In the context of Israel, basically a small semi-European country, a currency status quo—keeping the shekel—is also not an option.

Currency alienation (on top of political alienation) from Israel's neighbors will have severe negative effects on exports from Israel and foreign investments in Israel. The continuing use of the shekel will present an even higher barrier to the flow of trade, money, and international business. Short-term dollar capital flows, in and out of Israel, motivated by currency risk alone, will move the exchange rate of the shekel up and down in dangerous cycles, as has happened in the past. From 2001 to 2003 the speculative short-term portfolio activity in Israel's foreign exchange market (led by foreign banks) was the "main force" pushing for the deprecation and appreciation of the domestic currency (as there is almost a full correlation between short-term capital flows and the frequent changes in exchange rate.)[15]

The actual sums involved were very small by world financial market standards—one to two billion dollars—but huge compared to the daily turnover of the Israeli shekel/dollar market of $1.3 billion (average for 2004). The Bank of Israel concluded in its most recent yearly survey, "The changes in the exchange rate reflect the operations of foreigners in the shekel/dollar market, primarily in short term positions."[16] And even that small shekel/dollar exchange market shrank in the past year (the spot turnover declined by 10%), giving the Foreign Exchange Activity Department of the Bank of Israel a real headache and calling the "long-term path of this market into question."[17]

11 M.B.Z Al Falasi, "Concrete Steps Towards the Establishment of a Monetary Union for the Gulf Cooperation Council Countries," in "Regional Currency Areas and the Use of Foreign Currencies," *BIS Paper,* (May 2003).
12 Ibid.
13 K. Al Basan, "The Gulf Cooperation Council Monetary Union, A Baharani Perspective," in "Regional Currency Areas and the Use of Foreign Currencies," *BIS Paper,* (May 2003).
14 N. Bjorksten, Anne-Marie Brook, "Exchange Rate Strategies for Small Open Developed Economies Such As New Zealand," *Reserve Bank of New Zealand Bulletin* 65, no. 1, (2002): 25.
15 B. Ezer, "The Foreign Exchange Market," Lecture given at meeting with foreign exchange operators (Hebrew), Bank of Israel, Tel Aviv, 1 January 2004, p. 3.
16 Bank of Israel, Annual Report 2003, Hebrew, Jerusalem, March 2004, p. 65.
17 Ibid., p. 13.

The economy of Israel will pay a high price for its not-so-splendid currency isolation. More globalized sectors of the economy, vital to Israel's growth, will probably seek and find ways to isolate themselves from the shekel's domain, moving the centers of activity out of Israel and into the United States. In the past seven years, the private non-banking sector of the Israeli economy was a net buyer of dollars and dollar-dominated assets; it bought a net amount of $21.5 billion and turned its exposure to foreign currency upside down, from a debtor to a creditor situation. The rush into dollars was led by households and individuals, whose assets abroad grew from $1.8 billion in December 1999 to $6.7 billion in December 2003, to an estimated $10 billion by the end of 2004. It didn't stop even in a period of relative tranquility like the second half of 2003 and the whole of 2004: during that year Israeli residents bought $6 billion on the foreign currency market and deposited $1.2 billion abroad.[18]

Israeli citizens, remembering the previous painful incidents of exchange rate instability, preferred a large and costly exposure over revaluation of the shekel and were ready to pay the price in foregone earnings. In spite of the latest stability in the shekel/dollar exchange rate, fears of devaluation in Israel are still running high, not because of a basically unsustainable macroeconomic policy but because of the unique currency situation of Israel. This could and should be changed by replacing the shekel with the dollar and liberating Israel, once and for all, from the burden of managing an independent currency. And a burden it evidently is: "a small country may be too small for independent money to be efficient."[19] The popular name for such an arrangement is "full dollarization", defined by the IMF as the use by a country of "the currency of another country, which circulates as the sole legal tender."

In the dollarization scheme, the United States will become the "anchor" and Israel the "client" country. Dollarization may be unilateral, a purely Israeli initiative, or it may be done in cooperation with the United States. If the cooperation leads to a full monetary treaty, in which the specific needs of the Israeli economy are taken into account, and the revenue from creating money ("seigniorage") is shared with the Bank of Israel, dollarization becomes a "currency union". The euro block in Europe is an extreme form of a currency union; its unique characteristic being the creation of a new common currency, the euro, and of a common central bank, the ECB, which runs a common monetary policy. But from the point of view of a small, developed country, the real difference between adopting the foreign currency "euro" (and joining the European Monetary Union) and adopting the foreign currency "dollar" (and reaching some kind of tacit understanding with the U.S. monetary authorities) may be negligible. The macroeconomic requirements and the exchange rate stability criteria may be the same and the relevant outcomes the same. After all, what influence will a country like Cyprus have on the conduct of monetary policy by the European Central Bank after it becomes a full member of the EMU?

Much is in a name. While "dollarization" is still problematic for many, "euroization"—joining the European Monetary Union—seems highly respectable. Adopting the euro is interpreted as a manifestation of economic and financial maturity, adopting the dollar as a sign of economic and financial weakness. In that context, it is important to pay attention to recent testimony given by Dr. John B. Taylor, undersecretary of treasury for international affairs before the Committee on Ways and Means of the U.S. Congress. Taylor bundled together and equated dollarization with euroization, saying, "We also recognize that, especially in the case of small open economies, there are benefits from a 'hard' exchange rate peg, whether dollarizing, as with El Salvador, joining a currency union, as with Greece, or using a credible currency board, as in Bulgaria."[20] In another appearance before the Joint Economic

18 Ibid., p. 79–82 and Bank of Israel, "Israel's External Financial Position and Foreign Currency Transactions," Jerusalem, January 2005.
19 Alesina, Barro, and Tenreyro, "Optimal Currency Areas," *NBER Working Paper* 9072 (2002): 5.
20 U.S. Congress. House. Ways and Means Committee. *Economic Relations between the United States and China.* 108th Congress. 30 October 2003.

Committee of the U.S Congress, Taylor even used the unusual phrase "to dollarize with euro."[21] And so, in a manner of speaking, dollarization became the generic name for adopting any foreign currency as the legal tender, be it the dollar, the euro, or even the South African rand (as in a few southern African countries). Were "dollarization" to be fully rehabilitated, perhaps it would make the decision to dollarize, in Israel or elsewhere, less politically charged.

Ultimately, dollarization in Israel will be decided on political grounds. Although no public opinion poll on the question of dollarization has been conducted in Israel, there are strong indicators that a successful dollarization (or, preferably, some form of "currency union" with the United States) will be welcomed by a large majority of Israel's citizens, since the heavy risk of a currency crisis, always looming on the horizon, will be removed once and for all. Israelis have a deeply entrenched dream of belonging to a large economic block: more than 85% of Israelis polled by the EU Delegation to Israel supported the idea of Israel joining the European Union. One can expect the same percentage will support dollarization, as a majority of Israelis think that economic relations with the United States contribute more to Israel's economy than relations with the European Union.

The shekel, seen as a provincial and unconvertible currency (outside the borders of Israel), is neither a source of national pride nor a symbol of Jewish sovereignty. Replacing it with the U.S. dollar will not arouse any real opposition on nationalistic grounds. On the contrary, the vast majority of the citizens of Israel will see such a move as a blessing to the economy and as a unique way to strengthen and cement the special relationship with the United States. In the eyes and hearts of public opinion in Israel, the gain to national security resulting from dollarization will easily overcome the loss of "monetary independence" associated with it.

The recent economic history of Israel could be interpreted as a never-ending search for the right exchange rate regime.[22] The government and the Bank of Israel tried almost every possible arrangement. Experiment followed experiment. In the intense debates on monetary and exchange rate policy, everybody was and is involved: the governor of the Bank of Israel, the finance minister, the prime minister, the labor unions, the press, and various other political and institutional factions.

Jacob Frenkel, former governor of the Bank of Israel, described the process as follows: "I don't think there is a single exchange rate regime that Israel did not go through. It had a peg to dollar, a peg to the basket, a horizontal band, a sloped band, a winding band, a parallel-to-boundaries band and a non-parallel-to-boundaries band."[23] To that already long list one should add two regimes now in force in Israel: the "free floating" exchange rate regime and the "inflation targeting" monetary regime, the two of which are probably in conflict with each other. Were the same amount of soul-searching and public energy invested in promoting growth, implementing structural reforms, and fighting poverty, there is no doubt that the economic and social situation of Israel today would be much better.

The frequent exchange rate regime changes in Israel were a significant drag on growth. Since the assassination of Prime Minister Yitzhak Rabin in 1995, the performance of the Israeli economy has been dismal. GDP per capita almost stagnated (3.5% accumulative growth in the years 1996 to 2004) in contrast to the very rapid growth of GDP per capita in countries similar to Israel: Ireland (growth of 74%), Finland (32%), Greece (32%), Spain (30%), and Cyprus (26%). Israel has trailed behind, losing ground. Even in the recovery year of 2004, in which the deterioration of the economy stopped and growth resumed, Israel's GDP

21 U.S. Congress. Joint Economic Committee, *Hearing on Reform of the IMF and the World Bank.* 107th Congress. 14 February 2002.

22 For a brief description of the de facto exchange rate regime in Israel see Appendix B.

23 J. Frenkel, "Comments" in *Economic and Financial Crises in Emerging Market Economies,* ed. Martin Fedelstein, (NBER Press, 2003).

per capita grew by only 2.4%—lower than the OECD average of 2.8%.

Rafi Melnick estimated the gap between the actual business sector product of the past eight years and the potential business product, calculated according to the 1985 to 1995 growth rate trend. The gap is huge, an unrecoverable loss of 17% of the per capita product in the year 2003 alone. The reasons for the catastrophe are various—external shocks, the *intifada,* social unrest, political chaos, inefficient governments—but the preoccupation of the authorities with the shekel/dollar exchange rate and the monetary policy itself also played a sharply negative role. Barnea and Djivie, analyzing the changes in monetary and exchange rate policy of the Bank of Israel, concluded that interest rate volatility after 1997 was higher than in the preceding years ("the interest rate changed direction faster and to a more substantial degree"), thus leading to higher output losses: for every 1% of reduction in inflation, the economy suffered a cumulative 3.8% (!) reduction in output.[24]

According to a detailed estimate made by "Economic Models," a leading private economic forecasting company, "the actual GDP in the year 2003 was lower by approximately 20% than the potential GDP. Only 5% of this huge gap can be attributed to the terror wave and the rest to the wrong monetary policy, which started in 1996 with an extreme interest rate hike by the Bank of Israel and continues up to now."[25] Were the monetary/exchange rate policy to follow another path, the per capita GDP in Israel would now be, according to Economic Models estimates, approaching $20,000, as opposed to $16,800, the actual per capita GDP in 2003. The unemployment rate would be 5% of the labor force, not 10.7%.

Table 1: The Growth that Wasn't

Country	1995 GDP per capita[1]	2004 GDP per capita	Real Growth[2]
Finland	18,280	27,960	32%
Ireland	18,200	35,880	74%
Israel	18,000	21,000	3%
Spain	15,440	22,840	30%
Cyprus	13,380	19,220	26%
Greece	12,900	19,560	32%

1 GDP per capita in Purchasing Power Parity ("International") Dollars.
2 Real growth rate computed from GDP per capita in domestic currency and in constant prices from 1995 to 2004, inclusive.

Source: IMF, World Economic Outlook September 2004 Database; Bank of Israel Annual Reports.

What do the five rapidly growing countries above have in common? Neither low taxes nor high economic freedom: they gradually gave up their national monetary sovereignty, lowered interest rates, and concentrated on promoting real economic goals and reforms, first and foremost growth-oriented ones. Four had already joined the EMU: Ireland, Finland, and Spain in 1999; Greece two years later. Cyprus became a full member of the European Union in May 2004; it will be able in two years' time to adopt the euro as its national currency.

The "growing five" moved happily to a regime of "euroization," a move which no doubt was a central factor in their excellent performance. Israel, in the same time, moved in the totally opposite direction. It abandoned not the shekel but the official defense of the shekel and gradually let it float on the market within a wide band and with the Bank of Israel keeping a watchful eye on currency movements, responding ad hoc by raising the interest rate, often to dubiously high real levels.

It is a well-known fact that high interest rates depress investments; because dollarization would lower the cost of capital in Israel, it would stimulate investments in the economy.[26]

24 A. Barnea and J. Djivie, "Changes in Monetary and Exchange Rate Policies and the Transmission Mechanism in Israel" in Bank of Israel, *Discussion Paper 2004* (October 2004).
25 Economic Models, 2003, p. 13.
26 S. Edwards, I. Magendzo, "Hard Currency Pegs and Economic Performance." Paper presented at a conference in honor of Guillermo Calvo, the IMF, April 2004.

Maintaining and managing domestic currency puts an evidently heavy burden on the limited resources of Israel. It constitutes an obstacle to sustained growth and development, as recently noted by the Nobel Laureate economist Robert Mundell: "Uncertainty over exchange rates affects trade directly because it affects margins and indirectly because it misdirects investments. Small changes in exchange rates can completely wipe out expected profits." Melnick, in analyzing the question of whether Israel should join the EMU (adopt the euro as legal tender), finds that "there is no doubt that the very high real interest rates played an important role in the slowdown of the Israeli economy, reflected in the loss of output, the rise of unemployment, and the poor growth performance." He concludes the present monetary regime in Israel is an "inferior option"—Israel joining the EMU being the preferred one—and recommends conducting a study that considers Israel's "joining a dollar currency block."[27] Almost all the arguments Melnick puts forward in favor of abandoning the shekel and replacing it with the euro apply *a fortiori* to the dollarization-by-agreement proposal presented in this paper. The Israeli economy thus needs dollarization to gain a "world-class" stable currency that will provide it with a much-needed "sense of permanence."[28] No doubt the Israeli economy will greatly benefit from the total elimination of the prospect of a currency crisis, a crisis which in the case of Israel could mean—and in fact has occasionally meant—a sharp devaluation of the shekel, preceded and followed by massive buying of foreign currency. Razin and Rubinstein incorporated the likelihood of a currency crisis into the evaluation of exchange rate regimes and found a substantial negative impact of the probability of crisis on real economic growth.[29] Switching to full dollarization in Israel will, by definition, eliminate the likelihood of such a currency crisis, thereby having a positive effect on growth. The two outbreaks of currency instability in Israel in recent years prove the point.

The Asian currency crisis of the years 1997–1998 arrived in Israel late, by mid-November of 1998, after the worst of the attack on world financial markets was already over. Nevertheless, it caused a 20% devaluation of the shekel and forced the Bank of Israel to react by raising the interest rate sharply. Inflation retreated, but a price was paid: the economy stagnated again. This could be avoided, notes Melnick, by euroization (or dollarization) in Israel. "In 1998, no member of the EMU suffered from any contagion effect from the Asian financial crisis, hence the Israeli economy, by giving up the shekel, would have avoided the implications of monetary contraction…The pattern is likely to be repeated in the future." And so it was: the next crisis came without warning in spring and summer 2002. The shekel again was losing value almost daily, quickly reaching the frightening number of five shekels to the dollar. The Bank of Israel, after a brief period of displaying indifference, changed its policy and, citing "inflationary expectations," "loose budgetary policy," and "increased demand for foreign currency by households," raised the interest rate steeply, until devaluation stopped.

