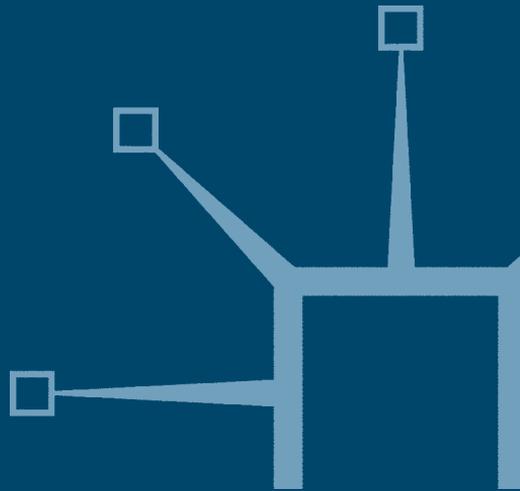


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# The Political Economy of International Capital Mobility

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Matthew Watson



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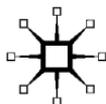
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# The Political Economy of International Capital Mobility

Matthew Watson

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*To My Parents, Ann and Greg Watson*

*With Thanks for Everything*

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This book has been longer in the planning stage than in the writing. The writing was started during a period of Study Leave at the University of Birmingham in the autumn of 2005. However, the idea on which the analysis is based – that of drawing a heuristic distinction between the spatial and the functional mobility of capital – was first developed in an article that I published in *New Political Economy* in 1999. The reader who is familiar with that piece will notice that I have changed my characterisation of the functional mobility of capital in the meantime. I originally described the trade between different categories of asset as the functional *immobility* of capital (on the grounds that this represents the failure to complete the full circuit of capital by preventing additional money being made available for new productive investments). Having had more time to reflect, I now describe this same trade as evidence of the functional *mobility* of capital (on the grounds that the economic process of liquidating one type of asset in preference for another is conceptually indistinguishable from any other instance of capital mobility). The new understanding will, of course, be explained in greater detail as the analysis progresses.

For now, it is important that I express my gratitude to a number of people. The final copy of the manuscript was posted to my publisher on the very last day that I was employed by the Department of Political Science and International Studies at the University of Birmingham. I would like to thank my former colleagues there and, perhaps particularly, my PhD students past and present for the friendly, welcoming and intellectually vibrant conditions in which the research for the book was undertaken. I would also like to acknowledge the help that a number of individuals have given to me in terms of refining the content of the analysis: Jacqueline Best, Mark Blyth, David Coates, Randall Germain, David Hudson, Paul Langley, Paul Lewis, Johnna Montgomerie, Timothy Sinclair and Duncan Wigan. I owe a large debt of gratitude to Leonard Seabrooke, who read and commented on the whole manuscript with great care and in great detail. He suggested a large number of amendments, all of which I incorporated happily, as they have all made the book better than it would otherwise have been. Finally, I must acknowledge the assistance, patience and cheerful encouragement of my two publishers at Palgrave Macmillan, Jennifer Nelson and Philippa Grand. Their input and oversight has been invaluable.

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Matthew Watson

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# Introduction

## **IPE and the study of finance**

International capital mobility is today a concern that breeds broader social uncertainty because of unprecedented degrees of financial socialisation. Financial markets now attract a greater volume of savings than at any previous time in their history. Existing living standards are therefore increasingly dependent upon the market environment continuing to function in the manner prescribed by economics textbooks, as are future consumption possibilities and access to welfare. Given this, Adam Harmes (2001) has pointed to the birth of a 'mass investment culture'. The result of such developments is that the significance of collapses in the pricing structure of financial markets now penetrates ever more deeply into society. The failure to protect society from the consequences of financial crisis puts savings in danger and threatens the expectation that every generation will experience a higher degree of material comfort than its predecessor.

Much of this is already well covered in the International Political Economy (IPE) literature on finance. In recent years, IPE has witnessed a surge of interest in the increasing financialisation of everyday life. (1) Paul Langley (2004, 2006/7, 2007) has shown that state retreat in the area of public pension provision has occasioned increasing reliance on private insurance markets for meeting consumption needs in old age. (2) Leonard Seabrooke (2006, 2007) has pointed to the way in which mortgage securitisation has dispersed the ownership of capital and allowed greater numbers of people to add housing stock to their asset-based wealth. (3) Timothy Sinclair (1999, 2003, 2005) has written on how bond rating agencies channel savings into particular categories of assets by creating common everyday perceptions of what constitute

'good' and 'bad' investments. (4) Peter Gourevitch and James Shinn (2005) have demonstrated that the increasing presence of mutual funds has driven the accumulation of equity by savers who might not be able to undertake such investments on their own but can do so collectively.

There has also been no shortage of effort in IPE to incorporate the literature which seeks to understand the dynamics that lead to critical conditions in financial markets (e.g., Strange 1998; Haggard 2000; Palan 2003; Pauly 2005). In his classic study which is widely cited as one of the founding texts of the subject field, Charles Kindleberger opened his analysis with the observation that: "There is hardly a more conventional subject in economic literature than financial crises" (1989: 3). Kindleberger's book is called *Manias, Panics, and Crashes*, and his argument that moments of pricing distress on financial markets are caused by the disposition towards investor irrationality still features prominently in the IPE literature. John Kenneth Galbraith's seminal study of the 1929 Wall Street Crash (1992 [1954]), which initiated the 'irrationality' approach to studies of financial crisis, thus continues to cast a shadow over IPE.

In its modern manifestation, this tradition examines how financial risk has been transposed from a political issue to a technical issue by assuming away the very possibility of investor irrationality. This is achieved by constructing models of the financial economy on the highly abstract – and highly implausible – agential characteristics of a fully informed and fully rational homo economicus (e.g., Best 2005; de Goede 2005). The conditions for pricing distress in financial markets are thus located in the comparison between the models' assumptions of perfect rationality and traders' use of those models in the context of their own incomplete rationality.

In and of itself this work has as much to commend it as the work on financial socialisation within everyday life. Put the two together, though, and they create the impression of a divided field of finance studies within IPE. (1) The literature on financial socialisation focuses on the concrete practices which have drawn an ever greater number of people into the financial market environment. (2) The literature on the implausibility of the agential assumptions which underpin the models of financial economics focuses on the mis-specification of the abstract conditions under which the market environment could be expected to be stable. The two literatures thus have different subjects (individual investment decisions versus 'the markets') and they are also written at different levels of abstraction (concrete practices versus immanent tendencies). But it is as if there is something missing in the middle. If the

two literatures are to be brought together in an attempt to reunite the field, much more needs to be said about the way in which financial markets actually operate.

The current orientation of the IPE literature allows us to learn how the interests of increasingly large sections of society have been incorporated into the financial market environment. It also tells us that constant repetition of homo economicus assumptions in economic models of financial markets disguises the potential for the environment to show signs of distress. However, we know little from these accounts of the way in which actual trading strategies propel the process of price determination in financial markets, even though it is crucial to have as complete an understanding of such strategies as possible. They are the link between the greater volume of savings coming into financial markets and the trajectory of prices displayed by those markets. If the interests of ordinary investors are under threat due to the potential for the pricing structure of financial markets to experience severe discontinuities, then the threat will be manifested through the trading strategies performed on those markets.

My main objective in this book is to produce an analytical framework which helps to make sense of these strategies. In particular, I draw a heuristic distinction between two types of capital mobility, and this provides insights into the way in which certain investment positions are liquidated and others are adopted. The four substantive chapters with which the book closes serve to highlight the analytical utility of this approach. Before proceeding any further, though, the first requirement is to ask why a disaggregated conception of capital mobility might be necessary. The answer is that the process of financial socialisation has deepened the impression that more is now at stake than ever before when the pricing structure of financial markets looks likely to break down.

