

Chapter II

Problems with International Financial Markets and Capital Controls

Introduction

In economics, fundamentally, markets automatically resolve various problems, and if an abnormal situation arises, it is due to some sort of “market failure”, which if eliminated will allow the market to return to its normal functioning. However, we have been witnessing a large number of “anomalies” in financial markets, particularly international financial markets, including the Asian crisis. According to the IMF (1998a), between 1975 and 1997 there were 158 currency crises large and small, of which 42 took place in advanced economies, and 116 in developing economies. In the 1990s alone, we have witnessed four major currency crises, namely ERM (1992), Mexico (1994), Asia (1997-1998) and Russia (1998). As a result, the view that market failures exist in financial markets is even taking hold among economists. (The focus of the current debate on this issue is whether the basic nature of financial markets, particularly international financial markets, is “good” or “bad”.)

If there is something wrong with international financial markets, it is extremely important to find out what because the volume of foreign exchange trading (the volume of trading between different national currencies) has increased greatly since the second half of the 1980s together with global financial liberalization and integration of international capital markets, and it is expanding at a much greater rate than the global trade in goods and services. Daily trading volume, which was \$18.3 billion in 1977, was \$1.386 trillion by 1995, and had further expanded to \$1.852 trillion in 1998 (see Table 1). During this time, the annual global trade in goods and service expanded from a yearly \$1.3 trillion in 1977 to \$4.8 trillion in 1995. Using the 1995 figures for comparison, a year’s merchandise trade does not even amount to four day’s worth of foreign exchange trading.

In this chapter, we will examine problems with the rapidly expanding international financial markets (Section 1) and the propriety and methods of capital controls (Section 2).

Table 1 Trends of foreign exchange trading and exports

	Daily global foreign exchange volume* (billions of US dollars)		Annual world exports (trillions of US dollars)
	Excluding derivatives	Including derivatives	
1977	18.3	n/a	1.31
1980	82.5	n/a	1.88
1983	119.0	n/a	1.66
1986	270.0	n/a	1.99
1989	590.0	620.0	2.91
1992	820.0	880.0	3.76
1995	1,190.0	1,386.0	4.80
1998	1,490.0	1,852.0	n/a

Sources: BIS, *Central Bank Survey of Foreign Exchange Market Activity*

IMF, *International Financial Statistics*

Note : * average daily turnover in April

1. How Should International Financial Markets Be Understood?

1-1. The View that “Markets are Good”

First of all, let us consider markets – not international financial markets – just markets. (Micro)economics is based on the premise that markets are fundamentally good; that is, the law of supply and demand works efficiently. Excessive supply (demand) leads the price of goods down (up) until the supply meets demands through the use of what Adam Smith called “invisible hands”: the market self-correction mechanism. Roughly speaking, in the resulting equilibrium the market achieves so called “Pareto efficiency”¹, which is the optimal state of the markets when no market failures exist.

However, this “Pareto efficiency” stands on the four major assumptions pertaining to markets: (1) there are no technological externalities, (2) there are no economies of scale, (3) there are no public goods, and (4) there is no information problems.

These are sources of market failures. Of these, the one most relevant to financial markets is the last, “information problems”, so let us consider it in more detail.

1-2. Information Problems and Financial Markets

Information problems include two kinds. One is “I don’t know if it will rain this afternoon”, and the other is “Is the card I am about to draw a joker or not?”. Let us start by identifying the difference between the two. The former deals with uncertainty about a future event, and as would be expected is called “uncertainty”. With the latter, one’s opponent knows something which one does not; this is called “asymmetry of information” or “information asymmetry”. In other words, **uncertainty** is a problem where information gradually comes to light with the passage of time, while with **asymmetry of information**, information is unbalanced – more abundant in one place than the other – which is a problem of space.

Both problems might make markets “bad”, that is, they cause market failures. But of the two, uncertainty is the lesser problem, and asymmetry of information is harder to deal with. Uncertainty can be eliminated to some extent. For example, a lot of financial technique have been developed to deal with uncertainty. Indeed, managing uncertainty is one of the main reasons for financial markets to exist². Let us explore this point first.

