

STABILITY AND EXCHANGE RATE POLICY*

JACOB A. FRENKEL

I. *General Remarks*

I was also told that in English the meaning of your university's name is "First Bridge", and there is nothing that serves more than a bridge to the rest of the world, than a bridge from the present to the future, than the knowledge that is produced in the university. If your university is the "First Bridge", then it is indeed a special honor for me to be able to present my remarks in this place.

I will discuss the topic of exchange rate policies in a variety of contexts. One may look at the design of the international monetary system or of regional systems, as for example in Europe. We can talk about the choices facing a small country concerning which exchange rate system to join, particularly in a world which is now being transformed into a multi-polar world; Europe, North America, Asia, etc. Every small country will need to make a choice. Exchange rate policy can also be analyzed in the context of monetary policy, because exchange rate policy is really monetary policy. In the old days, the concept was that exchange rates are determined in the balance of trade. In order to influence the exchange rate, it was argued that one needed to affect trade by use of tools such as tariffs, quotas, or terms of trade.

In the early literature the concept of the terms of trade and the concept of exchange rate were easily confused. They are different. The terms of trade is a relative price of goods. There is no need for money to determine a relative price of goods; whereas the exchange rate is the relative price of moneys, and therefore, the theory that explains exchange rate determination is logically a different theory from the one that explains real terms of trade. As in other fields, in order to explain the relative price of two moneys, i.e. the exchange rate, you need to analyze the factors that determine the relative supplies and the relative demands of these two moneys. This is why, in the modern approach to exchange rate analysis, the major contributions to this literature came from a group of scholars who deal with monetary economics, rather than from those who deal with the theory of trade.

Furthermore, because the relative price of money belongs to portfolio analysis and to the price of assets, the considerations underlying the theory of exchange rate determination come from the family of considerations that belong to the theory of finance. Similar considerations belong to the theory of asset prices, and do not belong to the theory of the price of goods.

What is the essence of pricing in the theory of finance? It is the existence of a long term horizon, expectations, uncertainties, risk premia and of portfolio considerations. Those are fundamentally different from considerations of the relative price of chairs or of watches.

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Since, in order to explain the price of money in terms of another money i.e. the exchange rate, you need to take into account all other assets, then you are in portfolio theory.

Looking at the institutional setting of the international monetary system, we recognize various bodies of international organization. The World Trade Organization for example, or GATT. The job of these organizations is to ensure the worldwide removal of tariffs, the enhancement of free trade in order to secure openness of good markets. This has nothing to do with exchange rates.

Then you can have another organization dealing with fiscal policies. This still has nothing to do with exchange rates. When it comes to exchange rates, it really requires cooperation between monetary authorities, because it is the monetary authorities that produce the supply of the good of which the exchange rate is the price. Therefore, discussing exchange rates in the absence of monetary authorities, it is like playing Hamlet without the prince or celebrating a wedding without the bride.

Now, we all agree that this is logical, because we are all in the same business, and nevertheless I can tell you that in most countries for the determination of exchange rates and decisions on exchange rate policies, central banks take the back seat. Politicians, in fact the governments are in the front seat holding the steering-wheel. This is so, because exchange rates are important. Nevertheless, one still needs to have the monetary authorities there, since exchange rates cannot be altered without them.

In the first part of the presentation I shall tell you on my own experience in a very remote part of the world in the context of stabilization and exchange rate policy that we have implemented in Israel. The purpose, however, is not to introduce you to the Israeli economy, but rather to share with you some of the more analytical experiences that we have gathered in the efforts to use the exchange rate as part of our macro-economic policy setting.

I can, already at this stage, tell you one important conclusion. I believe that exchange rate policy cannot and should not be set in isolation of other macro-economic settings. While this may sound trivial to you, this is an important conclusion, and let me tell you: In most places, exchange rate policy is not done in the context of the macro-setting. Exchange rate policy and monetary policy are close cousins, and if you do one thing with monetary policy, this will have implications on the exchange rate, and if you make an exchange rate commitment, this has monetary implications.

This brings me to my second conclusion. You cannot use one instrument to hit two targets. If you have an exchange rate target and if, at the same time, you also have an inflation target, you may have a problem - unless the two targets happen to be consistent. The theory of instruments and targets which was started long ago by Tinbergen and further developed by James Meade, Bob Mundell etc., is applicable also here. Every hunter knows that you need two bullets in order to hit two animals. If you have one bullet you cannot hit both, unless they both happen to be standing directly in line with each other and the bullet. Or, in our terminology, unless the two equations are linearly dependent, the same instrument may not be used. Otherwise you need two instruments. This insight is true about exchange rate and monetary policy.

This may seem trivial, and yet, in most countries, when the Central Bank is told to follow an inflation target, it is still not allowed to operate in the foreign exchange market. This is said to belong to the Ministry of Finance. It is important to ascertain whether the two authorities cooperate; if they do not, they must create a mechanism of coordination. If there is a

mechanism of coordination, do they have the same objectives? Do they have the same time horizons? Maybe one institution favors the short term, the other one the long term. Do we have the “time inconsistency” problem coming in? All of these are part and parcel of the same phenomenon. So when speaking about exchange rate policy, you really speak about monetary policy. When you speak about monetary policy, you really speak about macroeconomics.

II. The Israeli Experience with Stabilization

Israel had very high inflation until 1985 (figures 1 and 1a). As a matter of fact, inflation in Israel reached up to 450% in the first half of 1985. So at that time, we started a radical stabilization program. It consisted of several factors. The first one had to do with the budget. There is a scene in the movie, “Casablanca”, with the actor Humphrey Bogart, when the policeman arrives and says, “Surround the usual suspects!” They are rounded up and get arrested etc. When an economist goes to a country knowing nothing about the country, and is told “We have a problem with our economy” it is always best to say “Surround the usual