### **The 'popular' versus the 'insider' view of financial crisis**

It is surely the case that most people continue to know neither how the separate elements of the financial system fit together nor why they should need to have such knowledge if they are to make sure that their savings are invested wisely. Their savings tend to be invested for them by fund managers in any case, so they only have an indirect exposure to patterns of trading on financial markets (Haley 1999: 73–5). Nonetheless, we can also point to an increasingly pervasive sense within society of the fragility of the international financial system, of the

possibility of temporary fault-lines emerging in the pricing structure of that system and of the related possibility for the value of savings to be reduced quite dramatically. We might not be aware of what we do not know, then, but this does not prevent us from having a keen feeling that things could go wrong at any minute.

Yet, what exactly do we mean by 'going wrong' in this respect? If we scratch the surface of this issue we very quickly find that there are two completely different conceptions of the dynamics of financial crisis existing side-by-side. There is an important tension between the popular view of a run on the bank and the view of those who have an insider's perspective on account of working within the markets themselves. The popular view attributes instances of acute pressure on financial markets to capital flight, as investors accentuate the tendency to keep their assets physically on the move in order to exit the distressed market. It is this view which has been most readily incorporated into the IPE literature. However, the insider's view has an entirely different focus. It attributes the development of critical tendencies to the build-up of a temporary, yet devastating, imbalance in the constitution of the market in question, such that those who wish to sell a particular asset substantially outnumber those who wish to buy it. This does not represent the complete absence of buyers within the international financial system as a whole, only the fact that, at a given moment of time, few people can be persuaded to buy the asset that trades in the market showing signs of distress. If there is no reasonable price at which investors can be persuaded to buy an asset, then its related market seizes up.

The tension between the popular and the insider's view of market distress is worth exploring in greater depth, because it reveals differences in understanding which run right to the heart of the analysis in this book. Perhaps most obviously, there is disagreement over the very nature of a market crisis. In the popular view, a crisis occurs when capital flows too quickly around a particular market, finally overwhelming the pricing structure of that market when the flows of capital are all in one direction. The image is of an ever increasing intensity in the flow of capital, such that the mobility of capital speeds up. In the insider's view, by contrast, a crisis occurs when a temporary hiatus in buying triggers attempts by those with remaining holdings of the unwanted asset to sell everything that they have left of that asset. This, of course, serves only to heighten the disparity in the number of buyers and sellers within the market. When no buyer can be found, capital transactions cease to be possible, thus separating the supply-side from the demand-side of the market. The result is that the market itself temporarily atrophies.

The image in the insider's view is not one of capital being too mobile in the sense of it physically exiting a market at such pace and in such volumes that it empties the market of participants (i.e., too much activity has led to a lack of participants). Rather, it is of capital not being mobile enough in the sense that no transactions can be agreed upon and the market is emptied of activity (i.e., the participants are still present but there is no trading activity for them to conduct). So, which of these two explanations do we choose? Both appear plausible in their own terms, but it does not seem possible for both to be correct. After all, it flies in the face of standard logic to claim that capital can be too mobile and at the same time also not mobile enough. Or does it? It certainly does if the same conception of capital mobility is being used in both explanations. However, on closer inspection, this proves not to be the case. This leads us to the second important difference which is revealed when we explore the tension between the popular and the insider's view of moments of market crisis: the most basic sense of what it means to talk about capital being mobile changes between the two views.

In the popular view, the mobility of capital is manifested in the desertion of a market which shows signs of acute pressure within its pricing structure. This is perhaps the easier of the two notions of capital mobility to grasp, because it is that which dominates the academic literature as well as being that on which common-sense understandings of the term are based. It is the conception of capital being physically on the move. Mobility occurs when capital assets continue to be held in their existing form, but the location of the market in which the assets are invested is changed. Such changes are likely to occur when one market is able to show that the returns to an investment placed there are higher than the same investment placed elsewhere.

Historically, when the depth of the international financial system was much less pronounced than it is now, so that there were far fewer asset types to trade than there are today, this was pretty much the only way in which capital could be mobile. Take the following example. Under the fixed exchange rates of the Gold Standard, if interest rates were higher in the US than they were in Britain, profitable arbitrage opportunities arose merely from relocating stores of gold from the low interest-bearing London market to the high interest-bearing New York market. So, this is exactly what would happen. Gold would be taken from bank vaults in London to Southampton, in order to be placed in the strong holds of transatlantic ocean liners bound for America. Once unloaded in New York, the gold would be deposited in a bank on Wall Street, where it would earn the US interest rate premium. This process

would continue until the influx of gold brought so much pressure to bear on the exchange rate that US interest rates would be lowered in order to preserve the currency parity.

In this instance, it is clear that capital mobility refers to a situation in which assets are physically relocated from one market to another. Throughout the following chapters I refer to this as the *spatial mobility of capital*. However, this is not the only sense in which capital can be considered mobile, as is evidenced by the insider's view of the dynamics of market distress.

The insider's account reflects the prolonged period of innovation in financial markets since the 1970s (see Chapter 4). New markets have been created and, more importantly, so have new categories of assets to trade within those markets. The key to a successful financial business is no longer necessarily to be invested in the right market (in one country, for instance, rather than another) in order to ensure that investments are consistent with long-term economic trends. Instead, it might just as well include being invested in the right asset (in stock index options, say, rather than the underlying stocks) in order to take advantage of fleeting arbitrage opportunities as and when they arise. It is now possible to make money out of changes in the price of an asset without even investing in that asset, so long as the correct position is taken in related derivative instruments.

To return to the discussion of a market in distress, the insider's view attributes this phenomenon to the temporary absence of buyers in a particular asset market. This does not mean the complete absence of buying activity within the international financial system as a whole. Indeed, it is likely to be accompanied by a spate of buying in linked derivative markets, as some investors seek to hedge the losses that they are likely to make from the temporary seizure of the distressed market and others seek to make a speculative gain from that seizure. A moment of market distress is likely to culminate in investors changing their investment strategies to profit from those who are caught with positions that nobody will buy from them. This involves purchasing derivative contracts to which the returns will be positive so long as the absence of buyers in the distressed market causes asset prices to fall in that market.

Capital is still mobile in this instance, although not necessarily with respect to space. Here, mobility refers to investors' decisions to cash-in other assets so that they can purchase derivative contracts in order to exploit the market distress which prevents other investors from liquidating assets for which there are temporarily no buyers. Capital is mobile in the sense that it is transposed from one asset form to another,

so as to reflect fleeting changes in profit-making opportunities within the international financial system as a whole. Throughout the following chapters I refer to the conscious transposition of asset forms as the *functional mobility of capital*.

## The concept of capital mobility

In preparation for what is to follow, it is prudent to first say a few more words on my underlying conception of capital mobility. This is important, not just because my whole argument stands or falls on my definition of capital mobility, but also because my definition differs from that which is used within so much of IPE. I say that it is different from the definition that is used elsewhere, but it is not as if the meaning of capital mobility is always spelt out explicitly in the literature that utilises the concept. Instead, it tends to be taken as self-evident that the concept refers to financial assets which are in motion, either actually or potentially. By extension, the concept of international capital mobility refers to already realised flows between one territorially demarcated national market and another or to the potential for such flows to be activated. Either way, the sense is upheld that capital mobility refers to something that has at least the potential to be in motion. This is consistent with the definition provided by the *Oxford English Dictionary*, which describes 'mobility' as the quality of being able to move or to be moved freely or easily. From this perspective, international capital mobility is the extent to which private money is free to be invested abroad in a deliberate transferal of location.