Of late the word “derivative(s)” has spread to Japan. In Japanese it is sometimes still spelled out as “derived financial products”. This category of products includes “futures” that Japanese people have long been familiar with (other typical derivatives are options and swaps). During the Edo period, the world’s first futures exchange was set up in Osaka, dealing in rice contracts. A futures contract is a promise to buy or sell a commodity (for example, rice) at a fixed price (determined in advance) at a future date (in this case, harvest time). When farmers plant rice, they do not know what the market price will be (how much they will be able to sell it for) at harvest time; they face uncertainty. By selling futures in the futures market, the farmers can secure their income before the harvest. In other words, they can eliminate uncertainty. (Of course if at harvest time the spot price (the current price) of

rice is above the price promised in the futures contract, the farmer loses, and if the price is lower the farmer gains, but the important point here is eliminating the uncertainty over how much income the harvest will bring.)

Incidentally, the existence of uncertainty means the existence of risk. **Reducing risk by trading in the markets (for example the futures markets) is called “hedging” risk.** Using this terminology, the previous example would be “farmers hedged the risk of changes in the price of rice via (selling) futures.”

The exact opposite of hedging is called “speculation”. Speculation is defined as purposely taking on risk in order to make a profit. Those who think the price of rice will rise can buy rice futures and profit. Those who think the price will fall can profit by selling rice futures. However, if they are mistaken they will suffer a loss. This is also a form of risk. Importantly we must be aware that speculators (1) bear the cost of taking on risk, and (2) provide a beneficial service by taking the opposite side of transactions where people want to hedge risk. In practice markets are lively when there are a large number of speculators looking to make a profit. The benefit to people wanting to hedge in active markets is that it is easy for them to find someone to take the opposite side of the transaction they want to make. (Markets that are active are called “liquid” or “deep”. The opposite are called “illiquid” or “thin”)

Speculators have another useful function, which is accurately forecasting the future. In order to profit, it is important to bet on what looks like a good bet; that is, the speculator must be “wise” or “rational”. The combination of all these “wise” people buying and selling, aiming to make a profit, means that prices in the futures market approach those that reflect rational expectations (these expectations are said to be “factored into” the market). In addition, speculators serve to stabilize markets. This also depends on whether speculators are “wise” (rational) or not. If a speculator “wisely” (correctly) predicts that tomorrow stock prices will rise sharply, he will presumably buy the stock today, not tomorrow. If all speculators are so “wise”, orders will rush in, and the stock price will rise today instead of tomorrow. Thus the prices of stocks today and tomorrow become equally high, and price fluctuations in the market are reduced.³

In connection with speculation, let us discuss “arbitrage”. The most simple kind of arbitrage would be, if the price of rice is different in Tokyo and Osaka, to buy it in the cheaper place and sell it in the more expensive place. In addition, more complex forms of arbitrage exist. For example, let us suppose that apart from the rice futures exchange, there also exists a wheat futures exchange and the price of rice futures has soared while the price of wheat futures remains low. However, if rice gets too expensive it is likely that people may substitute a meal a day with udon (wheat noodles) or bread. In this way demand for rice would fall and demand for wheat would rise, so that the price of wheat alone cannot fall. The speculator who rationally predicts this will sell rice (futures) and buy wheat (futures). As a result, the unnatural price gap between rice and wheat will shrink. **Making use of distortions between one market and another to profit is what arbitrage is.** Like speculation, arbitrage has the function of improving markets⁴ (in the above example, it serves to reduce price gaps)

Explained this way, markets can be thought of as “good”. However, our discussion on information problems has thus far centered on uncertainty. In the realm of asymmetry of information, matters are not so simple.

1-3. The Vexing Problem of Asymmetry of Information

Let us start with the example of insider trading. The executives of a corporation are the first to know where the company is heading. Compared to them, lower-ranking employees have far less information. And general shareholders and the majority of investors have still less. In this kind of situation, **where the quantity of information and its accuracy varies from person to person, there is said to be asymmetry of information.** If in such a situation executives or employees use information that only they know to trade in the stock of their own company, they can make huge profit (this is called insider trading).

If asymmetry of information exists, it leads the market to being “bad”. In the above example it becomes necessary to prohibit insider trading and disclose infractions (in Japan the Securities and Exchange Surveillance Commission plays this role.)

