Financial crisis prevention:
A psychological approach from behavioural finance

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Summary

Taking the example of the East Asian crisis, this paper attempts to explain, from a psychological perspective, why similar financial crises have happened one after another in emerging markets recently. It analyses Japanese bankers’ behaviour in the face of the ‘East Asian Miracle’ and the following financial crisis, finds that their ‘quasi-rational’ behaviour inevitably led the affected countries to the crisis, and shows that this can be explained well through a psychological approach from behavioural finance. Policy recommendations deducted from the study include regulations and cooperation at the international level, and the application of behavioural finance to the establishment of financial crisis prevention measures.
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List of Abbreviations

APEC  Asia-Pacific Economic Cooperation Conference
BIBF  Bangkok International Banking Facility
BIS   Bank for International Settlements
CEO   Chief executive officer
FDI   Foreign direct investment
GDP   Gross domestic product
G7    Group of Seven
IMF   International Monetary Fund
IOSCO International Organisation of Securities’ Commissions
MOF   Ministry of Finance
NIEs  Newly industrialising economies
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Preface

With this paper, I am going to discuss how behavioural finance theories would be beneficial in explaining market participants’ behaviour, since a good understanding of the object of regulation is a must in establishing effective regulations. I do not think that market participants behave in a complete irrational way in the face of crises, though the irrationality seems to be implied in the word ‘panic’ that economists often use in describing their behaviour. Neither do I assume that they are completely rational all the time, as markets efficiency theory by Fama (1970) does. Instead, I believe, from my work experience in the banking sector, that market participants are ‘less than fully rational’, as behavioural finance asserts. Therefore, this paper is going to be an attempt to reinforce my empirical belief with the new economic theory that does not assume the rationality of economic agents. For this purpose, I will review the literature on behavioural finance and psychological studies about decision-making. I will also conduct interviews to Japanese bankers in order to back up my empirical thoughts and to find more about the case study of the East Asian crisis.

This paper could not have been finished without the help from those who supported me. First of all, I would like to thank my supervisor, Ricardo Gottschalk, my family, and my classmates for their advice and continuous encouragement; Aaron Griffiths for the proofreading; and the course co-directors, Anne Marie Goetz and Khalid Nadvi, for accepting me in the MPhil course. Among all the interesting lectures at IDS, ones by Stephany Griffith-Jones actually led me to choose this topic and inspired me with many ideas. Thanks to Stephany. I am also very grateful to the interviewees who always kindly answered even to basic questions, and to my friends who introduced me to them. Finally, I would like to thank Alan Best for his eternal support and insightful comments.
Introduction

The Dutch Tulip mania (1634 – 37), the Mississippi Bubble (1719 – 1720) and the South Sea Bubble (1720) – “the first famous bubbles” (Garber, 1990).

Black Friday (1866), Black Friday (1869), Black Tuesday and Black Thursday (1929), and Black Monday (1987) – the ‘Black days’ in the U.S. investment market (Kindleberger, 1989).


‘History repeats itself’ – indeed, financial manias and panics have happened often enough in financial markets, since as early as the market system started to operate. Why? Do financial crises also repeat themselves? Are there any common features among the three crises, and between these crises and the repetition of panics and manias in the investment market? It seems there are.

Some analysts see a common background of the three financial crises in the increase in international capital flows.1 In all the cases, the countries experienced a great increase in the capital inflows – in the portfolio investment in Mexico (Griffith-Jones, 1997) and Russia (Bracho, 2000), and the bank lending in East Asia – then a sudden reverse of the trend into a massive withdrawal of the capital flows triggering the (currency and) financial crises.

What was the reason behind the sudden reverse of capital flows? Was there a sudden deterioration in economic fundamentals, or was it only a change in the perceptions of

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1 See Chapter 2(3) for detail.

Under the globalisation of capital markets, capital flows across borders have been rapidly increasing. According to a white paper on commerce published by the Japanese government, the amount of money traded in the major foreign exchange markets in the world in 1998 was around 500,000 billion U.S. dollars, which was triple the amount in 1989 (Aramaki, 1999). It is an astronomical amount of money, when compared with, for example, the total trading in the world of 11,000 billion U.S. dollars (in 1998) (ibid.) and the annual budget of the U.S. government of 1,000 billion U.S. dollars (in 1999) (cited from the website of the US office of Management and Budget: www.access.gpo.gov/usbudget).
capital providers? This paper, taking the latter view (‘the cause of the sudden withdrawal was a change in the perceptions’), will attempt to link the causes of the financial crises with those of panics and manias in the investment markets in order to elucidate why recently the three ‘similar’ financial crises happened one after another, and why mainly in emerging markets.

Earlier attempts to give explanations of the mechanisms of financial panics include the ‘beauty contest’ (Keynes, 1936), the bank run model (Diamond and Dybvig, 1983) and herding behaviour models (e.g. Radelet and Sachs, 1998). While acknowledging these theories, I will take a different approach to explain panics and manias – a psychological approach. In doing so, the paper will introduce theories from behavioural finance, which imports findings from other social sciences (mainly psychology) on people’s behavioural patterns (especially on decision-making behaviour) in order to analyse investors’ behaviour in the market.

The major objective of this study is to come up with policy recommendations for effective crisis prevention measures. The financial crises have been costly. They have damaged the affected countries in many perspectives. Increased unemployment, high inflation rates and a halt of production systems destroyed many people’s way of living, as well as the infrastructure of the countries. The gap between the rich and the poor was widened. The crises have brought back many of the countries to the primary stage, negating all the efforts they had made for the economic and social development. On the other hand, they have been costly to the international community as well. The IMF has spent as much as 250 billion U.S. dollars in bailing out the affected countries (World Bank, 2000). This is why the paper seeks for crisis prevention measures, which would protect emerging markets in particular\(^2\), rather than focusing on how to protect capital providers.

In seeking effective crisis prevention measures, a good proportion of the paper will be

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\(^2\) That is not to say other developing countries do not have to be protected, but this paper sets its focus on emerging markets considering the fact that they seem to have been the major victims of recent financial crises.
devoted to the analysis of the *causes* of a financial crisis. This is due to the following reasons: (a) a good understanding of causes is the first important step towards better prevention measures; (b) almost no research has been conducted to analyse the causes of financial crises with the same approach as this study, while the new approach would be expected to contribute immensely to the improvement of crisis prevention measures; and (c) the constraints in time and length do not allow the author to develop sufficient arguments on the both points.

The case study will be from the East Asian crisis. While comparative case studies across countries (especially a comparison with the Mexican and the Russian crises) could have strengthened the argument, the time, length and information available restricted the possibility of conducting the study in that way. Instead, this study will benefit from the availability of abundant primary sources through the author’s personal connections and own experience in the Japanese banking sector.

The methodologies used for the research are a literature review and interviews. The literature review principally aimed: (a) to review existing explanations to the causes of the East Asian crisis; (b) to introduce behavioural finance theories in order to deepen the existing explanations; and (c) to show evidence that supports the behavioural finance theories. The interviews were conducted with five Japanese (former) bankers and one researcher at a Japanese bank. The methodology will be explained in detail in the chapter that presents the findings from the empirical research.

Before moving on to the main argument, I will clarify some concepts used in the paper:

A ‘financial crisis’ means “a sharp, brief, ultracyclical deterioration of all or most of a group of financial indicators – short-term interest rates, asset (stock, real estate, land) prices, commercial insolvencies and failures of financial institutions” (Raymond Goldsmith in Kindleberger, 1989: 6).

The word ‘market participants’ in this paper refers to those who play in the financial market, i.e., mainly (private and institutional) investors and bankers.
The structure of the paper is as follows. Chapter 1 will present various explanations to the causes of the East Asian crisis suggested by economists, in order to bring up a contrast between different explanations, which would lead to different crisis prevention measures. Chapter 2, following the review of existing models to explain why panics happen in the previous chapter, gives a brief introduction of various behavioural finance theories that would help explain what kind of behavioural patterns of market participants would cause financial panics and manias. In Chapter 3, the findings of the empirical research will be analysed using the behavioural finance theories, in order to test if bankers’ behaviour in international lending can be also explained by behavioural finance. Finally, Chapter 4 will present policy recommendations for preventing further disastrous financial crises, taking into consideration the findings from the literature review (in Chapter 2) and the empirical research (in Chapter 3), and bringing back the contrast between different stances reviewed in Chapter 1.
1. Four explanations to the causes of the East Asian crisis

The crash of the Thai baht in July 1997 is said to have signalled the East Asian crisis (World Bank, 1998; Asian Development Bank, 1998). The tragedy of the triple – currency, financial and economic – crises did fatal damage to many of the East Asian countries’ achieved levels of economic growth and equality, and on the systems and infrastructure established up to that point. The five countries that suffered most from these crises were Thailand, Indonesia, Korea, Malaysia and the Philippines (Aramaki, 1999). In each country, the crisis started from the currency crisis, and the financial and economic (also political in the case of Indonesia) crises followed and deepened each other. The impact has been so immense that many of the affected countries are still, in 2001, on the road to recovery.

The suggested causes of these crises are different from country to country, according to their economic, political and social factors and situations. Nevertheless, this chapter tries to summarise the various causes economists have suggested and organise them into four broad categories. It does not mean that the four positions are mutually exclusive. Indeed, many analysts give explanations across the categories. The categories are made referring to Asian Development Outlook (Asian Development Bank, 1998) (panic vs. fundamentals); Aramaki (1998) (fundamentals vs. panic vs. moral hazard); and Estanislao et al. (2000) (panic and illiquidity vs. structural defects and moral hazard).

(1) Fundamentals explanation

The first category of explanation of the East Asian crisis regards economic fundamentals. This explanation is rather a basic one, and, except for some critics, those who take other approaches would also partly agree with this. However, a significant difference may be found among those who argue the fundamentals were the only problems and those who see the fundamental problems as only a part of the causes.

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3 For country specific explanations, see World Bank (1998), for example.
Analysts usually bring up two types of economic fundamentals as the crisis causes: macroeconomic fundamental indicators and fundamental economic infrastructure. Between the two, many economists, including those from the International Monetary Fund (IMF), analyse that, in the case of East Asia, the main cause of the crisis lay with the problems of the financial systems, rather than with their macroeconomic policies (for example, see IMF, 1999b). Bank lending was not well commercially oriented, and a lot of investment was flowing into unproductive use and non-trade industries, such as real estate and construction. What was worse, there were double mismatches in these loans made by local banks: mismatches in the term, and in the currency. While the local banks raised a significant proportion of the loans’ funds through inter-bank loans from foreign banks (which mean short-term and in foreign currency), they used the funds to lend in long-term and in local currency. On the assumption that the then foreign exchange rate regime would be maintained and that inflation rates would increase only moderately as normal, the exchange risk was left unhedged.

The IMF analyses the underlying causes of these problematic situations in the financial systems as follows:

- There was corruption and collusion across the public sector and the private sector⁴;
- Regulations and supervision given to the banking sector were neither sufficient nor appropriately implemented;
- Under the protectionism policies, the closed banking sector did not improve because it does not face sound competition; and
- Local banks had lax internal control, weak governance and little experience with handling booms and foreign exchange risks (summarised from IMF, 1999b).

As for the other type of economic fundamentals, macroeconomic fundamental

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⁴ It is often called ‘crony capitalism’, to which some analysts attribute the main cause of the crisis (e.g. Krugman, 1998). For an explanation from an insider, see Noguchi, in which he explains the ‘crony’ structure in Japan (Noguchi, 1995).
indicators (such as GDP growth rates, unemployment rates, fiscal deficits, and saving and investment rates), the level of deterioration was not very significant even in the period of crisis. Since the East Asian countries had shown very strong macroeconomic indicators in the boom time, macroeconomic fundamentals were still above the sound level in general. However, there were some exceptions. The major one was foreign reserves. Those countries that experienced the crises seem to have had low foreign reserves ratios, especially in proportion to short-term capital flows in foreign currencies (Radelet and Sachs, 1998; Griffith-Jones et al., 1998; Aramaki, 1999), whereas foreign reserves indicate how tolerant the country is to currency crisis (Aramaki, 1999: 92). Yet, in comparison to countries outside the region, the level of foreign reserves was not necessarily low. Figure 1.1 shows the ratio of short-term liabilities to foreign reserves.

![Figure 1.1. Ratio of short-term liabilities to foreign reserves](Source: Aramaki, 1999: 92)

The fundamentals explanation usually leads to such prevention methods as prudent regulations and supervision in the financial sector, the sound development of the domestic capital market (including the improvement of bond, forward and equity

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5 Also, most of the countries that experienced the crisis had an increase in the current account deficit and a decrease in the export growth rate. What was behind this was the sudden change in the long-term appreciation trend of the Japanese yen relative to the U.S. dollar, and a severe challenge from soaring competitor economies such as China and Mexico (Aramaki, 1999).