This might usefully be treated as a lay definition of capital mobility, because it is clearly consistent with common understandings of what 'mobility' means more generally. But it is a definition of capital mobility that is entirely bereft of *economic* content. It tells us nothing about the economic dynamics through which capital is rendered mobile, or about the economic decisions that have to be taken for capital to give out the appearance of being in motion. My concern in what follows is to understand capital mobility through the perspective of these decisions. In other words, my departure from so much of the existing IPE literature starts right from the beginning and my desire to prioritise an explicitly economic definition of capital mobility.

This definition is constructed by first asking what sort of economic actions are necessary to sustain the impression that assets have somehow been propelled into motion. Clearly, some such actions are required. If no action is undertaken, then all assets are held in exactly

the same form at time  $t+1$  as they are at time  $t$ . In such circumstances, nothing has changed and hence there can be no sense of anything being in motion in the intervening time period. Capital mobility consequently derives from decisions taken on the basis of investors believing that they have more to gain from holding a different portfolio of assets at time  $t+1$  than is being held at time  $t$ .

If investors are to act on this belief, then two independent but related actions will be necessary. Investors will want to adopt new investment positions in order to bring a greater degree of balance to their portfolios. Yet, this requires that a previous investment position is first exited, so that money can be made available to finance the purchase of the new investment position. Very simply, then, an investor acts once to sell one asset and then acts a second time to buy another asset. In practice, the process of rebalancing a portfolio is likely to involve multiple switching of positions at the same time. However, the principle remains exactly the same. In order to create the impression of capital mobility, two economic actions must be undertaken. (1) Investors must liquidate one set of holdings so as to raise cash. (2) The resulting cash must then be used to purchase a different set of holdings. Acknowledgement of these linked actions provides the basis of my economic definition of capital mobility.

This definition clearly sustains the idea – elaborated at length in this book – that there are two distinct *types* of capital mobility. This is an idea that can easily get lost when working instead with the lay definition of capital mobility.

Consider in the first instance the following example. Immediately after winning the 1997 British General Election, the Labour Government reversed fifty years of state control of monetary policy by ceding operational independence to the Bank of England. This provided investors with additional confidence in the probability that, in the future, the British economy would be managed along the lines of an increasingly orthodox monetary policy. At the same time, the German economy was continuing to struggle with the after-effects of both reunification and ten years of deflationary tendencies induced by the Maastricht convergence criteria. As a consequence, the Bundesbank was operating more of a discretionary monetary policy than had usually been the case, with the aim of kickstarting new economic activity. The result was a noticeable narrowing of the spread between the price of a government bond issued in Britain and the price of a government bond issued in Germany. Investors were happy to settle for a reduced rate of interest on British gilts following the decision to grant more policy-making autonomy to

the Bank of England. This reflected their increased confidence in the likelihood that the Bank would not destabilise gilt prices in the future by deviating from an orthodox monetary policy. But they demanded a higher rate of interest than had historically been the case on German bunds because the Bundesbank's increasing use of discretionary monetary policy made them less confident about the future prospects for orthodoxy. The narrowing of the historic price differential was triggered by investors taking two related actions: first selling German government bonds on the bund market, and then using the money raised in that fashion to buy British government bonds on the gilt market.

This is consistent with my economic definition of capital mobility and can therefore be described using this term. The example consists of two independent yet related economic actions. First, investors must have instructed their brokers to liquidate at least part of their existing position on the German bund market. Second, they must also have instructed their brokers to take a new position on the British gilt market by reinvesting the cash from the bund sales. No other course of events can explain the observed price trend. As these matched actions resulted in investors switching the national orientation of their positions but remaining invested in the same category of asset, I refer to this as an instance of *spatial* capital mobility.

Next consider the following example. In the immediate aftermath of the attacks on the World Trade Center on September 11<sup>th</sup> 2001, the New York Stock Exchange was closed for business for several days. Knowing that important parts of the market infrastructure (both physical and human) had been wiped out in the attacks, most investors were expecting a period of turmoil when the Exchange eventually reopened. This sense of foreboding was heightened by recognition of the blow to overall economic confidence the attacks had engendered. In response, investors issued numerous sell orders to their brokers, in an attempt to restrict their losses on the day that the Exchange reopened. At the same time, the Chicago Board Options Exchange reported a significant increase in the number of buy orders that had been placed for stock index options. The two trends were linked to a single investor strategy designed to diversify holdings. Investors sought to preemptively counteract the losses that they expected to make on their individual stocks when the New York Stock Exchange resumed trading by making an offsetting investment speculating that the value of the stock market index as a whole would fall. This required that investors undertook two related actions: first placing sell orders on the individual stocks that they held on the New York Stock Exchange, and then using the cash that they

expected to free up in this fashion to buy stock index options on the Chicago Board Options Exchange.

This example is also consistent with my economic definition of capital mobility and, as before, it can then also be described using this term. The example consists of two independent yet related economic actions. First, investors used their brokers on the New York Stock Exchange to liquidate at least part of their existing position in stocks. Second, they used their brokers on the Chicago Board Options Exchange to create a new position in stock index options by reinvesting the cash from the stock sales. Yet, whilst this is an instance of capital mobility in exactly the same way as in the previous example, it is not an instance of the same *type* of capital mobility. The national orientation of investors' holdings did not change here as it did in the previous example. What did change was the category of asset in which the investors' money was held. Where previously it had been concentrated in the stock market, following the related actions of liquidating one investment position to create a different one, its relative concentration came to be reoriented towards the stock index options market. As these related actions led investors to switch the form of their holdings from one category of asset to another, I refer to this as an instance of *functional* capital mobility.

There is already an established body of thought on the fungibility of money, where attention focuses on the degree of choice which exists in how assets might be invested (e.g., McCloskey 1986). My concept of functional capital mobility picks up on many of the same themes, but also differs in important ways. Fungibility refers to the interchangeability of cash for an asset that has all the properties of cash but others besides as well: a bearer bond would be one example, or a promissory note enabling the owner to convert foreign exchange into gold, or a warrant on a treasury bill. The concept of fungibility relates to the ease of conversion of cash into a non-cash based asset without necessarily sacrificing all the advantages that result from holding capital in its cash form. It therefore captures the sense of a potential that is inscribed into the very essence of money. As such, it describes a property of money which helps to define a particular form of capital *as* money. But it can tell us no more than that.

It provides no information, in concrete terms, about the decisions that investors take in order to rebalance their portfolios through activities on multiple markets, or about the specific way in which they act upon those decisions in particular situations. The property of fungibility holds open the possibility that flows might always take place

between two markets in different categories of financial asset. But it is then necessary to add to this the concept of capital's functional mobility before we can begin to see how flows of this nature have actually materialised in practice. By focusing on the functional mobility of capital rather than merely on the fungibility of money, we can therefore begin to identify the reasons why, at a particular historical moment, investors might want to rebalance their investments so as to reduce their exposure to trading dynamics on one asset market but to increase their exposure to trading dynamics on another. We can also use the concept of the functional mobility of capital in order to trace the pattern of actual flows between different categories of asset market. Assumptions about the fungibility of money suggest that such flows are a logical possibility. But it is only by using the concept of capital's functional mobility that we are able to impose genuine economic meaning on them.