Difficulties occasioned by asymmetries of information are not limited to the above; numerous examples have been pointed out. The most well known are (1) moral hazard and (2) adverse selection. As we saw in Chapter 1, (1) is in our example where people with fire insurance tend not to be as cautious about fire as those without. The problem arises because the insurance company cannot know every little detail of its policy holders’ lives (in other words there is an asymmetry of information). (2) is often explained with the example that if a life insurance company charges high premiums, relatively unhealthy people will buy its policies. The higher premiums are, the more people who think they are healthier than average will perceive the insurance as unworthy to pay, and not take out a policy. Here too the cause of the problem is that the policyholders know more about their own health than life insurance companies; there is asymmetry of information. These are well-known problems in financial markets, creating imbalances in supply and demand for capital, inhibiting the efficient use of capital, and making markets “bad”.

1-4. Herd-like Behavior and Crisis Contagion

Let us suppose there is a company (a manufacturing company) in Thailand. No one knows more about the particulars of this company than the people with the company itself. Those knowing next to most about it might well be at its Thai bank. Let us say that this Thai bank borrows funds from a foreign bank. In order to judge the soundness of this borrowing (to the foreign bank, lending) really it is necessary to know what kind of company the Thai bank is lending to. However, it is difficult for the foreign bank to obtain this kind of information. If we imagine the Thai company issuing stock to raise funds instead of borrowing from the bank, the relevant information is layered in the same way. Between the banks, and to the securities markets dealing in shares and corporate bonds, and the international financial (capital) markets, the information finally reaches those furthest from the source, those involved in trading in the market. This is also a form of asymmetry of information.

Herd-like behavior is pointed out as a problem that can arise due to this kind of situation. Investing (or lending) when one does not know the particu-

lars is also taking a kind of risk (this time based not on uncertainty, but on asymmetry of information). The advance of finance has provided methods of eliminating this kind of risk too. For instance, there is a method known as “international portfolio investment”. If an investor does not know what they are investing in very well, they can split (disperse) their investment capital among many different countries, such that even if a part becomes irrecoverable, the investments have a high degree of safety overall.

However, what if all foreign investors invest in a country they do not know enough about? These investors, because they assume risk is being eliminated through portfolio investment, have a tendency not to try to know about the country in question any more. In these circumstances, investors might invest in Asian economies without sufficient analysis because they are said to be experiencing “miraculous” growth, and then when they hear that “Thailand is in a currency crisis” they might pull their money out based on that information alone. Furthermore, without sufficient consideration for the differing circumstances of individual ASEAN economies, they might pull out of not only Thailand but Indonesia and Malaysia as well⁵. The theory of herd-like behavior states that investment behavior is influenced by this sort of psychology.

1-5. The Theory of Speculative Attacks and Multiple Equilibria, and Self-Fulfilling Prophecies

The theory of speculative attacks arose in the 1970s. It says if the government adopted a failed policy (a policy of worsening current account) a speculative attack on the currency could arise well before there was any real problem with external payments (before currency reserves were exhausted). This is because speculators would “anticipate” the problem before it happened. This is an application of the logic that a “wise” (rational) investor will anticipate events well before they happen (please recall our discussion in Paragraph 2).

However, the problems that can be triggered by this kind of “anticipation” are as yet poorly understood. For example, imagine one speculator anticipating the anticipations of another. Even if an investor is “wise”, in order to profit, they must know

what kind of predictions other speculators are making. Based on the actions of individual speculators, the actual outcomes that result (or as economists would say the equilibrium) will differ. Moreover, the actions that should be taken depend on the kind of predictions that are being made. **When there exists a number of different outcomes (equilibria) that might possibly be realized, the situation is said to have multiple equilibria.** When the equilibrium to be obtained changes depending on the predictions of investors, then it is said that these are **self-fulfilling prophecies**. In a broad sense, this is a problem of information. In this case, it can be concluded (inconclusively) that the currency might come under speculative attack, or might not. Not only that, but that the outcome depends on whether a large number of speculators agree on whether an attack will come or not.⁶

This relates to the argument between Malaysia's Prime Minister, Dr. Mahathir, and the celebrated international investor George Soros. Dr. Mahathir has blamed Mr. Soros as the one responsible for triggering the currency crisis. However, Mr. Soros naturally replies that he is just one of a large number of international investors. Nonetheless, there may be an element of truth in Dr. Mahathir's claim. In our discussion above, we noted that a prediction shared among investors can change which outcome is realized and a figure like Mr. Soros who gathers so much attention internationally has a significant influence over the investor's prediction. Mr. Soros cannot trigger a currency crisis all by himself⁷. However, it is conceivable that his views, rather than his actions, might trigger a currency crisis (note that the same phenomenon can be explained by herd-like behavior as described above).