The magnitudes are spectacular: during the last quarter of 2001, inflation in Israel was negative—prices falling at annual rate of -2.3%. By the second quarter of 2002, the picture changed completely, with inflation turning positive—prices rising by an annual rate of +16.3%. The reason: shekel depreciation, which amounted to 14.5% during the first half of 2002. The cure: the Bank of Israel introduced a series of interest rate hikes that climbed to 5.3% and brought up the interest rate from 3.8% to 9.1%.[30] That "policy zigzag" of the Bank of Israel "was particularly damaging to the economy, which was suffering from its deepest economic crisis in years."

27 R. Melnick, "Should Israel Join the EMU?" The Interdisciplinary Center, Herzliya, November 2003.
28 Mundell, p. 28.
29 A. Razin and Y. Rubinstein, "Growth Effects of Exchange Rate Regimes and Capital Account Liberalization in the Presence of Crisis." *IMF Working Paper* 03/343.
30 Bank of Israel, *Inflation Report No.10,* (July 2002): 7.

At the core of modern monetary policy exists a cruel trilemma: "capital mobility, an independent monetary policy, and a fixed exchange rate objective are mutually incompatible."[31] What does it mean for Israel? It means Israel cannot have a complete liberalization of capital movements, an independent policy of the Bank of Israel, and a relatively stable exchange rate of the shekel. One of the three must give in. The Bank of Israel wants—naturally—to keep intact the achievements of liberalization and the independence of its monetary policy. It should be ready, therefore, to tolerate free floating of the exchange rate of the shekel. But that is impossible because of econo-political constraints and the inflation stability target.

This inner conflict is apparently "solved" by extensive use of interest rate changes as anti-devaluation and anti-revaluation devices. The true economic costs of interest rates jumping up and down and up again may be hard to measure but are certainly unhealthy to business decision-making, to domestic and foreign investments, and to the valuations of firms on stock markets. "The effects of monetary policy," warns Joseph Stiglitz, "are long-lived and highly distortionary in impact on the economy." Those distortions are "exacerbated when monetary policy is used to maintain exchange rate stability, for such usage entails rising interest rates to extremely high levels when the economy faces a currency crisis …[therefore] great weight should be attached to the costs of interest rate variability."[32]

The last two episodes of financial near-crisis in Israel have one thing in common: in both cases the economic policy-makers proved they stand ready to fight devaluation of the shekel using monetary policy—even during a recession, even by prolonging a recession.

Besides political instability and security deterioration, a financial avalanche may occur in Israel as a result of the far-reaching liberalization of its markets. From time to time foreigners discover the Israeli stock exchange. They start buying securities, pump in a lot of "hot money," inflate a bubble and revaluate the exchange rate of the shekel. Then, eager to realize their paper profits, the short-term portfolio investors initiate a wave of selling of Israeli stocks and Israeli currency. A sharp devaluation follows and pushes the Bank of Israel to adopt its usual stance: raise interest rates. It happened in the passage from the boom of 2000 and 2001 to the bust of 2002 and 2003. It may happen again. Another possible trigger of financial instability: a recently approved amendment to the capital taxation code eliminating the preferential treatment given up to 2005 to investments by Israeli residents in Israeli securities. The potential impact of this tax equalization (on foreign and domestic capital gains and earnings) on the currency market is quite frightening: even taking into account the home bias of Israeli private and institutional investors, they will want to change drastically the composition of their portfolios by buying foreign bonds and stocks by the billions. The capital outflow potential is estimated by the Bank of Israel to be over $11 billion and may cause quite a shock on the shekel/dollar market.[33] There is every reason to believe that, in the existing monetary regime, and in spite of the "*mea culpa*" declarations of the Bank of Israel, it will continue to attach existential significance to a stable exchange rate of the shekel. For national security reasons obvious to every Israeli, avoidance of a developing currency crisis, even in its mildest form, is the highest priority of any responsible civilian regime in Israel.

Through dollarization, Israel will find a better and more beneficial way out of the trilemma: it will adopt the American currency and the monetary policy and

31 U.S. Congress. Senate. Banking, Housing and Urban Affairs Committee, Subcommittee on Economic Policy. *Official Dollarization in Emerging Market Countries.* 106th Congress, 22 April 1999, p. 323.
32 J.E. Stiglitz and B. Greenwald, *Towards a New Paradigm in Monetary Economics.* (Cambridge: Cambridge University Press, 2003), p. 193.
33 G. Benita and H. Levy, "The Potential Effect of Eliminating Higher Taxes on Foreign Capital Earnings" (Hebrew), Foreign Exchange Activity Department, Bank of Israel, Jerusalem, 2004.

credibility of the Federal Reserve in Washington. But would the monetary policy of the Federal Reserve suit the needs of the Israeli economy? This is the most crucial question of dollarization. Theoretically, it can be reframed in two separate questions. One addresses the domestic monetary/exchange rate policy: if this domestic policy does nothing to buffer and absorb the real shocks inflicted upon the economy, or even reacts in a harmful way, abandoning it carries no costs.

Will putting Israel's monetary policy forever at the mercy of the Federal Reserve be a wise move (although the recent experience of newly dollarized countries points to the possibility of conducting a limited independent monetary policy even after dollarization, especially by regulating the domestic banking and credit industry)? Will the policy of Mr. Greenspan and his followers—the policy of the anchor country—be appropriate for Israel, the small client country? The answer depends on the co-movements of outputs and prices in the United States and Israel. The more correlated the movements, the more symmetric the shocks, and the more alike the business cycles between the two economies, the better the initial conditions for adopting the dollar and the dollar monetary policy. Alesina, Barro, and Tenreyro clearly formulate the crux of the problem, "The costs of giving up monetary independence are lower the higher the association of shocks between the client and the anchor. The more the shocks are related, the more the policy selected by the anchor will be appropriate for the client as well."[34]

Alesina, Barro, and Tenreyro performed a rigorous analysis of co-movements (relative variance) of outputs (GDP per capita in constant purchasing power dollars) and prices (GDP deflators) of a few dozen countries in the years 1970 to 1990 in order to find "which currency unions appear most attractive" with respect to three natural anchors: the United States, Japan, and the 12 euro countries. In other words, they sought an econometric answer to the question, does a country have a good reason to abandon its own currency and to adopt the dollar, the yen, or the euro, taking into account the criteria of close economic co-movements? Fortunately, they included Israel in their study and reached the conclusion that "Israel might be a good candidate for the euro, although it could also be well-served by the U.S. dollar." The monetary policy of the U.S. Federal Reserve would thus well-serve Israel's economy, even on the basis of economic developments up to the year 1990. Broadening the period under consideration to include the years up to 2004 will make the dollarization case even stronger, as the Israeli economy during this time became much more integrated with the U.S. economy, through bilateral trade, the high-tech industry sector, and capital markets and flows. Moreover, from October 2002 to November 2004, the Israeli economy was suffering from frequently falling consumer prices (the cumulative change in the Consumer Price Index during a two year period, 2003 and 2004, was negative at -0.7%). Switching to the expansionary monetary policy of the U.S. Federal Reserve with its very low interest rates could be a blessing for the Israeli economy.

For Israel, a country in a permanent state of ferment, dollarization would also induce "an irreversible institutional change toward low inflation, fiscal responsibility, and transparency."[35] Why irreversible? Because "once the economy is dollarized…the government can't print money, it can't have an unbalanced budget. It can borrow and run deficit, but it can't run an inflationary deficit."[36] Here is a verdict that applies to Israel: "One attraction of dollarization is that sound monetary and exchange rate policies no longer depend on the intelligence and discipline of domestic policy-makers."[37]

It should be understood from the outset that dollarization is not a miracle drug to cure the Israeli economy

34 Alesina, Barro, Tenreyro, 2002, p. 16.
35 A. Berg, and E.R. Borenstein, "The Pros and Cons of Full Dollarization," in *The Dollarization Debate.*
36 R.A. Mundell, "Currency Areas, Exchange Rate Systems and International Monetary Reform," in *The Dollarization Debate.*
37 R.J. Barro, *Nothing is Sacred: Economic Ideas for the New Millennium* (Cambridge, MA: The MIT Press, 2003.)

of all its diseases. It supports structural reforms and helps to firmly establish fiscal responsibility, but it cannot compensate for bad economic policy.

Neither can dollarization by itself solve wealth distribution problems, ease class tensions, or ensure peace and security. But it can, by creating an atmosphere of change and a new beginning, be very helpful even in those issues, provided there are social and political forces ready to make the changes.

The prosaic benefit of using international currency is the elimination of transaction costs related to converting dollars into shekels and vice versa for import and export purposes. Those costs comprise three kinds of fees charged by banks: the transfer, the exchange, and the so-called "exchange rate differential" fee. All told, they may come to 1.17% of foreign trade turnover. As the turnover of trade (the sum of exports and imports of goods) between Israel and the United States amounted in 2004 to $20.4 billion, the conversion costs saved in the case of dollarization may be estimated at $240 million, or a little less than 0.2% of Israel's GDP. But that estimate should be understood with care. On the one hand, it does not reflect either the conversion cost related to foreign trade in services (for which a geographical breakdown is unknown) or the costs to the Israeli public of holding assets in U.S. dollars and to the U.S. investors of making business in Israeli shekels. On the other hand, the actual sum charged by the banks for transaction costs may be considerably lower due to fierce competition.

Those transactions costs by themselves cannot explain why a separate currency is a serious obstacle to international trade and investment and why a common currency has the ability to expand them—a fact well documented by econometric studies. The true reasons have much more to do with sociology than economy. According to Alesina and Barro, "money is like language, the more people speak the same language, the easier to communicate."

An influential study by Andrew K. Rose and Jeffery A. Frankel of Harvard University and the University of California estimated the effect of full dollarization on the Israeli economy (based on the structure of exports and imports in 1995) as causing an additional 121% growth in trade, especially with the United States, and an additional 17% growth in GDP.[38] Updating their data to 2002, the results are even more convincing: dollarization can bring an additional 135% growth in foreign trade and a 22%–25% additional growth in GDP in Israel. This should serve as clear evidence that being a very open, small, and U.S.-dependent economy, Israel could be far better off by adopting the dollarization option.

Since the first studies of Frankel, Glick, and Rose were published, the trade-enhancing capabilities of currency unions has attracted the attention of many economists. Extensive econometric research has been conducted and many forms of currency unions, dollarizations, and exchange rate regimes analyzed. The estimated positive effect of forming a currency union and/or adopting a foreign currency as a country's own varies widely, from 550% to 11%. A new study by the IMF confirmed these findings.[39] The same study found an additional monetary factor that depressed, to some extent, the trade between two countries: volatility of the exchange rate between their currencies. The ups and downs of the shekel/dollar exchange rate are "a component of transaction costs" and therefore are expected to have a "significant negative effect on bilateral trade" between Israel and the United States.

But one should remember the narrow base of those results: the more relevant cases of recent dollarizations and euroizations are still too fresh and short-lived to have a robust statistical significance, although their

38 Rose and Frankel, 2002, pp. 437–466.
39 P. Clark, N. Tamirisa, and S. Wei, "Exchange Rate Volatility and Trade Flows—Some New Evidence," the IMF, May 2004.

experience is of great importance to the discussion about the feasibility and effect of dollarization in Israel.

Another recent paper by Sebastian Edwards and Igal Magendzo seeks a statistically significant answer to the question of "whether common currency countries—both dollarized and independent currency unions—have outperformed countries that have a currency of their own." They based their research on 52 countries and territories that have, in the years 1970 to 1998, abandoned a domestic currency and adopted instead a common foreign currency. Most of them are very small. Some entered into currency unions and some (32 in number) simply dollarized. After accounting for numerous regional variables (like independence and population) and covariates (like economic size and openness), Edwards and Magendzo reached the following conclusion: "countries with a common currency regime experienced a higher rate of growth of GDP per capita than countries with a currency of their own."[40]

The integration of the economy of Israel with that of the United States is deep and overwhelming. Over the years, the geographical structure of the foreign trade of Israel changed considerably. In 1980, exports of goods to the United States consisted of only 17% of total exports of goods from Israel, while exports to the twelve countries of the Euro-block (as existing today) totaled 33% of exports. In 2002, the proportion of exports to the United States rose to 40%, while those to the Euro-block fell to 20%. In 2003–2004, following the rise of the euro, the dollar-denominated share of trade with the United States fell by less than two percentage points. Still, it remains high in comparison with most emerging markets. Korea, Malaysia, and Hong Kong export to the United States 20% of their total exports; Argentina and Bolivia 11%; Bahrain and Qatar 5%. But in some countries the destination of foreign trade is even more U.S.-oriented than in Israel, among them Canada (88% of total exports), Mexico (83%) and El Salvador (63%).[41] What makes the Israeli case special is the fact that even most of the non-U.S. trade is conducted in dollars: 82% of all exports of goods from Israel and 87% of all exports of services are billed in U.S. dollars.

Table 2: Trade between Israel and the United States (Goods only, in billions of U.S. dollars)

Year	2002	2004
Total exports to the United States	11.7	14.2
—excluding diamonds	5.8	6.9
Total imports from the United States	6.1	6.1
—excluding diamonds	5.7	5.4
Balance of Trade	+5.6	+8.1
—excluding diamonds	+0.1	+1.5

Source: Central Bureau of Statistics, Jerusalem, Foreign Trade Data, 2005.

Table 3: The Changing Structure of Foreign Trade of Israel

Exports, imports of and turnover (the combined value of exports and imports) of goods to and from the United States and the Euro area countries (Euro area as of 12/31/03) as a percentage of total exports, imports, and turnover.

	Exports		Imports		Turnover	
Year	1980	2004	1980	2004	1980	2004
United States	17.2	38	19.3	16.5	18.5	25.5
Euro Area	33	22.8	26.7	32.8	29.6	27

Source: Central Bureau of Statistics, Jerusalem, Foreign Trade Data, 2004.

The rise in the share of trade with the United States is the result of the rapid growth of two U.S.-oriented sectors of the Israeli economy: diamonds and technology. The high-tech sector in Israel already has a double identity, Israeli as well as American. The raising of capital by the venture funds industry, direct investments, and public offerings of Israeli equity all depend on U.S. financial markets.

From 1995 to the end of 2004, Israeli companies made 146 public offerings on U.S. stock exchanges and raised $14 billion (compared with $1.1 billion raised during the same period on European stock exchanges). The total original value of deals in which Israeli high tech companies were acquired by or

40 Edwards and Magendzo, "Hard Currency Pegs and Economic Performance."

41 J. Hawkins and P. Masson, "Economic Aspects of Regional Currency Areas and the Use of Foreign Currencies," in "Regional Currency Areas and the Use of Foreign Currencies," *BIS Paper* (May 2003).

merged with U.S.-based companies from 1995 to 2004 was $23–$25 billion. Israeli high-tech companies raised, during the years 1995 to 2003, $10 billion from venture investors, with at least 80% of the money coming from the U.S. investors. Israeli venture capital firms raised $8 billion "generally following the U.S. fundraising trend."[42]

The correlation between the NASDAQ and the Tel-Aviv Stock Exchange is well-known, well-documented, and astonishing (the coefficient of correlation between the weekly movements of NASDAQ Composite Index and Tel Aviv 100 Leading Index was estimated, for the years 1999 to 2003, at +0.8).[43] No less than 38 Israeli-related companies are now dual-listed, on the Tel-Aviv Stock Exchange and on one of the American stock exchanges. Their stock market value represents 36% of the market value of the entire Tel-Aviv Stock Exchange.