This, then, is the basis of my case for moving beyond an overly homogenised conception of capital mobility and for focusing instead on its two separate dimensions. In my characterisation, the spatial and the functional dimensions of capital mobility share the same underlying economic foundation, insofar as both are activated by related actions to liquidate one investment position with a specific view to creating another. However, it is also necessary to be attentive to their differences. Spatial capital mobility arises when the linked economic actions of disinvestment and reinvestment change the national orientation of the initial holding but maintain the holding in its original form. By contrast, functional capital mobility arises when the linked economic actions of disinvestment and reinvestment change the form of the initial holding but without necessarily changing its national orientation. This distinction animates the conceptual apparatus that will be used throughout the rest of the book.

The last issue to raise before the analysis can begin in earnest is why we might care about the distinction between the spatial and the functional mobility of capital beyond its academic uses. This point is easily answered. It is often said that international financial markets play an important policing role within society. In one of the most important studies of this kind, Susan Strange bemoans the decision "to let the financial markets run so far ahead, so far beyond the control of state and international authorities" (Strange 1998: 1). However, it is not 'the markets' per se which are responsible for imposing such discipline, so much as the flows and the transpositions of capital that take place within a variety of trading marketplaces. As a result, if we are interested in the social consequences of financial discipline, 'the markets' are a less

important subject matter than the multiple ways in which capital can be conceived as being mobile.

There is an important moral dimension in almost all IPE writings on finance. Such writings invite the reader to consider the possibility that, at heart, the most important questions to be asked about the dynamics of capital mobility relate to the kind of society in which we want to live (e.g., Underhill 1997: 317): to the degree of inequality we are willing to tolerate, the pattern of distribution we are prepared to legitimate, the exposure to risk we will accept for ourselves and for others, and the structure of life chances we hope to provide within our communities. Prior to such questions being asked, though, and long before the struggle for a new kind of society can be won, it is first necessary to develop an analytical framework for understanding the multiple ways in which capital can today be considered mobile. It is to this task that I turn in the following chapters.

### **Structure of the book**

The eight chapters which comprise the main body of the book divide into two distinct groupings. Chapters 1 to 4 provide the conceptual basis on which the subsequent chapters are grounded. My primary concerns in these chapters are, on the one hand, to explain in detail the distinction between the spatial and the functional mobility of capital and, on the other hand, to demonstrate the analytical utility of that distinction. Chapters 5 to 8 focus on more substantive issues. I include two chapters each on issues relating to the currency market and the stock market, as these are the two markets in which recent increases have occurred in both the spatial and the functional mobility of capital. In relation to the currency market, I study the events which led to the Asian financial crisis of 1997 and the arguments surrounding the adoption of a Tobin tax on foreign exchange transactions. In relation to the stock market, I study the economic factors which led to the abuse of accepted corporate governance standards at Enron and recent attempts at consolidating Europe's stock exchange structure.

# 1

## Controlling, Creating and Cashing-in on Risk: The Essence of International Financial Markets

### Introduction

The abiding strength of the IPE literature on finance is that it focuses so clearly on the political, social and cultural construction of financial markets. (1) It suggests that financial markets are politically constructed insofar as the pattern of regulation to which they are subjected reflects the dominant macroeconomic ideas to which political elites have adapted (e.g., Blyth 2002; Ryner 2002). Governments always have a choice about which regulatory stance to adopt, but that choice is itself mediated by the prevailing framework of ideas (e.g., Hay and Rosamond 2002; Best and Widmaier 2006). (2) It suggests that financial markets are socially constructed insofar as they could not operate without a sufficient flow of savings arising from society (e.g., Martin 1999; Clark 2003; Sinclair 2005). At heart, the 'money' which propels the pricing structure of financial markets is a complex social relation bound up in the practices of the credit economy, where what flows between one person and another – obligant and claimant – is nothing more real than the promise to pay (e.g., Ingham 1996; Woodruff 1999). (3) It also suggests that financial markets are culturally constructed insofar as their current operating logic is entirely dependent on societal inculcation of a particular understanding of risk and uncertainty (e.g., Baker 2002; de Goede 2005). The increased flow of savings into financial markets has resulted from a cultural shift in which individuals are encouraged to embrace financial risk, because this means that they are taking responsibility for their own future (e.g., Wynne 1992; O'Malley 1996).

The conditions in which financial markets exist thus create their own political constituencies (e.g., Posen 1993). However, these constituencies do not necessarily have readily overlapping interests. State-appointed

financial regulators have one set of interests (i.e., in avoiding moments of market malfunction), ordinary savers have another (in protecting the value of their savings), whilst highly capitalised investment banks and trading houses have a third (in making money for themselves). Each set of interests infers attempts to impose a different operating logic on the financial market environment. Noting that financial markets are politically, socially and culturally constructed, as so much of the IPE literature does, is a good place to start when attempting to assess the consequences of the relationship between the financial, productive and social economies. But it is by no means the end of the story. The competing interests embedded in financial markets cannot all be satisfied in a single *modus operandi*. We can only learn more about which interests currently dominate by examining the way in which financial markets actually work. However, this highlights a potential weakness in the IPE literature. The construction of financial markets is adequately discussed in the IPE literature, as are the ethics of market outcomes, but the concrete internal practices which drive those outcomes do tend to remain as something of a 'black box'.

In order to get inside the box, it is necessary to ask why financial markets exist in the first place, before then trying to ascertain how and to what extent the internal practices which today dominate the market environment are different compared with the original justification for establishing financial markets. I answer these questions by developing an analytical perspective which is attentive to the different types of risk associated with the trade in financial assets. This perspective is useful, because the original justification for setting up commercial markets in credit instruments was that this facilitated risk-sharing between creditor and debtor communities, thus aligning their interests. But this assumes that all financial risk is generically the same, arising from the fact that the price of an asset might always fall during the period of its ownership. In this account, financial markets exist solely as a means of controlling risk. Here, though, I work with a rather different assumption. The internal practices of modern financial markets can only be understood if it is recognised that they are the embodiment of the tension between very different attempts to control, create and cash-in on risk. In turn, this involves identifying not one but three generic types of financial risk.

The chapter proceeds in three stages. In section one, I outline the three generic types of risk. Almost all historically-based accounts of why financial markets exist tend to focus on the depreciation risk which follows from the fact that buyers might not always be found who will pay a higher price for an asset than that for which it was originally pur-

chased. However, I show that current patterns of trading on financial markets are also consistent with the production of both contamination risk and speculation risk. In section two, I demonstrate the utility of this style of thinking, by setting the threefold typology of financial risk within the context of Ulrich Beck's notion of the 'risk society'. In section three, I show how the structure of financial risk has changed in recent years so that it now much more closely resembles the major characteristics of Beck's risk society. These changes have occurred as a result of decisions to liberalise the cross-border movement of assets and to permit innovation in the financial instruments that can be traded commercially.

The analysis contained here paves the way for future chapters, in which I link the discussion of financial risk to the book's major theme of capital mobility. For, it is the decision to liberalise the cross-border movement of assets which has led to recent increases in the spatial mobility of capital, and it is the decision to permit wholesale financial innovation which has led to recent increases in the functional mobility of capital. Throughout, my aim is to demonstrate that the twin issues of financial risk and capital mobility require an analytical perspective which starts from the premise that it is necessary for IPE theorists to know much more about how financial markets actually operate.