1-6. Multiple Equilibria are Difficult to Respond To

The economy could shift from one state to another under multiple equilibria. If such a shift is sudden and is from a good equilibrium to a bad equilibrium, it brings devastating effects on the economy as we've seen in the countries hit by the Asian crisis⁸. Therefore, it is extremely important to prevent such a sudden change from happening or at least to detect it in advance. However, dealing with multiple equilibria is extremely difficult. The

reason is very simple. The existence of multiple equilibria is itself unclear. Multiple equilibria means that there are several possible outcomes, but since there is only one reality, only one of these many possibilities is realized. Thus it is difficult to know whether there really were many different possibilities in the first place. Ultimately, it is very difficult to demonstrate clearly to anyone that multiple equilibria exist. The argument for multiple equilibria is not limited to currency crises, and the possibility of their existence has long been posited in many areas, but no one has been able to offer solid proof thereof.

For example, several studies have been conducted on “early warning systems” that attempt to predict currency crises before they happen. Results until now suggest indicators that flagged the possibility of a currency crisis, including a rise in the real exchange rate, a rapid expansion in domestic credit, and high inflation. However, in the countries assailed by the Asian currency crisis, although a rapid expansion of domestic credit was seen beforehand, these countries had single-digit inflation, and rises in their real exchange rates were mild compared with the experience of Latin American countries¹⁰. If the indicators of an early warning system can only suggest the possibilities for one equilibrium, but several equilibria exist, such a system loses its purpose. **If a currency crisis arises out of multiple equilibria, the timing of the outbreak may be impossible to predict.**

1-7. How are the Problems with the International Financial Markets Related to the Asian Currency Crisis?

We have discussed several problems of information, and here we would like to consider how these relate to the Asian currency crisis.

(1) Moral Hazard and Herd-Like Behavior

A rapid expansion of domestic credit, and an increase in external debt was observed in Asian countries before the outbreak of the crisis. One reason given for this is that excessive borrowing and lending was triggered by the moral hazard of an expected government bailout. In addition, the fact that external borrowing took place without cur-

rency hedging also suggests that expectations that the government would maintain the fixed exchange rate system constituted a form of moral hazard. We will touch on this in Chapter 4, but the argument that the existence of IMF bailouts was also a source of moral hazard for international investors is also convincing.

On the other hand, we might also say that optimistic investors' psychology that high Asian growth would continue forever was a factor in the massive inflows of capital to the region. As we saw in Paragraph 4, these might also be explained by herd-like behavior.

(2) Currency Crises and Self-fulfilling Multiple Equilibria

On July 2, 1997, after months of speculative attacks on its currency, the Thai government decided to introduce a managed floating system. The pre-crisis Thai economy had low inflation, a balanced budget, and plentiful foreign exchange reserves, but at the same time there were destabilizing factors such as a current account deficit of 8% of GDP, excessive investment in unproductive sectors such as real estate, and increasing short-term borrowing. As long as investment continued on the basis of positive factors, things continued without a hitch. However, as soon as attention turned to negative factors and money began being pulled out, the outflow of money itself became a factor causing the real economy to deteriorate. From this point the idea that the currency crisis occurred in a “self-fulfilling” way is very convincing. However, as we saw in Paragraph 5, it is very difficult to prove whether self-fulfilling multiple equilibria existed or not so that it has been difficult to reach a consensus even among economists.

(3) Herd-like Behavior and Contagion of Crisis

After breaking out in Thailand, the currency crisis spread quickly to other Asian countries. One reason, as we saw in Paragraph 4, was the existence of a herd-like behavior which did not take notice of differences between different ASEAN economies.

Another idea that could be applied to explain contagion is the theory of “competitive devaluations”.¹¹ This would explain that if one of the ASEAN countries – which export the same sort of

products to the same sort of places — devalues its currency, then the other countries have to devalue their currencies too. However, it takes at least half a year for the impacts of a devaluation to show up in the balance of trade. Since the crisis nonetheless spreads immediately, it must be due to one of the following routes: (1) governments devaluating currencies intentionally, or (2) investors pulling out funds, as they anticipated the effects on trade. In the case of the Asian currency crisis it was clearly not (1), so it would seem like it was (2). If so, this is also an example of herd-like behavior and self-fulfilling prophecies being the cause of sudden capital movements.