FIGURE 1A. THE RATE OF INFLATION
1987-1997

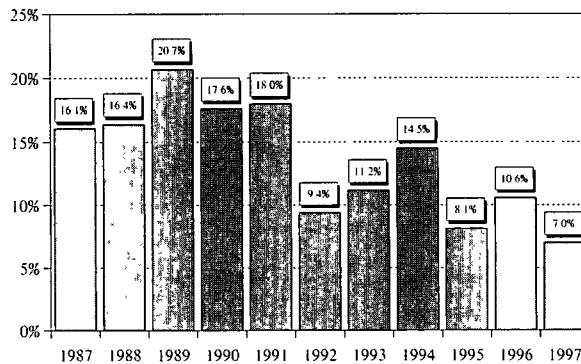


FIGURE 1. THE RATE OF INFLATION
1980-1997

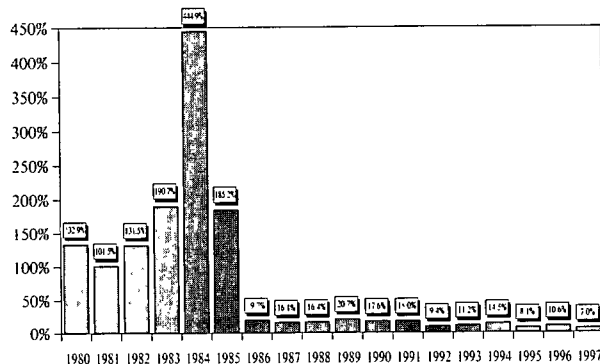


FIGURE 2. RATIO OF CURRENT ACCOUNT DEFICIT TO GDP
1980-1997

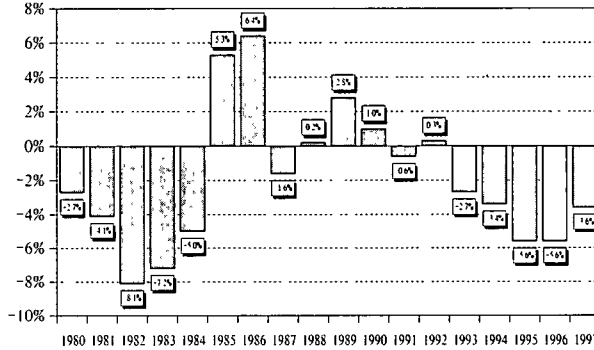


FIGURE 3. UNEMPLOYMENT RATE
1980-1997

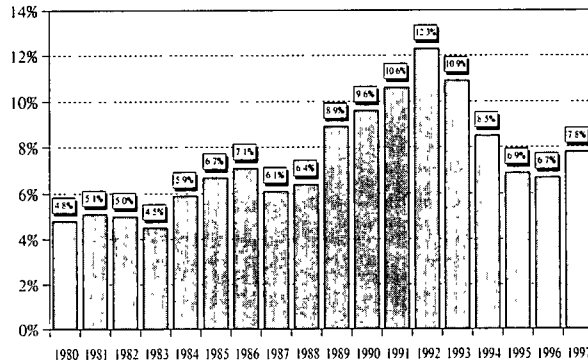
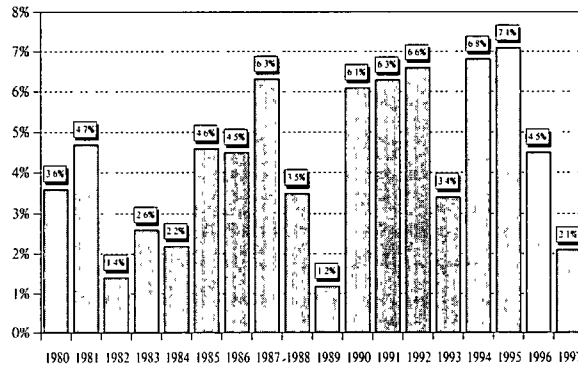


FIGURE 4. GDP GROWTH RATE
1980-1997



suspect - the budget.” And indeed, in the Israeli context, if you ask “What was the budget situation in Israel during that period of time?” you realize that, indeed, you were looking at the main suspect (figure 5, deficits are indicated by negative numbers). Indeed, not surprisingly,

FIGURE 5. RATIO OF PUBLIC SECTOR DEFICIT TO GNP
1980-1997

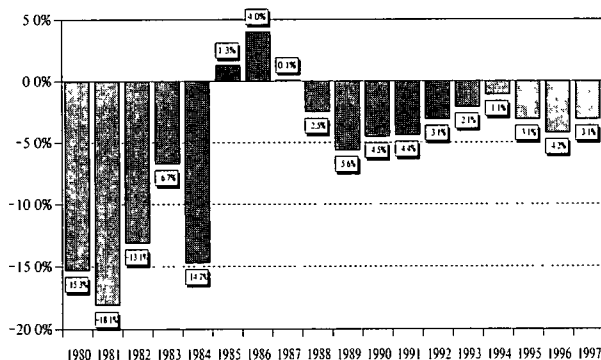
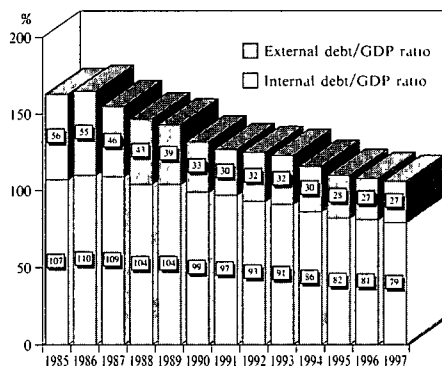


FIGURE 6. RATIO OF GOVERNMENT DEBT TO GDP
1985-1997



during this period of very high inflation, the budget deficit, as a fraction of GDP, was extremely high, and it reached as much as 15% of the GDP. Consequently during that time the public debt grew to the high level of 165 percent of GDP (figure 6). No wonder, that when there is such an excessive budget deficit, the entire economy is dislocated, and with such an aberration, it is not surprising that the key to success is first of all to address the budget deficit. This is the first and foremost element of stabilization. So, if you encounter an economy with 500% inflation, question number one should be "what is happening to the budget?". If it is large, make sure that you take that into account.

Just to jump a little bit ahead, the key element of stabilization in Israel was an immediate elimination of the budget deficit. Within a year a surplus was created, and in the subsequent year another surplus, and indeed the stabilization program went on its way.

It is hard for people in Japan to imagine what the meaning is to live with 400 to 500 percent of inflation. The price mechanism loses all of its signaling properties. Therefore, you face many severe distortions and the most important person in the factory becomes the financial expert, and not the entrepreneur, because the financial expert decides where to put the money overnight, so it earns money. The industrialist, the entrepreneur, the producer - they all become irrelevant. Even the jokes in these days reflected the culture of inflation. There were

stories that everyone wanted to ride in a taxi cab instead of a bus because in a taxi cab you pay at the end of the ride rather than at the beginning, as in the bus.