6 The Economist shows a study that found a strong positive correlation between the size and liquidity of stock exchanges and economic growth, and the growth of non-bank financial intermediaries and economic growth (The Economist, 2001). According to the article, the best-functioning economies are
markets), and ‘proper’ implementation of monetary and fiscal policies. Indeed, these are the main components of the IMF-supported programmes introduced by Indonesia, Korea and Thailand (IMF, 1999a).

(2) Moral hazard explanation

The second explanation concerns moral hazard caused by the IMF bailouts. Some extremists argue that the moral hazard was the only major cause of the crisis. Milton Freedman is one of them, saying that the East Asian Crisis would not have happened if there was no IMF (Freedman in Aramaki, 1999). According to him, it was apparent that the IMF was prepared to make large bailouts. Since the Mexican Crisis in 1994, in which the IMF made a bailout of as much as 50 billion U.S. dollars to rescue the banks from developed countries, those banks kept lending carelessly into risky markets, this time in Asia, expecting that the IMF would bail them out in the case of crises.

The moral hazard explanation then naturally argues that the IMF should be scaled down (or even closed) to leave the markets, particularly the banks from developed countries, to suffer from the consequences of their failures in decision-making. The underlying idea is, the less intervention there is, the better, because intervention would only disturb the ideal sound competition in free markets.

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7 I did not find it in major articles, but there was a similar argument during the financial crisis in Japan since late 1997, especially when the government decided to bailout many of the major Japanese private banks for writing off their delinquent loans in the early 1998. Considering the great role of Japanese banks in fuelling the bubbles in the Southeast Asian countries, moral hazard among the banks by a tacit guarantee from the Japanese government may have been one of the major causes of the East Asian crisis.

8 For the East Asian crisis, the IMF bailed out Korea even more largely (20% of its quota, whereas 5% of quotas used to be the estimated maximum amount) under the newly established Supplemental Reserve Facility (Aramaki, 1999).
(3) Short-term capital flows explanation

The third explanation, which attributes the causes of the East Asian crisis to the large amount and the characteristics of short-term capital flows, is often contrasted to the fundamental explanation, because it asserts that the recent financial crises (since the one in Mexico) are of a new type and unlike the prior crises\(^9\), which were caused primarily by the problems with economic fundamentals. That is not to say that there was no problem with the financial sector and macroeconomic fundamentals, but it finds the greater (or the greatest) problem in the international environment rather than in the domestic fundamentals. The main references of this explanation include Griffith-Jones et al. (1998) and Radelet and Sachs (1998).

First of all, statistics show that there was a massive withdrawal of short-term capital flows from the East Asian countries. Figure 1.2 shows the abrupt change in the trend of private capital flows, dividing them into three categories: portfolio investment, foreign direct investment (FDI) and the others, which mainly consist of inter-bank capital flows.

Figure 1.2. Private capital flows into the five East Asian countries that were most affected by the crisis\(^10\) (1996-97) (Source: Aramaki, 1999: 46-56)

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\(^9\) For earlier models of explaining crises (e.g. the first and second generation models), see Krugman (1979), Flood and Garber (1984), and Obstfeld (1994).
The figure clarifies how the inter-bank flows were massively withdrawn at the onset of the crisis. Although the statistics do not explain a causal relationship between the withdrawal and the crisis – whether the withdrawal triggered the crisis, or there was a withdrawal because the crisis happened, the proponents of the explanation analyse that the withdrawal led to the crisis, since inter-bank loans were easy to withdraw due to their characteristics: intrinsic instability (Radelet and Sachs, 1998) and pro-cyclicality (Griffith-Jones et al., 1998).

Radelet and Sachs (1998) attribute the main cause of the East Asian crisis to “intrinsically instable” (Radelet and Sachs, 1998) (international) bank lending. Inter-bank loans are easily subject to withdrawal simply because they are usually short-term (i.e., from overnight to a week) (Ueno, 2001); when loans are short-term, all the lenders have to do is not to roll them over. On the other hand, Griffith-Jones et al. (1998) put emphasis on the ‘pro-cyclicality’ of short-term capital flows, which means that short-term capital flows follow (and thus accelerate) both the trend of boom and bust. According to them, short-term capital flows have this characteristic because, as economic theories suggest, they tend to flow more towards the more successful economies (ibid.: 4). Figure 1.3 shows that short-term liabilities were increasing before the crisis in all the five East Asian countries that were most affected by the crisis.

Figure 1.3. Change in the annual average ratio of short-term liabilities to GDP
(Source: Aramaki, 1999: 74)

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10 The five countries are: Thailand, Indonesia, Korea, Malaysia and the Philippines.
With such an increase in short-term flows, Griffith-Jones et al. (1998) finds a serious problem because these Asian became increasingly dependent on short-term international funds for financing growth behind their two-digit growth rates. This means that they became highly dependent “on the willingness of foreign creditors to roll over existing short-term credit” (Griffith-Jones et al., 1998: 7), whereas they could not have counted on such willingness. Moreover, it seems that the short-term inflows were reaching an unnecessarily high level by the end of the boom. As a result, “capital inflow was driving domestic investment, not the other way around” (Park and Song in Griffith-Jones et al., 1998: 7), and the bubble kept swelling.

Why, then, despite their intrinsic volatility, did local banks become dependent on international inter-bank loans? What was the background of the increase in the short-term capital flows into the East Asian countries? First of all, why was the Asian market attractive for banks from developed countries? Aramaki identifies the following factors as the underlying reasons:

- Expected profits from the new, rapidly growing economies, especially after the Mexican crisis;
- Relatively stable foreign exchange rates and inflation rates;
- Wide spread between local and international (especially Japanese) interest rates;
- Dividend rates in the major stock exchange markets was decreasing due to the increase in share prices; and
- A preference for a diversified investment portfolio was in fashion (summarised from Aramaki, 1999).

However, all these factors should not have been enough for attracting ‘too much’ short-term capital flows. Most of the proponents of this explanation assert that the most crucial factor for the mania was the liberalisation of the financial sector and the capital account: the financial liberalisation was made in a careless way and in too much of a rush, while the countries should have taken more time in opening up their markets (Griffith-Jones et al., 1998; Radelet and Sachs, 1998; Aramaki, 1999). One of the
evidences that Aramaki shows to support this hypothesis is that China and Vietnam could avoid the contagion effect of the crisis despite the fact that they had similar problems with the banking sector (i.e., investment into unproductive, public industries), because their levels of financial liberalisation were very low and there applied very rigid regulations on the capital movements (Aramaki, 1999). On the other hand, according to him, the countries that experienced the crisis laid lax regulations and little monitoring for international capital flows and foreign exchange, while they rapidly opened up their financial markets (ibid.).

For example, in the case of Thailand, the government introduced some policies to attract bank investment from foreign banks. One example was the establishment of the Bangkok International Banking Facility (BIBF), which encouraged bringing short-term inflows from foreign banks by tax and other measures into the country (Griffith-Jones et al., 1998: 17). Another policy was to partially open up its banking sector to foreign banks – not completely. At the risk of sounding cynical, the gradual process seems to have made it worse in this case. Being obviously very cautious in the liberalisation of the financial sector, the Thai government announced it would give full-branch banking licenses only to a small number of banks, based on how much the bank had contributed to the Thai economy. However, it ended up encouraging excess competition among foreign banks in increasing the amount of lending possible without enough consideration of its quality.

According to Radelet and Sachs (1998), the background of their rush was an increasing competition among emerging markets. In addition to the competition within the newly industrialising economies (NIEs), there was a big challenge from other emerging markets. For example, there was no regulating law on foreign exchanges in Indonesia or on capital trade in Thailand. Even Korea was not regulating capital trade when it was inter-bank and short-term (Aramaki, 1999).

Yoneda, a then head of Thai office of a Japanese commercial bank, describes how hard it was to get a full banking license in his book The road to Thai full-branch (Yoneda, 1998). He expected only a couple of years to make the local office a full-branch, but, in the end, it took seven years.

Interview material (Goto, 2001; Anonym A, 2001). Those foreign banks that had lost the expectation to get a full-branch license at some point started to withdraw themselves from the market (Goto, 2001). In that sense, this policy might have worked to slow the boom at the same time. However, Yoneda reflects that the attitude of Thai government people was
economies such as China and Mexico, which made them look for continuous growth rather than slowing down for necessary adjustments. A person in the Thai authorities claims that it was the industry that asked for “too much liberalization too soon, too fast” (Vichit-Vadakan, 1998: 1), when it was still “ill prepared” (ibid.)

In addition to these factors found in developing countries, some say that the early liberalisation was pushed\(^\text{14}\) by authorities of developed countries as well (Griffith-Jones et al., 1998; Aramaki, 1999). They claim that the IMF and the U.S. Treasury implicitly and explicitly encouraged financial liberalisation, and they had a great influence on other countries including the emerging markets. Joseph Stiglitz throws doubt on the benefits of financial liberalisation, saying that there is no consensus amongst economists if capital account liberalisation brings significant economic gains (Stiglitz in Griffith-Jones et al., 1998).

To summarise the short-term capital flows explanation: too early the financial liberalisation brought in massive short-term, and therefore volatile capital flows into the immature and underdeveloped markets beyond their capacities to handle them. When foreign banks were no more willing to roll over the inter-bank (short-term) loans by any reasons, the crisis did happen and was further deepened through a vicious cycle.

In response to the causes of crisis that this explanation detects, two main crisis prevention measures are suggested: (a) a proper process for financial liberalisation, and (b) better management of short-term capital flows. According to the most proponents, the latter in particular is the key in order to benefit from globalisation and free markets (Griffith-Jones et al., 1998), since the globalisation of capital market is primarily beneficial also to developing countries despite the potential problems of international short-term flows (Aramaki, 1999).

\(^\text{14}\) Fernandez-Arias (1996) studied the determinants of private capital inflows to middle-income countries after 1989, and found that, in most countries, the ‘push’ from unfavourable conditions in developed countries was bigger than the ‘pull’ by attractive domestic conditions. This view was backed up by my interviews (see Chapter 3).
Firstly, the liberalisation should be carried out carefully and gradually, at a proper speed and in a good order (from long-term to short-term; from inflows to outflows). Countries should wait until they have enough capacity to deal with the large amount of international flows in comparison to the size of the domestic market. Specifically, the management abilities of financial institutions, the supervisory capacity of the government, and the legal infrastructure to support debt workouts are important.

Secondly, in order to better manage the short-term capital flows, Griffith-Jones (2000) calls for a ‘counter-cyclical’ environment, which works against the ‘pro-cyclicality’ of short-term flows. According to her, it is necessary to introduce such policies\(^\text{15}\) as the Chilean taxation\(^\text{16}\) and Tobin tax\(^\text{17}\) that would dampen excess bank lending in boom periods and would not further accentuate the decline in lending in slowdown periods (Griffith-Jones, 2000).

(4) Panic explanation

Lastly, there is another explanation that emphasises the panicky withdrawal among international lenders. This explanation follows the ‘short-term capital flows explanation’ by analysing how and why the lenders made a sudden decision to pull back.

Radelet and Sachs (1998) observe ‘herding behaviour’ among international lenders in deciding not to roll over their short-term loans. The basic idea is *I do it because others do it*. The choice of following the others may sound irrational and seem to go against the assumption of economic theory that lenders (as economic men) make ‘rational’ choices according to given information such as the creditworthiness of borrowers, the cost of lending and their risk-preference. However, some economists describe certain

\(^{15}\) Her other ideas include: to raise capital adequacy ratio in boom period and to lower it in the times of recession; to place caps on the value of assets for collateral (e.g. by averaging values for the last five years); and to limit or discourage lending for property, construction and personal consumption, which tend to increase in booms (Griffith-Jones, 2000).

\(^{16}\) It imposes on banks reserve requirements that earn low (or even zero) interest rates (Griffith-Jones, 2000).

\(^{17}\) It is imposed uniformly on spot transactions in foreign exchange (Felix, 1995).
types of herding behaviour are inevitable cases that ‘rationality’ of individuals result in ‘irrationality’ of the market.

The classic theory of such herding behaviour is found in *The general theory of employment, interest and money* by John Maynard Keynes (1936: 154-7), in which he made a comparison of the stock market with a beauty contest. According to him, the behaviour of investors is like newspaper beauty contests in which readers are asked to choose the six prettiest faces from a hundred photographs. When the winner is to be the person whose choice was closest to the average preferences of the total participants, people would choose those that they think the others would fancy, not those that they think the prettiest. Likewise, according to Keynes, even professional investors are more concerned with what the market will value at than with which investment is really worth buying:

“The actual, private object of the most skilled investment to-day is ‘to beat the gun’, as the Americans so well express it, to outwit the crowd, and to pass the bad … to the other fellow” (Keynes, 1936: 155).

He considered it as an inevitable result of the investment market, because if one tries to invest based on genuine long-term expectation, he ‘must surely lead much more laborious days and run greater risks than he who tries to guess better than the crowd how the crowd will behave; and, given equal intelligence, he may make more disastrous mistakes’ (ibid.: 157).