2. *Are Capital Controls Effective?*

2-1. From Capital Liberalization to Controls

Whether international financial markets are fundamentally “good” or “bad” is indeed a difficult problem. However, recently more economists may have started to feel that they are “bad”. When one considers that until recently many economists advocated free markets, and that the IMF promoted global financial liberalization and integration, this is a great change. Recently, although it has maintained its basic stance in favor of the free movement of capital in financial markets, the IMF itself has had to shift to an approach that emphasizes caution in capital liberalization.

For example, Rodrik (1998) and Bhagwati (1998) have found no significant relationship between liberalizing capital flows and economic growth, and argue that liberalizing capital flows and free trade cannot be handled on the same level. The World Bank’s chief economist, Joseph Stiglitz (1998) is another who began to urge caution at an early stage. He is also the doyen of “the economics of information”, and is surely aware of the propensity for information problems to spread through financial markets. The person most on the right among those arguing for caution is Prof. Krugman of MIT, who takes the next step by urging the introduction of temporary foreign exchange controls¹². (For more detail, refer to the section on Malaysian foreign exchange controls.)

Even as these arguments were appearing, a number of countries had already taken special

measures. These included the Hong Kong government’s intervention in the stock market in August, 1998 and the introduction of currency controls by Malaysia in September. At around the same time, the collapse of the Russian foreign exchange market and de facto government bond default triggered heavy losses at hedge funds and banks from advanced economies which presumably had benefited most from the liberalization of financial markets, bringing the world economy on the verge of a world recession.

2-2. The Benefits and Costs of Capital Flows

As we saw in Chapter 1, the movement of goods and services (trade) and the movement of money (capital flows) are ultimately two sides of the same coin. In particular, we should not forget the fact that in Asia, increasingly freer trade together with capital liberalization, are the motive forces behind the “Asian miracle”. Accordingly, capital controls cause these benefits to be lost.

However, even while recognizing these benefits, the capital flows to Asia seemed excessive. For example, in Thailand the opening of the offshore financial market¹³ (BIBF) was accompanied by a sudden rush of short-term capital, exemplified by portfolio investment. In 1990 the amount of private capital flowing into South Korea, Indonesia, Thailand, Malaysia, and the Philippines was \$24.9 billion, but in 1996 this had tripled to \$72.9 billion. This represented approximately one third of all the private capital flowing into emerging markets from abroad that year.

Of this, portfolio investment in 1990 was \$1.3 billion, which had grown to \$20.3 billion in 1996, an amount 15 times larger. In contrast, foreign direct investment only slightly less than doubled from \$6.2 billion in 1990 to \$12.0 billion in 1996 (see Table 2).

When the flow of these funds suddenly reversed, the impact was enormous. In the countries affected by the Asian crisis, there was a net outflow of \$11.0 billion, centering on short-term capital. The large falls in the value of currencies and stock markets this outflow produced caused the foreign debt load of companies to balloon, bringing companies under pressure or forcing them into bankruptcy. This then burdened the banks financing these companies with huge bad loans. The value of

Table 2 Private Capital Flows to Emerging Markets

(In billions of U.S. dollars)

	1990	1991	1992	1993	1994	1995	1996	1997
Emerging Markets								
Total net private capital inflows	31.0	126.9	120.9	164.7	160.5	192.0	240.8	173.7
Net foreign direct investment	17.6	31.3	37.2	60.6	84.3	96.0	114.9	138.2
Net portfolio investment	17.1	37.3	59.9	103.5	87.8	23.5	49.7	42.9
Other	-3.7	58.4	23.8	0.7	-11.7	72.5	76.2	-7.3
Net external borrowing from official creditors	22.2	25.7	17.6	18.7	-2.5	34.9	-9.7	29.0
Total net capital inflows	53.2	152.7	138.5	183.4	158.0	226.9	231.1	202.7
Asia								
Total net private capital inflows	19.1	35.8	21.7	57.6	66.2	95.8	110.4	13.9
Net foreign direct investment	8.9	14.5	16.5	35.9	46.8	49.5	57.0	57.8
Net portfolio investment	-1.4	1.8	9.3	21.6	9.5	10.5	13.4	-8.6
Other	11.6	19.5	-4.1	0.1	9.9	35.8	39.9	-35.4
Net external borrowing from official creditors	5.6	11.0	10.3	8.7	5.9	4.5	8.8	28.6
ASEAN 4* + Korea								
Total net private capital inflows	24.9	29.0	30.3	32.6	35.1	62.9	72.9	-11.0
Net foreign direct investment	6.2	7.2	8.6	8.6	7.4	9.5	12.0	9.6
Net portfolio investment	1.3	3.3	6.3	17.9	10.6	14.4	20.3	11.8
Other	17.4	18.5	15.4	6.1	17.1	39.0	40.6	-32.3
Net external borrowing from official creditors	0.3	4.4	2.0	0.8	0.7	1.0	4.6	25.6