The culture of inflation was flourishing; a lot of distortions got into the system, including a lot of indexation. I remember when at that time, Milton Friedman returned from Brazil to Chicago and told us, "I found a way how to lower the cost of inflation. I was in Brazil," he told us, "and we can index everything, if wages are fully indexed, contracts are indexed, and then you can start living with inflation." Of course the fallacy is that as you ponder about how to live with inflation, you waste scarce resources to fight inflation. There is no foolproof indexation. In Israel we learned this lesson the hard way.

So, after a short period of time following the elimination of the budget deficit and the more gradual reduction of the public debt, inflation was reduced very significantly, and soon fell to a level of about 20%. Between 1986 and 1991, the inflation average was around 18%. Also the balance of payments improved radically from hazardous current account deficits of 5 to 8% of GDP to surpluses during much of the following decade (figure 2).

In 1992, inflation dropped further and remained at an average of about 10% thereafter. At present, inflation is at about 8% [in 1997 inflation fell further to 7%, with inflationary expectations even below 7%]. The questions are; first, what was the cost of stabilization, and second, what role did exchange rate policy play in the process of stabilization?

The cost of stabilization was, in fact, very low. Economic growth picked up immediately following the stabilization (figure 4). Our growth rate has averaged 6% or so in real terms ever since. We did not incur any unemployment cost (figure 3); we did not have any growth cost, but then you ask yourself, what about the Phillips curve, which claims that there is a short term trade off between the rate of inflation and the rate of unemployment. Where is it? My answer is, that it is easier to stabilize hyperinflation than it is to stabilize a 10% inflation. Because the cost of stabilization comes from the fact that there are contracts which are fixed in nominal terms, and as you stabilize, you create real economic effects. When inflation runs at 500%, stabilization basically stops the system. You shake the tree and you announce, "All contracts are now renegotiated." There is nothing that is fixed at this moment, everything is renegotiated, because the change from 500 to 20 percent is so big, that nobody can continue on the basis of the old contracts. But if all contracts are renegotiated, there is no real cost anymore, because the cost comes from obsolete contracts that remain in force after the change.

An important element of the stabilization program was the design of our exchange rate policies during that period. One issue that characterizes a big stabilization program is the necessity to break inertia, because if there is hyper-inflation everyone expects it to continue. It is embodied in contracts, and therefore, even when the authorities stop and press on the brakes, there still remains inertia in the system.

How do you break it? This brings us to what is called the heterodox element in stabilization programs, which was developed in the mid 80s. The combined approach advocates the use of orthodox measures, such as a budget cut and a reduction of monetary expansion etc., but it also advocates the adoption of supplementary measures which are not so orthodox, elements that are designed to break the high inflationary expectations. This is to ensure that everyone knows that the future is going to be different from the past.

How did we do it in Israel? We kept exchange rates completely fixed for a few months. We also had, for a short period of time, an arrangement according to which nominal wages and prices were fixed. This was necessary in order "to stop the journey" - just as in an emergency

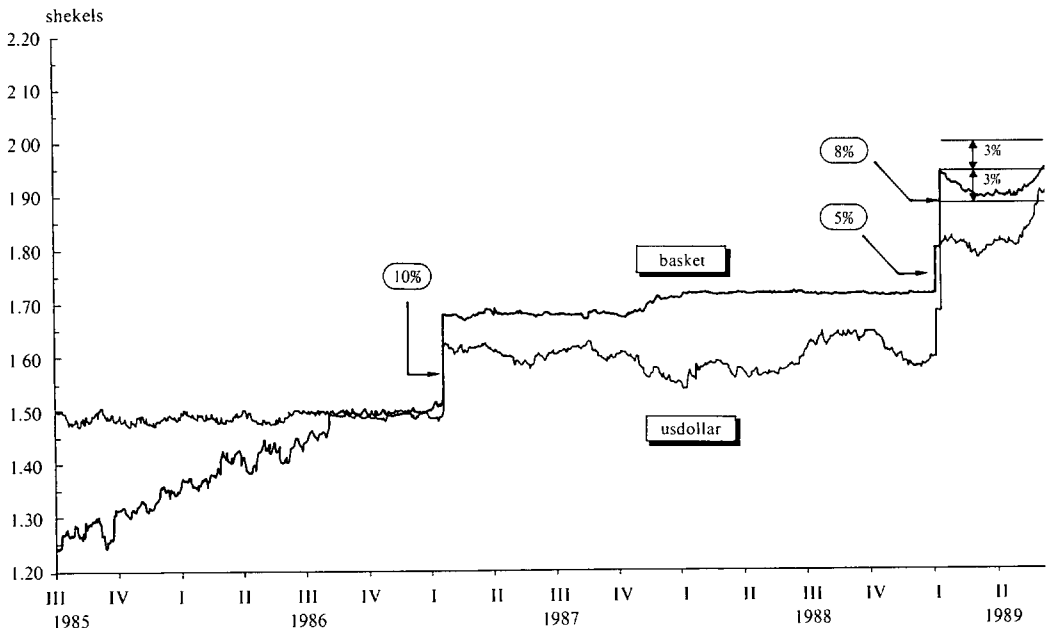
when you pull the emergency brake on a train so that it stops immediately. It is important to realize that the heterodox tools are introduced only as temporary emergency measure and the most important thing to remember is that the orthodox elements are a vital part of the strategy.

A digression: At the same time that Israel implemented its stabilization program, two additional countries did the same: Argentina embarked on the Austral Plan and Brazil on the Crusado Plan. Both failed, and the question is why? The answer is that, at the time, they had limited themselves only to the non-orthodox (heterodox) measures. They fixed the exchange rate and wages, but did not bother to eliminate the budget deficit. So the lesson is to first make sure that the fundamentals are right and everything else that is done in addition will help influencing expectations. However, these measures cannot replace fundamental policies.

Initially we fixed the Sheqel (NIS), more or less, to the dollar, but later on we fixed the exchange rate to a trade-weighted basket of 5 currencies. (figure 7). At that time, there was a big change in the relative price of the dollar, vis a vis the mark, and therefore, even though our dollar exchange rate was fixed, this implied a depreciation of the Sheqel vis-a-vis the basket of currencies.