In sum, what Keynes implied was that investors’ herding behaviour, like that of voters in a beauty contest, is ‘rational’ in the sense that they behave so in order to avoid extra risks and to ‘win’, though it would not be considered ‘rational’ behaviour in economic terms because their decisions are not based on long-term expectations of which investment is really worth buying.

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18 In a boosting market, this mind-set can accelerate the upward trend. As the Economist puts it as the ‘bigger fool’ theory, “a share is worth buying, even if it looks expensive, so long as there is reason to hope that somebody else will pay even more for it in future” (The Economist, 2001: 14).
The ‘beauty contest’ feature further encourages the pro-cyclical environment in the market. If market participants are more concerned with how the others interpret a new piece of information than with how they themselves interpret it, they would react to the information when they think that the others would do so even if they were aware that the information did not capture the whole picture, or even when it contradicted what they believe. As a result, when a country announces whatever taken as ‘good’ news, it could attract more capital flows than the fundamentals would predict, and vice versa.

Regarding the explanation to the East Asian crisis, Radelet and Sachs (1998) analyse how herding behaviour in bank lending inevitably occurs as a result of individual rational actions, when the fundamentals could have supported a much more favourable outcome. According to them, a liquidity crisis can occur when borrowers are solvent but illiquid. The important difference between insolvency and illiquidity is that illiquidity is only a temporary problem. Illiquid borrowers can survive with provision of a small amount of collective new loans, whereas insolvent borrowers cannot. However, when they do need the small amount of new loan for recovering their liquidity, lenders often try to flee ahead of the others, leaving the borrower illiquid – which to be followed soon by insolvency and bankruptcy, since the illiquid borrower could not survive without the provision of a new loan.

Why do lenders have to abandon the borrower in such a way when they know that the illiquidity would be solved with their loans? The answer is because they are not willing to make loans unless others lend as well. Therefore, each individual lender ends up with a decision of ‘no more lending’ in order to avoid the worst scenario that s/he be the only one to lose money, as is the case in the ‘prisoners’ dilemma’. Thus, “there are clearly multiple rational equilibria in this situation” (Radelet and Sachs, 1998: 5): all lenders make loans, or no lender does. Individual rational action can result in collective disaster and an unnecessary panic.

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19 Needless to say, many articles in newspaper are, as almost any other information, written from the writers’ view and with their interpretation. Market forecasts by financial analysts are the same. Moreover, the forecasts are sometimes strategically reflecting their (or their institutions’) market positions in order to lead other investors to react in such a way that would benefit the analyst.

20 For a mathematical explanation, see Radelet and Sachs (1998).
This illiquidity-insolvency model is similar to bank runs explanation by Diamond and Dybvig (1983). There are also multiple equilibria, one of which is a bank run: when depositors fear that their bank may fail, with an expectation that other depositors have the same view, they rush to withdraw their deposits, which forces the bank to liquidate its investments at a loss, pushes it to insolvency, and thus validates expectations that the bank is indeed bankrupt.

Others analyse herding behaviour as the result of asymmetric information (Abhijit Banerjee, Frederic Mishkin and Joseph Stiglitz in Radelet and Sachs, 1998). When there is asymmetry in the information accessibility, which is a normal situation in practice, those who have less access to the information (or who believe so) would follow signals from ‘the price leader’ 21, which they think has more information than them (Soejima, 2000). In other words, some (or many) creditors act not on the basis of their own private information as economic theory suggests, but on the basis of the actions of the others.

The panic explanation sets the main pillar for crisis prevention in the arrangement of better crisis management measures, expecting that they would also work as panic prevention. That is, since there is no reason to panic if creditors know that they would be bailed out even when their borrowers go bankrupt, such crisis management is suggested in order to shift the equilibrium from ‘no lender rolls over’ to ‘all lenders roll over’ among the multiple equilibria that ‘rational’ behaviour can result in.

The examples of the measures include deposit insurance, ‘lender of last resort’ and bankruptcy laws. Among all, the role of the international ‘lender of last resort’ (i.e. currently the IMF) is seen important as a means to restore the confidence of international lenders and investors. ‘Lender of last resort’ has two aims: (a) to prevent

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21 Hedge funds are an example of the ‘price leader’. Even though their balance sheets are small, they often operate manifold their assets using leverages, then they become ‘large players’. However, that is not to say that investors follow the ‘price leader’ with knowing what it does. Since most investors trade through security companies or banks, it is hard to know who are trading what (personal connection, July 2001).
outright default by providing liquidity, and (b) to eliminate a self-fulfilling panic by ensuring depositors/creditors that the lender of last resort will provide necessary credits in case of illiquidity (Radelet and Sachs, 1998). The latter function is expected to work as panic prevention. Griffith-Jones (2000) counter-argues the ‘moral hazard explanation’ that if the IMF role is to cut back, crises would become even more costly and would lead to a sharp reduction in private flows to developing countries (Griffith-Jones, 2000). Apart from ‘lender of last resort’, other measures like the arrangement of deposit insurance or bankruptcy laws are seen to be difficult in international settings. Instead, some suggest negotiation among creditors facilitated by the IMF, since the key factor to avoid a liquidity crisis is to arrange a collective action of lenders to make loans (Aramaki, 1999; Radelet and Sachs, 1998).

Whereas this panic explanation analyses the international lenders’ decision to withdraw as the result of ‘rational’ herding behaviour, Griffith-Jones et al. (1998) point out that the sudden change in investors’ perceptions towards the Asian markets at the onset of the crisis was somewhat unexplainable:

“A country that was perceived as a successful economy or a successful reformer – for which no amount of praise was sufficient – suddenly is seen as fragile, risky and crisis-prone. The change of perception tends to be far larger than the magnitude of underlying change in fundamentals warrants. Furthermore, any weakness in economic fundamentals is then discovered and magnified by markets” (Griffith-Jones, 1998: 9).

How did the sudden change happen? What was the mechanism behind it? What triggered it? In the next chapter, I will approach the panic explanation from a different angle, presenting some theories from behavioural finance, a study to understand ‘the mass psychology of the market’.

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22 In his description of investment decision-making in reality, Keynes says that market values an investment “under the influence of mass psychology” (Keynes, 1936: 155), and “the mass psychology of the market is most influenced” (ibid.) by the news and the atmosphere.
2. Behavioural approach to explain panics and manias

(1) Behavioural finance

What is behavioural finance? Since behavioural finance is an inductive rather than a deductive study, I will start with examples that describe some of the typical theories of behavioural finance.

Examples:

(i) You have paid £120 for a fancy dinner for two at a local restaurant. You had to pay in advance, and there are no refunds. At the last minute, you are invited to a friend’s house for dinner where there will be an out-of-town visitor whom you would dearly love to see. Would you accept the invitation, or decline it?

(ii) Mr and Mrs. L went on a fishing trip and caught some salmon. They packed the fish and sent it home on an airline, but it was lost in transit. They received £200 from the airline. The couple took the money, went out to dinner and spent £150. They had never spent that much at a restaurant before.

(iii) Mr A’s car was damaged in a parking lot, and he had to spend £200 to repair the damage. On the same day, he won £25 in a lottery. Mr B’s car was damaged in a parking lot, and he had to spend £175 to repair the damage. Who would you rather be?

[Source: Thaler, 1994: xiv, 25, 31]

If people behave rationally as most economic models assume, the three stories would be explained in the following way:

(i) Both dinners should be considered now to be ‘free’ since you should ignore
the sunk cost, i.e., the prepaid £120, according to the economics dictum. If both are free and one of the dinners is with someone you would love to see, you would choose that one.

(ii) Mr and Mrs. L should not spend that much money on a dinner if they would not have done without the £200 that they got from the airline. Their behaviour violates the economics principle of fungibility of money. Money should not have any labels.

(iii) Since there is no difference in the final asset positions of Mr A and B, you cannot prefer one to another.

Despite the suggestions above from expected utility theory, however, many people would probably: (i) find it hard to ignore the sunk cost; (ii) agree with what the couple did; (iii) rather be Mr B (Thaler, 1994).

Behavioural finance is a new\textsuperscript{23} school of economics that attempts to give explanations to such human behaviours in practice\textsuperscript{24}, importing theories of human behaviour from the other social sciences, such as psychology, sociology, and anthropology (Shiller, 1998). It finds that many conventional economic models, such as those from markets efficiency theory\textsuperscript{25}, do not often work because their assumption does not represent the reality well – the assumption that economic agents are rational all the time. In response, behavioural finance economists study how people behave, learn and make economic decisions in reality, and what happens in a standard economic model if it does not assume that everyone is rational all of the time (Thaler, 1994).

One interesting feature of behavioural finance is that it goes beyond the conventional notions of rationality and irrationality. Thaler coined the term ‘quasi rational’ for “less

\textsuperscript{23} According to Thaler, it is since early 1970s that the field has been researched both by psychologists and economists (Thaler, 1994: 138). However, the pioneer work is found in as early as the 1950s. For example, see Allais (1953) and Ellsberg (1961) who presented counterexamples to expected utility theory.

\textsuperscript{24} In behavioural finance, the first case is called ‘mental accounting’ (see Thaler, 1994: 25-46). Including the mental accounting, the three cases can be explained by the value function of prospect theory, which I will present in the later section.

\textsuperscript{25} Markets efficiency theory assumes that prices in markets always fully reflect all available information, and predicts that investors will choose where to invest under this assumption (Fama, 1970).
than fully rational” (Thaler, 1994: xviii), while Herbert Simon called it ‘bounded rationality’ (Simon, e.g., 1957) out of similar observation on human behaviour. With these words, what behavioural finance emphasises is precisely that ‘rationality’ cannot be assumed as something that people should feature, whereas the term ‘irrationality’ in conventional economics means something that would and should be eliminated in a competitive market.

One of the most influential studies from psychology for behavioural finance is a piece of research on judgement and decision making under uncertainty by Daniel Kahneman and Amos Tversky (1974, 1979). They found that there was prevalent violation of normative models of behaviour in actual behaviour and established a theory called ‘prospect theory’. According to them, the violation should be considered the rule rather than the exception because they were systematic. That is to say, depending on the situation, it can be predicted how the agent will behave despite the irrationality of the response. Thaler finds human behaviour in economic decision-making to be, in the same way, “systematically and substantively different from those predicted by the standard economic model” (Thaler, 1994: xxi).

In the rest of this chapter, I will present some of the psychological and sociological theories that have been introduced into behavioural finance. Since the main objective of the chapter – together with the next chapter – is to give a further explanation of the panic explanation of the East Asian crisis, I will start with the theories that seem to explain why a panic happens. Although the existing studies of behavioural finance are mostly about investors’ behaviour, it should also apply to explain bankers’ behaviour since the original theories of behavioural finance come from other social science studies like psychology that deal with ‘people’ in general.

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26 Simon stressed that because human mind has limited capabilities for information processing and storage, humans must use simple rules of thumb and heuristics to help make decisions and solve problems. Simon’s approach to behavioural finance is more inclined to using artificial intelligence whereas Thaler intensively introduces psychology theories (Simon, 1982).

27 “The orthodox economic model of consumer behaviour is, in essence, a model of robot-like experts. … This is not because the average consumer is dumb, but rather that he does not spend all of his time thinking about how to make decisions” (Thaler, 1994: 22).
(2) Why does a panic happen?

(a) Prospect theory

I will start with the prospect theory, since it is probably considered to be the most influential behavioural theory to economic research. Prospect theory is an alternative to the theory of expected utility maximization that attempted to represent rational behaviour under uncertainty (Neumann and Morgenstern, 1947; Savage, 1954). It attempts to make sense of different kinds of anomalies in human behaviour in an inductive way, starting with the results of experimental research, rather than deductively from a set of axioms (Thaler, 1994: 140). As such, it is explicitly a descriptive theory.

The three main features of the theory that I am going to use for the analysis of the East Asian crisis are the certainty effect, loss aversion and framing effect of human behaviour. Among the three, the framing effect will be presented in a later section, since it explains ‘quasi-rational’ behaviour in rather general situations than particularly in the face of a panic.

(a.1) Certainty effect

Consider the questions below:

Q1. Which would you choose?
   Lottery A that offers a 25% chance of winning £3,000
   Lottery B that offers a 20% chance of winning £4,000

Q2. Which would you choose?
   Lottery C that offers a 100% chance of winning £3,000
   Lottery D that offers an 80% chance of winning £4,000

According to expected utility theory, you should not choose differently in these two cases, since the second choice is just the same as the first except that all probabilities are
multiplied by the same constant, i.e. 4. However, experiments by Allais (1953) and Kahneman and Tversky (1979) found that the majority of their subject chose Lottery B and C. This is the ‘certainty effect’, a preference for certain outcomes. According to Kahneman and Tversky (1979), people tend to behave as if they regard extremely improbable events as impossible and extremely probable events as certain. Though prospect theory is not precise between the very low and very high probabilities, events that are just very improbable (not extremely improbable) are predicted to be given too much weight, whereas too little weight is given to events that are very probable (not extremely probable), depending on individuals’ subjective impression (Shiller, 1998). In sum, people’s decision weights do not necessarily correspond to the real probability. The ‘weighting function’ (decision weights as a function of stated probabilities), \( p(p) \), would look like Figure 2.1.\(^{28}\)

The weighting function might explain the sudden changes in perceptions of market participants. Notice the gap between the horizontal bars and the diagonal line. While expected utility theory suggests that the subjective decision weights should correspond to the stated probabilities (i.e., \( p(p) = p \), as the broken line shows in Figure 2.1), the weighting function of prospect theory predicts people to have an ‘euphoria stage’ and a ‘dysphoria stage’, which the horizontal bars represent.