Sources: IMF, *International Financial Statistics* and *World Economic Outlook*

* ASEAN 4: Indonesia, Malaysia, the Philippines, and Thailand

land held as collateral also fell, and companies faced a credit crunch as banks tried to repair their balance sheets. This was a factor in the vicious circle where even previously sound businesses came under pressure, dragging the Asian economy into an economic recession it has been unable to find its way out of.

As we saw in Section 1, there is room for debate on whether this was all due to self-fulfilling speculative currency attack or herd-like behavior, but it is only natural that the opinion emerge that it would perhaps be better to run the economy imposing some restriction on free capital flows. Stiglitz (1998), pointing out the small scale of developing economies, depicted that they are like "small ships floating on the stormy seas of international finance," and his views are gaining supports from many economists.

2-3. The Differing Visions Behind Capital Controls

Seen this way, it appears a consensus is forming that international financial markets are "bad". In fact, current opinion includes two very divergent streams: (1) Fundamentally we should aim for a world with small capital flows, and (2) Fundamentally we should aim to advance capital liberalization, but we should proceed with caution. For example, Krugman has very recently been leaning toward (1). In contrast, the IMF is very clearly in camp (2). Many economists probably occupy a position somewhere along the spectrum between the two.

Incidentally the view expressed in (1) above does not come only from the information problems we saw in Section 1 of this chapter. It is also a concept that comes from international macroeconomics. It is a proposition of international macro-

economics that “under a regime of **free capital flows**, it is not possible to obtain **exchange rate stability** (a fixed exchange rate system) while fighting economic crises by **cutting interest rates**”. However, it is possible to pursue two of the above three aims. In the international macroeconomics world, this relationship is known as a “trilemma” (our discussion in Chapter 4 is also relevant here). If one is to protect the free movement of capital, one must either adopt a flexible exchange rate system or raise interest rates even in an economic crisis. This kind of choice is very difficult for a small country very dependent on trade, and this is an argument for such a country to abandon the free movement of capital. This presents a substantial objection to current arrangements, but the debate has only begun, and it is too early to render judgement. It is merely a proposal that deserves serious consideration.

If forced to categorize, it might be that most of the world still falls into (2) above. As examples of some of these measures, we would next like to introduce the Chilean model and the Tobin tax. Rather than attempts to **control the movement of capital overall**, they both feature emphasis on **controlling short-term capital flows**. Along with these two, the Malaysian currency controls we will see in Paragraph 6 relate closely to the above macroeconomic debate.

2-4. The Chilean Model

Since the Asian currency crisis, the Chilean model has often been brought up as a success story for capital controls. In the late 1980s and early 1990s, Chile first faced increasing capital inflows, and with it fears of inflation. The Chilean government implemented controls on inflows of short-term capital in 1991 with the aim of sustaining tight monetary policy without lowering export competitiveness. Under this system, 20% (later 30% and currently 0%) of all external borrowing flowing into Chile had to be deposited with the central bank for one year without interest, and all capital flowing in had to stay for at least one year. The one-year requirement was designed to hinder short-term capital inflows, without hurting long-term investment. In addition bond-issuing restrictions were placed on borrowers – domestic firms and banks – to reduce risky borrowing and protect against un-

necessary rises in debt. As a result, short-term external borrowing fell in Chile after the introduction of capital controls, and according to Chilean government statistics, short-term borrowing as a proportion of external borrowing as of 1997 fell from approximately 26% before the introduction of capital controls to 11% after. During the 1994/1995 Mexican crisis, Chile was less affected than other Latin American countries, said to be due to the lower proportion of short-term borrowing.

However, according to the IMF (1998b), the results of these capital controls are unclear. BIS data show short-term borrowing made up 49.8% of the Chilean total in 1997. The IMF points out that there is a major gap between this data and national statistics. It is possible to explain that this gap is due to the national statistics not including borrowing from overseas branches by Chilean banks and unpaid import credit, but as another reason it has been suggested that short-term capital has continued to flow in through routes that do not appear in the national accounts. Reflecting this, another theory suggests that Chile has not been faced with a major crisis because Chile's financial system is relatively sound.