So, we had a period of a fixed exchange rate, which was followed by a devaluation. We moved to pegging the exchange rate between the Israeli currency and the currency-basket. This lasted for two years until 1988. At that stage the monetary authorities said, "We will continue to fix the exchange rate because inflation is still about 20%, and if the exchange rate is fixed while inflation continues at 20%, exporters lose competitiveness, because domestic costs

FIGURE 7. THE ISRAELI SHEKEL EXCHANGE RATE VIS-A-VIS THE BASKET AND DOLLAR (July 85 - May 89)



increase at about 20%, while the revenue of exporters is not compensated for this increase." At this stage we decided to move to a new system - a system in which the exchange rate was set within a band. We chose to have a band with a width of 3% on each side, and allowed movements of the exchange rate within the band. This brought us to the beginning of the 90s.

At this stage we moved therefore to the system which is called the exchange rate band, something that was familiar also to the European arrangement and in other places, and the exchange rate started to move within the band. The band was now $\pm 3\%$, and the exchange rate moved within this band, while inflation remained stuck at about 20%. If inflation is 20%, from time to time the band needs to be adjusted. Indeed, we had to adjust the band (figure 8). At some stage we raised it, and the exchange rate continued to change within the band, but inflation was still 20%. So, the band was raised again and even widened to $\pm 5\%$, and the exchange rate moved within the band, but inflation remained more or less at 20% and so on.

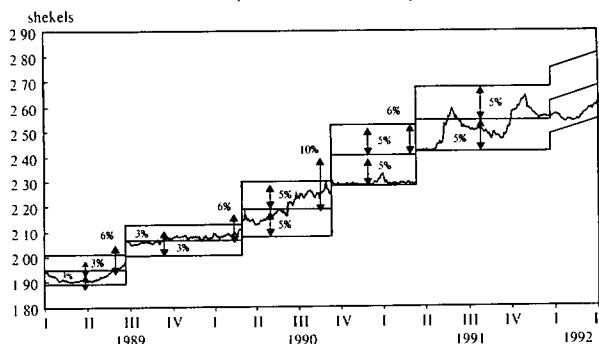
At this point we concluded that you cannot have an exchange rate policy and pretend to have a band if your inflation is significantly above that of your trading partners. In this case, you are unable to keep your exchange rate within the band.

At this stage we introduced a new regime which has now been adopted by many countries, such as Mexico, many Latin American countries, Poland and other Eastern European countries, and the IMF is now recommending it to quite a few other countries.

What is the problem with a horizontal band? The problem is that it pretends that the exchange rate can change regularly within the band forever, but we know that it will not be forever, because inflation is still higher than in the trading partner countries. But who are "WE"? "We" are the policy makers, but "we" are also the market participants. If market participants know, that we know what they know, then the question is, what are they going to do? They will immediately ask, when the authorities will make the next adjustment.

Suppose that the authorities decide to make the next adjustment in half a year, and market participants do the computation and expect the authorities to make the adjustment in half a year, they will immediately say, "I want to be on the train when it leaves the station. I will run a little faster." So, I already want to hold foreign exchange in five months, so that when in six months there is a change, I will be a winner. But if everyone wants to do it in five months, then

FIGURE 8. THE HORIZONTAL BAND SYSTEM:
THE ISRAELI SHEKEL EXCHANGE RATE
VIS-A-VIS THE SKET
(Jan 89-Mar 92)



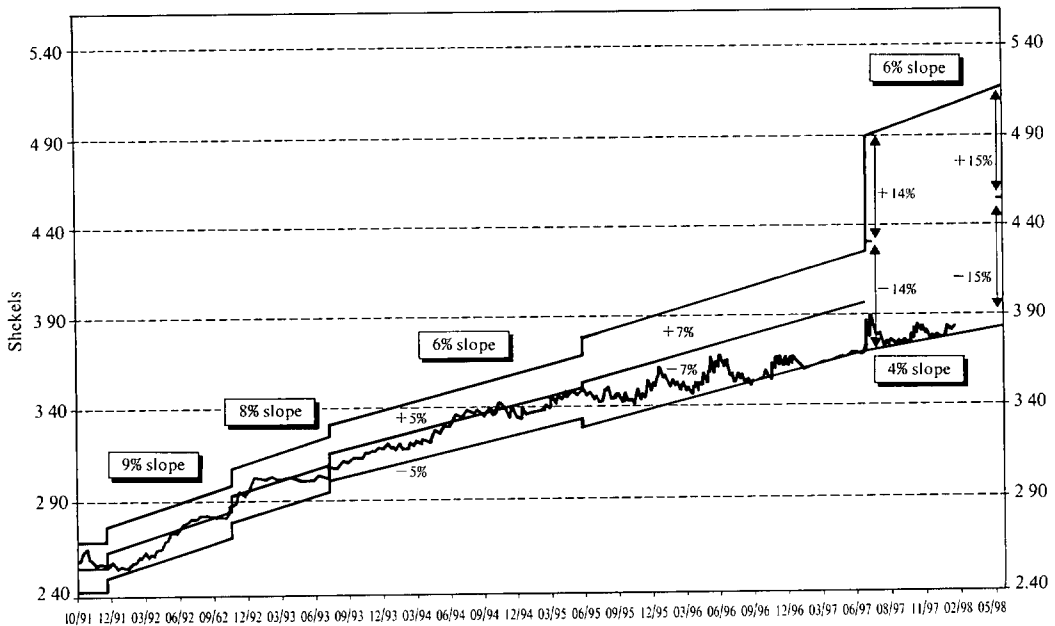
somebody wants to do it in four months. But if one wants to do it in four months, everyone wants to do it in four months. Then they will say in three months and so on. Suddenly an adjustment that could have occurred in six months, will be forced on the authorities today. So there is a fundamental instability in an exchange rate policy that pretends that you can hold the exchange rate within such a horizontal band when everybody knows that inflation will force an adjustment at some stage.

This was the situation in October 1991. I remember it vividly. When I was elected to office in August 1991, this was after a prolonged period in which there had been no adjustment of the exchange rate. Everyone expected an adjustment by the new governor, but no one knew when and by how much that would be. I remember the IMF meeting in Bangkok where we were sitting with our Finance Minister. We got a phone call that there was a run on the foreign exchange reserves. We were able to manage it, but the key point was, that we decided to change the system.