The stock of foreign direct investment (FDI) in Israel by the end of 2004 came to $32 billion, of which $24 billion was equity capital. Approximately 80% of it was invested by U.S. firms and citizens. In the years 1998 to 2002, FDI in the Israeli economy totaled $19 billion, 80% of it concentrated in the high-tech sector. This sum represents, on average, 2.7% of Israel's GDP.

During the same period, six countries with a Technology Achievement Index, as defined by the World Bank, similar to Israel's enjoyed FDI of 6.8% of their combined GDP (the six are Greece, Hungary, Ireland, New Zealand, Norway, and Singapore). By simple economic arithmetic, the Israeli economy lost potential FDI of an additional $20 billion dollars, with its beneficial impact on growth, exports, and welfare.

Analyzing that data, the Bank of Israel attributes the low level of foreign investments in Israel to the slow growth rate of the Israeli economy and to the geopolitical and security situation. But are these the only explanations? Certainly not. Even during Israel's two boom years, 1999 and 2000, which were characterized by a very stable security environment, the flow of FDI to Israel amounted to only 3.5% of GDP, contrasted with the 8.5% of GDP in the seven countries technologically comparable to Israel. In 2004, a year of sharp improvement in the security situation and deep cuts in public sector expenditure, FDI in Israel was particularly disappointing: $1 billion only—less than 1% of GDP (in the same year Israeli residents invested $2.7 billion abroad). The other explanatory factor of the disappointing level of foreign investment in Israel was and is the exchange rate regime in Israel: unstable, changing, and moving towards "free float" of the shekel.

This is in a sharp contrast to the hard-pegging or fixed exchange rate regime of six of the seven above-mentioned countries. Only the New Zealand dollar is free to float on foreign currency markets and dollarization is a constant theme of debate in New Zealand. Two economists from the Economics Department of the Reserve Bank of New Zealand wrote recently, "The question of modifying New Zealand's exchange rate policy has arisen…because of the disappointment over a slower relative growth performance…there is an awareness that small open economies could suffer greater adverse consequences of a floating exchange rate regime…so the subject [of a currency union] is worth some careful examination."[44]

Personal conversations with leading personalities in the Israeli high-tech sector led to the following conclusion: full dollarization in Israel will provide a great stimulus to American investments in Israel and give a considerable advantage to the Israeli economy. It will counterbalance the negative influence of geographic distance and political risks. It will reduce the costs of doing business in Israel by eliminating the conversion

42 *Israel Venture Capital Yearbooks 2003 and 2004,* Tel Aviv, Israel.
43 K. Abtamov and R. Dror, "The Correlation between Equity Markets in Israel and the U.S.A." (Hebrew), Tel Aviv Stock Exchange, (August 2003).
44 Bjorksten and Brook, p. 24.

charges and the necessity of hedging against fluctuations in the shekel/dollar rate. It will make the Israeli business environment much more inviting and accessible to the average American corporation. A country report on the Israeli economy, prepared by the IMF staff and published in June 2004, predicts a steady flow of FDI to Israel at a yearly rate of $4.2 to $4.4 billion, up to 2008. As a percentage of GDP, FDI will stay—according to the IMF—at the low level of less than 3.5%. This is certainly not a positive prediction.

Potentially, dollarization could sharply increase American (and Asian) direct investments in Israel, up to an additional 2% of GDP, or $2.3 billion a year. That rising flow of foreign investment would greatly accelerate the growth rate of the Israeli economy. By sticking with the shekel, Israel will probably suffer another loss of potential GDP by a magnitude of up to 25%.

In presenting the benefits and costs of dollarization, especially the "sovereignty cost" of giving up the possibility of devaluation against the dollar or another adopted currency, such as the euro, proper weight should be given to the effectiveness of devaluations as such. Can changes in nominal exchange rates have more than a fleeting effect on real exchange rates? If they can, the dollarizing country may lose an important instrument of policy to use in case of external shock (for example, a country may wish to devaluate its currency in real terms when the demand for its exports on world markets declines). If not, there is nothing to lose in this regard.

The answer in the case of Israel is obvious: in a small and highly open economy "depreciation of local currency would result primarily in a rise in domestic currency prices—undercutting the effectiveness of exchange rate changes in promoting balance of payments adjustment."[45]

Far from being a shock absorber, the so-called "sovereignty to devaluate" is, in the case of Israel, a shock amplifier, seen by the economic actors and by the public at large as an ineffective tool of economic policy. Reflecting upon the experience of many countries trying to break out of the vicious circle of devaluation-inflation, the late Rudi Dornbush, a strong supporter of dollarization, wrote, "If anything, exchange rates have been the dominant instrument of destabilization…It takes a very special kind of money illusion that accepts real wage cuts from a large and perfectly obvious devaluation." He defined devaluation as a "fooling device," useful "only as long as expectations and wages-prices cannot adjust."[46] But adjust they do, and very quickly. Israelis are certainly not the people to be fooled by it. Accustomed to the frequent devaluation-inflation-recession cycles, the economic players in Israel are free from monetary illusions and think only in real, inflation-adjusted, dollar-adjusted terms. Recent research done by economists from the influential research department of the Bank of Israel completely reject the notion that more free exchange rate movements in Israel do not translate into inflationary/deflationary vicious circles. They point to the contrary: the pass-through of devaluation and revaluation of the shekel vis-à-vis the dollar into domestic prices actually increased in recent years.[47] This feature of Israel's economic life was finally acknowledged by the Bank of Israel itself in its latest Annual Report: "The impact of the exchange rate against the dollar on prices in Israel," explains the Central Bank, "is stronger than in other small countries." Here is a sample of the data: from December 1995 until December 2004, the exchange rate of the dollar in Israel—the price of the U.S. currency in shekels—rose by 39%. The Consumer Price Index in Israel rose during the same period by 40%.

From the point of view of an ordinary citizen, unaware of the differences between goods traded on international

45 Thomas D. Willett, "The OCA Approach to Exchange Rate Regimes," in *The Dollarization Debate.*
46 Dornbush, *Fewer Monies Better Monies,* (Cambridge, MA: the MIT Press, 2000), pp. 4–5.
47 See D. Elkayam, "The Long Road from Adjustable Peg to Flexible Exchange Rate Regimes, The Case of Israel," *Discussion Paper 2003.04,* Bank of Israel, (November 2003) and A. Barnea and J. Djivie, "Changes in Monetary and Exchange Rate Policies and the Transmission Mechanism in Israel," *Discussion Paper no. 2004.13,* Bank of Israel, (October 2004).

markets and services provided on domestic markets only, the conclusion is simple: one dollar is worth today almost exactly what it was worth nine years ago. The purchasing power of a dollar in Israel didn't change. But something did: an unprecedented amount of national energy was spent on the dollar/shekel question. Decision-makers heatedly debated whether the exchange rate is "too high" or "too low," how to fix it—and whether to fix it. In the meantime, Israel experienced double-digit inflation, single-digit inflation, and even deflation. And recession: there is strong international and Israeli evidence of a negative correlation between growth and a very low—around zero or less—inflation rate.

Another objection to dollarization refers to the "lender of last resort" problem. The central bank is the ultimate guarantor of the financial system of a country; it is the lender of last resort, the Atlas on whose shoulders the commercial banks rest. In a hypothetical case of people losing their faith in the banking system as such—and running to banks' branches to withdraw their deposits in cash—the central bank can save the system by printing money and distributing it to the banks. But—so argue opponents of dollarization—the central bank can fulfill its role as the "lender of last resort" only as long as it has the capability of printing money. Deprived of it, as after dollarization, the central bank could remain powerless to stop a banking collapse. Nobody will be left to rescue the banks if a country-wide crisis develops. Dollarization, therefore, poses a real danger to the basic sustainability of a monetary and financial structure of a country.

In the last years, the "lender of last resort" argument against dollarization lost much of its steam following a few important developments. During the financial crisis in Asia, for example, central banks of the "contained" countries (South Korea, Thailand, Hong Kong) refused to ease the near-panic situation by printing new money. On the contrary, interest rates were raised and the supply of domestic money tightened. When commercial banks ran into trouble the answer was a government-organized rescue and the use of taxes, not the printing press. The support was, rightly, identified as budgetary and not monetary.

The next factor was the smooth introduction of the new common European money, the euro. Nobody on the streets of Berlin, Paris, or Athens seemed to care whether the European Central Bank could or could not play the role of lender of last resort.

These and related developments led economists to abandon the lender of last resort argument: "The ability of a central bank to find a way out of financial crisis by resorting to printing money alone is limited. [It] may only lead to greater pressure on foreign reserves or the exchange rate."[48] The burden of providing whatever support may be needed to commercial banks under stress is now viewed as the function—and problem—of the government and the treasury, not of the central bank. It could be executed after dollarization (or any other form of currency union) with the same degree of efficiency.

As for Israel, it has already experienced the most severe banking crisis in economic history, equal to 10% of GDP. In October 1983, following several weeks of heavy selling by shareholders of the seven largest commercial banks in Israel and afraid of a developing run on deposits, the government closed the Tel Aviv Stock Exchange and took control of the banks. Banks' shares were converted into dollar-denominated government-guaranteed zero coupon bonds maturing within 5 to 6 years. That was the largest move toward nationalization in Israel. Blass and Grosman estimate the total costs to the Israeli government of the banks' rescue at $6 billion (in 1996 dollars), a sum which "can be viewed as added government expenditures brought by the banking crisis" and a "net increase in government liabilities."[49] Ten years after the crisis, the government

48 Berg and Borenstein, 2003, p. 91.
49 A.A. Blass and R.S. Grosman, "A Harmful Guarantee? The 1983 Israeli Bank Shares Crisis Revisited," *Discussion Paper* 96.03, Bank of Israel, (1996).

of Israel started a slow process of privatizing the banks and regaining some of the initial cost of serving as rescuer of last resort.

The lessons of the Israeli bank crisis are important. First, no monetary action was needed or considered, no special new money printed. The Treasury took the lead and the state budget took the hit. The Bank of Israel played a secondary and minor role. Second, the full costs of rescuing the commercial banks were from the beginning treated as they should be: a burden on the taxpayers.

Practically, the "lender of last resort problem" ceased to be viewed as an obstacle to strict dollarization (although it remains a headache in a partially dollarized banking system). Israel is a net lender—to the tune of $10 billion—to world financial markets and has large foreign exchange reserves, which could and would be saved in advance. On a long-term basis, there is no alternative to prudent and responsible management of other people's money by the banks themselves, nor to wise and uncompromising banking regulation on a national level. Those two conditions may, again, be helped by dollarization. Nobody has put it better than Dornbush: "lender of last resort, more often that not, is failed or failing banking policy."[50]

No debate about dollarization could escape the famous loss of "*seigniorage*" argument. "Seigniorage," an uncommon French word, is defined by economists as the privilege of the sovereign authority to print new money: "seigniorage is the profits accruing to the monetary authorities from its right to issue legal tender currency."[51] Twenty years ago, in a paper written together with the late Michael Bruno, Stanley Fisher opposed dollarization in Israel (although admitting it could stop the hyper-inflation) on two grounds: the unusually high profits the government of Israel extracted at that time from printing money in an environment of skyrocketing prices and the relatively low volume of trade with the United States.[52] Since then, things have changed dramatically. The links with the United States economy—in trade and finance—have increased to the point of synchronization. And as hyperinflation in Israel faded away and a law prohibiting the government from printing money to finance its deficits was successfully enforced, the seigniorage profits fell from 3% to 4% of GDP to a mere 0.4% to 0.5%. Bruno dropped his objections to dollarization on that account.

The basic financial calculus of the seigniorage costs of dollarization is as follows: to implement dollarization, the Bank of Israel will buy the entire stock of shekels—the physical paper notes—held by the public using its dollar reserves. In doing so, the Bank of Israel will forgo the interest it currently earns on those reserves, mostly invested in U.S. government bonds and notes. How much? It depends on the exchange rate at which the shekels will be converted into dollars. Assuming an exchange rate of 4.5 shekels to one dollar (the average rate for 2004), the Bank of Israel will have to withdraw $4.5 billion from its reserves and turn it into pure cash. The interest income on the $4.5 billion of liquidated reserves will be lost forever.

In two years, 2002 and 2003, the Bank of Israel earned an average of 3.6% (in dollar terms) on its foreign exchange reserves, so the loss of interest income can be estimated as $160 million in the first years of dollarization, growing thereafter by an accumulated interest formula. Up to the year 2013, for example, the accumulated (lost) interest on $4.5 billion, assuming a 3.6% rate, will reach approximately $1.5 billion—all in nominal dollar values.

But that is not a complete account of the monetary arithmetic. As the Israeli economy grows, an additional amount of cash—additional dollars—must be

50 Dornbush, p. 3.
51 Berg and Bornstein, p. 85.
52 M. Bruno and Stanley Fisher, "The Inflationary Process: Shocks and Accommodation," in *The Israeli Economy: Maturing through Crises,* ed. Yoram Ben-Porath, (Cambridge, MA: Harvard University Press, 1986.)

provided, at least to enable day to day transactions. The Bank of Israel cannot print those dollars; it must deplete foreign exchange reserves to inject additional money into the system, foregoing additional future interest gains. Again, how much? Estimates are complicated and critically depend on future inflation, income elasticity of demand for money, and assumed future interest rates, but the net present value of the seigniorage loss to Israel, accumulated from D-Day (Dollarization Day) to infinity, could be substantial.

But nothing is lost in international economy: what Israel is expected to lose, the U.S. is expected to gain, dollar for dollar. The seigniorage is transferred from the Bank of Israel to the Federal Reserve System. It is an issue in economic relations between the two countries and should be solved by political negotiations. Last but not least, saying farewell to the domestic currency and welcoming the dollar has far-reaching implications for the well-being of a country as a whole, changing the calculus of social costs and benefits. As happens frequently in economics, less (seigniorage) is more (credibility): "it would be quite possible for expected welfare (of the society) to improve with dollarization, in which case the elimination of the seigniorage would be good for the economy."[53]

How would dollarization be implemented in practice? The fear of currency crisis is so deeply entrenched in Israel's way of economic life that the Bank of Israel keeps its foreign exchange—mostly dollar—reserves in the amount of $27 billion (by the end of 2004): almost four times the domestic monetary base and six times the total amount of Israeli shekels in circulation (and a full 24% of GDP). The main purpose of the foreign exchange reserves, explains the Bank, is "the lowering of the probability of a crisis in Israel's foreign exchange market." Using various criteria—like the short-term external debt, the exposure of the economy to external shocks, the activity in foreign exchange market and the level of economic development—the Bank suggests that "the State of Israel would be expected to keep foreign exchange reserves between $19 to $33 billion."

Such a high level of dollar reserves makes dollarization a relatively simple act. The Bank of Israel can buy all the shekels from the public by using a small fraction of its dollar wealth, keeping the rest to assure orderly supply of liquidity to the growing economy. Even using the exchange rate of 4.5 shekels to the dollar (marginally higher than the 4.4 shekels to dollar exchange rate prevailing in January 2005) only $4 billion, 15% of the total value of the foreign exchange reserves, will be needed to buy the entire amount of shekels held by the public. Devaluating the shekel by 10% before dollarization and converting the stock of shekel bills and coins by an exchange rate of 5 shekels to one dollar will require the use of $3.6 billion—13.3%—of the foreign exchange reserves held by the Bank of Israel. It is important to stress that the total financial position of the country will not change. A small part of the reserve dollars will just be removed from the possession of the Bank of Israel to the possession of the public.