### **Disaggregating the three types of financial risk**

The existing literature on the question of why financial markets exist tends to be written solely by economists. Limited though it is in this sense, it all tends to point in the same direction (e.g., Houthakker and Williamson 1996). The rationale for establishing financial markets, it is assumed, results from the demand for risk management systems designed to stabilise existing wealth holdings. All financial assets have some degree of depreciation risk attached to them, as their value can go down as well as up across the timeframe over which they are held. Financial markets exist as a means of facilitating the reallocation of risks from those who have excess risks to sell to those who, for an appropriate fee, can be persuaded to buy additional levels of risk. The more risk-averse the asset-holder, the greater the likelihood that they will use market-based transactions in an attempt to hedge the depreciation risk embodied in their assets.

This account is fine as far as it goes, but it does not take us very far. Most obviously, it limits the conception of financial markets to that of an institutional forum which ensures that contracts are both respected and enforced. This is an overly legalistic conception, which tells us

nothing about the way in which actual patterns of trading both originate within and reinforce a structure of risk which maps on to other social structures. From this perspective, the question of why financial markets exist can be answered through reference only to technical economic issues related to the price at which exchange relations might be struck for trading depreciation risk. However, to do so is to empty the question of much of its broader political relevance.

My main criticism of existing accounts of why financial markets exist is not that it is focused on an unimportant issue. The commodification of depreciation risk and its treatment as a good to be bought and sold is highly relevant. This is clearly one of the functions which modern financial markets serve and therefore deserves analytical attention. But by prioritising this one function to the exclusion of others, what emerges is a restricted conception of the nature of financial risk and of the political conditions under which different types of financial risk flourish.

To my mind, there are three generic types of risk which must be discussed in relation to financial markets: the risks that are embodied in the very practice of holding financial assets (what I call 'depreciation risk'); the risks that emanate from financial markets in the interests of preserving the existing structure of society ('contamination risk'); and the risks that are engineered by traders in order to harness the process of financial market-making to their own advantage ('speculation risk'). Existing accounts of why financial markets exist can only address the first of these three.

(1) *Depreciation Risk.* The risks that are embodied in the very practice of holding financial assets are a reflection of two intrinsic properties of all non-cash based assets. First, all other financial assets are less liquid than cash, in that they typically cannot be used in their current form but have to be transposed into cash before they meet the needs of everyday exchange transactions. This can take time, thus restricting the day-to-day economic utility of the asset, especially in circumstances in which the asset has a term structure that requires the owner to hold it for a specified period. Second, cash acts as a guaranteed store of value, in as much as it is shielded from debasement by any number of government statutes. The relative price of currencies may well change, but the essence of cash itself enjoys both political and legal protection. No other financial asset receives any equivalent level of protection. As such, they are not a guaranteed store of value as their inherent worth can always diminish.

These two factors come together in a mutually reinforcing way: the longer the requirement that an asset must be held before being sold on, the greater is the uncertainty over whether the asset will maintain its value. For every increase in the term structure of an asset the likelihood grows of a moment of distress in the pricing structure of the market on which the asset is traded. All non-cash based financial assets are less liquid than the equivalent cash position and, as such, all asset values have an in-built risk of depreciation. This is due to the fact that a non-cash based asset can only be liquidated if a buyer can be found for that asset. At any moment of time, the willingness of investors to buy a particular asset might temporarily evaporate. If this occurs when the asset price is already under pressure to depreciate, asset holders are powerless to prevent their holdings from losing a proportion of their value.

The development of market institutions for trading financial assets is an attempt to match the more risk-averse with the less risk-averse. The less risk-averse can buy risk from the more risk-averse – at a suitable level of compensation of course – to try to enhance the returns that they can expect to make from a successful investment. In theory, a system of financial markets allows each individual to hold a combination of assets which, for them, represents the optimal risk content (Mishkin 2003). The textbook characterisation of a stable market structure focuses on a trading environment in which there is a symmetrical distribution of risk-aversion around the mean (e.g., Baye and Jansen 1994). The problem with this characterisation, though, is that there is nothing within the theory to tell us *why* financial markets should exhibit such pristine conditions of stability (Galbraith 1992 [1954]: 121). The textbook financial market allows for unproblematic risk pooling, but the mechanism through which such an outcome arises is left unspecified.

Moreover, textbook conditions are rarely an accurate description of actual practices within financial markets. IPE scholarship on the international financial system tends to be oriented towards those moments at which symmetrical risk distributions break down and the pricing structure of a particular market becomes engulfed by such frenzied attempts to sell remaining assets that critical tendencies set in (e.g., Strange 1998; Haggard 2000; Palan 2003; Pauly 2005). Whilst the current configuration of international financial markets can only be justified if it facilitates successful voluntary risk-pooling, the emphasis of much IPE literature on moments of crisis suggests that this condition does not always hold.

(2) *Contamination Risk.* By demonstrating the likely absence of successful voluntary risk-pooling, the IPE literature focuses attention on the inherent fragility of the financial system. At all times the system is but one potentially consequential decision away from disturbing stable distributions of buyers and sellers and hence disrupting the pricing structure of a particular asset market. Set in such a context, risks are inherent not within the system itself, so much as in the instance of its malfunction. Moreover, the system cannot contain such risks, and in instances of malfunction it propagates them into society, where they are experienced as a loss of economic standing. This, then, is the second type of risk which we can associate with financial markets: the contamination risk that emanates from the trading strategies over which ordinary people have no control but whose impacts they might nonetheless experience. The predominant image is of a ripple effect, travelling ever further outwards from its source, and influencing the lives of ever more people as it does so. The more pronounced the initial moment of market distress, the greater the ripple effect is likely to be.

Within advanced industrialised countries at least, everyday economic life is now increasingly tied to the financial system withstanding its inherent fragility in order to sustain the credit economy which makes possible so much modern consumption (Calder 1999). Any seizure of the pricing structure of a particular asset market, no matter how temporary in duration, therefore threatens to have significant social implications (Brenner 2002). The credit economy acts as a transmission device which links a period of market distress to the restructuring of economic possibilities. Importantly, an individual need not be invested on the market which experiences acute pressures in order to feel their effects. Across advanced industrialised countries, both present and future consumption – that is, current spending and saving for old age – are increasingly conditional upon the recycling of credit instruments. A period of market distress, however, is likely to be followed by diminished supply of credit, as banks and other professional investors look to retrench their positions to minimise whatever losses they might otherwise make. The most likely result is that credit instruments become more expensive on the open market, forcing people to finance consumption out of current earnings alone, thus causing a drop in living standards.

Moreover, any increase in the cost of credit is almost certainly going to have further consequences in terms of restricted labour market opportunities via its impact upon the structure of corporate financing. Firms

which were in any case operating close to the margin will find that the increased cost of credit undermines the effectiveness of their current business model and forces them to look for cost savings elsewhere if they are to make themselves financially viable again. In general, it is easier to make quick cost savings through cutting expenditures on wages rather than reorganising the capital basis of the production process (Cornwall and Cornwall 2004). Therefore, in the absence of fully comprehensive systems of coverage designed to protect both employment and wage levels, the burden of adjustment to financial shocks is most likely to fall within the labour market. Individual workers might find that they lose their jobs, or experience reductions in wages, without in any sense having become less employable or less profitable to employ.