We changed the system by trying to correct one fundamental flaw - the fact that the exchange rate was moving within the horizontal band, even though the trend was upwards. So we introduced a slope to the band (figure 9) instead of the horizontal band. The problem with the old band was that while inflation continued, the exchange rate system was based on the pretense that there was no inflation.

How did we correct this shortcoming? At the beginning of a calendar year, the government decides on its inflation target, and this is the way we introduced inflation targeting into Israel's economic policy. Take for example the situation in which the government decides on an inflation target, of, say, 12% for the next twelve months and assume that if inflation in the

FIGURE 9. THE ISRAELI SHEKEL EXCHANGE RATE VIS-A-VIS BASKET (Oct 91 - Jun 98)



trading partner countries continues at a 3% average, then this means that we should allow for a slope that corresponds to the difference between 12% and 3%. The slope became the tool for signaling the difference between our inflation target and foreign inflation to market participants. This was the rationale for the 9% slope. The fact that our inflation was still higher than that prevailing in our trading partners, should not therefore create an inconsistency of the exchange-rate band.

The important point to note is that the domestic rate used in the calculation is the target rather than actual inflation. From time to time we removed some remaining distortions and this explains the occasional shifts of the band. The most important part is, that at some stage in 1995 we widened the band. An important question was how wide the band should be? I believe that the more open the capital account is, or, in other words, the more liberalized the capital movements are, the wider should be the band. Or, using a metaphor, if you have cars driving at 60 kilometers an hour, you can have a narrow road, but if the cars are driven at 120 kilometers an hour, you'd better allow for a wider road. So, the more you liberalize your capital account, the wider the band should be. That does not mean that the cars will go from one side of the road to another. It does not mean that the exchange rate will actually move a lot, but you need to allow for the potential of such changes.

Why is this potential important? Because when you price the exchange rate in the market, you must allow for an appropriate risk premium. One of the problems in our financial markets today, to be found not only in foreign exchange markets but also in banks and many financial asset markets, has been that the authorities provided artificial certainty to the market participants, without charging the appropriate insurance premium, and this creates a problem of moral hazard.

This is the reason why you must make sure that the band is sufficiently wide, in order to allow for a high enough risk premium that reflects inherent uncertainty in the foreign exchange market. No markets can deal with risk in a better way than the foreign exchange market, because this market has the appropriate financial instruments, such as the forward market and the derivatives, and therefore has many ways to adapt to risk. If you do not allow risk to be reflected in that market, this does not mean that the risk has been eliminated. It will only reappear in other markets, which are less suitable for absorbing those risks. The foreign exchange market, therefore, is open and transparent, and this is why we should allow it to operate with as few constraints as possible.

In the case of Chile, for example, there is also a slope, but it is fundamentally different. In Chile, the slope is determined by taking account of the previous year's inflation for compensation in the exchange rate band.

Now, this has the important disadvantage of deepening inertia. Past inflation is perpetuated by projecting it into the future. In contrast, the Israeli approach strengthens the normative targeted inflation instead. So, in this way, each year, when the inflation target gets a little more ambitious, so the slope gets less steep. The slope was thus gradually reduced from 9 to 8, and then to 6%. On June 18, 1997 the government adapted additional changes in the foreign exchange regime. The exchange rate band was widened by a shift upwards of the upper limit and by a reduction of the slope of the existing lower boundary (figure 9). The new band is now about 30% wide (+/- 15%) thus coinciding with the common width adopted by the exchange rate mechanism (ERM) of the European Monetary Union (EMU). This change was accompanied by a further step forward towards full exchange rate liberalization in the coming

years. The strategic goal is to turn the New Israeli Shekel (NIS) into a fully convertible currency.

To sum up, exchange rate policy and the exchange rate regime are integrated into the anti-inflation policy, thus reflecting the other side of the coin. We deal with the inflation problem with a consistent exchange rate policy, and therefore, I consider exchange rate policy to be part of the monetary policy. I view them to be different elements of the same policy. The issue of exchange rates belongs to the financial area. The situation is hopeless if the "usual suspects", mainly budgetary policy are not in order. If the budget is not in line, the financial side will not be powerful enough to do the job alone. Even if the budget is in line, you are still left to decide how to use the exchange rate in consistency with the inflation situation.

I firmly believe in inflation targeting as a mechanism for lowering inflation. Of course, for Japan it is less of a problem, because you practically have zero inflation. But inflation targeting is very important, because it forces the policy makers to be transparent. The government sets a clear inflation target, which becomes an instruction to the Central Bank. Now the Central Bank has a clear mandate and the results are transparent. The question becomes whether you miss the target or not.

It is much easier to explain monetary policy when a target is set, because if inflation exceeds the target, everyone will understand why you must tighten monetary policy. So, transparency goes together with accountability, because now the market receives a consistent explanation. Most importantly in my judgment, the crucial aspect of this strategy is its forward-looking projection. You are sitting here in 1991, and you tell the market what you think will be in 1996/1997. If the market does not believe you, you have to gain credibility, and after a year suddenly the market believes you and after two years you remind the market, of what you had said earlier. The important point to notice is that you enter into a dialogue with the market. I think that in this regard we are in a new world - a world in which you have a dialogue with the market, with long term objectives etc.

Prof. Shimizu: This is a very interesting topic, so you should have a lot of questions for Governor Frenkel, so please feel free to ask him questions.

Question 1: Is the Central Bank actually intervening in the foreign exchange market during this time?

Prof. Frenkel: We intervened for two purposes. The first purpose was to intervene in order to make the new system credible. In other words, when we announced the exchange rate band, the diagonally sloped band, the market did not understand what we were talking about. I presented a graph like this, on Israeli television, and I said, "Ladies and gentlemen, from now on the exchange rate will move in a band like this," and they did not know what I was talking about. I told them, "Okay, trust me and I will come back in a month." So, after a month I appeared on television again and I told them, "You remember 30 days ago I explained to you that there will be such a band, and I told you that the exchange rate would move within this band, and so it does. I will come to you in another month and so on"

So, over time the system gained credibility. To ensure that it gains credibility, we intervened in the early stage. Whenever we saw that the exchange rate was about to depart from the trend, we intervened in a quiet way. But the reason was to make sure that the system gains credibility.