\(^{28}\) This is made following the Shiller’s interpretation, whereas Thaler illustrates a differently-shaped function upon a different interpretation (Thaler, 1994: 141). All the figures are presented at the end of this chapter.
In other words, people could perceive the probability that they are going to succeed or win as higher than it actually is, and the probability of failing or losing, lower. To apply the function in order to explain the East Asian crisis, the sudden change of perception from the ‘East Asian Miracle’ to the ‘corruptive, non-transparent crony capitalism’ showed up after the ‘euphoria stage’, instead of gradual depreciation of the East Asian markets, which expected utility theory would predict.

The length of both horizontal bars depends on individuals’ subjective impression, according to the theory, and the longer they are, the bigger the gaps would be (see Figure 2.2). In fact, the bar at the top was maybe long and thus the gap was quite big in the case of East Asian crisis: the sudden change was fairly drastic after a couple of decades of continuous development and the following ‘miracle’.

**Figure 2.1 A hypothetical weighting function**
Now, consider the following questions which are similar to Q1 and 2, but this time with chances of losing instead of winning:

Q3. Which would you choose?
   Lottery A that includes a 25% chance of losing £3,000
   Lottery B that includes a 20% chance of losing £4,000

Q4. Which would you choose?
   Lottery C that includes a 100% chance of losing £3,000
   Lottery D that includes an 80% chance of losing £4,000

In this case, whereas the majority of the subjects of the Kahneman and Tversky experiment went for Lottery D in Q4, the preference for A and B was almost even. Note that it was Lotteries B and C that won the majority when the lotteries offered a
chance to win the money. This leads to another main feature of prospect theory that I am going to explore, called ‘loss aversion’. See Table 2.3 that shows the results of the experiment by Kahneman and Tversky, regarding how much percentage of the subjects chose which lottery.

<table>
<thead>
<tr>
<th></th>
<th>Positive prospects</th>
<th>Negative prospects</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>35%</td>
<td>80%</td>
</tr>
<tr>
<td>B</td>
<td>65%</td>
<td>20%</td>
</tr>
<tr>
<td>Q1 &amp; 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3 &amp; 4</td>
<td>42%</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>58%</td>
<td>92%</td>
</tr>
</tbody>
</table>

Table 2.3. Preferences between positive and negative prospects
(Source: Kahneman and Tversky, 1979)

As clearly seen in Table 2.3, the subjects treated losses differently from gains: risk seeking is observed for losses while risk aversion is observed for gains, except for very small probabilities. In order to explain these results, Kahneman and Tversky generated a value function, ?, in place of the utility function. A typical value function is illustrated in Figure 2.4.

Figure 2.4. A hypothetical value function

Thaler summarises the three important behavioural principles that the value function incorporates (Thaler, 1994: 6, 28). Firstly, the function is defined over changes in
wealth (gains and losses), rather than the final asset position as in the standard theory. For example, in expected utility theory, an individual will value the prospect \((x, p; y, q)\) in the lottery experiment above that pays \(x\) with probability \(p\) and \(y\) with probability \(q\) as, if \(p + q = 1\):

\[
EU = pU(w + x) + qU(w + y)
\]

where \(w\) is initial wealth of the individual. On the other hand, in prospect theory, \(w\) will not appear in the value function. The value of the same prospect would be, if \(p + q = 1\) and either \(x > y > 0\) or \(x < y < 0\):

\[
V(x, p; y, q) = ?(y) + p(p)[?(x) - ?(y)]
\]

where \(p(p)\) the decision weight given to the stated probability.

Secondly, the value function is concave for gains and convex for losses (i.e., \(?'(x) < 0, x > 0; \ ?'(x) > 0, x < 0\). This captures “the basic psychophysics of quantity [that] the difference between £10 and £20 seems greater than the difference between £110 and £120” (Thaler, 1994: 28). Because of the concavity of \(?\), \(?\) - \(?\) > \(?\) - \(?\). The example presented at the beginning of this chapter can also be explained by this feature. (Why are people happier to win separately and more upset to lose separately?) Again, due to the concavity of \(?\), segregation is preferred in multiple gains because, if \(x > 0\) and \(y > 0\):

\(?\) + \(?\) > \(?\) + \(?\)

while integration is preferred in multiple losses because, if \(x > 0\) and \(y > 0\):

\(?\) + \(?\) > \(?\) + \(?\)).

Thirdly, the value function is steeper for losses than for gains (i.e., \(?\) < \(-\)\(\)), \(x > 0\). This explains the ‘loss aversion’ tendency of human behaviour.

Loss aversion may well explain why investors sometimes rush to make withdrawal decisions in order to avoid losing money. As a result, small market corrections have often disintegrated into full-scale crashes, fuelled by such panicked investors.
In the East Asian crisis, as well, the loss aversion tendency of investors was probably one of the main reasons that caused the massive withdrawal of international bank lending and investment.

(b) Mental Compartments

In addition to the ‘loss aversion’ tendency that prospect theory asserts, there seems to be another ‘quasi-rational’ factor why people rush to withdraw their investment when the market starts to deteriorate, which is called ‘mental compartments’. Behavioural economists argue that investors tend to place their investments into arbitrarily separate ‘mental compartments’, rather than looking at their portfolios as a whole (Shiller, 1998; Barberis, 2001). As a result, when they see a loss in their portfolios, they tend to react in a panicky way, even going as far as to change their whole strategies, while the loss was only in a fraction of the portfolios. The bias shows up especially when investors have built up long-term portfolios; they often pay too much attention to short-term gains and losses (Barberis, 2001).

This theory gives a good explanation to why U.S. dollars and U.S. public bonds sell well – which is often called ‘flight to quality’ – when some markets (almost anywhere in the world) become volatile and the level of uncertainty increases. Many investors easily change their strategies to the ‘bear’ side and decrease the level of risk preference when they have made some losses, and flee to safer options. Though this behaviour is typical in markets, it is not considered to be fully rational because, as explained above, investors should be looking at the big picture instead of being concerned about price changes in a fraction of their portfolios.

(c) Anchoring

“Who would know what the value of the Dow Jones Industrial Average should be? Is it really ‘worth’ 6,000 today? Or 5,000 or 7,000? Or 2,000 or 10,000?” (Shiller, 1998: 9)

According to Shiller (1998), prices of today are often determined merely by those of the
past. In psychology, this effect is called ‘anchoring’. One study in the context of real estate valuation shows that subject agents answered a mean appraisal value of $114,204 when they were given an asking price of $119,900, while the other group of agents answered a mean appraisal value of $128,754 for an asking price of $149,900 (Northcraft and Neale in Shiller, 1998). This phenomenon is often used by salespersons. By starting at a high price in price negotiation, they are giving an ‘anchor’ to their potential customers. Thus, regardless of the actual value of the product, the reduction presented by the salespersons looks a good deal to the customer.

Anchoring might also help explain the sudden changes in perceptions in the East Asian crisis. Even after some deterioration in the economic indicators in the Asian countries, many observe that they were still within the level of ‘sound’ economy (for example, see Aramaki, 1999). However, since people were anchored at the high level of indicators, a little drop might have appeared as a signal of danger. A similar situation can be observed in the late 1980s when the U.S. investors found the Japanese stock price-earnings ratios were outrageously high (influenced by the U.S. price-earnings ratios as an anchor), and in the mid 1990s when U.S. investors felt that the Tokyo market was no longer overpriced, even though price-earnings ratios remained much higher than in the US (Shiller, Kon-Ya and Tsutsui in Shiller, 1998).

(d) Ambiguity aversion

Q. There are two boxes containing a large number of red and black balls. You will win £100 if you draw the colour ball of your choice from a box. Which would you choose?

Box A that contains 50% red balls and 50% black balls
Box B that you do not know the proportion of red and black balls

This is a simple version of Ellsberg’s experiment (Ellsberg, 1961; Thaler, 1994: 140-1, Barberis, 2001). Ellsberg found that most subjects would express a strict preference for Box A with the known proportion rather than the ‘ambiguous’ Box B, even though for Box B their subjective probabilities should have been the same 1/2 as Box A, given the condition that they could choose the colour to win. This preference for the known box
is called ‘ambiguity aversion’, which violates the tenet of expected utility theory that the utility of an outcome is weighted by its probability and decision weights do not depend on the origin of the uncertainty (Thaler, 1994). Ambiguity aversion predicts that people would be more fearful and wary of situations that they feel they do not understand because little information is available.

In a financial setting, the preference for something familiar – the flip side of ambiguity aversion – explains the extensive home market bias in reality, regardless of the fundamental principles of portfolio investment that full diversification is desired for optimisation (Barberis, 2001). Table 2.5 shows one of the statistics that supports the home bias of investors.

<table>
<thead>
<tr>
<th>Country</th>
<th>UK</th>
<th>Japan</th>
<th>Germany</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>19.8</td>
<td>9.0</td>
<td>5.0</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Table 2.5. Pension fund holdings of securities issued by non-residents
(Source: Cooper, 2001)

The reason why home bias still exists probably can be attributed to the information availability on overseas markets. Despite the rapid improvement in information technology and the information industry (e.g. Reuter), the amount of information on domestic markets is considerably larger than that on foreign markets, let alone than on non-OECD countries. There are also limits in time and human capacities to obtain and digest information.

3) A revised panic explanation

Using the above theories from behavioural finance, what would be a revised panic explanation?

There was a sudden change in market participants’ perceptions towards the East Asian markets as explained by the gap in the weighting function of prospect theory and the anchoring effect. When the sentiment in the market turned from ‘bullish’ to ‘bearish’,
as investors would put it, they rushed to flee to quality, because of the behavioural tendencies described as *loss aversion* and *mental compartments*. At the same time, *ambiguity aversion*, together with the possible extra problem in information transparency in the East Asian countries, further accelerated the panic trend, since the market participants were driven by the increasing uncertainty to pull back until they could better understand the new situation. In the end, through a downward spiral, the bearish sentiment led all the way to the deep East Asian crisis.\(^{29}\)

(4) **Why does a mania happen?**

A better understanding of the market participant behaviour that would lead to manias in financial markets may also be helpful for crisis prevention, because, as reviewed until now, it seems difficult to stop a panic once it happens. Overconfidence of market participants is probably the main factor underlying manias.

(a) **Overconfidence**

Manias may happen when market participants become overconfident. According to behavioural economists, market participants often build portfolios that are much riskier than their actual ability to bear risk, being overconfident about their investment skills, since overconfidence makes them overestimate the accuracy of their forecasts and underestimate or even ignore the risks (Gervais and Odean, 2001). As a result, they forget the very fundamental, risk hedge principle. A psychological experiment revealed how much people can be overconfident about their own judgement. When asked to answer simple factual questions (e.g., “Is Quito the capital of Ecuador?”) and then to give the probability that their answer was right, subjects tended to overestimate the probability that they were right, in response to a wide variety of questions. Moreover, even when the subjects said they were certain they were right, they were in fact right only about 80\% of the time (Lichtenstein, Fischhoff and Philips in Shiller, 1998).

\(^{29}\) When and why did the panic stop? Ueno explains the depth of the crisis according to the actual and potential crisis management abilities of each country: “There was an influential king in Thailand; there were able and dedicated bureaucrats in Korea; there was a resolute prime minister in Malaysia; but there
Another psychological study showed that there was a ‘self-attribution’ bias in how people learn about their own abilities. When successful, people tend to credit success to their own abilities, whereas when they fail, they blame failure on bad luck or on others (Gervais and Odean, 2001).

Why do people become overconfident? The following two psychological theories may partly explain why: magical thinking and the hindsight bias.

(b) Magical thinking

‘Magical thinking’ is a term in psychology referring to arbitrary behaviours that people make with a belief that such behaviours bring a certain effect, when the effect is actually happening irrelevant to what they do.

B. F. Skinner’s classic experiment to show this behavioural feature to feed starved experimental pigeons small quantities of food at regular fifteen-second intervals. Even though the feeding was unaffected by the pigeons’ behaviour, and they were going to be fed with no dependence whatsoever on their behaviour, the birds began to behave as if they had a ‘superstition’ that something in their behaviour caused the feeding:

“One bird was conditioned to turn counter-clockwise in the cage, making two or three turns between reinforcements. Another repeatedly thrust its head into one of the upper corners of the cage. A third developed a ‘tossing’ response, as if placing its head beneath an invisible bar and lifting it repeatedly” (Skinner in Shiller, 1998: 22).