The only remaining step to dollarization is a bookkeeping operation, efficiently implemented in Europe (with the euro) and in a few Central American countries with the U.S. dollar. An open question for political decision-makers remains the choice of the right exchange rate for dollarization, or, in simple language, how many shekels will be converted into one dollar, physically and in bank accounts. Expecting dollarization, every Israeli will ask himself or herself: what will be my dollar wage and what will be the dollar value of my financial assets and debts? How much will I be worth in dollars?

Too low a rate could result in temporary damage to the competitiveness of Israeli exports in world trade markets. Too high a rate could be perceived by public opinion as a kind of hidden taxation, a governmental device to rob the average citizen of part of his

53 Chang and Velasco, p. 65

personal wealth. The final decision will be partly economic but mostly political. Fortunately, the accumulated experience of euroizations and dollarizations proves that the choice of the initial exchange rate used for conversion is much less important than feared, the significance of the initial rate diminishing in short order. Consequently, dollarization can be implemented relatively fast, perhaps in just six months.

To sum up the Israeli perspective: by adopting the U.S. dollar instead of the new Israeli shekel, Israel has much to gain and little to lose. The freedom to devaluate is not perceived by Israeli decision-makers as a freedom at all; it is a burden, a source of fear, an economic catastrophe. The situation is similar to the one that persisted in the five central European countries (the Czech Republic, Hungary, Poland, Slovakia, and Slovenia) in past years: “the exchange rate appears to have served as an unhelpful propagator of monetary/financial shocks rather than a useful absorber of demand shocks.” By adopting the euro and giving up the exchange rate flexibility, those countries hope to gain welfare and stability. As will Israel by adopting the dollar.

Israelis are not fooled by monetary illusions; they make economic decisions in real (or dollar) terms only. The new Israeli shekel has, since 1997, been free to float only in theory. In practice, the Bank of Israel intervenes to “fix the shekel” by intensive use of the interest rate. The interest rate set by the Bank is “extremely sensitive” to devaluations.

After almost 60 months of the devastating War of Terror, Israel desperately needs a new anchor, a new device of certainty, a sense of permanence. Dollarization cannot replace military and existential security, but it could uplift the mood and support national strategic decisions which require a lot of risk-taking. The Israeli economy is thus “too small, too open,” and too nervous to have an independently floating currency (quoting with a minor paraphrase a summary of research done by J. A. Frankel).

The American Perspective

"*Dollarization is a good idea but it won't happen without U.S. leadership.*" —R. Barro, *Wall Street Journal,* March 8, 1999.

Far from being a cost, dollarization in Israel will be a net economic gain to the United States. By adopting the dollar as legal tender, Israel will give up one of the most precious prerogatives of a sovereign government, the money-printing machine, and transfer the profits from its use to the U.S. federal government—in fact extending to the United States a perpetual, interest-free, and growing loan.

Dollarization by Israel is thus an economic gift to the United States, and not an inconsiderable one. It can be best understood in the following way: when dollarizing, the Bank of Israel will take billions of U.S. dollars out of its foreign exchange reserves—actually invested in U.S. treasury bonds and notes—and exchange them for cash, distributing the cash among Israeli citizens. The interest forgone by the Israeli monetary authority is the profit gained by the U.S. monetary authority. Technically, "this operation is a simple swap of U.S. securities for U.S. dollars," as the official reserves of Israel denominated in dollars are deposited with the U.S. Federal Reserve System.[54] This is a zero-sum game: the loss of seigniorage to the Israeli government (or Central Bank) is the gain of additional seigniorage to the U.S. government (or Federal Reserve).

The initial sums involved may seem small. But over the years, as the Israeli economy grows, so will the demand for the currency in circulation, paper dollars, expanding the gain to the United States. Using one proposed method of calculation and assuming some realistic assumptions about long-term interest rates in the United States, and inflation and growth in (dollarized) Israel, the total present value of the total gain to the United States from dollarization in Israel approaches $20 billion.

Looking at those estimates, politicians and economists in America concluded that they represent a huge obstacle to a country interested in dollarization—and an unfair profit to the United States—and proposed ways of offering a rebate to the loser to compensate for the loss. As early as 1992, Lawrence Summers—who would later become secretary of Treasury—put forward a proposal to "bribe" countries afraid of dollarization on account of the loss of seigniorage.[55] Another simple and very sensible proposal was suggested by Robert Barro: the United States should provide a

54 W.C. Gruben, M.A. Wynne, and C.E.J.M. Zarazaga, "Implementation Guidelines for Dollarization and Monetary Union," in *Dollarization, Debates and Policy Alternatives,* ed. Eduardo Levy Yeyati and Frederico Sturzenegger, (Cambridge, MA: MIT Press, 2003), p. 265.

55 U.S. Congress 1999, pp. 32–33.

dollarizing country "a one-time allotment of U.S. dollar bills. This would cost the U.S. nothing, aside from paper and printing."[56]

An important "seigniorage-sharing" debate started in the U.S. Congress in 1999 and led to the "International Monetary Stability Act" (IMSA) introduced on November 8, 1999 by Senator Connie Mack, then chairman of the Joint Economic Committee of the Congress and strongly supported by the professional staff of the committee. In a nutshell, "The Mack Act" gave the U.S. Treasury power to pay back (in yearly installments) to the dollarizing country up to 85% of the seigniorage income transferred to the United States. The payment had to be conditional upon the dollarizing country getting a letter of approval—a "Certificate of Dollarization"—from the Treasury. A companion bill was introduced in the House of Representatives by Representative Paul Ryan. The aim of the bill was clearly stated: to make it easy and costless for countries to dollarize. Upon the introduction of his bill, Senator Connie Mack declared, "I see dollarization as an anti-poverty, pro-development policy that promises to be far more effective than foreign aid."

A revised version of the IMSA was passed by the Senate Banking Committee on July 13, 2000 but rejected a week later in the House of Representatives Subcommittee on Banking and Financial Services. In the case of Israel, the partial rebate of seigniorage could take the form of forgiving Israel's remaining official debts to the U.S. government.

Two additional, and much more important, benefits to the United States from foreign dollarization were given attention in the testimony of Lawrence Summers, the secretary of treasury in the Clinton Administration, before the Banking, Housing, and Urban Affairs Committee during the 1999 hearings on Official Dollarization in Emerging Market Countries. These are "greater capacity for capital and trade flows in both directions" and "greater economic stability and growth." Dollarization, he concluded, "would clearly be in the economic and broader national interest of the United States."[57]

In the sphere of the political economy, there is no question that dollarization abroad serves America. The benefits of spreading the dollar regime all over the world are "status and prestige that goes with market dominance…leadership in currency affairs…and political power that derives from the monetary dependence of others."[58]

Upon dollarization in Israel, the following specific economic gains to America can be predicted: first, exports from the United States to Israel will rise substantially, perhaps by as much as $3 billion annually, not only replacing European products on Israeli markets but also creating new trade capacity. Rose estimated the trade gains of common currency by using a cross-sectional approach and comparing the results with the so-called Trade Gravity Model. The "Gravity Model" of foreign trade predicts a higher volume of trade between countries geographically near each other. This mutual gravity could even be stronger than comparative advantages and relative prices, as in the case of Israeli imports from the European Union. Adopting a common currency is a way to overcome that influence of distance on trade, to liberate foreign trade from the predictions of the Gravity Model and to accomplish a "reduction of iceberg trading costs between two countries."[59] Rose and Glick found that bilateral trade was higher (by 300%) for a pair of countries that used the same currency than for a pair of countries each with its own sovereign money. An updated result obtained from a new Direction of Trade (IMF) data set for the years 1948 to 1997—with dollarization clearly defined as

56 Barro, "Let the Dollar Reign from Seattle to Santiago," *The Wall Street Journal* (March, 8, 1999).
57 U.S. Congress, 1999.
58 Cohen, *The Future of Money,* (Princeton, NJ: Princeton University Press, 2004).
59 Alesina, Barro, Tenreyro, 2002, p. 6.

"currency union"—was almost identical: "a pair of countries that are joined by a common currency trade over three times as much with each other."[60] Second, American companies operating in Israel and invested in Israel—and their number and investments are impressive—will save large sums now paid to banks and currency exchanges. Their profitability will grow. Conversion costs will disappear. So will the costs of hedging against Israeli currency risks. Doing business with Israel will become much easier and more transparent.

The gains from dollarization in Israel could be very significant to American financial conglomerates contemplating a strong involvement in Israel's banking and capital sector. As a result of two new structural reforms (one enabling foreign firms to operate as market-makers in Israeli government-traded bonds and the other forcing the commercial banks to sell their holdings in provident and mutual funds), the landscape of the financial sector in Israel will undergo a sea-change, becoming even more open and friendly to foreigners. The Ministry of Finance in Jerusalem clearly expects American financial institutions to rush into the Israeli market after the reforms are implemented.[61] Dollarization will certainly accelerate the process and create a clear advantage for U.S businesses.

The same gains for the United States, although on a much smaller scale, can be expected in economic relations with the Palestinians due to the dollar replacing the shekel as legal tender in the Palestinian Authority.

U.S. direct aid—both military and civilian, amounting to $3.3 billion a year on average in the years 2000 to 2003—finances all the foreign currency needs of the government of Israel and more. In FY 2003, the total military assistance from the United States to Israel reached, after including special "Operation Iraqi Freedom" aid in the amount of $1 billion, $3.59 billion and covered 35% of Israeli military expenditures. This aid is strategically motivated and has little to do with monetary relations or even with political developments. This is not the case for civilian assistance, which takes two forms: loan guarantees and cash.

The U.S. cash civilian assistance to Israel has already been reduced by $120 million dollars a year, a reduction agreed upon in 1998 and first implemented in FY 1999. As a result of dollarization in Israel, the pace of civilian aid reduction could be greatly accelerated and the assistance, still $550 million in 2004, could be completely phased out in a short time.

The first U.S government guarantees program ($11.3 billion, including accumulated interest, as of the end of December 2003) covers most (two-thirds) of the official tradable foreign debt of the state of Israel; it was tailored to fit specific Israeli needs after the first U.S. war in Iraq and in response to the huge Jewish immigration wave to Israel from the former Soviet Union. Approved by Republican President George Bush after a bitter debate on the settlements issue, the guarantees (minus $774 million invested by Israel, according to U.S. estimates, in expanding the Jewish settlements in West Bank and Gaza) were disbursed during the years 1993 to 1998 by Democratic President William Clinton. No economic strings were attached to the first guarantees program and their impact on the peace process started in Oslo was nonexistent. Nor did the guarantees slow the settlement activity: today, eleven years after the first $500 million of the program was raised by the government of Israel on American financial markets, the number of Jewish settlers in the West Bank and Gaza is approaching 250,000, more than double the number in September 1993. On the purely economic side, approximately $3.8 billion–one-third of the proceeds from the guaranteed loans—still remain in the Government of Israel account with the Bank of Israel, safely invested in U.S. government (Treasury) bonds.

60 Glick and Rose, 2001, p. 6.
61 See "Structural Reform in the Capital Market," *Inter-ministerial Committee Report* (September 2004): 12.

A new $9 billion loan guarantee program to Israel, currently in effect, was again approved after the second U.S. war in Iraq by Republican President George W. Bush. Daniel Kurtzer, the U.S. ambassador to Israel, described the assistance approval process as follows: "Israel's economy was in crisis…[and] the government took a number of serious and far-reaching measures. As the government took these steps, it asked for assistance from the United States…The U.S. said yes…The United States demonstrated in tangible ways our unbending strategic and security commitment to Israel."[62]

Again, unrealistic sums meant to represent Israeli civilian investments in the settlements are being deducted from the total guarantees. In the second half of 2003, the government of Israel utilized the guarantee framework to raise $2.35 billion in bonds, primarily on the New York capital market. An additional $1 billion in U.S.-backed bonds was raised in April 2004. Today, says the IMF, "80% of the external debt (of Israel) is backed by U.S. guarantees or held by the Jewish Diaspora." In three years' time, the government of Israel will owe foreign money only to American Jewry (in the form of non-tradable "State of Israel Bonds") and—directly and indirectly—to the American government.

The basic problem of the government of Israel in international capital markets is its inability to borrow in shekels, the domestic currency. This failure is seen by economists as a huge obstacle to financial stability and a potential source of crisis: "the inability of countries to borrow in their own currency is a fundamental determinant of the existence of currency mismatches…and is strongly associated with the relative volatility of devaluation."[63] As the ability of the government of Israel to sell its shekel-denominated bonds on foreign capital markets nearly did not exist (total foreign holdings of the government's shekel-denominated bonds are a mere $0.5 billion), it sought and found a very good substitute: U.S. guarantees for Israeli dollar-denominated bonds.

Had Israel instead opted for dollarization in the summer of 2002, no need for U.S. guarantees would have arisen. After dollarizing, the government of Israel could raise the money it needed to finance its budget by issuing bonds denominated in its new currency—the U.S. dollar—and selling them on world financial markets. The interest rate on those bonds would still reflect the sovereign country risk of Israel but not the additional exchange rate risk which exists in the case of shekel bonds. As Israel has never defaulted on any foreign or domestic debt, has a near zero current account balance and a positive net investment position (Israel is a net creditor to the rest of the world, to the tune of $10.1 billion, according to the latest Bank of Israel estimates—and its foreign net assets are projected by the IMF to reach $18 billion by end of 2008), the sovereign risk premium required by investors in Israeli dollar bonds could be very low, perhaps even lower than the "scoring" charge Israel pays the U.S. government in exchange for the guarantees. Both countries could gain: Israel more financial stability, the United States more peace of mind.

Israel could—as a few countries (Ecuador, El Salvador) recently have—dollarize unilaterally. But unilateral adoption of a foreign currency should be considered, as Melnick stresses, "the last option." A far better option for both sides is a formal agreement with the United States. Israel already has an intensive economic consultation mechanism with the United States (the Joint Economic Development Committee, chaired by the secretary of the treasury of the United States and the finance minister of Israel), upgraded recently by the new loan guarantees program. That consultation framework could be easily expanded to include issues of dollarization: fixing forever the proper shekel/dollar exchange rate, solving the seigniorage problem, and providing a "table" for exchanging views and concerns

62 D. Kurtzer, Remarks to the Israel-U.S. Chamber of Commerce, Tel Aviv, 10 February 2004.
63 R. Hausmann, U. Panizza, and E. Stein, "Why Do Countries Float the Way They Float," Inter-American Development Bank, (April 2000): 12–16.

about monetary policy. No one will expect (at least not in the near future) the Federal Reserve to give the Bank of Israel a representative seat in its decision-making bodies—even in light of the nomination of Stanley Fisher, a U.S. citizen, former first deputy managing director of the IMF and former candidate for the president of the New York Federal Reserve Bank, to be governor of the Bank of Israel. Only in a symmetric monetary union would Israel obtain a voting seat on the Federal Reserve Open Market Committee.[64] Such a union is not in the cards. But cooperation mechanisms can be established and voices can be heard.

The official position of the U.S. authorities regarding dollarization—as made public in testimony and speeches—is one of positive neutrality. They welcome the outcome of dollarization but refrain from recommending or giving *a priori* support to it. But the United States would like to know in advance if, when, and how a country plans to dollarize. Although the "Mack Bill" encouraging additional dollarization died quietly after Mack retired from the Congress and public interest faded, the hearings held during the debates gave Treasury and the Federal Reserve officials a rare opportunity to reveal their views and positions regarding dollarization.