After a while, when the "baby" grew a little older, we stopped intervening, and from there

on we intervened only when the exchange rate got close to the margin, to the boundary, otherwise we allowed the market to operate. You see, there is something very interesting. Even though we were not in the market, the exchange rate was moving all the time within the band, because market participants knew that if the exchange rate was about to get near the boundary, we would intervene, so they did not need to wait for us to come in - they came in. They wanted to be ahead of us, and we stayed out.

This is the way in which in the future, I hope the role of intervention in general will be, not to push the market into a direction that the market does not want, but to set the rules of the game.

Let me give you a theorem: In a world in which capital markets are huge, there are not enough official reserves in the whole world to enable pegging a wrong exchange rate. I can give you another theorem. There is no exchange rate policy that can protect you from mistakes in fundamentals. So, therefore, the exchange rate policy can never be instead of, but rather should provide the background music for the real activities.

In the old days, we were used to the view that there are two extreme exchange rate regimes - either a completely fixed or else a completely flexible exchange rate system and here you have a little bit of both. You have the flexibility of the exchange rate within the band, but you have the elements of fixity by the band itself.

Question 2: Why not just go to complete floating?

Prof. Frenkel: This is a very good question. You have the flexibility of the exchange rate within the band, but you have the elements of fixity by the band itself.

One day when I was invited to give a speech in the American Economic Association on the Optimal Exchange Rate Regime, so I looked through past issues of the *American Economic Review* from the beginning of the century. Looking at the history of economics and the history of economic debate, I realized that practically every year there had been a discussion in the *American Economic Review* on the optimal exchange rate regime - the debate between fixed and flexible exchange regimes. You ask yourself, how come there are so many scholars all over the world, who want to find an answer to a simple question, and still the debate goes on. Why? I think that the answer to this question is, that the debate is not between proponents of fixed versus flexible exchange rates, but rather between which policies should be in place in order to facilitate a fixed exchange rate versus the policies which should be in place to facilitate a flexible exchange rate. For example, there is a good fixed exchange rate and a bad fixed exchange rate. There is a good flexible exchange rate and a bad flexible exchange rate. So now you have a matrix of four cells, good fix, bad fix, good flex, bad flex with all the combinations in between.

Those who object to fixed exchange rates think that if we have fixed exchange rates we will have the bad fix. Those who object to flexible exchange rate think that if we are going to have flexible exchange rates we will have the bad flex. For example, some people say that if you have an exchange rate system at a fixed rate and if it is the wrong rate, you will start imposing tariffs etc. So you will have the bad fix. Some people say that if you have a flexible exchange rate and suddenly the authorities do not like the consequences of the floating rate, they will introduce capital market controls, which leads to a bad flex.

So, the debate is not so much about which extreme is better, but rather what are the likely policies that the authorities may introduce if they are going to have one system or the other. Are they more likely to degenerate into the bad part or to move into the good part, and this

is the real debate everywhere. I think therefore, that the Israeli system looks like a sensible compromise.

I will give you an example with the European monetary system. In September 1992 when there was a serious crisis, the European countries (ERM) had a narrow band, generally $\pm 2\frac{1}{4}\%$, and all the European authorities stood in front of the cameras and said, "We will never change the system." However, after a phone call from George Soros who told them, "All right, I will make one billion pounds or dollars if you do not change," and after he had made the money everyone had to adjust the exchange rate policy. This was the main proof to the fact that there are not enough reserves to defend the wrong rate.

How did the system adjust? The United Kingdom and Italy decided to let their exchange rate float so as to let the market find the appropriate level. Germany, France and others said, "We do not want to move to a complete float, but let us have wider bands, $\pm 15\%$ on each side." So, each country responded in its own way, and we now have a wide band within Europe, a very wide road, but the cars are not driving crazy on the road, they are driving smoothly.

Therefore, next year and in 10 years from now, we will probably ask the same question. Questions remain unchanged, only the answers change.

Question 3: I have a couple of questions. The first one is just out of curiosity. When you shifted up the band, which went up faster - your action or the spot rate? The next one is: Why did you choose the exchange rate as a target, instead of a monetary target or price inflation target. Did this relate to the size of the country or not? Who decides on that target? The last question is: Should the Central Bank have the authority to intervene in the market from a theoretical point of view?

Prof. Frenkel: The decision at the end of 1991 came as a complete surprise to the market. The market was not aware that such a thing could happen, because it was a new system, it was not an adjustment of the band. On Saturday night we came on television and said, "From tomorrow morning these are the new rules of the game." The markets were closed. If you announce it in advance, forget about it. In financial markets one cannot announce things in advance, because the future becomes the past before you have the time to turn around.

As to your second question, I will not answer in the same order. Why do we have this target rather than that target? We do not have monetary targets because of the fact that our financial markets have been undergoing tremendous deregulation and therefore, many of the relationships between monetary aggregates and other variables have become less stable.

I, personally, am a great believer that in the long run indeed, monetary aggregates are a very good guide about where we are. But if you are talking about the shorter term, there are some unstable relationships. But, by the way, in the conduct of monetary policy, we do look carefully at monetary aggregates in our policy discussion as an indicator about where we are going, but we do not have formal targets.

Then comes the question of inflation targets versus exchange rate targets. If I have to choose between the two, I would recommend to have inflation targets and not exchange rate targets. At the present time, we have both - one is an inflation target and the other is an exchange rate band. The way we reconcile it is to embody one in the other. So the slope here is embodying the inflation target. In that sense we do not have two independent targets, but rather one target whereby the slope embodies that inflation target.

Third, who sets the target? This one, is related to tomorrow's lecture on Central Bank

Independence. This is a very important topic and my views in this respect differ very significantly from my good friend Hans Tietmeyer from the Bundesbank. In Germany, the Bundesbank sets the targets. I think that the life of the Central Banker would be much easier if the government sets the target. Because, when I have to raise interest rates to achieve the target, the Ministry of Finance cannot accuse the Central Bank for being overly ambitious in its anti-inflation stance, since the Bank really becomes the agent which simply implements the policy to lower inflation. I have not yet seen a Finance Minister who says in public - "I want to have higher inflation." He would not dare to say that. He will always say, "I want to have low inflation." It is better to let him say that. The relationship between the central bank and the government is very delicate, and markets suffer, when there is a conflict between the two. The newspapers usually enjoy it. Therefore, I think the government should set the targets. There is also a deeper issue which has to do with democracy. The government was elected, and if they have trade offs in their minds, let them do whatever computations they want, and ultimately express it in the target. I don't think that the central bank should have goal independence - I think the government should set it. Instrument independence - that is what I think a Central Bank should have.