Despite the fact that pigeons and human beings have a significantly different level of intelligence, psychologists have observed the same tendency in humans as well. For example, as the self-attribution bias, investors tend to correlate the profits in their investment with their skill or strategies even if the success could have been just a coincidence, irrelevant to their analyses and forecasts. They become confident about their analyses and strategies too soon, attributing the good outcome to their ideas and

was nothing to stop the panic in Indonesia” (Ueno, 2001).
(c) Hindsight bias

The ‘hindsight bias’ is another factor that may accelerate people’s tendency to be overconfident. It refers to how people tend to think that an event was predictable only after it happened. While this bias can be observed in everyday situations (e.g. “Where are my glasses? – I knew they were there!”), it is something unavoidable in particular for market participants when they try to follow and forecast the trend in markets by analysing many pieces of information. For example, a depreciation of a sterling pound in relation to a U.S. dollar can lead to both a rise and a drop in the London stock exchange market. The stock market may go up because the depreciation of the pound brings in the money of foreign investors, whereas it may go down because the depreciation can be considered as a sign of a weak economy. Thus, in markets, no one is completely sure when a piece of information affects the prices and when it does not, since the same kind of information can often drive the prices to two opposite directions. To put it more simply, suppose a theory suggests that Event A will lead to Consequences 1, 2 and 3. Though people may not be sure which of the three consequences follows at the time when they face the Event A, after knowing that Consequence 1 followed, they tend to think it was predictable because that is what the theory says. In other words, they tend to forget that Event A could also lead to Consequences 2 and 3, focusing only on the relationship between A and 1.

Indeed, a financial analyst admits that most of his explanations as to why there was a change in prices are hindsight. In a way, financial analysts learn how to forecast markets by ‘accumulating’ hindsight explanations. As a result, it may be natural that they become overconfident about their explanations, which are hindsight and therefore always sound true.

Overconfidence may be further encouraged by the following three theories:

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30 Personal contact, June 2001.
conservatism, regret theory and irrelevance of history.

(d) Conservatism

Barberis points out that people have a tendency to ‘conserve’ their opinions, which in turn cause a lag in changing their views along with the receipt of a new piece of information (Barberis, 2001). This tendency increases when people know well about the subject, or investors have studied a market or a company for a long time, since their brains are likely to rely on ‘mental shortcuts’ to make conclusions (Undiscovered Managers, 1999). This ‘conservatism’ happens even when people receive new pertinent information that should make them reframe their perceptions. For example, when company A is once recognised as an average profit-making company, investors tend not to react to sudden news that A generated a much higher profit than expected on the day of announcement, whereas markets efficiency theory predicts that price should reflect all available information. This is known as “post-earnings announcement drift” (ibid.). While investors are slow in building new information into their investment strategies until they receive additional information or receive the same information repeatedly, when they do eventually react it tends to be an overreaction.

(e) Regret theory

According to psychological studies, people tend to experience mental conflict, called ‘cognitive dissonance’, when they are presented with evidence that their beliefs or assumptions are wrong (Shiller, 1998). In order to resolve cognitive dissonance, people may take actions that would not normally be considered fully rational. They may avoid or ignore new information, or change other beliefs in ways that serve to justify past decisions, or even unconsciously forget contrary evidence. For example, a classic study of cognitive dissonance showed that new car purchasers selectively avoid reading advertisements for car models that they did not choose, and are attracted to advertisements for the car they chose (Erlich et al., 1957).

Behavioural finance transforms this theory into ‘regret theory’ for explaining empirical
research findings such as that investors often postpone selling stocks that have gone down in value in order not to finalize the error they are making (Shiller, 1998). Regret theory explains this ‘quasi-rational’ phenomenon as the result of people’s inclination to avoid feeling the pain of regret at having made errors.

Regret theory also applies in a financial setting. Shiller (1998) observes that investors in losing funds tend to be unwilling to sell their investments in order to avoid confronting the evidence that they made a bad investment, and Guttentag and Herring found that bankers who made decisions to lend tend to react slowly to early warning signals that shock probabilities have risen (Guttentag and Herring in Willett, 2000). Undersecretary of the U.S. Treasury in the 1970s Ed Yeo predicted that “international financial markets would not be a good source of discipline, because they would wait too long and then overreact” (Willett, 2000: 12).

(f) Irrelevance of history

People also have a tendency to believe that history is irrelevant and not a guide to the future (Shiller, 1998). They tend to be overconfident about their analysis ability, and think that the future must be judged afresh now using the ‘special’ factors of today’s environment. In other words, people may be underestimating or ignoring some information on the past which they should not be, according to markets efficiency theory.

This feature of human behaviour can explain well why markets do not learn from history; because people are not willing to do so. They justify bubbles by believing that “We are in ‘new economy’,,” rather than conclude that the shares were highly overvalued, or the hypothesis of the new economy was a fiction (The Economist, 2001: 14). Yet, actually, the ‘new economy’ arguments are found in back 1920s. It is as if we have always been in a new economy.

(g) Representativeness
‘Representativeness’ may be another behavioural pattern that can lead to a mania. Psychological studies show that the human brain often uses ‘mental shortcuts’ to classify things rapidly (Undiscovered Managers, 1999). The brain assumes that items – plants, people, stocks etc. – with a few similar traits are likely to be identical even though they may be quite different in reality. Consider the following question:

Q. Mauricio is very quiet, studious, and has little interest in people or in the world of reality. While an undergraduate at University of Sussex, he majored in English Literature. Given this information, which of the following two cases is more probable:

A. Mauricio is a librarian.
B. Mauricio works in the banking sector

[Source: Barberis, 2001]

Experiments find that people are much more likely to guess librarian, because Mauricio demonstrates a few traits of librarians (quiet and studious). In other words, for them Mauricio is representative of librarians. However, statistically it is much more likely that he is a banker, because there are many more people employed by banks than by libraries. Thus people tend to categorize events as typical or representative of a well-known class, and to overstress the importance of such a categorisation.

This feature of human behaviour is called in psychology, ‘representativeness’. While it helps the brain organise and quickly process large amounts of data, it can make economic agents behave in such a ‘quasi-rational’ way that it boosts the trend of manias. For example, investors may detect too quickly patterns in data that are in fact random, and feel confident about it. This way, markets with good past performance tend to be overvalued and attract too much inflow. Share prices also often boost when a company reports increased earning several quarter in a row, because investors tend to conclude that the company has a high long-term earnings growth rate (Barberis, 2001).
(5) Other factors that bound rationality

In addition to those presented above, there could be many more psychological theories that help explain ‘quasi-rational’ behaviour, which might not be directly relevant to manias and panics. I will present some of them in this section in order to provide more ideas about behavioural finance.

(a) Framing effect

The ‘framing effect’ is one of the three main features of prospect theory, which was presented at the beginning of this chapter. This effect would be well explained with the following question:

Q1. Imagine that you face the following pair of concurrent decisions. First examine both decisions, then indicate the combination of options (i.e., A&C, B&D, A&D or B&C) you prefer:

Decision (i) Choose between:
   A. A sure gain of £240
   B. 25% chance to gain £1,000 and 75% to gain nothing

Decision (ii) Choose between:
   C. A sure loss of £750
   D. 75% chance to lose £1,000 and 25% chance to lose nothing


Due to the certainty effect and loss aversion tendency that have presented above, the majority would choose A and D from Decision (i) and (ii) respectively, for the first process of examining decisions separately. How about the combination of options? 73 per cent of the subjects of the Tversky and Kahneman experiment still chose A&D, while only 3 per cent picked B&C. Now, consider this:
Q2. Choose between:

E. 25% chance to win £240 and 75% chance to lose £760
F. 25% chance to win £250 and 75% chance to lose £750


In this case, all the subjects chose the obviously dominant choice F. Notice that choices E and F are actually the same with the portfolios A&D and B&C, respectively. Merely by reframing the Question 1, at least the 73 per cent of the subjects that chose the combination of A&D altered their choices to B&C. This is the ‘framing effect’, i.e., people’s perception could depend on the way the problem is formulated or ‘framed’. Because of this effect, even numbers, which often appear to be presented as raw information, have much room for manipulating the perception of the receivers. Percentage is another good example of this effect: when a country is experiencing a boom economy and the GDP increases from 100 to 120, it is a 20 per cent growth; but when the bubble bursts and the GDP returns from 120 to 100, it is a 16.7 per cent decrease. Even if people understand it and know about this effect, since it is obvious that the number 20 is bigger than 16.7, the 20 per cent growth may have a greater impact than the –16.7 per cent growth on people’s unconsciousness, especially when the numbers are presented without any contexts. It is similar to various optical illusions, such as Figure 2.6, in which one line appears to be longer than the other whereas the two lines are actually equal. In fact, behavioural finance is much influenced by psychological studies on visual perception (Thaler, 1994).
Figure 2.6. An example of optical illusion: Which is longer?

(b) Attention anomalies

While the framing effect is subject to deliberate (thus conscious) actions of information providers (i.e. how they interpret, frame and present some pieces of random information), another psychological theory, ‘attention anomalies’, shows that people make unconscious, as well as conscious, selections about which piece of information that they pay attention to. A prominent psychologist in the 19th century, William James, criticized earlier psychologists, who in their theories effectively assumed that the human mind takes account of all sensory input:

“Millions of items of the outward order are present to my senses which never properly enter into my experience. Why? Because they have no interest for me. My experience is what I agree to attend to. Only those items which I notice shape my mind – without selective interest, experience is utter chaos” (James in Shiller, 1998: 23-4).

That is, people do not pay attention to what does not attract their interests. Although it would sound like a common sense for those who work at marketing or advertising agencies whose job is to find the most effective way to attract people’s attention, it actually goes against one of the main assumptions of expected utility theory that says people attend to all facts that are necessary for maximisation of the utility.
If people are subject to attention anomalies, it means that they are also subject to possible manipulation to which they pay attention. Attention can be affected by the ‘salience’ of the object, or by the ‘vividness’ of the presentation (Shiller, 1998: 24). Regardless if information providers are willing to manipulate investors’ perceptions on markets or not, their perceptions can suddenly change by how the information is framed and presented, because it can bring a change in to which factors they pay attention.

Attention anomalies may also explain why markets have a pro-cyclical characteristic. In addition to the fact that it might be natural for people to look for good news when times are good, and bad news when times are bad, needless to say, mass media would present the news with a similar bias. In that sense, people would be much influenced by mass media regardless of the way the information is formed and presented.

(c) Disjunction effect

The ‘disjunction effect’ refers to a tendency that people wait to make decisions until new information is revealed, even though the piece of information is not exactly relevant and would not affect the decision-making, whereas markets efficiency theory would suggest that only pertinent information should be built into prices. A psychological experiment to show this effect was conducted with following questions:

Q1. Would you like to take a bet on a coin toss? You can win £200 on one side, but will lose £100 on the other.

Q2. (Only to those who took the bet,) Would you like to take another bet?


31 A good example is the infamous photograph of the IMF President Camdessus, with his arms folded and with a look of discomfort at the then President Suharto, that appeared on newspapers after the IMF’s second agreement with Indonesia for bailout (Haggard, 1999). It is interesting to notice that media and market participants focus more on the photograph than the new agreement; hence the rupiah continued to collapse.
Interestingly, when Question 2 was asked after the first bet (i.e., after the outcome of the first bet was known, regardless if or not they had won the first), a majority of subjects took the second bet, while when Question 1 and 2 were asked at the same time, a majority did not take the second bet. Why did the outcome differ between the two versions, when the result of the first bet did not matter anyway in the former case?

Tversky and Shafir give an explanation of this puzzling result: the majority was not willing to take the second bet in the latter case because they had no clear reason to accept the second bet, whereas in the former case, they had reasons to do so. That is, when the subjects won the first bet, they thought that they had nothing to lose in taking the second, and when they lost in the first, they wanted to try another to recoup their losses. In sum, people find difficulty in making decisions without reasons and information to support their decisions.

The disjunction effect can also be observed in financial markets: investors tend to overreact to a new piece of information, for example, a selection of prime minister, whether or not the news has a significant implication for the fundamental changes.

(d) Culture and social cognition

When analysing human behavioural patterns, we cannot ignore the influence of culture and society on them. Needless to say, people from different parts of the world behave in different ways in many spheres of actions; they value things differently and thus have different priorities. These differences lead to the concept of culture, which is formed and changes through successive generations, being influenced and reinforced by education, religion, ritual and language, and with help from conversation among people.32

These rather usual and well-recognised concepts of culture and social cognition,

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32 For classic sociology and cultural anthropology works, see Tylor (1871), Durkheim (1893) and Weber
however, may well explain some ‘quasi-rational’ behaviour. For example, consider the following anecdote. A Mexican from ‘the city’ (A) wanted to buy a hand-made carpet from another Mexican (B) who was from an indigenous community:

A: How much is the carpet?
B: 50 pesos.
A: What if I say I will buy 100 of them?
B: … 10,000 pesos.
A: (confused) Why? Why does it cost more each when I am offering you a ‘good business’?
B: Because I will have to work more to produce 100 carpets, than if I produce 1 carpet. But especially, I will not be able to do other things I want to do.