There is certainly disagreement about their effectiveness, but if some sort of capital controls are to be employed, measures such as Chile's that focus on short-term capital flows are undoubtedly **most likely to achieve a consensus**.

2-5. The Tobin Tax

In the same way as the Chilean model, since the currency crisis the “Tobin tax”, proposed by Tobin (1974), has received a lot of attention. Predicting the damage caused by short-term capital by financial liberalization, Tobin thought international rules on the movement of capital were necessary and proposed a small tax to be imposed on all foreign exchange transactions (including foreign exchange transactions related to trade). For a long time his proposals did not attract much attention, but amid the financial instability since the Asian currency crisis, it is being reappraised as one method of controlling inflows of short-term capital. The Tobin tax would be applied not only to short-term capital but to long-term capital too. However, by making the tax rate extremely small, it would minimize the impact on long-term capital, while

imposing a heavy burden on short-term capital (necessary for short-term trading). Simply put, the idea is that compared with someone making a transaction once a year, a person making transactions every day would have to pay far more tax.

However, the Tobin tax is to be a tax on all foreign exchange trading implemented around the world; its weak point is that its introduction would **require agreement on a global scale**. Moreover, it would be difficult to control and tax all modern, sophisticated foreign exchange trading, and the costs of operating it would be enormous.

2-6. Malaysia's Foreign Exchange Controls

History sometimes offers strange coincidences. Krugman's proposal for a policy of foreign exchange controls, which we have already touched on more than once, and Malaysia's exchange controls were announced at almost the same time. Since they came at almost the same time (approximately one week apart), some wondered whether the two events were related, but based on an overall appraisal of the information available since, it seems it was a complete coincidence. Apparently both parties reached the same conclusion independently.

Malaysia had employed an "IMF policy without IMF" at the end of 1997. Its foundations were a policy of stabilizing exchange rates with higher interest rates and cleaning up financial problems (piercing an economic bubble). However, the results were disastrous. Malaysia experienced a dramatic worsening of its economy. The economy registered negative growth in the first quarter of 1998, and again in the second, entering into the worst economic recession in 13 years. Bad loans at banks, said to be 3% before the currency crisis, were projected to reach up to 30% in 1999 due to the effect of the falling currency value and companies pushed into bankruptcy by the credit crunch¹⁴. Malaysia, having adopted IMF-style policies itself, was able to identify their shortcomings based on first-hand experience and decided to employ the exchange controls. Krugman on the other hand, identified the problems with IMF policies on a theoretical basis. It is extremely interesting that both came to the same conclusion.

If we actually examine the concrete details, both agree to a surprising extent. In a few words, the essence of their idea is that **a central bank should have firm control of dealings in its own currency**. As such, perhaps a better term than **capital controls** would be **foreign exchange controls**. The difference in meaning between the two is very subtle, and they are often taken to be synonymous. Strictly speaking however, foreign exchange controls are the more comprehensive of the two. This is because payments and receipts arising from trade, and payments and receipts arising from transactions of financial assets cross national borders both involve foreign exchange transactions. Therefore foreign exchange controls apply not only to capital transactions (financial asset trades) but all external transactions including those involving the current account (such as trade). To use Malaysia's measures as an example, suspending the convertibility of the ringgit abroad is a foreign exchange control, and the requirement that portfolio investment (for example, investments in the stock market that aim to gain from price rises) remain in the country for a year is a capital control.

In fact in Malaysia's case, financial liberalization may have gone too far. For example, there was a thriving trade in the Singapore offshore market in the ringgit, and it was possible to open ringgit-denominated accounts at Singaporean banks. Under these conditions, it was naturally impossible for the Malaysian authorities to manipulate both the exchange rate and interest rates at the same time. It was the "trilemma" of international economic theory brought to life. Therefore, in order to stabilize the currency and lower interest rate at the same time it was necessary to put controls on foreign exchange transactions.

As we mentioned in Chapter 1, Note 2, Japan had foreign exchange controls until very recently (April of 1998). Many of the world's nations have foreign exchange controls in some form (Singapore, Taiwan, and others have controls on offshore trading in their own currencies). The Malaysian measures in fact **only roll back somewhat liberalization that had gone too far**. All the attention this has drawn, including fierce criticism from some quarters, reflects an **excessive preoccupation with the direction of the moves**, namely the re-imposition of controls that had previously been removed.