The risk that emanates from financial markets does so with uneven effects on society, due to the asymmetries of the response of government policy to moments of market distress. In theory, it is possible for governments to entirely offset the effects of an increase in the cost of credit via a monetary expansion. In practice, however, the governments of advanced industrialised countries have increasingly adopted rules-based programmes which are designed specifically to lock-in existing asset values (see Chapter 3). Stephen Gill has described this (1998: 9) as an increasingly pervasive “new constitutionalism” in macroeconomic policy, through which legal restrictions on policy autonomy militate against monetary expansions which threaten to undermine the existing structure of asset values. Increasing the money supply as a means of negating the effects of an increase in the cost of credit equates to a redistribution of resources from creditors to debtors. However, the macroeconomic mindset to which Gill refers has an instinctive aversion to such an outcome. Despite the fact that so much of the growth trajectory of advanced industrialised countries is now propelled by the recycling of private household debt, public policy within those economies remains resolutely oriented to the needs of the creditor communities who sell that debt (e.g., Sinclair 2000).

It is for this reason that governments have not responded to recent seizures in the pricing structures of financial markets by monetising in full outstanding household debt. Whilst they might have found it electorally expedient to pursue a monetising strategy, they have instead allowed a disproportionate amount of the burden of financial market distress to fall on the household in terms of restricted consumption possibilities and loss of income from paid work. In this way, the contamination risk that emanates from financial markets symbolises a sense of government complicity in preserving the existing structure and

stratifications of society. The state-sponsored shift in pension provision in many countries from defined benefits to defined contributions offers one important example of this complicity. The shift individualises responsibility for maintaining one's social standing by making consumption in old age a function of wealth rather than an entitlement of citizenship. Defined contribution pension systems thereby act as a form of self-governance designed to reinforce the existing balance of social forces (Langley 2004).

(3) *Speculation Risk.* Gill's identification of the new constitutionalism also helps us to explain the third generic type of risk with which financial markets are associated: the risk that is engineered by market actors in an attempt to establish profitable new trades. This relates not to the inability to hedge all unwanted risks, so much as to the deliberate uncovering of new risks in the hope of making speculative gains. The process of financial innovation which has proliferated since the 1970s has been littered with instances in which ostensible hedging instruments have been subverted so that they might be used instead for purely speculative purposes (see Chapter 2). The new constitutionalism has allowed this process to develop, because it has harnessed the disciplinary power of speculation to restrict the possibility of engaging in monetary expansions.

Most of these new risk-enhancing financial instruments are derived from existing assets (e.g., Tickell 2000). Derivative instruments can be moulded into a potentially unlimited number of forms, which means that the process of financial innovation has no necessary natural endpoint. Moreover, they tend to be traded on extremely lightly regulated markets, because any attempt to impose regulatory restraints on trading one derivative contract can trigger the creation of copy-cat contracts which allow exactly the same position to be taken but on a market that has yet to be regulated (see Chapter 6). Most derivative markets are therefore, in essence, self-regulating (Chew 1996). Risk-taking is limited only by investors' fear of losing money that they do not own. As such, the pricing structure of most derivative markets is supported only by traders' collective confidence that every trader individually will be able to liquidate their position by using future speculative gains.

Given these underlying conditions of existence, it is easy to understand just how fragile the underpinnings of many derivative markets are. Yet, we have to be clear that this degree of fragility is self-inflicted, in the sense that it results from the conscious strategy of those who trade on them. It arises from traders' constant desire to seek out higher

than average rates of return in an attempt to 'beat the market'. Traders would take a passive hedging position rather than an aggressive speculative position if the expected returns to the two strategies were equal, because hedging (which shelters investors from all destabilising future price movements) is a safer strategy than speculating (which requires investors to be on the right side of future price movements). However, the possibility of high levels of gain encourages speculative activity, but this comes at the cost of injecting new sources of risk into the system as a whole, thus multiplying the incidence of the other two generic types of financial risk.

In this way, the three generic types of risk – depreciation risk, contamination risk and speculation risk – are co-constituted and mutually reinforcing. It is a useful heuristic exercise, as shown in Table 1.1 on p. 22, to disaggregate the three types of risk, but it must always be remembered that these risks are not in practice independent of one another. They are three interdependent manifestations of the effects of a single, highly liberalised and highly leveraged financial system in which speculation on 'beating' depreciation risk provides a crucial support structure for constitutionalised monetary orthodoxy.

Each, then, is the product of a political environment which is dedicated to the maintenance and reproduction of the existing structure of society. Taken together, they demonstrate how privately created risks are socialised in the instant in which they move from latent to manifest. Financial risk is therefore a social phenomenon, and it is necessary to be working with a conceptual framework which can recognise this explicitly. In order to understand more about the social implications of financial markets' core effects, I turn now to situate the foregoing analysis within the context of Ulrich Beck's more general observations about the nature of contemporary 'risk society'.

## **Financial markets, the industrial society and the risk society**

Beck's own treatment of financial markets as one dimension of his risk society is somewhat sparse. He notes that financial prices can be highly volatile, moving in unexpected ways and with greater speed than can be contained by remedial government action (Beck 1999: 111–12). This is depicted as a potential causal mechanism leading from financial instability to full economic collapse, as uncertainty generated in financial markets consequently undermines the productive economy (*ibid*: 6–7). Beyond these two brief statements, though, he provides no insight into

**Table 1.1** Three Generic Types of Financial Risk

	<i>Depreciation Risk</i>	<i>Contamination Risk</i>	<i>Speculation Risk</i>
<b>Description of Risk</b>	Depreciation risk is the risk which is embodied in all non-cash based financial assets due to the possibility that their price might fall in value over the time that they are held.	Contamination risk is the risk which emanates from disturbances within the pricing structure of an individual asset market and is subsequently spread through society.	Speculation risk is the risk which is deliberately engineered by market actors in an attempt to exploit the liberalised financial system so as to increase their returns from trading speculative assets.
<b>Source of Risk</b>	Depreciation risk is intrinsic to all assets that are traded as commercial substitutes for cash. It is simply a feature of all assets' basic composition and, as such, it is impossible to avoid once the decision to own financial assets has been taken.	Contamination risk arises from trading patterns on open markets, being created by the positions that traders take in their efforts to accumulate wealth. As such, it is entirely avoidable at its point of origin, because traders always have the choice not to act in this way.	Speculation risk arises primarily from innovations in the financial system's underlying structure, which in turn is linked to the creation of markets in new tradeable instruments. As such, it is entirely avoidable at its point of origin because there is no compulsion to use these instruments.
<b>Exposure to Risk</b>	Every holder of a given asset is exposed to the same level of depreciation risk embodied in that asset. No one group of people is more exposed than any other group, as the only form of insurance against this risk is simply not to buy the asset in the first place. However, richer members of society might well bear higher overall levels of depreciation risk, because they are likely to own more assets that have depreciation risk embodied within them.	It is society in general that has to cope with the contamination risk which is propagated by temporary seizures in the pricing structure of asset markets. This typically takes the form of loss of savings, loss of earnings or loss of jobs. However, the distribution of exposure is not shared equally throughout society. Those who are least able to buy themselves personal insurance against such disturbances are most vulnerable.	It is professional traders who, on the whole, are exposed to deliberately engineered risks. The exposure to such risks manifests itself when individuals find that they are caught on the wrong side of speculative price movements. Given their structure, this is particularly so when the assets in question are highly leveraged derivative instruments, where the markets for these instruments are the sole preserve of professional traders.