B prioritised doing his ‘other’ things over making more money, whereas A, like a ‘normal’ rational economic agent, assumed that one hundred carpets should be cheaper than one hundred times of each cost, considering the economies of scale and the opportunity to make profits that he was offering to B. Why did B think in that way? Maybe he was influenced by the culture and social cognition of the community which he learned naturally while living in there, such as believing the objective of life is not to earn money, but to enjoy life. Alternatively, he might have actually wanted to accept the offer in order to have a greater income, but the culture and social cognition did not allow him to do so. Considering what would happen if he started to live his life only working, without having time to socialise with other people in the community, he might have used the ‘conventional phraseology’ that represents the social cognition of the community. In sum, the culture and social cognition can influence people both consciously and unconsciously. Needless to say, it is crucial not to break social rules and expectations in order to maintain social relationships.

In relation to different values in the society, it may be one of the strong driving forces behind people’s attention anomalies. People may not pay attention to or may easily

(1947), for example.
forget facts or ideas that are not valued in their culture and social cognition (Shiller, 1998). It also applies to behaviour of market participants. Moreover, in the case of institutional investors, they are also affected by the culture and social cognition of the financial institutions that they belong to, in addition to those of their ethnic groups. O’Barr and Conley studied pension fund managers and found that each pension fund has its own culture, associated often with a colourful story of the origin of their own organisation (O’Barr and Conley in Shiller, 1998). They conclude that the culture of the pension fund is a belief system about investing strategy and that culture actually drives investment decisions. Cultural factors were found to have great influence because of a wish to maintain personal relationships within the organisation.

(e) Compensation and promotion systems

Lastly, like cultural factors, compensation and promotion systems of financial institutions are also said to be one of the great factors that influence the institutional investors’ behaviour (Soejima, 2000). The differences in compensation systems that may work in such a way include; whether investors are evaluated by the yields in the absolute terms or by the yields in comparison to the indexes; whether they are paid by contingency on success, fixed salary, or the mixture of both; and whether paid monthly or annually. From literature, Guttentag and Herring points out that the short-term compensation system can discourage bankers from investing in collecting information regarding possible shocks which happen with low frequency (Guttentag and Herring in Willett, 2000: 10), whereas the IMF found lower risk preference among hedge fund managers who invest their private assets on their own funds, compared to those who do not (IMF in Soejima).

This chapter has reviewed theories from behavioural finance, which asserts that human behaviour is sometimes ‘quasi-rational’ on the contrary to what is assumed in standard economic models. Since behavioural finance economists’ main interests are usually in analysing investors’ behaviour in the market, many of the examples quoted from their

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33 I appreciate Alan Best for this story.
researches use investors and stock prices. However, as long as the theories that
behavioural finance imports from other social sciences originally work on explaining
human behaviour, they should also apply to other market participants’ (i.e., bankers’)
behaviour. The next chapter will show the findings from my empirical research on
Japanese bankers’ behaviour in the East Asian crisis, in order to test if they really apply.
3. Further evidence on market participants’ behaviour from an Asian perspective

(1) Methodology of the empirical research

The empirical research below, which aims to find further evidence on market participants’ behaviour, consists of a literature review, interviews and a questionnaire. Whereas most of the evidence from the literature was presented already in the previous chapter in order to explain the theories with empirical examples, this chapter will mainly provide evidence from the information obtained through the interviews and the questionnaire.

The interviews and the questionnaire were conducted in July 2001. I interviewed three Japanese bankers (Goto, Ochi and Ueno) and a researcher at the Fuji Bank in Japan (Karikomi); and the questionnaire was distributed to three Japanese bankers (Goto and two anonyms), who all replied. These respondents were chosen through my personal connection in the Japanese banking sector. Four of the bankers were working in a Japanese bank (the then Long-Term Credit Bank (LTCB)) at the time of the East Asian crisis: Ueno was Vice President of the Indonesian subsidiary of the bank (a joint venture with a local bank, Bank Central Asia); Ochi was Senior Manager in the Shanghai Branch; and one of the anonyms (A) was in Bangkok Branch in 1995 and later in Overseas Business Division at Head Office, where the other anonym (B) was also working in. Goto was in Legal Division, Head Office of a Japanese bank, the name of which, for institutional reasons, Goto asked for anonymity. All of them were in the position where they could know the situation in the East Asian market.

The questions I asked, both in the interviews and the questionnaire, were mainly about

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34 It is a limitation due to the time constraint that most of the respondents were from the same institution in Japan, whereas ideally the respondents should have been more diversified in terms of institutions, as well as in nationality, in order that they would represent more the international bankers that were involved in the East Asian crisis.
what they thought was the main reason behind the East Asian crisis, in order to find out how Japanese bankers, who are accused of having been among the main actors in the massive withdrawal of capital flows from the Southeast Asian countries, conceptualise panics and manias.\(^{36}\)

(2) Evidence to support the behavioural finance theories

(a) Overconfidence

Ueno observed that everyone was overconfident about the growth of the Southeast Asian market and the sustainability of the exchange rate regimes:

“In Indonesia, local banks were completely dependent on inter-bank lending from foreign banks, simply because it was cheaper (the interest rates were lower) to raise funds in U.S. dollar even with consideration to the possibility of depreciation in the local currency. They were too optimistic without any well-grounded reasons. Even after the currency crisis happened in Thailand, they did not predict that the same thing would happen also in Indonesia; they were underestimating the power of a contagious effect” (Ueno, 2001).

The then Secretary-General of a securities industry association in Thailand also confessed that the crisis was beyond their anticipation in its timing and its magnitude:

“it came too soon, and … it was far deeper than expected. … Times were too good. Business as usual was making a lot of money and, while most agreed that changes were required, few felt the urgency to act. Even the authorities were not convinced of the immediacy of the

\(^{35}\) It is now called the Shinsei Bank.

\(^{36}\) Since the LTCB started to gradually shrink its international section due to the downturn in its whole business before the crisis happened, they might not exactly represent the views of those from other banks, which might have been increasing their lending to the region until the last minute before the crisis occurred. However, the facts that the LTCB was still greatly damaged by the crisis and the respondents provided me with their observations on other banks would partly make up the limitation.

\(^{37}\) According to Ueno, the local people were predicting that the average depreciation rate would be no more than 5 per cent, whereas the spread between the interest rates of the U.S. dollar and the rupiah was usually more than 5 per cent (Ueno, 2001).

\(^{38}\) A Karikomi’s comment reinforces their continued euphoria: “When the currency crisis happened in Thailand, the economy was in the height of the boom in Indonesia; the stock index marked the highest record in its history in August, 1997” (Karikomi, 2001).
Overconfidence was probably reinforced by the high reputation that the region acquired during the boom period, being called ‘East Asian Miracle’ or ‘Four Tigers’\textsuperscript{39}. Among others, the World Bank’s report, \textit{The East Asian Miracle} (1993)\textsuperscript{40}, was very influential in distributing the strong impression that the East Asian countries had achieved unusual success both in high economic growth and declining inequality. In fact, the report itself may represent the then overconfident atmosphere among almost all the people, including local people, local authorities, foreign investors and analysts, as the following citations show:

- “significantly outperformed” (p.2)
- “If growth were randomly distributed, there is roughly \textit{one chance in ten thousand} that success would have been so regionally concentrated” (p.2)
- “unusually successful” (p.2)
- “improved dramatically” (p.4)
- “Macroeconomic management was \textit{unusually} good and macroeconomic performance \textit{unusually} stable” (p.5)

[Source: World Bank, 1993: pages shown in the parentheses, emphasis added]

Some more ‘overconfident’ descriptions were also found even regarding financial sector management in the East Asian countries, which are often severely criticised after the crisis:

- “Most [governments] regulate banking institutions … [in order to] encourage savings and investment. The HPAEs [high-performing Asian economies] did these things better than the rest” (p.192)
- “The developing HPAEs have performed these fundamentals [prudential regulation of savings institutions and protection of depositors from bank defaults] better than many other developing economies” (p.212)
- “Most of the policies that the HPAEs used reflected sound economic fundamentals [the working of markets and competitive discipline]” (p.366)

[Source: ibid.]

\textsuperscript{39} ‘Four Tigers’ refer to Hong Kong, the Republic of Korea, Singapore and Taiwan (World Bank, 1993).
\textsuperscript{40} The study analysed eight high-performing Asian economies (HPAEs), which are Japan, the “Four Tigers”, Indonesia, Malaysia and Thailand (World Bank, 1993).
(b) Irrelevance of history

As described in the previous chapter, the overconfident attitude was further encouraged by people’s tendency not to learn from history. Japanese banks, in the end of the 1980s, experienced the painful double burst of real estate and stock exchange market bubbles. But, within only a decade Japanese banks engaged again in creating another economic bubble in the Southeast Asian countries, notably in Thailand. Ueno and Ochi, when asked why, answered that their bank started to develop a better risk management system after the burst of the Japanese bubble, but the process was slow and the system was not strict enough\(^{41}\). In the end, they both attributed the biggest reason to the unique feature of the Japanese financial sector\(^ {42}\), within which each bank or banker became under-aware of any risks (Ueno, 2001; Ochi, 2001). It reinforces the ‘new economy theory’ mentioned in the previous chapter. That is, people can almost always look for ‘new’ factors that would make them think ‘we are in new economy’.

(c) Attention anomalies

As the theory of ‘attention anomalies’ asserts, it seems that, bankers did not always pay attention to all the information available, especially when entering the new markets in the East Asia. Goto clearly stated,

“We did not examine the country in detail when we looked for a possible new market. Rather, we placed emphasis on factors\(^ {43}\) like, whether the country had a fund clearance system, whether it was possible to raise funds in the offshore market, and whether the operation would lead to an opening of a local branch. The convertibility of local currency was not among the most important factor” (Goto, 2001).

\(^{41}\) For example, even the countries’ risk index was calculated with some qualitative factors (e.g. very good = 5, good = 4 etc.), which could be subject to manipulation, though it is considered to be normal to do the same with companies (Ochi, 2001).

\(^{42}\) For details, see Section 2 of this chapter.

\(^{43}\) Another banker mentioned ‘the number of Japanese companies that were planning to expand their business into the country’ as the main factor to consider, as well as political stability, good infrastructure of electricity, telecommunication and transportation, potentials for economic growth (Anonym A, 2001).
On the other hand, at the times of crisis, any kinds of ‘bad news’ – from the crucial currency depreciation to a change of CEO in a company and a change in the perceptions – might have led to the massive and sudden withdrawal of capital flows, as the panic explanation\(^{44}\) puts it, “a shift in expectations … could depend on almost anything” (Diamond and Dybvig, 1983: 404). In this way, bankers seem to have changed the factors they pay attention to or put emphasis on, according to the times they started to operate in a new market and when they decided to withdraw.

(d) Regret theory / Conservatism / Certainty effect

Bankers might have deferred in cutting their losses at the end of the boom, prolonging the ‘euphoria’ stage, in order to avoid the pain of regret. This could be particularly true with Japanese banks. Since human resources are not as mobile as in western banks, especially with managers\(^{45}\) in overseas branches, those who explored the new market (and who are usually attached to the country) are usually expected also to make a main judgement of withdrawal and to carry out all the necessary things\(^{46}\) to close the office by themselves. Considering that, it might be natural for these managers to wait too long until making the final judgement of withdrawal in order to avoid the pain of regret.

On this point, Ueno suggested that Japanese banks might as well introduce the same system as western banks, which is to ‘change teams’ to a group of bankers who are specialised in withdrawal when the head office decides to pull back from the country (Ueno, 2001). His comment implies that, due to the ‘regret theory’ and ‘conservatism’ bias, it is difficult for those who have experienced the successes in the market to admit the objectively obvious fact that they should withdraw from the deteriorating market and to readjust their views according to the timing of changes in the situation.

\(^{44}\) See Chapter 1 (4).

\(^{45}\) On the other hand, human resources at lower level usually change every 2 – 3 years. This can also cause problems, since the high mobility may encourage their irresponsibility in their decision making as they are likely to be reallocated before trouble occurs, while these loan officers at lower level are sometimes fully in charge of making analyses and most of decisions, if not a decision to withdraw from the market.

\(^{46}\) A banker who experienced a closure of Beijing Branch said, “Since the office would start terminating contracts of local administrative staff when it closes, a few manager-class people left would have to do everything until selling the last chair in the office.”
Therefore, the ‘euphoria stage’ in the weighting function of ‘prospect theory’ prolongs only to find the gap in the function when the stage ended, i.e., to change views suddenly and overreact.

(e) Representativeness – categorisation

The theory of ‘representativeness’ can be reframed as ‘people’s tendency to adhere to categories into which they have classified things with a similar few traits’. As a result, when people change a perception on one thing in a category, it is likely to affect their perceptions on other things in the same category. Karikomi pointed out that it was one of the causes of the contagious effect:

“Foreign banks, especially western ones, invested on the Asian market as one category because they lack information on each country. They did not see much difference in the investment on Malaysia and that on Indonesia, for example. Therefore, when the crisis happened in Thailand, they withdrew all the investment from the whole region” (Karikomi, 2001).