The Treasury in Washington would like to be consulted on dollarization, even insisting on being consulted, but not at the price of being involved or creating the impression of being involved in the decision to dollarize. Its position is properly called "positive neutrality." Positive in essence, neutral in appearance.

The official attitude of the U.S. government was first formulated in detail in 1999 by Summers, then deputy secretary of the U.S. Treasury:

"We do not have an *a priori* view as to our reaction to the concept of dollarization… But there are certain limits on the steps that the United States would be prepared to take in the context of such a decision. Specifically, it would not be appropriate for the U.S. authorities to extend the net of bank supervision, to provide access to the Federal Reserve discount window or to adjust…the procedures or the orientation of U.S. monetary policy in the light of another country deciding to adopt the dollar.

Countries can obviously choose to adopt the dollar as legal tender without our assent," concluded Dr. Summers, "however, such a decision has some consequences for the U.S., and we hope and expect that countries would consult us in advance… If any country desires or considers adopting our currency, we would welcome discussions between our respective authorities on the various issues involved."[65]

That attitude—consultation before dollarization—has since been repeated by every U.S. official speaking or giving testimony on the subject of dollarization.

Edwin M. Truman, then assistant secretary for international affairs at the U.S. Department of Treasury, gave prepared testimony before the Senate Banking Committee in February 2000, reaffirming the same official stance: "Each country, in principle, can dollarize unilaterally and it must bear the responsibility to decide in light of its own economic and political circumstances." As for the United States, "it would not be appropriate for U.S. authorities to adjust the procedures or orientation of U.S. monetary policy in light of another country's adoption of the dollar, but we hope and expect that countries would consult with us in advance (regarding dollarization) because there are potential benefits as well as costs to the United States."[66]

64 Gruben, Wynne, and Zarazaga, 2003, p. 238.
65 U.S. Congress, 1999.
66 U.S. Congress. Senate. Banking, Housing and Urban Affairs Committee, Subcommittee on Economic Policy. *Hearing on the International Monetary Stability Act.* 106th Congress. 8 February 2000.

More recently, during a debate on reform of the IMF and World Bank in the Joint Economic Committee of the U.S. Congress, direct questions about dollarization were presented by Rep. Ryan to Dr. John Taylor. Dr. Taylor admitted he supported dollarization in Argentina and thought "it would have been useful in a particular time." Then he added, "the United States' opinion has always been that the exchange rate is an issue that is best left to the country… It is the classic issue in which country ownership should be stressed… So if a country chooses to dollarize, it is fine…" It is also fine if some countries "that are located close to Europe would like to euroize rather than dollarize." Referring to the seigniorage-sharing initiative aimed at encouraging dollarization, Dr. Taylor said, "I think it is something that needs to be continued to be discussed." And, last but not least, he assured his listeners that if a country makes a choice to dollarize "we will make every effort to make that smooth, and I know the Federal Reserve will be willing to do that as well."[67]

The meaning of those assurances is straightforward: the U.S. Treasury will support and assist any country choosing dollarization—provided it is the country's sovereign and independent decision, which in no way could be traced to American influence or suggestion. In due time, dollarization will be a world-wide phenomenon, but let us not to rush or push anyone to do it. Just sit and wait until it happens; only then welcome it.

The official attitude of the Federal Reserve System is formulated in even more cautious terms. In February 1999, during the Senate Banking Committee Hearing on Conduct of Monetary Policy, the chairman of the Board of Governors of the Federal Reserve System, Alan Greenspan, put forward his position on the dollarization debate. He bluntly rejected any suggestion that dollarization in a foreign country creates any obligation whatsoever on the United States: "We view monetary policy in the United States as for the United States…The issue of whether or not another country wishes to use the American dollar as its medium of exchange is theirs to make. They can do it unilaterally. If they choose to do that, that is their sovereign right. But we have no obligation in that regard."[68]

Lecturing during a recent conference on "Regional Currency Areas" organized by the Bank of International Settlements in Basel, Switzerland, David Howard of the Division of International Finance of the Federal Reserve System presented the most explicit and detailed list of measures the Federal Reserve would not be ready to undertake in the case of foreign dollarization. As the Federal Reserve "neither encourages nor discourages countries that are considering dollarization," it will not be obliged "to act as a lender of last resort to financial institutions of officially dollarized countries…to supervise their financial institutions, [and] to take into account their economic and financial conditions when setting U.S. monetary policy."[69] The seigniorage-sharing problem, according to Federal Reserve's position, is "a budgetary issue which should be resolved by the Administration and the Congress."[70] In short, the Federal Reserve System is distancing itself from any involvement in the practice of foreign dollarization.

For largely unfounded reasons, the American administration seems to believe that by being a partner to dollarization, active or even passive, it may be held responsible—in economic, monetary, and moral terms—for its results. It will supposedly lose the "blame game" and be forced to provide exceptional assistance to countries in which dollarization fails. And in the worst case, the dollarizing country will insist that its problems be taken into account when

67 U.S. Congress, 2002.
68 Ibid.
69 D. Howard, "The Use of Foreign Currencies: The United States Perspective," in "Regional Currency Areas and the Use of Foreign Currencies," *BIS Paper,* (May 2003).
70 Ibid.

formulating and implementing the monetary policy of the Federal Reserve.

Still, why dollarization is so problematic for economic policy-makers in Washington remains a puzzle. Hasn't the United States been involved in evaluation and stabilization of exchange rate regimes all over the world since the end of the Second World War? Does the United States not have a decisive voice and influence in international economic institutions like the IMF and World Bank? Isn't the U.S. Treasury rescuing foreign financial systems from collapse? What is so special about dollarization? Probably only the supposed mystery of the word "dollar."

Dollarization in Israel will serve American strategic interests in the Middle East, directly and indirectly. The attention of America is predicted to be focused on the Middle East and Islamic world for many years to come; the United States may safely be characterized as a new Middle Eastern superpower. Growing use of dollars in the region will thus become a common phenomenon and "dollar diplomacy" a reality in a literal sense. The heads of states of the GCC have already decided to establish a currency union and introduce a common currency absolutely fixed ("pegged") to the dollar by 2010. As an initial step, all the GCC countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates) have officially fixed their separate currencies to the dollar.[71] And although the American administration in Iraq has decided against full-fledged dollarization and even introduced a new Iraqi dinnar, it is clear that the new dinnar is drawing its monetary credibility from the presence of U.S. occupation forces on Iraqi soil. Sooner or later, the new Iraqi dinnar will become the dollar dinnar.

Having at least one well-developed country in the region (Israel) fully dollarized will make it easy for the United States to manage the new, complicated, and "monumental" geo-financial situation.

71 For a critique of that option, from the conventional IMF perspective, see Jbili and Kramanenko, 2003, pp. 18–21.

The Palestinian Perspective

"*The dominance of the U.S. dollar in bank deposits and bank lending in the West Bank and Gaza reflect its increasing importance as the currency of denomination for a wide range of transactions and its role as a growing currency of choice as a store of value.*"—Survey of West Bank and Gaza, IMF, Washington, September 2003.

In considering dollarization in Israel, proper weight should be given to the Palestinian perspective. The Palestinian people have never had a currency of their own, never having had a state of their own. (The "Palestinian pound," circulating in mandatory Palestine until 1948, was a colonial British currency.) Until 1967, Palestinians living in Israel used the Israeli pound ("lira"), while Palestinians living in the West Bank of the Hashemite Kingdom of Jordan used dinnars and Palestinians under the Egyptian administration in the Gaza Strip had the Egyptian pound. After 1967, as a consequence of the Arab-Israeli Six Day War, Israel occupied the West Bank and Gaza Strip and introduced its own currency as the principal legal tender. The Jordanian dinnar continued to serve the older generation of Palestinians and businessmen connected to Amman, but it was gradually pushed aside by widespread use of the shekel. The Oslo Agreements signed in 1993 between the Government of Israel and the PLO as sole representative of the Palestinian people led to the establishment of the Palestinian Authority, a self-ruling entity with limited and partial sovereignty. In 1994, in the context of the peace process, the Palestinian Monetary Authority (PMA) was founded for the purpose of supervising and regulating the domestic Palestinian banking system. The PMA was and still is prohibited from issuing national currency, a limitation the Palestinian political and economic leadership accepts and even tacitly enjoys.

Freedom from the management of national currency has served the Palestinians very well and suited their interests, in peace and war. According to recently revised data, the Palestinian economy flourished and prospered in the years 1995 to 2000: the real national income in the Palestinian Authority grew by an average rate of 9% a year, well above the very high population growth rate (5%). States a recent IMF survey, "Before the Intifada, between 1994 and 1999, the [Palestinian] economy grew at a remarkable rate and was able to generate jobs and an increased standard of living for the rapidly growing population."[72] On the eve of the second *intifada* in the summer of 2000, the economic integration between Israel and the Palestinian territories seemed to be deeper than ever and "a general sense of optimism prevailed in the West

72 A. Bennett, K. Nashashibi, S. Beidas, S. Reichold, and J. Toujas-Bernate, "Economic Performance and Reform under Conflict Conditions," *IMF Staff Report for West Bank and Gaza,* (September 2003).

Bank and Gaza." Even after violence had erupted and escalated, becoming ever more destructive, the Palestinian commercial banking system continued to function without interruption, providing "near-normal" services to the local population.

One can only imagine what would have happened had the Palestinians had a national currency of their own. With the outbreak of the intifada, the exchange rate of the Palestinian currency would certainly have collapsed, provoking a currency crisis, a banking crisis, and hyper-inflation. The savings of ordinary people would have evaporated, money would have fled abroad from the Palestinian Authority, and professional monetary economists would have added another case to their research into the sustainability of this or that exchange rate regime. Fortunately, all this was avoided, as no domestic currency was there to be devaluated.

Substantial parts of Palestinian finances are already dollarized. The U.S. dollar, Israeli shekel, and Jordanian dinnar are all legal or semi-legal tenders in the West Bank and Gaza, but the greenback is dominant in banking activity. 60% of all deposits in Palestinian banks and 68% of all commercial loans are now made in dollars. Although the majority of cash transactions are conducted in Israeli shekels and daily consumer products are priced in shekels, the dollar has become the "growing currency of choice as a store value," says the IMF. This creeping dollarization reflects the "increasing importance of the dollar for a wide range of transactions." International aid—including Arab aid—flows in dollars. Rents are quoted in dollars. Durable goods are priced in dollars.

The possibility of lifting the restriction which prevents the Palestinian Monetary Authority from issuing currency was included in a report by a commission of Israeli government officials examining the future outline of a Permanent Economic Agreement between Israel and Palestine. The commission, chaired by Avi Ben Bassat, then the director-general of the Ministry of Finance, was created by the Finance Minister Abraham Shohat in September 1999; it presented its first and only draft of recommendations to the minister on the eve of the elections in January 2001. Shortly after the elections, a new finance minister was appointed, the commission disbanded, and the report was forgotten. After almost four years, it was finally published by the Ministry of Finance in November 2003 as a part of the Internal Revenue Department Yearbook for 2002–2003.

The report recommends "[giving] the Palestinian Authority complete freedom of choice regarding the most preferred monetary regime." Four options for a monetary regime in Palestine were included in the report: unrestricted issuance of a new Palestinian currency; a currency-board arrangement; formal adoption of the dollar or other foreign currency; and a continuation of the existing monetary situation, with the Israeli shekel functioning as a "central means of exchange" in independent Palestine. Which one of the four options will best suit Palestinian economy? No formal answer was given in the report; still, the prevailing tone is clear: a new currency is the least-recommended possibility, its realization dangerous.[73]

The same reservations about the possibility of an independent Palestinian currency can be easily deduced from a common Palestinian-Israeli position paper prepared by a group of international economists ("Economic Road Map, An Israeli-Palestinian Perspective on Permanent Status," Aix Group, 2004). Although recommending that the monetary restriction be lifted and the Palestinian Authority be given the full right to decide whether or not to create a new currency, the group suggests it will be beneficial to the Palestinian economy to stick with the existing state of affairs and not to hurry to print its own money (at least not before the creation of a permanent Palestinian state

73 A. Ben Bassat, "Report of the Commission to Examine the Principles of a Permanent Economic Agreement between Israel and The Palestinian Authority," in *The Inland Revenue Survey for 2002–2003* (Hebrew), (November 2003).

and in any case not before Palestinian authorities gain fiscal credibility). It is no accident that the possibility of introducing a Palestinian currency is not mentioned in any program of reforms recently discussed by the new Palestinian government. Palestinian economists and high-ranking officials are fully aware of the benefits of not having to worry about domestic currency. In private, they furiously oppose the idea of floating a new Palestinian currency in some near future, warning of the economic disaster which will result from presenting the Palestinian leadership with a money-printing machine. A position paper presented in October 2004 to the influential Arab-International Forum on Rehabilitation and Development in the Occupied Territories in Beirut explicitly stated, "The Palestinian Authority should avoid introducing a Palestinian currency." Consequently, Palestinians enthusiastically welcome the idea of replacing the shekel with the dollar. From a Palestinian national perspective, dollarization in Israel means removal from Palestine of one additional symbol of Israeli occupation, the Israeli currency. It also means receiving some seigniorage rebate (directly or via Israel) from the U.S. Treasury. For the present, Palestinian economists are raising a demand for a share in the seigniorage Israel derives from the usage of new Israeli shekel as legal tender in the Palestinian territories.

During his visit to the White House in April 2004, Ariel Sharon, prime minister of Israel, presented his plan for unilateral disengagement from the Gaza Strip. Sharon's initiative was endorsed and embraced by U.S. President George W. Bush and—after a bitter political, factional, and parliamentary fight—approved by the Israeli government and the Knesset. Dr. Martin Indyk, director of the Saban Center for Middle East Policy at the Brookings Institution, called the American endorsement of the disengagement plan, "The Day That Bush Took Gaza": "de facto responsibility for what happens in Gaza once Israel withdraws will fall to the United States."[74] The factual U.S. responsibility (probably borne jointly with the World Bank) will cover the economic rehabilitation and reconstruction of Gaza and a substantial inflow of U.S. dollars to the Gaza Strip. "Inheriting the problems of Gaza," as Dr. Indyk formulates it, means taking responsibility for monetary stability in Gaza.

Today, the Israeli shekel is the legal tender and the official currency in the Gaza Strip; according to the original plan of disengagement, as laid out in official documents, the "monetary regime" in Gaza will "remain valid" after Israel's withdrawal. But it is an impossible proposition, taking no account of Palestinian political reality. Against all the odds, disengagement may lead to a premature introduction of a Palestinian currency: free from Israeli occupation and the presence of Israeli settlers, the Palestinians in Gaza may rush to establish their own symbols of independence, including currency. By ending the regime of occupation, Israel will also end the official shekel regime in the Gaza Strip. What should replace it is not a new "Arafat dinnar" but the U.S. dollar.