**Table 1.1** Three Generic Types of Financial Risk – *continued*

	<i>Depreciation Risk</i>	<i>Contamination Risk</i>	<i>Speculation Risk</i>
<b>Risk Facilitated By</b>	Depreciation risk is an ever present feature of all commercially oriented financial markets. The development of any market structure for trading financial assets therefore necessarily comes complete with this type of risk. It is facilitated by the lack of concerted political challenge to the market economy and its associated structure of private property rights.	Contamination risk requires a general lack of legal prohibitions on the extension of both the scope and the volume of market trading. Formal controls on the physical movement of capital have been all but eliminated since the liberalisation trend started in the 1970s, leaving society more vulnerable to destabilising price movements emerging from the market environment.	Speculation risk requires a permissive stance by government regulators towards market entrepreneurs. This has been forthcoming throughout the recent liberalisation drive, with regulators allowing innovators to create any number of new financial instruments with minimal political oversight. This has increased the overall level of speculative financial activity by filling in the holes between different asset markets.
<b>Link to Changing Capital Mobility Options</b>	Depreciation risk is unaffected by changes in the mobility of capital. It is intrinsic to all assets irrespective of the prevailing structure of capital mobility.	Increases in contamination risk have resulted from recent changes to the regulation of the financial environment aimed at enhancing both the spatial and the functional mobility of capital, but perhaps particularly the spatial mobility of capital.	Increases in speculation risk have resulted from recent changes to the regulation of the financial environment aimed at enhancing both the spatial and the functional mobility of capital, but particularly the functional mobility of capital.

the mechanisms through which financial markets become an integral feature of the constitution of contemporary risk societies. Yet, there is no reason why he should have done so, as this is not the task that he sets himself. What he does do is to provide a framework for understanding the very nature of risk within the modern world. This provides an ideal basis for grounding my prior analysis of the three generic types of financial risk.

Beck's risk society thesis revolves around the identification of a clash between the dominant state form of advanced industrialised societies and the threats to the reproduction of everyday life which such societies now create for their citizens. The issue that draws so much of Beck's attention is the fact that these threats are not hidden behind a veil of ignorance, but are recognised explicitly as a potential danger to the way in which life is currently lived. Their manifestation as an actual danger can never be guaranteed and, as such, it is impossible to predict the time at which they will undermine the conditions of social existence. Yet, their potential to disrupt everyday life is readily acknowledged.

Beck spends most of his time discussing ecological concerns: from the effects of global warming and the over-farming of scarce arable land to accidents at nuclear power plants and the use of hazardous pesticides in modern farming methods (Beck 1992: 51–90). All such risks are demonstrably threats to the way of life in advanced industrialised countries, but nobody can be certain precisely who will be affected by them when they finally strike, nor by extension what the current social distribution of risk is. In this respect, Beck's work very much mirrors that of Anthony Giddens, in particular in its focus on the fear of the unknown. Giddens writes of the fundamental human desire for 'ontological security', or the comfort of knowing that the world will unfold in a largely predictable manner (Giddens 1991: 7–10). It is precisely this feeling of certainty that members of Beck's risk society are denied: he writes tellingly of a "commonality of anxiety" within the risk society (Beck 1992: 49).

The coping mechanisms which advanced industrialised societies have created in order to provide ontological security for their citizens have focused on the development of the welfare state. However, such developments were specific to the immediate post-war world, reflecting the aspirations of people in that period and responding directly to the issues that loomed largest in their lives. In general, the development of the welfare state entailed a political commitment to an increasing array of social insurance schemes, including measures to offset the effects on the earnings potential of the individual of sickness, disability, unemploy-

ment, old age and poverty (e.g., Goodin and Le Grand 1987; Pierson 1991; Huber and Stephens 2001).

Welfare state provision was thus primarily oriented towards ameliorating the effects of uncertainty with respect to labour market participation, on the assumption that publicly organised compensation for economic misfortune was a social right of citizenship. Beck suggests that these were the predominant threats to the individual which arose from life lived within an industrial society (Beck 1992: 139–54), where what it meant to belong was tied to being an active member of the labour force and being free to enjoy the material benefits which derive from paid work. For Beck, then, the welfare state is a manifestation of industrial society and retains its social coherence only within the context of that society.

This is the crux of the matter, because the subsequent emergence of risks of a qualitatively novel character has increasingly evaded the coping capacity of the protective institutions of the welfare state. The welfare state turns the individual into a bearer of rights (*ibid.*: 75), but such rights are of limited consequence in the face of the new forms of risk which afflict society. Asserting the right to social insurance makes sense when confronted with fairly reliable knowledge about the probability of adverse labour market trends, and it is likely to lead to the desired response. In this way, the knowledge of being insured against adverse labour market trends reduces the risks associated with the likelihood of experiencing unemployment. Yet, the same approach is likely to be inconsequential when confronted with the effects of the new type of risks that Beck describes: the risks associated with uncontrolled greenhouse gas emissions, for instance, or the poisoning of drinking water supplies by industrial chemicals. Nor is it likely to serve much purpose when confronted with disruption to the pricing structure of particular asset markets.

Asserting the right to be covered against the threat of an ecological or a financial event will not provide the individual with the required level of ontological security. In the first place, it is not altogether clear what form such rights would take, let alone against who they should be claimed. In addition, the identification of victims is much more complicated in Beck's risk society than it is in the industrial society. It may well be that the welfare state can provide a system of social compensation for unemployment, and this is due in large part to the fact that the financial burden of unemployment falls so obviously, in the first instance, on the unemployed themselves. It is therefore straightforward to decide who to compensate and how to design a functioning system of

social insurance. By contrast, the victim of an ecological or a financial event might carry around the consequences of that event for a long time without being aware that they are doing so. An ecological event may have implications for future health, and a financial event may have implications for future life chances, but those implications could very well remain latent for an extended period of time. Indeed, there is an important inter-generational dimension to such implications, so the full complement of victims of a risk society event are unlikely to have been born at the time of the event itself.

Moreover, even if there were no problems in identifying who to compensate for a risk society event, the level of demand for compensation would surely overwhelm public finances. For a variety of political and contextual reasons, governments in recent times have found it increasingly difficult to sustain the current level of claims made against the welfare state (e.g., Pierson 1998; Swank 1998; Stephens, Huber and Ray 1999). As such, it is hard to envisage the scope of the welfare state being extended in order to insure the whole of society against the risks implicit in an ecological or a financial event. The very logic on which the welfare state functions is that it offers protection against adverse economic experiences which at any one moment of time will only ever afflict a minority within society. The economic effects for the individual of unemployment can only be offset by welfare state interventions so long as they remain a minority experience.

Of course, there have been important historical divergences in the development of individual national welfare state regimes: put simply, there are different types of welfare state (e.g., Esping-Andersen 1990). Labour market policy differs across these cases and, where labour market policy is combined with payments to protect the basis of family life, the recipients of welfare state interventions may turn from the minority to the majority. But across all of these cases the common assumption holds that the manifestation of unemployment risk will be restricted to the minority at any given moment of time. However, the risks of which Beck writes (1999: 76) are potentially less discriminating with respect to who they affect: to insure one person against them is to recognise the need to insure everyone. The risk society, then, exposes both the qualitative and the quantitative limits of the welfare state.

This is not to say that all threats to the reproduction of everyday life are left uncovered within a risk society. The management of such risks has become a lucrative source of business for the private sector, and a whole range of private markets now exist to allow suitably wealthy individuals to purchase for themselves some degree of ontological security.

Activity on private insurance markets represents an obvious attempt to counteract the unsettling effects of ontological insecurity. It is within this process that the risk society superimposes itself upon the class positions of industrial society: the greater the individual's command of resources, the higher the level of ontological security that can be bought. In other words, some are more able than others to provide for themselves a degree of social space which is free of risk society concerns. Those in the lowest class positions typically have to accept the highest exposure to uncovered risks. Looking specifically at Beck's concerns, their living environment is likely to be concentrated in those areas which are subjected to the worst ecological stresses (Harvey 1994); the foodstuffs they buy are likely to have been mass produced and, as a consequence, contain high levels of potentially harmful chemical agents (Whatmore 1995); and their disposable income is likely to depend, at least in part, on the social benefits whose basic rationale the transition to a risk society does so much to undermine (Jones and Novak 1999). But to what extent do financial events follow ecological events in superimposing the divisions of risk society on the existing class divisions of industrial society?