It is worth noting that the main point of the Malaysian exercise was not to target short-term capital flows in the way that the Chilean model or the Tobin tax do. Rather, it was to create some leeway (in Krugman's phrase, "breathing room") to lower interest rates to promote economic recovery by gaining room to maneuver in domestic monetary policy. Thus the policy is a means and not an end. As Krugman pointed out in his open letter to Dr. Mahathir¹⁵, a system of capital controls must be a measure to support economic reform, and is not an alternative (an excuse to delay reform). While the capital controls work effectively, Malaysia should promote a recovery of the real economy and put it on the right track. To that end, Malaysia must be vigilant in combating the problems that can be expected as the side effects of capital controls, such as inefficiency, corruption, and abuse of authority by bureaucrats.

Conclusion

As we have seen in this chapter, there are growing doubts about the merits of free capital flows among economists and in the real world as well. This issue would continue to be a great deal of debate. We agree with the interpretation that international financial markets have given rise to substantial asymmetries of information. However, we would like to call attention to one more matter.

That is that the position (1) "in any event free markets are best", and its opposite, (2) "in any event controls are necessary", are both in fact ideologically based, and not compatible with a calm discussion based on economic principles. As we mentioned toward the beginning, the assumptions used in economics is a trick to prevent economics from being subverted to ideological ends, whether by people with pro-market or anti-market positions. In order to resolve real economic problems, we must promote the use of economics not as an ideological tool, but as a scientific tool.

Notes:

1. That the competitive market leads to Pareto efficiency is the first theorem of welfare economics.
2. As such, there is very little talk of uncertainty as a cause of market failure any more. Moreover, when the expression "problem of information" is used, often it refers to asymmetry of information alone.
3. In response to the argument that speculators are not always clever (rational), Prof. Milton Friedman has for example pointed out that irrational speculators will lose and be forced out of the market.
4. With active speculation and arbitrage, markets reach a state where no one makes profit; they are then called efficient markets. Whether real financial markets are efficient or not is open to question. The hypothesis that they are in fact efficient is called the "Efficient market hypothesis", and is the subject of much empirical research by economists.
5. For further reading on market psychology, including this problem, refer to Azariadis (1993) Chapter 28 and Farmer (1993) Chapter 9.
6. We referred to Obstfeld (1996) and Krugman (1997) among others.
7. The investment trusts that Mr. Soros and others like him operate are called hedge funds. According to Eichengreen et al. (1998), the moves of Mr. Soros and other hedge funds are seen to have caused the 1992 ERM currency crisis, but they seem not to have had this influence in the Asian currency crisis. Brown et al. (1998) argues that there was a time when hedge funds were trading excessively in Asian currencies, but that there is no relationship between the moves of these hedge funds and fluctuations in Asian currencies. They also argue that there is no evidence that the actions of Mr. Soros' hedge fund led to the devaluation in the Malaysian ringgit. In addition, the quantity of money hedge funds handle, no matter how great their leverage (extending the reach of funds through borrowing and other techniques), is small relative to European and American mutual funds and pension funds. The total capitalization of hedge funds is thought to be \$300 billion. In contrast, the total funds handled by institutional investors is as high as \$20 trillion, and they have major influence in international financial markets.
8. It is possible to divide the costs of a currency crisis in two: (1) the costs of defending against the crisis, and (2) the costs incurred after the crisis arises. In terms of costs of defending against a currency crisis, we can mention the reduction of foreign exchange reserves, a stagnating domestic economy due to higher interest rates, etc. Costs after the currency crisis include all the costs incurred until recovery. The IMF (1998a) has warned that the time required to recover from a currency crisis is between 1.5 and 2 years, and in many cases, is accompanied by a 7 to 10% reduction in production.
9. See Kaminsky, Lizondo & Reinhart (1997), and IMF (1998a) in reference to early warning systems.
10. The rise in the real exchange rates of Asian economies before the Asian currency crisis was between 4 and 15% from a 1992 base (JP Morgan RER Data).

11. See Roubini et al. (1998) on competitive devaluations.
12. See Krugman (1998).
13. An offshore market is a market that non-residents (foreign corporations and individuals) participate in.
14. The 30% bad debt projection appeared in the September 7, 1998 *Financial Times*.
15. Krugman posted his letter "An Open Letter to Prime Minister Mahathir" on his homepage. The URL is <http://web.mit.edu/krugman>

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