Even the distant prospect of introducing a Palestinian currency is not mentioned but rather completely ignored in three separate reports—two by the staff of the World Bank and one by the IMF—prepared in expectation of Israel's disengagement from Gaza.[75] Nevertheless, the Palestinian currency question could become much more acute when the Israeli government actually starts withdrawing from the Gaza Strip. Add to it the active presence of American officials in the region, take into account the prospective inflow of dollars (the "Economic Recovery" scenario of World Bank assumes donor assistance contributions of $5.3 billion to the Palestinian Authority in the years 2005 to 2008), and dollarization becomes the only responsible way to prevent a currency disaster in Gaza.[76] In the framework of

74 Martin Indyk, "The Day Bush Took Gaza," *The Washington Post* (April 25, 2004).

75 See The World Bank "Disengagement, The Palestinian Economy and the Settlements," (June 2004); The World Bank, "Stagnation or Revival? Israeli Disengagement and Palestinian Economic Prospects" (December 2004); and "Macroeconomic and Fiscal Developments, Outlook and Reform in the West Bank and Gaza", a report prepared for the *Ad-Hoc Liaison Committee Meeting in Oslo* by the IMF, (December 2004).

76 The World Bank "Stagnation or Revival? Israeli Disengagement and Palestinian Economic Prospects," (December 2004): 34.

the disengagement plan, "dollarizing" Gaza is a clear Palestinian, Israeli, and American interest.

Israel and the Palestinian Authority, strengthening economically and growing more self-confident financially, may be hoped to demonstrate more flexibility in the process of political negotiations. Even if economics is a small factor in the push for peace, it may be a strong motive for preventing war. Let's speak about "the dollarization dividend" and refer to it as a new factor in promoting growth and stability in Israel and in Palestine. For the people in the streets of Afula and Gaza, "peace dividend" is a statistical and abstract concept; foreign aid is suspicious, elitist, and corrupting, but dollarization will be a tangible feature of daily life, felt and appreciated. It will reinforce the "Spirit of Commerce, incompatible with war" (to quote from a famous passage in Emmanuel Kant's "Perpetual Peace") and be interpreted as compelling evidence of American good intentions. Dollarization will transfer the business of peace-making into a more commercial context and thereby restrain conflict.

In undertaking dollarization, Israeli authorities should consult and involve the Palestinian authorities in all the considerations and preparations, treating them as equals. This is needed for a smooth implementation of the passage from a shekel-based to a dollar-based economy and required by the cooperative spirit of the Paris Protocol on Economic Relations signed in April 1994. The Protocol formally established what, from 1967 until its signing, had prevailed *de facto:* a full monetary and trade union between Israel and the Palestinian Authority. But the Paris Protocol also left room for structural change, stating that "both sides will continue to discuss the possibility of introducing mutually agreed Palestinian currency or temporary alternative currency arrangements for the Palestinian Authority."

Debating dollarization as a concrete act will bring Israelis and Palestinians together around an entirely new and common civilian agenda. By replacing the narrative of bloody conflict with the narrative of uniting new money, the dollarization process has the potential of starting a new positive phase in the otherwise deteriorating relations between Israelis and Palestinians.

Properly conducted and subjected to strict and prudent fiscal conditions, dollarization in Israel and Palestine will benefit all: the Israelis, the Palestinians, and the United States. It could even serve as a test case for a (possible and future) Dollar Middle East Monetary Union—just as the Free Trade Agreement between the United States and Israel served as a starting point for the free trade agreements the U.S. government has concluded subsequently. There is a once-in-a-decade opportunity for a radical change in the economic framework of the triangle of the United States-Israel-Palestine, with full dollarization as the monetary anchor of stability and prosperity in the region.

The Economists' Perspective

"*People with their computers are pushing the funds back and forth, and it's nearly all pure waste*" —R.A. Mundell, "Currency Areas, Exchange Rate Systems and International Monetary Reform", in *The Dollarization Debate,* edited by Dominick Salvatore, James W. Dean, and Thomas D. Willett.

We are used to expressing the price of a good or service in currency units, but an exchange rate is a special price: it is the price of one currency as expressed in units of another. The institutional arrangements by which the exchange rate is determined constitute the exchange rate regime.

Numerous attempts have been made to classify exchange rate regimes according to various criteria, some formal (based on the announcements of the monetary authorities) some empirical (based on *de facto* changes in the exchange rates). Each classification has its merits and its problems and the range of possible arrangements is very wide.[77] At one extreme we have a small handful of governments that treat the price of foreign currency as any other price: they let the free market fix it (floating rate). At the other extreme we have an even smaller handful of governments that prohibit their citizens from holding, buying, or selling foreign currency, fixing the exchange rate by decree (controlled rate). And even those extreme cases are not pure. The so-called free floating exchange rate is always open to the manipulations of political authorities, as the politicians decide how much domestic currency to supply to the market. They have the monopoly on the production of money: they own the printing machine. As for totally centralized regimes, there will inevitably exist a black market for dollars, sometimes discreetly supported by the regime itself.

In between these extremes, in the "inconsistent middle," the variety of exchange rate regimes is almost unbounded, ranging along a very broad continuum. Moreover, governments often cheat on their actual foreign exchange policy. They announce free flotation but intervene directly or indirectly when they become afraid of too much floating. Many officially announced floating regimes are *de facto* intermediate regimes, "floating with a lifejacket."[78]

"Fear of floating" (of letting the exchange rates float on free markets) is thus a worldwide phenomenon, and "many countries that claim to have floating exchange rates do not allow the exchange rate to float

77 Kurt Shuler tries to present them in a tabloid form, according to key features, in "Tables of Modern Monetary Systems." Available at http://www.dollarization.org.
78 A. Jibili and V. Kamarenko, "Choosing the Exchange Rate Regime in the Middle East and North Africa," IMF, (2003): 10.

freely but rather deploy interest rates…to affect its behavior."[79] These are, surprisingly, countries with relatively superior institutions: high political stability, regulatory quality, government effectiveness, and other indicators.[80] They seem to abandon their declared exchange rate floating regime in periods of potential sharp devaluations because of the signaling argument that "devaluations may be perceived by the market as an indicator of turbulence and monetary fragility" and therefore should be avoided at any cost, even by paying the price of broken promises.

Sometimes fear of floating is really a fear of inflation; this is true of countries like Israel in which the government sets the inflation targets and the central bank has the responsibility (and the operational capability) to achieve it. In the framework of such an inflation targeting regime, central banks care about their exchange rates because of the pass-through from devaluations to prices, and it is unrealistic to restrain them from doing so or to pretend that they do not.[81]

In three out of every four announcements of formal "free floating" in the years 1974 to 2000, the authorities broke their promises and "cheated."[82] Some countries act not out of "fear of floating" but, on the contrary, out of "fear of fixing": they fix an unchanged exchange rate or hardly peg the domestic currency to a foreign one, mostly to the dollar, only to abandon their commitments when the currency comes under speculative attacks.

The community of economists is deeply confused about the desirability, the pros, the cons, and the outcomes of the various past, present, and future exchange rate arrangements. There is a slim chance of reaching a consensus among them, or even common theoretical ground. The empirical research suffers from lack of solid and credible international and historical data, from confusing and contradicting classifications, and from the obvious difficulty an armchair economist confronts while dealing with issues incorporating national pride, memories of wars, social engineering, and quality of institutions. Quoting the conflicting research, most economists simply refrain from recommendations: "In guiding exchange rate regime choice, economic theory has proved to be an insufficient guide to policymakers...the theoretical implications of exchange rate regimes for economic growth and volatility are similarly murky, with various opposing claims."[83] Even after proposing an entirely new "natural" classification of exchange rate regimes, based on what the monetary authorities in countries do and not what they declare—and incorporating "black market" exchange rates—Kenneth Rogoff and his associates reach the unusable conclusion that the performances of economies under different exchange rate regimes are not especially different from one another, with only a few unexpected exemptions.

Unable to formulate a clear position regarding dollarization or any form of currency unions, some economists tend to accuse the political decision-makers of nationalism and symbolism. "The argument that a national currency satisfies nationalistic pride," write Alesina, Barro, and Tenreyro, "does not make independent money economically or politically desirable. In fact, why a nation would take pride in a currency escapes us." But the truth is, nations—generally—do not take pride in national currency and are ready to abandon it without tears. So voted the vast majority of people in the ten nations that joined the European Union in May 2004.

The same hypothetical "nationalistic" puzzle was reframed by Anne O. Krueger, deputy managing

79 Stanley Fisher, "Exchange Rate Regimes: Is the Bipolar View Correct?" Lecture delivered at the Meetings of the American Economic Association, New Orleans, 1 June 2001.

80 A. Alesina and A. Wagner, "Choosing and Reneging Exchange Rate Regimes," *NBER Working Paper, 9809.*

81 E. M. Truman, "Inflation Targeting in the World Economy," Institute for International Economics, (2003).

82 Alesina and Wagner, pp. 7–8.

83 K.S. Rogoff, A.M. Husain, A. Mady, R. Brooks, and N. Oomes, "Evolution and Performance of Exchange Rate Regimes" *IMF Working Paper 03/243,* (2003): 23–29.

Director of the IMF. In an opening address to the "Money and Sovereignty Exhibition" held in the IMF Building in Washington, she asked: "Are countries—both their governments and their populations—willing to see their national currency disappear in return for apparently intangible benefits such as greater efficiency and access to a larger market?" Clearly the answer to that question seems to be contrary to what is suggested by Kruger. The populations—and frequently the governments—are willing to abandon a national currency in favor of a supranational one. The ones opposing and deliberately slowing such moves are the economists.

Benjamin Cohen, author of the book *The Future of Money* said during a book forum held at the IMF: "States will rationally resist giving up their national currencies…Exclusive national currency provides major benefits, so it's not at all unreasonable to expect that governments will seek to preserve these benefits as long as possible." But the empirical evidence again points to the opposite: governments do not resist giving up national currencies, they push for it. Even in Denmark and Sweden, the two European countries in which public opinion decided against euroization, the voters did so in spite of the declared positions of the governments in favor of the euro. The "no" vote was certainly not a "nationalistic" one; the decision reflected a choice between two economic and social platforms.[84]

No doubt the European Monetary Union would never have been born if the decision had been in the hands of university economists or central bankers. "The fact is," writes Martin Mayer, "that central banks are deeply nationalistic institutions."[85] They will preserve the right to print domestic money as long as they can and for good reason: the profits from printing money are "a wonderful central banking thing which explains why many central banks…are both grossly overstaffed and grossly inefficient."[86]

The economic profession was divided and even uninterested in the process of Europe's uniting; most economists still view any revolutionary endeavor on the scale of the EMU with suspicion and disbelief.

Robert Mundell, Nobel Laureate in economic science and "father of the Euro" supported and urged the establishment of one unitary European currency not on account of his macroeconomic theories (especially the "Optimum Currency Areas" (OCA) theory) but in spite of them: "When efforts to unify Europe's national monetary systems intensified in the late 1980s and early 1990s, most economists based their empirical work on the classical OCA criteria developed by Mundell and others in the 1960s. But the resulting analysis indicated that a broad European Monetary Area would be far from optimal."[87] In fact, no theoretical justification for creating a common European currency could be given. Nevertheless, "the European Union created the euro, suggesting that OCA theory is a poor guide to understanding the politics of monetary integration."[88] Mundell became even more enthusiastic about the euro, following his intuition and ignoring the apparent failure of "his" OCA theory to support his personal views about the benefits of monetary unification of Europe. At the root of the European Monetary Union thus lies a paradox: the theoretical basis on which the Union was (supposedly) built proved to be empirically incompatible with its final structure. Did it matter to Mundell? Not at all: "Mundell's view of the case for European money was in the end predominantly political, nothing much to do with the celebrated OCA argument."[89]

84 L. Jonung, "To Be or Not to Be in the Euro", a paper presented at 21st Monetary Conference, The Cato Institute, November 2003.
85 M. Mayer, *The Fed,* (New York: Penguin Group, 2002), p. 230.
86 Donald Bash, governor of New Zealand Central Bank, cited by Mayer, p. 80.
87 David M. Andrews, C. Randall Henning and Levis W. Pauly, "Monetary Institutions, Financial Integration and Political Authority," in *Governing the World's Money,* eds. David M. Andrews, C. Randall Henning and Levis W. Pauly, (Ithaca, NY: Cornell University Press, 2002), p. 7.
88 Andrews, Henning and Pauly, p. 7.
89 Dornbush, *Fewer Monies, Better Monies.*

Among the many exchange rate regimes, dollarization is a straightforward case: the dollarizing country stops using a national-territorial currency and instead adopts a currency of a stronger, more powerful, and more stable country or group of countries. This seems to be an arrangement that leaves no room for cheating. One could reasonably expect the community of economists to agree on the outcomes of dollarization and its relative merits and failures. In fact, the case for or against dollarization, euroization, and currency unions is still under heated and inconclusive debate. Many of the economists are unwilling or unable to formulate a clear position, leaving the decision to politicians while remaining free to criticize them thereafter.

In spite of all that uncertainty, one can marvel at the substantial body of economic research supporting dollarization in a small and open economy of the Israeli type and making it a viable proposal. Some of the arguments have already been quoted; here are an additional few:

> "There is now an overwhelming body of evidence that countries can effectively solve the exchange rate problem—that is to say, they can effectively solve the exchange rate instability—by dollarizing…Dollarizing is a perfectly feasible way of insulating currency markets."[90]

> "Where an economy is small and highly open, there will be little liquidity value to its currency…The smaller and more open an economy, the less useful its domestic currency." [91]

> "Which countries are likely to benefit from dollarization," asked two international economists, Andrew Berg and Eduardo R. Borenstein. Their answer was that "the first group of candidates to benefit (from dollarization) is formed by countries that are highly integrated with the United States in trade and financial relations."

The International Monetary Fund never came out openly for or against dollarization as such (with one exception: the IMF proposed and supervised a successful dollarization in a new country, East Timor). The clearest and most encouraging statement in favor of dollarization was included in a lecture delivered at the meeting of the American Economic Association in New Orleans in January 2001 by Fisher, then first deputy managing director of the IMF and now the governor of the Bank of Israel. Said Fisher, "For a small economy, heavily dependent in its trade and capital account transactions on a particular large economy, it may well make sense to adopt the currency of that country, particularly if provision can be made for the transfer of seigniorage."[92]

Israel is thus a perfect candidate for dollarization: a small, open economy having strong ties to the United States and the potential for large trade, stabilization, and welfare gains from switching to dollar. To quote again from Barro, et al. "Israel could be well-served by [adopting] the U.S. dollar."

The European Monetary Union and the common currency euro could be seen as triumph of will over theory, of politics over pure economics, and of dreams over calculations. They were visionary projects of motivated politicians, not of theoretical economists. So should be the dollarization process in Israel and Palestine.

90 B. Eichengreen, "What Problems Can Dollarization Solve?" in *The Dollarization Debate.*
91 T.D. Willet, "The OCA Approach to Exchange Rate Regimes," in *The Dollarization Debate.*
92 Stanley Fisher, "Exchange Rate Regimes: Is the Bipolar View Correct?"

Appendix A. An Economy of Paradoxes

Israel is a small, industrialized, open, and struggling economy. Its GDP, at approximately $117 billion in 2004, is roughly one one-hundredth the GDP of the United States. Israel's national income per capita is $17,200 versus $38,500 in the United States. By and large, Israel's economy goes from shock to shock, some positive, some negative. Some external, coming from the outside: war, peace, terror, occupation, immigration, U.S. business cycles, terms of trade. And some—most—internal: bad economic policy, inconsistency in implementation, unduly powerful pressure groups, a too-concentrated business structure, too-frequent experimentation for the sake of experimentation, and too much politics in economic decision-making.