But you had a fourth question: Should the Central Bank intervene? Yes, I believe that it should because exchange rate policy is monetary policy. Suppose that all intervention is done by the Ministry of Finance, [I am not talking about Japan, this is an academic discussion as far as I am concerned. I am discussing with you the Israeli case now.] In most countries, it is the Ministry of Finance who decides on foreign exchange policy. In most countries, such as in the United States, the United Kingdom and in all the G7's, conceptually, I think that the logic of monetary policy is that it should be part of monetary policy, because if the treasury intervenes in the foreign exchange market, what does it do? It buys foreign exchange, and injects say domestic currency. This is monetary policy. Now the Central Bank, in order to make sure that there is monetary control, must sterilize. There are a lot of complications. But at least there should be better and close cooperation in the free world.

Question 4: My question relates to inflation targeting. The question is, what will be the future of inflation targeting? I think you mentioned that the current level of inflation in your country is around 8%, so should the target aim for like 5, 4, 3 and what should be the ultimate goal? 2 or 3 per cent?

Prof. Frenkel: In our case, first of all, the inflation target, like most of the government's targets, I believe should be a multi-year target, in order to force a much longer economic time horizon. In the Israeli case, the decision was made that by the year 2001 (and this year has a particular symbolic importance) our inflation should be comparable to that of our trading partners. So, we do not have the debate of whether 2%, 1 or 0 is the target, but it is rather the level of our trading partners' inflation.

Question 5: My Question is about how the position of exchange rate policy and monetary policy, and if the exchange rate policy is used as tool of international policy coordination, their goal may be inconsistent with the goal of monetary policy. In such a situation, what should the Central Bank do, maybe it can compete in both.

Prof. Frenkel: Well, I think you raise a deep question concerning large countries in the context of policy coordination. I had the privilege of being involved in this exercise for five years as a regular participant in this debate, and I must confess, it is a very tough issue. I will start from the end by saying, that there is first of all a political reality, and I think we should

never forget it. No economic policy maker will adopt a policy that is inconsistent with his domestic needs. I think that the world in which we say: "You must be the citizen of the world and do things for country A, B, C and D, is at best a nice story, but practically speaking, I cannot see any fiscal authority expanding its budget in order to get another country out of their recession, if it is against the home country's principles, and vice versa. Therefore, even in the terminology of political coordination, there was a debate. The French spoke about policy coordination. The Germans, who were much more realistic about it, said "Policy cooperation. We are not going to coordinate policies. Policies are being done in our capital. We are not going to do it in an international setting. Cooperate, yes, because cooperation means information: "I will let you know, what I intend to do, because there are externalities. When I sneeze you catch pneumonia. So we tell you to open the umbrella because it will be raining, but we are not going to eliminate the rain."

This is the kind of debate that was going on, and there was a lot of hassling. Do you remember the period when Secretary Baker was bashing here and bashing there, and forcing Japan to lower interest rates too much at the time, and later on he was complaining about why you had lowered interest rates so much etc. That is history, and we have to learn the lessons from that.

The lesson is that economic policy is done at home for domestic purposes. But it has international implications which is why cooperation is needed. But this already gives you the solution whenever there is a conflict. I believe that if you have the choice between price stability and exchange rate commitment when both are sensible targets, that price stability should prevail.

Question 6: This is really a rare occasion in which we can ask questions of a Governor of a Central Bank. I have two questions. Why do you set the inflation target?

How could you make such a drastic change in Israel and reduce such a big budget deficit in 1995 in a short period of time?

Prof. Frenkel: It is true that many countries are struggling in order to cut a half percent of GDP in the budget, and suddenly you have here 15%. On top of it no output cost, no unemployment cost, how can you explain that? I think that the answer to this is similar to the answer that I said earlier, that in a way it is easier to stabilize 500% inflation than to stabilize 10%.

When the situation was so bad that our back was against the wall and reserves had disappeared, the politicians knew that they could not come to the people and say, "Let us postpone stabilization for tomorrow," because there was no such tomorrow. Then suddenly there was the feeling of national emergency. So, if you ask me what is the *raison d'être*, what is the key point for a successful policy, it is the realization of an emergency. Countries in periods of emergency find much greater consensus than in periods of no emergency.

The French philosopher, Montesquieu once said that a politician is somebody who decides to take the right measure, only after he has exhausted all other possibilities. Indeed, Israel had exhausted all other possibilities.

Question 2: How come 15% went off? Much of the cut was not from government consumption but from entitlements, transfer payments and subsidies. Indeed, the economy was so complicated that huge parts of the budget went to subsidies. So, the elimination of subsidies consisted much of the budget cut. It did not reduce economic activity, because government investments were not cut, it was only the subsidies which had been cut.

The second question: Why do we also account for the foreign inflation rather than only our own. You are right, it does not matter, because it is anyhow a fixed number, 2.5% on average. But we have done it to be consistent with the theory that exchange rates in the long run should be related to purchasing power parity. So your domestic inflation minus foreign inflation should equal the change in the exchange rate. However, the novelty in this is not to focus on domestic actual inflation, but on domestic targeted inflation. So it is the forward looking feature, which is the key novel element in this exchange rate band.

Question 7: If you don't mind, could you disclose your opinion or the operations on the prospect of the monetary union. Our friends seem very optimistic, but the Germans are very pessimistic, so I am confused. Could you explain?

Prof. Frenkel: Yes. To begin with, there is one very interesting fact about the European monetary union process, namely the fact that it was a preannounced process. I remember when I was at the university in the mid 80s, and the Europeans were all talking about 1992, which was supposed to be an important year, we, in the academia, were cynical. We said, "1991 is so far away, nothing will happen." We did not realize then, how much of a weight the politicians gave to this date.