Needless to say, in reality, all the five most affected countries – Thailand, Korea, Indonesia, Malaysia and the Philippines – had different levels of economic booms, current deficits, maturity of the financial sector and institutional infrastructure, and so on.

The same explanation would also apply to why the Asian boom escalated (when one of the Asian countries announced good economic performance, the foreign market participants rushed into the whole Asian market), and why contagion often spreads to other emerging markets when one of those goes into a crisis (because market participants often see ‘emerging markets’ as one category).

(f) Ambiguity aversion – home bias

In the case of bank lending, home bias is clear because full diversification is not necessarily desired like in the case with portfolio investment. In the sense that they are
based in the home country, banks are not much different from non-financial firms. According to the anonym B, it is because of the difficulty in gaining an advantage in foreign markets. Ochi claims that loans in foreign markets were examined much more strictly compared to those in the domestic market (Ochi, 2001).

The bias may be represented by the words that the banker respondents repeatedly used: ‘exploration’ into and ‘withdrawal’ from foreign markets. That is, international markets are an ‘extra’ fraction for them; loans to foreigners constitute a minority of the balance sheet in the amount, and they are probably not the ‘main’ concern for the bank compared with its operation in the domestic market. This may explain why international bank lending is ‘intrinsically volatile’ as reviewed in Chapter 1. If the bankers feel completely equal to foreign markets as their domestic markets, or if they allocated a significant portion of their exposures to overseas lending, they might not withdraw from the foreign markets that easily even in the face of possible financial crises. The word that bankers use would be ‘reallocation’ instead of ‘withdrawal’ and ‘exploration’. However, people’s ‘ambiguity aversion’ tendency suggests that the ‘ifs’ are not likely to happen, at least very soon, even if globalisation is gradually taking place in the capital market.

(g) Compensation and promotion systems / Culture and social cognition

Many Japanese banks, like many other Japanese companies, used to have what is called the ‘life-long employment system’ until recently. If not exactly ‘life-long’, employees were rarely subject to firing, at least until becoming managers (at around 35 to 40 years old), and often until they retired at 55 to 60 years old. Along with it, the compensation and promotion systems used to reflect employees’ ages rather than what they achieved or contributed. This trend tends to be greater when the institution is ‘conservative’ (i.e., usually, old and large, which is the case with many of the internationally active Japanese banks).

47 Of course, international markets should be the main concern for the bankers who are in charge of them.
These employment, compensation and promotion systems could have driven some employees to be to some degree irresponsible with what they did for their company, which, in turn, led the company to lose its competitiveness.\textsuperscript{49} That is, it is possible that some of the Japanese bankers might have made irresponsible decisions to lend more and more in the Southeast Asian markets, which fuelled the economic bubble.

On the other hand, this structure represents the Japanese cooperative culture of ‘tier’ (yokonarabi-shugi) as in a proverb ‘Higher pale will be hit’ (deru-kui wa utareru), in which an individual is not expected to do something different from the others. Ochi pointed out that it was probably difficult for Japanese bankers to do something ‘special’ or to take an extra risk not to withdraw in the face of the crisis (Ochi, 2001).

\textbf{(h) Other findings}

The respondents also made remarks that would support other kinds of explanations to the causes of the East Asian crisis (the ‘fundamental’, ‘moral hazard’, ‘short-term’ explanations). This supports the idea of ‘complementary’ role of behavioural finance. Some of the interesting findings are:

\textbf{Causes of the panic}

- Many respondents implied that the occurrence of the financial crises in the East Asia was a inevitable consequence of the currency crisis in Thailand, which was triggered by the speculative attack of hedge funds\textsuperscript{50}.
- The trend of withdrawal was accelerated by the countries’ restriction on legal measures with which the bank could have preserved its loan assets (Goto, 2001).
- China escaped the contagion effect, because it was impossible to withdraw so

\textsuperscript{48} The information in this section is based on my own experience in Japan, unless otherwise stated.
\textsuperscript{49} Indeed, many companies including banks in Japan have (partly) abandoned this system and introduced a more western type ‘merit system’ especially after the financial crisis.
\textsuperscript{50} Ueno explains the downward spiral of the crisis as follows: the currency crisis decreased the creditworthiness of the country and led to the anticipation that loans in the local currency that accounted for the most of the exposures at local banks would go delinquent, which decreased the creditworthiness of the local banks. Then local banks could not issue the letters of credit that are necessary for trading, thus production in the country was depressed and firms’ ability to pay back their loans was exhausted (Ueno, 2001).
quickly; the government approvals were required for every bank transaction in foreign currencies, i.e. even regular repayments of loans and interests on the due dates (Ochi, 2001).

**Causes of the mania**

- Japanese banks started to ‘explore’ into the Southeast Asian markets because the profit-making opportunities were decreasing in the domestic market (Ueno, 2001; Goto, 2001); and their customers (Japanese firms) started to expand their business to international markets (Goto, 2001; Anonym A, 2001) or to seek for the cheaper labour outside Japan (Ueno, 2001).

- The cause of the economic bubble in Thailand was its policy\(^51\) of giving full-branch licenses only to a few foreign banks that ‘contributed’ to the Thai economy, i.e., to lend more than the others, which fuelled the lending boom in the country (Goto, 2001; Anonym A, 2001).

- The real estate boom escalated by absorbing the excess liquidity from the extra bank funds, which should have flowed into the bond and stock markets if they had been developed enough (Ueno, 2001).

(3) **Limitations to conduct empirical researches**

When I was conducting interviews, I realised that there were some difficulties in finding evidence to support behavioural finance theories, precisely because of the characteristic of behavioural finance as well as some of its theories. First of all, behavioural finance is a study of ‘unconscious’ behaviour. If people are not aware that they are behaving with ‘biases’, they would, naturally, not be able to talk about it. And when they realise about the biases and do become able to talk about it, they have already been affected by a ‘hindsight bias’. For example, people would not think that they were ‘overconfident’ when they actually were. They would not notice it until their confidence levels went down due to shocks like a burst bubble. In other words, people can say, “I was overconfident,” only as hindsight, as the Secretary-General (*op.cit.*) in Thailand put it,

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\(^51\) According to Goto, the policy was a consequence of the keen competition among the emerging
“In retrospect, there were several early warnings of the problems to come” (Vichit-Vadakan, 1998: 1, emphasis added).

There is also another effect of the ‘hindsight bias’ in interviewing bankers about the East Asian crisis. Because it has already been four years since the East Asian crisis happened, they usually have formed their theories on it already, and have also been influenced much by the views of others via media and research works. For example, when an interviewee said, “I think there was ‘moral hazard’ among bankers in the case of inter-bank lending; we thought banks would be bailed out by the government when in trouble” (Ochi, 2001), it is not clear if he thought so at that time, or he imported this idea later from somewhere.

Therefore, interviews have to be carried out with extreme care. Questions should be well designed. They cannot be too broad because the interviewees would not get to the point (due to the ‘unconscious’ characteristic of behavioural finance), but neither can they be too leading because the answers can easily be subject to a ‘hindsight bias’. For a more precise and deep analysis, a review of written materials would be also useful to go along with interviews, though I could not do much other than the review of the World Bank Report, The East Asian Miracle, due to the time constraint. Written materials are more reliable than people’s ‘looking-back’ comments, despite possessing less variety of subject. In researching bankers’ behaviour like this study, a review of private and informal written materials would be extremely useful, if available, than official documents like ‘Annual Reports’. Among official documents, some evidence may be found in a kind of ‘weekly news letter’.

Another limitation in applying behavioural finance theories into bankers’ behaviour comes from the theory of ‘culture and social contagion’. Bankers are different from investors in many senses, but the main difference is probably that bankers are much more influenced by larger frameworks, such as their institutions or the whole financial sector, compared to institutional (let alone private) investors. In the case with Japanese Southeast Asian countries (Goto, 2001).
bankers, this factor seems to be crucial because Japanese bankers were not expected to behave completely ‘rationally’ in the first place – if they were not expected to behave completely ‘rationally’ in the first place due to any other factors irrelevant to behavioural finance, it would be hard to tell if their ‘irrational’ behaviour come from the institutional factor, or it is something that would be an evidence to support behavioural finance, whereas behavioural finance is a study to criticise markets efficiency theory that assumes ‘rationality’ of all economic agents. In other words, it is difficult to find ‘pure’ evidence of ‘quasi-rational’ behaviour from Japanese bankers.

The institutional factors that influenced Japanese bankers include the special escort to banks by the Ministry of Finance (MOF) (goso sendan), and the exclusive financing of companies through their affiliate banks (keiretsu). Because of them, Japanese banks usually made a lax assessment of the creditworthiness on borrowers. While both of the factors are said to have successfully helped in the efficient allocation of financial resources for economic growth, ironically enough, it was precisely because of them that Japanese banks did not have to develop prudent risk assessment systems and now are suffering from the consequences.

There might have been also a social cognition bias in using Japanese materials to support behavioural finance theories, because behavioural finance originates from ‘western’ countries (mainly the U.S.), where ‘rationality’ is probably more highly valued. On the contrary, in Japanese society, smooth relationships with other people may be prioritised over ‘rationality’ in economic terms. In that sense, some of the applications of behavioural finance theories into Japanese bankers’ behaviour could have been problematic.53

52 This non-competitive system was introduced in the 1940s when Japan was preparing for the coming world war (Noguchi, 1995; Ochi, 2001). More specifically, MOF gave them ‘guidance’ (or gyosei shido with tsutatsu) as to, for example, which industries to prioritise, how high the interest rates, or how active to be in international markets (Noguchi, 1995; Ueno, 2001). The MOF’s escort was so absolute that its ‘guidance’ was not actually something that banks could decide not to follow. Banks had to consult MOF whenever they wanted to do something ‘different’ (e.g. to produce an ‘original’ new product). In return, they were implicitly guarded by MOF from potential threats to their existence.

53 I realised this point when I saw an experiment about overconfidence in Thaler (1994). The argument presented was that people tend to be overconfident because many subjects answered they were sure about
(4) Concluding remarks

According to Thaler (2000), one of the reasons why markets efficiency theory has been so popular among economists is because it is far easier to build models with ‘rational’ economic agents. As Herbert Simon attempts, it would be very complicated to build up models with ‘quasi-rational’ agents, making the use of artificial intelligence, for instance (Simon, 1982). This may be why most of the economists have tried to extract an essence of what is an economic behaviour from the intricate world with an assumption that every human being act rationally all the time.

Behavioural finance is a new academic field. Many economists still support the markets efficiency hypothesis and/or expected utility theory, and behavioural economists are trying to fight against\(^{54}\) the majority, asserting the superiority of behavioural finance in predicting previously unknown phenomena.\(^ {55}\)

However, in fact, the legitimacy of behavioural finance as an economic study does not matter in this paper, as Willett points out:

> “From the standpoint of policy, the economic debate about whether such kinds of behavior can or cannot be explained on rational grounds is irrelevant. Whatever the explanation, the brute fact is that the financial markets, at least, sometimes fail to operate in the farsighted efficient manner assumed in many economic models.” (Willett, 2000: 10).

The main objective of this paper is to come up with policy recommendations. For effective crisis prevention measures, the most important thing is to see the reality – to

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\(^{54}\) In fact, many of behavioural finance economists do not attempt to completely replace the standard economic theories. On the contrary, they regard them as “a point of comparison from which to frame other theories” (Thaler, 2000).

\(^{55}\) For example, Thaler counter-argues to the critiques such as “In the real world, people will learn,” and “In the aggregate, errors will cancel”. For details, see Thaler (1994: 155-60, 189-94, 243-4).
observe the causes of crises in a practical way. Since the market does not actually work without market participants, the behavioural patterns of the participants should not be ignored. Now, how can the analysis of the behavioural patterns be taken into consideration in the process of policy-making? Next chapter will attempt to synthesise all the findings of this study in order to provide some policy recommendations for financial crisis prevention.
4. Recommendations for financial crisis prevention

What do the findings from the literature review and the empirical research on behavioural finance suggest for financial crisis prevention? The main findings were:

a) People (including investors, bankers, authorities and researchers) do not always behave in a ‘rational’ way;

b) The ‘quasi-rational’ behaviour is made unconsciously and observed systematically in certain occasions; and

c) The ‘quasi-rational’ behaviour of international bankers seems to have deepened the volatility of the economies that were affected by the East Asian crisis, or in other words, to have contributed to the acceleration of the ‘pro-cyclicality’ in the international capital market.

Based on these findings, my policy recommendations for financial crisis prevention will have two aspects: need for regulations and involvement at the international level.