Israel's is also an economy full of paradoxes. By listing them, one can gain valuable insight into its complex structure, its strengths and its weaknesses:

- Israel has the highest ratio of scientists and engineers in the West and, although never more exposed in the last nine years to technology than at present, only one of those years—from 2000 to the outbreak of the second *intifada*—can be called a period of prosperity and fast economic growth. The years from 1996 to 1999 should be characterized as a shallow recession with zero change in GDP per capita; the three years from 2001 to 2003 as a deep recession, verging on depression, with GDP per capita plunging by 5%; and the year 2004 as a partial recovery. Economies much weaker on the high-tech front have surpassed Israel.

- Israelis often complain about the rising tax burden and higher government expenditure; cutting both was the centerpiece of the economic policy and ideological message of Finance Minister Benjamin Netanyahu. Yet the state sector domestic expenditure went down, as a percentage of the GDP, from 41% in 1995 to 38.6% in 2003 and the total tax revenues fell, during the same period, from 31% of GDP to 28.5%.[93]

- Israel invests more than any other Western country in public education, yet it constantly suffers from very low participation of men of working age in the civilian workforce and embarrassingly low achievements in primary and secondary education scores.

- Israel conducts negligible trade with neighboring countries yet it still has an unprecedented monetary and customs union with the Palestinian Authority.

- Israel's per capita growth was close to zero for the

93 Ministry of Finance, "Review of Economic Developments, Macro-Economic Forecasts and Principles of the Economic Policy," Jerusalem, (October 2004): 26–27.

last eight years, yet it impresses every visitor, even today, with new roads, new construction sites, new factories, new start-ups, new shopping malls, and new universities.

- One in ten Israelis is unemployed, yet one in six workers in the business sector is a foreigner.

- Israel is a welfare state: universal health insurance, generous cash payments to citizens unable to earn a decent living, child allowances paid out of state coffers, subsidized pension plans, massive involvement of government in the economy, and a very progressive personal income tax system. Yet the distribution of incomes in Israel is scandalously unequal and its poverty rate the highest in the West.

- Israeli public discourse bursts with a quasi-socialist narrative and its political parties compete in spreading social commitments (a pattern abandoned a year ago by Netanyahu, an open and outspoken free-marketeer). Yet the absolute number of poor people, since the start of the second intifada, increased by 27%. One in five Israelis is now poor. The number of poor children rose by 35%. At least one of every three children in Israel now lives in a poor family.

- Israel has its own currency, the new Israeli shekel, (NIS). It was introduced in September 1985 to replace the old Israeli shekel, which had in turn replaced the Israeli pound in late February 1980. The relative stability of the NIS (within a band) was maintained during the Asian financial crisis in 1998 and during the years of the intifada. The Bank of Israel, the central bank responsible for conducting monetary policy, proved to the public it stands ready to raise the interest rate again and again, defending the exchange rate of the shekel even in the midst of prolonged recession. Yet many Israelis still conduct their everyday business by translating shekels into U.S. dollars, and the private and commercial real estate sector is totally dollarized. The inflation rate in Israel rises and falls in accordance with the shekel/dollar rate, regardless of the state of the economy and the gap between potential and actual production and growth.

- Israel is a very low inflation economy: the average rate of inflation in annual terms for the past 72 months was just 1.5%, one of the lowest among developed countries. Yet the economic decision-making elites still believe in a sudden comeback of inflationary pressures and in a deeply rooted inflation mentality, and they act accordingly, tilting at imaginary windmills.

- The governments of Israel have borrowed heavily from the public to finance deficits, wars, social programs, and investments. The net domestic public debt reached, by the end of 2003, the level of 80% of GDP. Yet the same government is very cautious about borrowing abroad (in U.S. dollars). As a consequence, Israel has no net obligations to foreigners and is actually a creditor to the rest of the world, to the tune of $10 billion. This should influence the credit rating given to Israel by international rating agencies like Moody's. But it does not; the geopolitics of Israel dominates its ability to repay its debt in the credit rating calculation.

- Israel is a parliamentary democracy, more viable than ever. Yet coalition governments change frequently. One government seldom finishes its four-year term. Early and special elections are common, for many reasons.

- Finance ministers in Israel change even more rapidly. From late 1995 to late 2004 Israel had no less than eight ministers of finance. The average term of a finance minister was one year and two months—just long enough to install his men in the ministry, formulate a new economic policy, change the budget assumptions, and give many provocative interviews to the press. And, last but not least, to start a new quarrel with the governor of the Bank of Israel. The rift between the Treasury and the Central Bank was and is a constant and especially annoying feature of the political economic landscape in Israel.

- It may come to an end with the recent appointment of Fisher, former first deputy managing director of the IMF to the governor of the Bank of Israel. Yet the real differences in economic policy of one finance minister or the other were limited, semantic rather than substantive, technical rather than conceptual. Israeli economic elites, bureaucracy, and policy-makers—whatever their political affiliation—vigorously implemented the central recommendations of an economic ideology crystallized in the 1990s in Washington and called the "Washington Consensus": liberalization (of trade, product, capital and foreign exchange markets), privatization, and deregulation. Even before the U.S.-educated Netanyahu started his term, in April 2003, Israel could have served as an example for the consequences of adopting and claiming ownership over "Washington Consensus" reforms—whether good or bad.

Appendix B. Nobody to Fool: The Exchange Rate Regime in Israel

On the first day of 2003, the Bank of Israel published a statement announcing that "from today there is no foreign exchange control and the new Israeli shekel becomes a fully convertible currency, like those of the world's industrialized nations."[94] To the ears of an ordinary citizen of Israel, those words sounded familiar. In October 1977, the newly elected government of Menachem Begin abolished most of the limitations on foreign currency holdings and declared a "full liberalization" of financial markets, using the same phrases as the 2003 communiqué. The Israeli pound was expected to become—instantly—a fully convertible currency, its rate freely quoted in banks in London and Zurich, exactly like the hard currencies of world's industrialized nations. Obviously it did not happen. Instead came a long period of instability and hyper-inflation, culminating in the full-fledged financial crisis of the years 1980–1984. The first liberalization experiment backfired, and a decade of growth and prosperity were lost.

Here is a short summary of the reasons for that "lost decade" as told by Professor Jacob Frenkel, former governor of the Bank of Israel: "In Israel, there was a new government in 1977 that thought it had to liberalize everything. Indeed, overnight there was a complete liberalization of the foreign exchange markets and within a very short period of time the seeds of hyper-inflation were sown."[95] The post-liberalization crisis ended only in 1985, when a comprehensive economic stabilization plan—anchored in a fixed exchange rate of the shekel vis-à-vis the dollar—was implemented and liberalization undone. Professor Michael Bruno, the intellectual father of the plan, explained in plain words the need to use the exchange rate as an anchor of stabilization: "In a country with a highly unionized labor market and a long history of wage-price-exchange rate and monetary accommodation—the only way to get nominal wage discipline is to…work directly through an exchange rate peg, act as if Israel was a member of the European Monetary System."[96] But in reality the exchange rate anchor was lifted after a rather short time, a mere 18 months. A long journey back to the promised-land of a virtually freely-floating and freely convertible shekel had started—again.

The evolution of the exchange rate regime in Israel was recently analyzed in econometric studies and a new two-volume official history of the Bank of Israel. In "The Long Road from Adjustable Peg to Flexible Exchange Rate Regime—The Case of Israel," David

94 Bank of Israel, "Monetary Policy Program for October," Jerusalem, (September 2003).
95 J. Frenkel, op.cit.
96 M. Bruno, *Crisis, Stabilization and Economic Reform, Therapy and Consensus,* p. 136.

Elkayam tells the story of Israel moving in the past fifteen years from a regime in which the exchange rate of the shekel was kept inside a "band", horizontal or (later) diagonal, narrow or (later) very broad to a regime in which the Bank of Israel stopped entirely from direct intervention in foreign exchange markets, exposing the shekel to the play of market forces and influencing them by frequent changes in interest rate policy.

The turning point occurred somewhere in 1994–1995 as "until 1994, policy-makers related to the exchange rate as a central anchor for prices, while the interest rate served to moderate capital movements."[97] Commenting on the performance of the Israeli economy, Fisher noticed that "in Israel…in one way or another the exchange rate has been used as a nominal anchor for the economy since 1985."[98] But from 1995 on, one way was abandoned and the other chosen: the stability policy has been turned upside down, with the interest rate becoming the central anchor for prices and the exchange rate becoming an outcome of capital movements in and out of Israel (freed from almost any limitations, after the last remaining foreign exchange controls were removed on January 1, 2003.)

This policy change happened as a result of two developments. One was internal and conceptual: an assessment by policy-makers that "the interest rate is a more effective tool for dealing with inflation than the exchange rate."[99] The other was external: "Market forces in fact compelled policy-makers to move to exchange rate mobility…The opening of the economy to capital movements and the large growth in high-tech industry required policy-makers to move to a regime that would make it possible to refrain from intervention in the foreign exchange market."[100]

In "Fiscal Dominance and Monetary Dominance in Israel" (a research paper which presents the essence of the fifty year history of the Bank of Israel), Nisan Livitan shows how the Bank of Israel gradually changed the reference point of its stabilization policy, from anchoring it in the exchange rate of the shekel to anchoring it in a direct "inflation-targeting regime" in which the government announces its inflation target—for both short and long term—and the central bank uses its interest rate policy to achieve the target.[101] From 1991 to 1994 inflation targeting was done "via the back door" as a part of a crawling band exchange rate regime; the first explicit inflation target was announced in 1994.[102] Since then it has been the theoretical norm.[103]

But has it been so in reality? Could the inflation target by itself—a politically influenced announcement by an elected government—have served in the last eight years as an "anchor" for prices and a credible device for stabilization in Israel? No, it could not have, especially when taking into account the poor job done by the Bank of Israel. Its policy frequently missed the inflation targets, as the Bank of Israel admits in its Annual Report for 2003, "observation of inflation rates since 1999 shows that in every year since then—with the exception of 2002—actual inflation was below the target rate."[104] In 2004, the inflation rate, 1.2%, was very close to the minimal level of the target set by the government: 1% to 3%.

The real function of anchoring the economy and protecting it from too stormy a sea was and is performed by a well-known instrument of monetary policy—the

97 D. Elkayam, "The Long Road from Adjustable Peg to Flexible Exchange Rate Regimes, The Case of Israel," *Discussion Paper 2003.04,* Bank of Israel, (November 2003): 4.
98 D. Burton and S. Fisher, "Ending Modern Inflation" in *Inflation and Disinflation in Israel,* ed. Leonardo Leiderman, Bank of Israel, (2001): 183, 238.
99 Elkayam, p. 6.
100 Elkayam, p. 7.
101 N. Livitan, "Fiscal Dominance and Monetary Dominance in Israel," *Discussion Paper* 17 Bank of Israel, (November 2003).
102 M. Sokoler, "Credibility Half-Won in an Ongoing Battle: An Analysis of Inflation Targets and Monetary Policy in Israel," in *Inflation and Disinflation in Israel,* p. 298.
103 C. Bufman, L. Leiderman, "Monetary Policy and Inflation in Israel," in *Inflation and Disinflation in Israel,* p. 238.
104 Bank of Israel, p. 16.

high interest rate. And high it was; depending on which definition of inflation is used (expected or actual price increases) the real—over and above inflation—interest rate of the Bank of Israel hovered during that period between 6% to 8%, at least double the corresponding interest rates in rapidly growing countries.

In simple language, when devaluation shocks occurred, the Bank of Israel reacted by sharply raising the interest rate, inducing not only the reversal of devaluation but even a prolonged revaluation and deflation. That policy has a price: from 1995–1996 on the "Bank of Israel was ready to tolerate an increase in unemployment…in order to pursue its disinflation objective…there is evidence that the Bank of Israel followed a tougher policy than the Federal Reserve."[105]

In another study, Nathan Zussman harshly criticizes the monetary policy of the Bank of Israel in the past six years for having totally disregarded the level of economic activity and (secretly) aiming for a zero inflation rate—much lower than the 1% to 3% target accepted by the government. In its pursuit of zero inflation, the Bank of Israel raised interest rates, generated appreciation of the shekel exchange rate, and depressed the growth of the economy. By doing so, the "Bank of Israel misled the government and the public." Moreover, using the interest rate as a tool of price stabilization in the context of a small, open, and exchange rate-sensitive economy also proved to be costly in terms of stability. It may even be counterproductive: "Emerging market countries with formal floating regimes do not allow their currencies to move much, even after huge external shocks. Instead they react by raising interest rates, dramatically worsening the domestic slowdown."[106] And the result is that "instead of smoothness and orderliness, the system of floating exchange rates has produced large and unpredictable exchange rate movements…the new popularity may reflect yet another form of charming naïveté."[107]

The increased flexibility of the exchange rate was expected to do at least one thing, namely to disconnect domestic prices from exchange rate movements or "weaken the pass-through from exchange rate to prices."[108] A few years ago there was a lot of talk in Israel about devaluations no longer being translated into general inflation and revaluations having no impact on price level. Elkayam's findings prove the contrary: "The transition [to free float of the shekel] actually increased the pass-through of depreciation [of the shekel] into inflation."[109] According to his estimates, the coefficient of correlation between inflation and devaluation in Israel rose from 0.463 in the period from January 1989 to September 1994 to 0.723 in the period from July 1997 to April 2003.

Barnea and Djivie list three separate monetary regimes in Israel: first, prior to the adoption of formal inflation targets, before 1994; second, between 1994 and 1997; and third, after 1997 and the transition to pure float.[110] They find the monetary regime after 1994 to be "relatively inefficient" and the free floating regime after 1997 to be a shock amplifier: the "Bank of Israel interest rate volatility is higher under the 1997 regime [and] the effect of the change in the nominal exchange rate on inflation was amplified after 1997."[111] Last but not least, the wonderful freely floating shekel regime was, it turns out, a waste of economic resources, as a 1% reduction in inflation rate implied, in the years from 1997 on, a 3.8% reduction in output.[112]

105 Livitan, p. 22.
106 R. Hausmann, "Should There Be Five Currencies or One Hundred and Five?" *Foreign Policy* 116, (1999): 72.
107 Ibid.
108 Elkayam, p. 21.
109 Elkayam, p. 23.
110 A. Barnea and J. Djivie, "Changes in Monetary and Exchange Rate Policies and the Transmission Mechanism in Israel" *Discussion Paper No. 2004.13,* Bank of Israel, (October 2004): 35.
111 Ibid., p. 43.
112 Ibid., p. 40.

This new analysis led the Bank of Israel to formulate in clear language what it sees as a principal feature of its monetary policy: from here to eternity (or at least as long as the shekel is the legal tender of Israel), "reducing the interest rate causes local currency depreciation to be immediately translated into price increases."[113]

Today the Bank of Israel functions in the ideal situation prescribed by its former governor, Jacob Frenkel. The government sets the inflation target, defined on a yearly basis as a 1% to 3% consumer price rise, and the Bank "is completely free to use the policy instruments at its disposal in order to meet the assigned target [and] is free from any obligation to finance the government budget."[114] The Bank of Israel is also completely free not to meet the targets as its Governor is accountable only to himself: "Israel is the only emerging market country with an inflation targeting regime that does not have a monetary policy committee."[115] The long and painful quest for the holy grail of exchange rate regime in Israel thus ended—in January 2005 the new Bank of Israel Basic Law still being six long years of preparations in the future—with a check and balance system dependent on personal abilities and the reputation of the governor of the Bank of Israel. Let him be the best and the brightest.