Why did the politicians do it in the mid 80s? Precisely because it was far away. If you came to the politicians in 1985 and told them, "What are you going to commit for 1986?" they answered "nothing", "for 1987?", "a little more", "for 1992?", "the whole world - in any case, I will not be there, I can promise many things". There were the commitments, but suddenly formal, official trains got active, and legislation started to be put in place. Parliaments started to put things into the law. When a new government came in and it was 1989, they did not have the courage to change the commitment of their predecessors, they felt bound. This is the way to solve time inconsistency problems. Then came 1992. It had a soft landing, nothing shook the world. 1992 came, because the system was in place.

Keynes once said, "In the long run, we are all dead," but we have to remember two remarks that were made in relation to this. Joan Robinson who was his student told him, "Yes master, in the long run we are all dead, but not all of us at the same time." She was right, she was much younger. Robert Solow from MIT said, about Keynes' remark, "In the long run we are all dead. Mr. Keynes was always good in long term forecasting." So, coming to the European Monetary Union, the same logic applies to this. When it was announced, it was greeted with great skepticism, but suddenly it became a political issue, not an economic issue. Economists were very doubtful. It was the politicians who had pushed it. It was a political agenda. But now suddenly they had a problem. The question arose whether or not they were going to meet the convergence criteria. The convergence criteria mean that the budget deficit should not exceed 3%, inflation rates according to some mark up on the lowest inflation rates, and the debt to GDP should be no more than 60% (and here some countries still have a problem). Of course the budget deficit criteria was a problem.

It brought about three reactions, and the closer we get to the date, you will see more reaction. Reaction 1 was: "Not all of us are ready. Some countries are still far away, some are not". Then came the concepts of different speeds of the train. Some will go in on time and other will join later. Those who will go in on time, were considered to be the closed circle of Germany, France, Benelux countries. The other countries, such as Italy, Portugal, definitely Greece, will join in the next round. Then if there is a second train, suddenly Eastern European countries would also like to join. And who knows, maybe there will be a third train.

Number 2 was, that some countries, including Germany, suddenly see that the budget deficit criterion is not satisfied. What could be done? The train cannot move without the locomotive - which in this case was Germany, and there again several reactions were seen. The political strife, they said, "3% okay. We never said 3.0, maybe 3.9 is also 3%." In Germany there was an attempt but the press killed it after a day, and it was out. Then came another one. "What do we mean by budget deficit? Let us do some creative statistics. Should we include this or shouldn't we include that." You know with the appropriate imagination you can reach 2% also if you want. So, this is a loss of credibility.

So, now we have the last iteration "Well, to reach 3% we must do one of three things. Either we cut spending, but in Germany we cannot because we have a recession. Or else we raise taxes, but that would be political suicide. Or what else can we do? We go to the Central Bank and say, you have in your basement gold and the gold is valued in so many dollars per ounce, why don't we make it more dollars per ounce. Let us revalue the gold, and then we will have a lot of revenue. No taxes, no spending cuts, and everyone will be happy." Everyone except the Central Bank. So, the Central Bank Counsel met and said, "Not in our school, we are not going to do that." But the government said, "We are the boss."

So this is where we are now. There is the debate. It will probably be resolved in one form or another, because the government decides. But I think it will not be without cost. The Bundesbank's independence is of help. The reason why the Euro is likely or was likely to be a strong currency was because they said it will be as strong as the Mark, but if there is a signal to the market that gold valuation can change overnight, maybe this will be a signal of what should be expected of the new Europe?

So, this is not a very positive signal. On the other hand, if they succeed doing it with a weak Europe, then more countries can join the station, because it will be a weak train, but it will move on.

In the meanwhile in France, which was the champion of the whole process, there was suddenly a new government, and maybe another question mark. So, when all is said and done, I think that what we saw in the last few days are developments by the two EMU core countries, Germany and France, both moving in the negative direction as far as EMU is concerned. If you ask me for my own personal forecast, I think that too much political capital has been invested into this process, in order to be forgotten. So, we will see the process go on. We will see in general governments that are less forceful in fiscal consolidation, because this is the new agenda for the French government, and we will, therefore, see developments in Europe that are not as constructive as they used to be.

I will conclude answering your Question with one last remark. The major problem today in Europe is unemployment. Unemployment in Spain is 20%, there is a European average of 12% - those are large numbers. Governments rise and fall in Europe, not on the inflation data, but on the unemployment data. One of the great advances in Europe during the past 4 - 5 years has been the recognition that the unemployment problem is not a macro economic problem, but a structural problem. That the way to deal with unemployment in Europe is not by expansive budgets, but by job retraining, by removing regulations and by increasing flexibility in labor markets and not by printing money. This is why in Europe you have seen in the past few years, a rapid and significant decline in inflation. I think what you saw now in France maybe the first sign of deviation from this positive development, because the new government comes on the agenda that fiscal policy, that macro policy should now be aiming at boosting the

economy. This is something that we should watch out for very carefully.

Prof. Shimizu: That was an extremely interesting answer. Do you have any other questions. We have discussed topics which are so wide and so deep too, and we have learned a lot of how we have to think about the political situation, not only in terms of economics. If you do not have any other questions, then it is just about time. One more question.

Question 8: Unification established the Euro. Do we wish the current trend to slow down?

Prof. Frenkel: I think that globalization is a process which is completely irreversible. I think that globalization is a reality, and rest of the system will need to adjust to it. I don't believe that globalization will need to adjust to the Euro, but rather that the Euro will need to adjust to globalization. The reason is that the Euro is the product of governments. Globalization is the product of markets. Markets are bigger and stronger than governments. Technology, communication and the technology of financial sophistication - all of these are the result of the market. The only job that governments must do, is to deregulate and to allow this process to continue. I think that if governments do not deregulate, we will have difficulties. But we will have deregulation - I am also optimistic there - not because I believe that the government will be so wise, but because I believe the market will also force the government to deregulate. We will have competition among jurisdictions, among markets, and if there is one market that is deregulated, all the activities will move to that market, forcing the governments of the other countries also to deregulate if they want to keep some business at home.

Question 9: I believe the current organization is a kind of mechanization, don't you think so? It is again because of the Euro. I mean, current organization is, in effect, mechanization.

Prof. Frenkel: Well, you invented a new concept, which is Euro-paranoia. Because I remember in the 80s we were talking about Euro-sclerosis and then in the early 90s, we talk about Euro-phoria, and now Euro-paranoia. Maybe, maybe.

BANK OF ISRAEL