(1) Need for regulations

In the policy-making scene, as well as among academics, has always been an economic debate between ‘liberalism vs. interventionism’. Should there be intervention in markets in order to prevent crises? As opposed to what the ‘moral hazard explanation’ (and also the ‘fundamentals explanation’ to a certain extent) asserts, the findings of this study support an interventionist view, due to the following three reasons:

Firstly, behavioural finance theories show that the market does not always work ‘efficiently’ because of market participants’ ‘quasi-rational’ behaviour, as opposed to what markets efficiency theory assumes. While some liberals would assert that it is better to leave market imperfection as it is than to intervene with imperfect policies,

56 The IMF, one of the major supporter of the ‘fundamentals explanation’, seems to take the liberal approach in general. For example, the IMF-supported programmes that constitute conditionality of IMF loans usually include deregulation and liberalisation of the financial sector, trade and capital account, in
behavioural finance leads to the view that some intervention may be feasible to address market imperfection caused by ‘quasi-rational’ behaviour, since it is observed systematically and thus can be predicted.

Secondly, if market is left as the place of free competition, as liberalists would assert, panics and manias seem to be unavoidable\(^57\), because of the unconscious pro-cyclical tendency of market participants that behavioural finance highlights. Booms may naturally lead to bubbles, being accelerated by market participants whose behaviour is not always rational (e.g. being overconfident, thinking that history is irrelevant, trying to avoid the pain of regret etc.). Panics \textit{will} happen after bubbles swell enough to burst, triggered by a sudden change in market participants’ perceptions that is partly caused by the ‘certainty’ and ‘anchoring’ effects, and deepened by their ‘mental compartment’ and strong tendency to loss aversion.

The third reason is that emerging markets seem to be made vulnerable to crises due to international bankers’ (i.e., their lenders’) home bias and their institutions’ culture including compensation systems. The home bias, especially the mental bias towards foreign markets, causes a tendency to overreact to news and signals. Their compensation and promotion systems may make them seek profits in the short-term, avoid losses and postpone the decisions to confirm losses. Also, the fact that many of them are employees and the money they handle is not their own money, may also encourage them to act in a ‘trial and error’ way.

One factor to be noted here is that this paper takes the view that inequality should be reduced; therefore, it comes to the conclusion that something has to be done if emerging markets are made more prone to crises, i.e., there is inequality between developing countries (including emerging markets) and developed countries. Regarding inequality in the society, there seems to be a significant difference in stances that interventionists

\(^{57}\) Some extreme liberalists would even welcome financial crises as an inevitable stage of the economic cycle that “gets rid of the mistakes of the boom” (Kindleberger, 1989: 13). However, I would disagree with the view considering the immense damage that crises can bring about, as mentioned in the introduction.
and liberalists take. Liberalists, including most market participants, would support the view that inequality is inevitable to a certain extent and there is little need to adjust it, in the same way as there are always winners and losers in any competitions and not everyone can be a winner. They may acknowledge the need for redistributing wealth by taxation or welfare systems, but usually only for domestic implementation; they tend to see inequality across countries as even more unavoidable. Their basic idea is that emerging markets often go into crises because they are not ‘good’ enough to survive in the severe competition of the global market, and nothing much can be done other than to make their policies and production abilities better. However, considering that ‘losers’ have been trapped in a vicious circle, the author finds it important to intervene in the ‘game’ in order to help the ‘losers’ get out of the vicious circle.

On the other hand, the findings of this study also suggest that there are limitations of regulations. If market participants are unconsciously behaving in a ‘quasi-rational’ (not rational all the time) way, it appears to be even more difficult to prevent financial crises than if they consciously behave in an irrational way. It may sound contradictory to the argument that regulations are necessary, since liberalists may be against regulations precisely because of their imperfection. However, it is actually very important to recognise the limitations – otherwise, making efforts for further improvement may be forgotten. Despite the limitations, the conclusion should not be to give up making efforts for better regulations. Rather, an attempt should be made to understand more deeply market participants’ behaviour, which has been proved in this paper to be one of the major causes of crises. Soejima, a researcher at the Bank of Japan, warns that if regulations are set extemporaneously without addressing the core causes of the crises, crises will always be there in different styles and from different factors (Soejima, 2000).

(2) Need for involvement at the international level

Secondly, there is a need for involvement at the international level, as the proponents of the ‘short-term capital flows explanation’ and the ‘panic explanation’ assert. It is not to say that domestic efforts are not necessary. There are probably many things that a country can do for crisis prevention as the ‘fundamentals explanation’ proponents argue,
such as appropriate supervision on the financial sector, good macro economic management for economic stability and the introduction of a proper foreign exchange rate regime, though the analysis of better domestic policies is outside the scope of this paper. However, the findings of this study suggest that something has to be done at the international level as well.

According to the empirical research, it was the ‘quasi-rational’ behaviour of international bankers that seems to have been one of the major causes of triggering and deepening the East Asian crisis. What can be addressed for changing their behaviour? Since it is mainly the borrower emerging markets, rather than the source countries from developed countries, that suffer from the consequences of over-lending, it is unlikely that a source country will voluntarily take the necessary actions towards solving the problematic situation. Therefore, a need arises for involvement at the international level. Although it would require an extra effort for arranging meetings and conducting political negotiations across countries to take actions internationally rather than domestically (and that is probably why the importance of domestic efforts tends to be emphasised), considering the contagion effect and the possible damage that financial crises can bring about all over the world, international commitment should not be given up just because it calls for further political commitment.

There could be two forms of international commitment: international regulations and international cooperation. International bodies such as the Bank for International Settlements (BIS) and the International Organisation of Securities’ Commissions (IOSCO) may qualify for setting international regulations. These institutions are, however, often criticised for not taking into enough consideration developing countries’ perspectives\(^\text{58}\). While it may be understandable that their main interest does not lie in financial crisis prevention in emerging markets given their historical contexts\(^\text{59}\), they should urgently come to address this emergent issue of frequent financial crises as well.

\(^{58}\) For example, see Cailloux and Griffith-Jones (2000).

\(^{59}\) For example, in the case of the BIS, it was originally established for ‘levelling the playing field’ among internationally active banks mainly from Group of Seven (G7) countries.
As for the international cooperation, regional economic conferences (e.g. Asia-Pacific Economic Cooperation Conference (APEC)) and Group of Seven (G7) meeting would give opportunities to take international actions for financial crisis prevention. The important thing about the cooperation is to have a commitment from the both recipients and providers of international capital flows to reduce the volatility in the market. For example, international cooperation may be particularly beneficial in avoiding illiquidity crises caused by herding behaviour (Aramaki, 1999; Radelet and Sachs, 1998). One of the interviewees have pointed out that cooperation among emerging markets (especially in the same region) would help reduce the speed of growth and avoid creating a bubble, while, without cooperation, seeking more and more external funds for financing growth in the face of the competition with other emerging markets would be inevitable, as observed in Thailand, (Goto, 2001). Also, these conferences are an ideal place for developing the proposals for international regulations to be submitted to the regulatory international bodies; a collective opinion will be more powerful than an individual one.

(3) Other specific policy recommendations

_Dampen the boom before too late._

Comparing the behavioural finance theories that may explain the causes of panics and those of manias, it may be more effective and easier to put regulations for stopping manias than preventing panics; for example, there is probably nothing much that can be done about people’s strong ‘loss aversion’ tendency and home bias (especially of international bankers). Many of the respondents of the empirical research also presented this view: e.g. “In order to prevent financial crises, it is important to control the excess liquidity that would create bubbles” (Anonym B, 2001).

On the other hand, the findings of this study show that the causes of manias are also abundant and deep-seated, and as the long history of financial bubbles proves, a mere warning by media or analysts, such as “This is not a boom, but a bubble; a bubble will burst someday,” does not work. Being overconfident and thinking that ‘this time is different’, they would be too optimistic and too blind to see the reality, while ‘someday’
may be actually ‘any day’ and some urgent actions are required. According to one of the interviewees, the number of bankers who thought the ‘someday’ was approaching increased little by little since the mid-1990s, as more and more researchers started to point out the problematic factors in the Southeast Asian market, but the worry, or the acknowledgement of the deterioration in the macroeconomic indicators of the borrower countries, did not come to be well reflected in the practice (Ueno, 2001).

Therefore, measures to dampen the boom should be something solid rather than mere advice, such as schemes that would give financial disincentives to market participants, or policies that would not allow market participants to behave in a pro-cyclical way. Examples of the former idea include the Chilean taxation and the Tobin tax. Though this paper will not discuss them in detail, it seems that historical evidence supports the effectiveness of at least the Chilean taxation (Radelet and Sachs, 1998). Examples of the latter would be primarily a careful and gradual liberalisation of capital account and the financial sector. Full liberalisation should wait until the country has a capacity to hedge risks that would be brought about by the liberalisation. For example, the improvement of forward markets is a must condition in raising a significant amount of funds in foreign currencies, because otherwise there is practically no means to hedge the exchange risks of liabilities in foreign currencies, even if they were aware of the risks (Ueno, 2001). In addition, to have varieties in the public bonds is an essential factor for the development of the domestic capital market, which is necessary to avoid being over-dependent on bank lending (ibid.).

**Behavioural finance should be more acknowledged.**

Despite the findings of this study that show many of behavioural finance theories explain why panics and manias happen well, its practical application seems to be, for the moment, limited to improving investment strategies. For example, Barberis (2001) suggests that investors can ‘exploit’ the behavioural biases of other investors, and there is actually a trust fund in the U.S. called ‘Undiscovered Managers’ that offers a fund named ‘Behavioural finance growth fund’, which seeks to identify mispriced securities that result from behavioural biases of other market participants. Its home page presents
the feature of the fund:

“The goal of behavioural finance strategies is to invest in these stocks before most investors recognise their error – and to benefit from the subsequent jump in price once they do.”^66

However, behavioural finance would be useful to be applied in regulation regimes as well. By understanding the objects of regulation better, the quality of regulations should improve. And in order to make it happen, the first step to be taken is to make the study be more widely acknowledged.

One of the powerful measures for the distribution of ideas is through education. An economist looks back his day as an undergraduate:

“Back in the 1970s, the efficient-markets hypothesis was an article of near religious faith. As an economics student, I certainly bought the argument whole” (Madrick, 2000).

If there had been some courses on behavioural finance in his school, he might have had a different attitude towards the markets efficiency theory. Barberis (2001) asserts that it is important to make investors know that behavioural biases are common in order that (a) they will become aware of the possibility of being subject to them, (b) they will stop, at some point of a boom, to consider whether they are overconfident about their analysis, or (c) they will be careful not to jump too quickly to the conclusion that the company has a high long-term growth rate when they see a string of good earnings announcements from a company. If the Tobin tax is to “throw some sand in the well-greased wheels of the global financial market mechanism” (Tobin in Felix, 1995: 196), education would be to ‘change the attitude of the drivers’.

For the moment, behavioural finance seems to be mainly taught in business schools, probably because of the main interests of behavioural finance economists. Considering that economics students are the future bankers, policy-makers at national banks, or researchers in the IMF, it would be useful to provide a course on behavioural finance

also at the undergraduate level, i.e., when they first study economics.
Conclusion

Taking the example of the East Asian crisis, this paper has aimed to explain, from a psychological perspective, why similar financial crises have happened one after another in emerging markets recently. Based on the suggested explanation that a sudden change in market participants’ perceptions caused the crisis, an attempt has been made to analyse market participants’ behaviour through a literature review and interviews with Japanese bankers, to determine whether their behaviour triggered or deepened the crisis. In doing so, theories from behavioural finance have been applied. This has found that Japanese bankers’ behaviour, in the face of the ‘East Asian Miracle’ and the following financial crisis, actually seems to have been subject to various mental biases, or ‘quasi-rational’ behaviour, such as ‘loss aversion’, ‘overconfidence’ and ‘ambiguity aversion’. In other words, the findings of this research have proven that a psychological approach from behavioural finance would be useful in explaining how market participants’ ‘quasi-rational’ behaviour inevitably lead the affected countries to financial manias and panics.

The international capital market is getting more and more complex under the effects of globalisation and the development of new technologies. Under such circumstances, effective crisis prevention measures have not been very successfully established. And if regulations take into consideration market participants ‘quasi-rational’ behaviour, it may sound unfeasible in reality. However, there needs a turnabout in thought patterns. Regulations should be born out of the practice, not out of the theory. Without a good observation of the object, it is impossible to make truly effective regulations. As the proverb says, ‘Know thine enemy’. On that point, behavioural finance theories seem to capture a better picture of the reality than standard economic theories, and the introduction of the new theories would greatly contribute to complement the existing approach to financial crisis prevention.

Despite the usefulness and importance of understanding market participants’ behaviour
in, for example, setting regulations, studies on market participants’ behaviour from the standpoint of policy-making have not been conducted sufficiently. There are many questions to be addressed: Has the systematic ‘irrational’ behaviour that behavioural finance theories suggest been observed among investors and bankers during the economic bubbles and financial crises in the past, especially the ones in Mexico and Russia? How can we conduct empirical research to tackle this question, when market participants would be subject to a hindsight bias in talking about something happened in the past? How can regulators address such behavioural patterns of market participants?

In applying behavioural finance to the process of establishing effective financial crisis prevention measures, this paper has made a first step with a new important set of questions. Further research should be done following these points.
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