113 Bank of Israel, "Annual Report," English Preliminary Translation, (March 2004), p. 18.
114 J. Frenkel, "Central Bank Independence and Monetary Policy," in *Inflation and Disinflation in Israel,* p. 17.
115 IMF "Israel, Country Report," (June 2004), p. 19.

Appendix C. The Dollarization Episode of 1983 and the Dollarization Debate in Israel

Sometime during the banking shares crisis of 1983 and as a consequence of it, Finance Minister Yoram Aridor started seriously contemplating a proposal to dollarize the Israeli economy. A team of economists preparing various options for dollarization was assembled in the spring of that year under the direction of the Director-General of the Ministry of Finance, Ezra Sadan.

The term, "dollarization," came into wide use in the press, but was anybody seriously proposing a total replacement of the shekel with the dollar as the legal tender in Israel? Certainly not. According to J. Plessner, then deputy governor of the Bank of Israel a close adviser to Aridor and the first economist to publicly present the dollarization scheme, the team never considered the option of permanently replacing the Israeli shekel with the U.S. dollar.[116]

The most far-reaching alternative was a proposal "to enable the use of the dollar as a legal tender side by side with the shekel for a limited period of time" and to do so only after successfully "indexing" the whole financial system of Israel to the dollar.[117] Other more realistic possibilities were more seriously discussed such as freezing the exchange rate of the shekel, enabling a creeping asset dollarization, introducing a new Israeli currency ("sela," i.e. the rock) on par with the dollar, and switching to a currency board regime. One leading participant in the team, Nissan Livitan, summed up the discussions as follows: "There was no real dollarization plan…The plan was not based on a permanent preference for the dollar as a monetary long-term regime [but] as a temporary program for a few years, an intermediate period required for cooling down the economy from inflation fever."[118] In a paper published a few months after the crisis, Livitan expressed his support of "straight and full dollarization" and forcefully rejected the other partial offerings as being too complicated, too costly, and unable to act as an ultimate hyper-inflation stopper.[119]

According to Bruno, who later served as the governor of the Bank of Israel, "the plan was also discussed with U.S. government officials in Washington with a view to obtaining a substantial stand-by loan for the operation."[120] Plessner testified that "we asked the United States to put up a monetary loan to Israel in the sum of $1.5 billion."[121] Even today not much is known about the actual processing of that request or

116 J. Plessner, "Dollarization & Monetary Stabilization," *The Economic Quarterly* 120 (Hebrew), (April 1984): 30.
117 Ibid.
118 N. Livitan, "Dollarization as a Monetary Reform," *The Economic Quarterly* 119 (Hebrew), (January 1984): 849.
119 Ibid., pp. 856–858.
120 Bruno, 1993, p. 89.
121 Plessner, 1984, p. 30.

the U.S. reaction; probably the official position was "wait and see." And rightly so. After it was leaked to the press by the Bank of Israel, using the dollarization of the Israeli economy as an unorthodox instrument to stop hyperinflation was rejected by the Likud government on national and symbolic grounds. Aridor resigned and the dollarization story became a symbol of his fall.

What happened afterward? On July 23, 1984 Israel went to general elections; the same day the leader of the opposition Labor Party, Shimon Peres, met with a "self-appointed team of outsiders" who presented him with a "detailed proposal involving the introduction of a new Israeli currency called the sela…linked to the dollar…in terms of which wages and maximum prices would be determined."[122]

It was essentially a proposal for dollarization without dollars and served as a starting point for the famous stabilization plan implemented in the summer of 1985. In his book *Crisis, Stabilization and Therapy by Consensus,* Bruno explains that at the beginning of 1985 the dollarization ghost made its last visit to Israel. "The Ministry of Finance secretly commissioned two additional programs. One was a return to the idea of complete dollarization."[123] This was the last time dollarization was seriously considered by anybody as an economic policy move in Israel. Since then, the issue has become totally taboo, widely regarded as voodoo economics.

Even today economists in Israel find it hard to believe that their first-rate professional colleagues—Alesina, Barro, Dornbush, Eichengreen, Haussmann, Mundell, Rose, Summers, Taylor, and many others—supported and still support dollarization in one form or another. Before the groundbreaking research of Rafi Melnick, the one and probably only public discussion on the issue of "dollarization"—or rather "euroization"—had taken place at the P. Sapir Economic Forum at Tel Aviv University and was reprinted in the *Israeli Quarterly Journal of Economics* (Revaon Le'Kakala) in August 2001.

The question debated was, "Should the shekel seek to join the euro?" and the prevailing tone was negative. On the practical side, Dr. David Klein, then the governor of the Bank of Israel, made an unconditional prediction: "[Israel] will not join the EMU, even if we wish, at least in the next ten years and probably not even thereafter."[124] He defined the very act of debating such a possibility as "worthless." Then he proceeded to question the very desirability of an "euroization" in Israel, using harsh words: "to introduce the euro as legal tender in Israel is a very strange option. It seems to me unnatural to adopt it. The truth is that if we wanted to adopt any other currency instead of the shekel and asked Israelis which one they prefer, I suppose the dollar would come out on the top, ahead of the euro." But it is not only the preference of the public that makes the dollar more plausible to replace the shekel; there are also hard economic facts. "Most of our current account is conducted in U.S. dollars and so is the lion's share of the capital account."[125] His conclusion: "The answer to the question whether it is possible and desirable to integrate the shekel with the euro-block is negative."

Dr. Klein left open another question: whether it is possible and desirable to dollarize Israel. But clearly the dollarization option looked to him much more natural for Israel than the euro option.

Similar reservations about adopting the euro were presented, at the same forum, by Dr. Liora Meridor, former senior economist with the Bank of Israel. "The Israeli economy is much more dollar-intense than

122 Bruno, 1993, p. 93.
123 Bruno, 1993, p. 99.
124 D. Klein, "Is it Possible and Desirable for Israel to Join the EMU?" in "Proposals for Incorporating the Shekel in the Euro System, Proceedings of an Economic Forum," *The Economic Quarterly* (Hebrew), (August 2001): 141.
125 Ibid., p. 142.

euro-intense. The dominance of the dollar in foreign trade is growing."[126]

The dollarization episode of 1983 does not have any important relevance to the economic reality in Israel today. Almost everything has changed; the list of structural and functional changes in the Israeli economy in the past twenty years is very long and clearly lies beyond the scope of this paper. Even deeper changes have occurred in the world economy and in world financial markets.

126 Liora Meridor, "Comments," in "Proposals for Incorporating the Shekel in the Euro System, Proceedings of an Economic Forum," *The Economic Quarterly* (Hebrew), (August 2001): 144.

Appendix D. The Lessons of Recent Dollarizations: Ecuador and El Salvador

Dollarization is not a widespread phenomenon. Only three larger-than-minute countries have the U.S. dollar as legal currency: Panama, El Salvador, and Ecuador. Panama never had a paper currency of its own (it circulates coins). Under the 1904 monetary association treaty with the United States, it adopted the U.S. dollar as its legal tender. Economically, it was a wise choice, and "reliance on the dollar has created in Panama an environment of stability that has both suppressed inflation and helped to establish the country as an important offshore financial center."[127] Ecuador and El Salvador dollarized recently. What can be learned from their experience?

Ecuador dollarized in January 2000, in the midst of a deep economic and financial crisis and under very unfavorable conditions: high inflation, capital flight, damages from the El Niño weather phenomenon, and the collapse of two-thirds of the domestic banking system. The IMF had severe reservations and criticized the move from the outset. Its negative initial position was reflected in a review of the economy of Ecuador published in October 2000, "Ecuador in 2000 did not look like a promising case for such an experiment [dollarization], since the root of the crisis was the lack of sustainability of the fiscal position and the lack of confidence in the soundness of most banks."[128]

Still, the IMF staff had to conclude that the "dollarization announcement does appear to have given the government some breathing room" and "has also increased the confidence in the banking system."[129] Fisher, then deputy managing director of the IMF, presented in public a much more positive assessment. "Turning to Ecuador: dollarization had been working better than could reasonably be expected," he said during a lecture given at the LACEA 2000 conference in Rio de Janeiro in October 2000.

Since then the economic, social, and financial situation in Ecuador has improved. Growth rose to 5% in 2001, 3.5% in 2002 and 2003, and to a projected 6.0% in 2004; inflation stabilized around 7% to 8%; and the banking system returned to relative normality. "From a scientific point of view," wrote Barro recently, "the most exciting recent development is the dollarization in 2000 done by Ecuador, a country that has been an economic and political disaster for some time…As of 2001, dollarization seemed to be serving in Ecuador as a foundation for the resolution of other economic problems…My prediction is that dollarization will continue."[130]

127 B.J. Cohen, "Monetary Union—The Political Dimension," in *The Dollarization Debate,* p. 230.
128 IMF "Country Report: Ecuador," (2000).
129 Ibid.
130 R.J. Barro, *Nothing Is Sacred: Economic Ideas for the New Millennium,* (Cambridge, MA: MIT Press, 2003), p. 128.

In a new review of Ecuador published in August 2003, the IMF concluded that "the adoption of the U.S. dollar as national currency in January 2000 stabilized expectations and economic activity began to turn around…Monetary aggregates expanded rapidly during 2001–2002 as improved stability led to re-intermediation."[131]

Still, the overall economic situation in Ecuador is far from satisfactory. Reflecting upon the recent economic misery of Ecuador, S. Hanke noticed that "dollarization has provided Ecuador with a positive confidence shock, stability and generally good economic results. But successive governments have failed to capitalize fully on the good news. To build on the foundation laid by dollarization, Ecuador should embark on a deep reform program."[132]

The apparent qualified success of dollarization in Ecuador influenced the position of the IMF regarding dollarization in El Salvador. In stark contrast to Ecuador, dollarization in El Salvador was announced in January 2001 in an orderly way, in calm economic conditions, and as part of a new economic strategy, after a rather long period of discussions and preparations. In a Public Information Notice about El Salvador (made public on December 22, 2003), the IMF praised the implementation and the results of dollarization: "The new monetary regime introduced in 2001, with the U.S. dollar as legal tender…has contributed to halting the appreciation of the real exchange rate and reducing domestic rates and appears to have gained broad domestic acceptance."

According to the IMF mission's assessment, dollarization was even a central factor in the ability of El Salvador to maintain "overall sound economic policies it the face of the adverse shocks of recent years, including two major earthquakes and adverse terms of trade developments (coffee and oil)." The relative magnitude of shocks to the economy of El Salvador was quite similar to the magnitude of shocks that rocked the economy of Israel in the past three years—the intifada and the high-tech recession.

To sum up the already evident lessons from Ecuador and El Salvador:

- Dollarization is possible, feasible, and does not require impossible sophistication. After the groundbreaking introduction of the euro (and its subsequent adoption by Greece), an accepted pattern of giving up domestic currency in favor of an external one has been established. Governments, central banks and the economic players know how to do it, quickly and efficiently.

- Dollarization works, even under especially unfavorable conditions. People get used to it in a very short time and seem to gain an ownership and even sense of pride in dollarization.

- Dollarization can provide—and actually did provide—an incentive, impulse, and example for a variety of previously unthinkable reforms. Once a taboo which has blocked reforms in an important sphere of the economic system is broken—and the success of its breaking has been clearly proven—it becomes much easier to follow through with reforms in additional spheres.

- Dollarization creates an atmosphere of financial stability and crisis prevention. It is not a miracle but neither is it just a tranquilizer. It creates new rules of the economic game, ones which are much more stable and transparent.

The two most threatening results of dollarization—loss of monetary sovereignty and the inability of the central bank to function as a lender of last resort to a collapsing banking system—did not materialize in the cases of El Salvador and Ecuador. The adoption of the

131 IMF Ecuador, "Selected Issues and Statistical Appendix," *Country Report 03/91,* (April 2003).
132 S. Hanke, "Monetary Options for Postwar Iraq," *Foreign Policy Briefings,* Cato Institute, (September 2003).

U.S. dollar did not equalize the price levels, the rates of inflation, and the interest rates of the two dollarized countries with those of the United States. The process of price and monetary convergence is slow and much more complicated than predicted by simplistic theories. The central banks of El Salvador and Ecuador continue to function and fulfill important tasks in regulating the financial system and credit markets. Far from being afraid of putting their money in local banks because of dollarization, the citizens of Ecuador and El Salvador did the opposite—they started trusting the banks. As S. Hanke recently noted, in most emerging-market countries, "the so-called national pride that accompanies domestic currency is little more than a slogan." Citizens of Ecuador and El Salvador probably feel much better off when the only authority responsible for supplying them with money is the Federal Reserve in Washington. Just as the vast majority of Poles felt when they voted in favor of joining the European Union.

Israel is neither El Salvador nor Ecuador. The GDP per capita in Israel is eight to ten times higher. Israel does not have oil reserves, it has high-tech human reserves. It is not seeking assistance from the IMF or the Paris Club of Creditors—Israel is a net creditor to the rest of the world. But the positive impact of dollarization on the well-being of societies under stress should be an important factor in assessing the benefits and costs of dollarization in Israel.

The Saban Center for Middle East Policy

The Saban Center for Middle East Policy was established on May 13th, 2002 with an inaugural address by His Majesty King Abdullah II of Jordan. The establishment of the Saban Center reflects the Brookings Institution's commitment to expand dramatically its research and analysis of Middle East policy issues at a time when the region has come to dominate the U.S. foreign policy agenda.

The Saban Center provides Washington policymakers with balanced, objective, in-depth and timely research and policy analysis from experienced and knowledgeable people who can bring fresh perspectives to bear on the critical problems of the Middle East. The center upholds the Brookings tradition of being open to a broad range of views. Its central objective is to advance understanding of developments in the Middle East through policy-relevant scholarship and debate.

The center's establishment has been made possible by a generous founding grant from Haim and Cheryl Saban of Los Angeles. Ambassador Martin S. Indyk, Senior Fellow in Foreign Policy Studies, is the Director of the Saban Center. Kenneth M. Pollack is the center's Director of Research. Joining them is a core group of Middle East experts who conduct original research and develop innovative programs to promote a better understanding of the policy choices facing American decision makers in the Middle East. They include Tamara Wittes who is a specialist on political reform in the Arab world; Shibley Telhami who holds the Sadat Chair at the University of Maryland; Shaul Bakhash an expert on Iranian politics from George Mason University; Daniel Byman from Georgetown University, a Middle East terrorism expert; and Flynt Leverett a former senior CIA analyst and Senior Director at the National Security Council who is a specialist on Syria and Lebanon. The center is located in the Foreign Policy Studies Program at Brookings, led by Vice President and Director, James B. Steinberg.

The Saban Center is undertaking original research in five areas: the implications of regime change in Iraq, including post-war nation-building and Gulf security; the dynamics of the Iranian reformation; mechanisms and requirements for fulfilling a two-state solution to the Israeli-Palestinian conflict; policy for Phase III of the war on terror, including the Syrian challenge; and political change in the Arab world.

The center also houses the ongoing *Brookings Project on U.S. Policy Towards the Islamic World* which is generously funded by the State of Qatar and directed by National Security Fellow Peter W. Singer. The project focuses on analyzing the problems that afflict the relationship between the United States and the Islamic world with the objective of developing effective policy responses. It includes a task force of experts, an annual dialogue between American and Muslim intellectuals, a visiting fellows program for specialists from the Islamic world, and a monograph series.

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