The first thing to note in this respect is that financial risks do not solely flow down social gradients so that there is a perfect inverse relationship between the distribution of risk and the distribution of wealth. This is for the fairly straightforward reason that it is those with the most money who hold the highest number of investments on financial markets. Those who are otherwise most advantaged by societal stratification consequently have the greatest exposure to the depreciation risk embodied as a feature of all financial assets. It is unusual for poorer members of society to have much by way of savings at all, let alone to direct those savings towards anything other than simple interest-bearing bank accounts.

None of this means, however, that poorer members of society are in any sense sheltered by their poverty from the effects of distressed financial markets. If we think specifically of the contamination risk that emanates from the markets and spreads within society, then this tends to fall disproportionately on the poor. Those who occupy the lower class strata bear the brunt of governments' usual decision to respond to acute financial pressure by defending the position of creditor communities. They pay for this decision in terms of both increased household debt burdens and the knock-on labour market effects of increased corporate debt burdens. The poor tend to be concentrated in the unprotected sectors of the labour market (Harrod 1987; Sassen 2000; Davies and

Ryner 2006), which leaves them particularly vulnerable to corporate restructuring plans in the face of a tightened credit market. The propagation of financial distress into society typically deprives the economy of large numbers of jobs which are usually filled by those in lower class positions. The professional classes survive moments of financial distress with their employment status intact much more readily than do the manual labouring classes. Looking at the economy as a whole, the latter's jobs are almost always the first to go.

Yet, this does not signify, on its own, that recent manifestations of financial risk mean that we have witnessed the transformation of the industrial society into the risk society. The labour market effects of disturbances to the pricing mechanisms of financial markets have always followed the existing stratification of society in their distribution. This was as true during the 'golden age' of the welfare state as it is today. Following Beck's original formulation, to talk plausibly about the recent constitution of a financial risk society requires a qualitative shift in the nature of financial risks. I use the next section to assess the extent to which such a shift has occurred.

### **The preconditions of a financial risk society**

One important difference between the industrial society and the risk society relates to the effectiveness of public policy. As Peter Taylor-Gooby suggests (2000: 1), public policy is society's "collective response to risk". Throughout the golden age of welfare state expansion, public policy in advanced industrialised countries was oriented towards the provision of increasingly comprehensive public protection against the economic risks that individuals might be forced to accept through no fault of their own (Esping-Andersen 1996; Castles 2004; Sodersten 2004). Provided that the number who required protection at any moment of time was not sufficiently high as to overwhelm the fiscal basis of the welfare state, the coping mechanisms designed by the industrial society were able to withstand the pressures exerted by the financial risks which were created within the more tightly regulated market environment of the Bretton Woods era.

However, the changes which have recently occurred within the international financial environment have imposed pressures of a new nature and to an unprecedented extent. In themselves, they have figured prominently in the increasing perception that the golden age of the welfare state is now over. That perception is given credence in the first instance due to the huge increase in the market value of tradeable assets

and the consequent inability of governments to act as effective regulators of financial activity. The daily turnover on the world's financial markets has recently skyrocketed to such a degree that it dwarfs the value of all other economic activity by a multiple which will soon exceed one hundred. John Maynard Keynes wrote grimly of the implications of such a situation in the 1930s: "Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation" (Keynes 1997 [1936]: 159). The imbalance between the productive and the financial sectors of the world economy today stands as confirmation of the significance of Keynes's words.

Two points follow in relation to the prior discussion. First, the massive increase in trading volumes on financial markets in recent years is likely to have created a critical mass of financial risks which outgrow the protective capacity of the coping mechanisms developed by industrial society. This likelihood is enhanced still further by the fact that the increase in turnover has been accompanied by a similarly sized increase in the price volatility of financial assets (e.g., Ngama 1994: 493–4; Ghosh 1995: 119; Frankel 1996: 51–2; Harvey 1999: 208).

Second, we are not only talking here about an increase in risks of the same type and the same magnitude as those created by patterns of financial trading during the heyday of the welfare state. The massive increase in the traded volume of financial assets has resulted from a period of intense market innovation, in which the development of new financial instruments has followed deliberate attempts to cash-in on the creation of new financial risks. Many of the risks which are spread into society from the market environment are therefore tied to the commercial opportunities embedded in moments of market innovation (Tickell 2000: 91). In terms of magnitude, they are also out of all proportion to the financial risks which flowed into society during the period of more closely regulated financial activity (e.g., Crotty and Epstein 1996: 142; Eichengreen and Wyplosz 1996: 33–4). In such circumstances of spiralling financial risks and an associated increase in the demands for public insurance against those risks, it is hardly surprising that some have found themselves able to speak of a fiscal crisis of the state (O'Connor 2000).

The increasing magnitude of financial risk which confronts modern life does not in and of itself confirm the transition from industrial society to Beck's risk society. If this change has indeed occurred in relation to the financial economy, then it is as the result of the predominance of a new generic *type* of financial risk. This is the speculation risk

that is deliberately engineered to help sustain the recent increase in the traded volume of financial assets. In four discrete ways, it is a qualitatively different risk to that which dominated the financial economy of the golden age of welfare state expansion.

(1) It is different in terms of the timing of its manifestation. Speculative dynamics during the golden age took time to take effect, and the manifestation of financial risk inherent in speculative dynamics could often be ameliorated by successful preemptive public policy interventions. Under the Bretton Woods system of fixed but adjustable exchange rates, for instance, a large devaluation of the domestic currency had to be actively negotiated, often stretching out over an extended period of time. This enabled both creditors and debtors to sell off remaining holdings of assets denominated in that currency, most likely in open market operations conducted with the relevant national monetary authorities. In turn, this prevented creditors from taking the full hit of the devaluation and stopped them from feeling the need to lobby quite so aggressively for their interests to be defended by the increasing constitutionalisation of monetary orthodoxy.

Now, by contrast, the full effects of price volatility on financial markets is usually made manifest in no more than a matter of hours, sometimes over a matter of days, and hardly ever over a matter of weeks as in the Bretton Woods era. As a consequence, it is now so much easier to be caught on the wrong side of a change in the market's underlying price structure (e.g., Budd 1999). The Bretton Woods system used formal controls on the liquidation of existing positions to act as an institutionalised set of firebreakers, which were designed to slow the speed at which financial risks were exposed. The result was significant room for manoeuvre on issues of macroeconomic policy coordination, intended to avoid the situation in which debts were multiplied simply due to adverse policy alignments across states (e.g., Webb 1995; Best 2005). However, capital controls are now considered antithetical to the needs of a highly liberalised financial environment, but they expose both creditors and debtors to the effects of financial instability and make creditors' interests more important to the conduct of macroeconomic policy.

(2) The dominant form of financial risk is different today in its potential to cascade related risks through the financial system as a whole. The financial markets of the golden age were largely independent of one another, as they were constituted as specialist markets with discrete communities of buyers and sellers. One asset traded on each market and, whilst momentum trading and confidence surges could often create the

impression that these assets were somehow linked, their economic structures were entirely autonomous. This is no longer the case. It is as if the process of financial innovation has filled in the holes between different financial markets.

The recent period of intense innovation has created many new instruments which are deliberately designed to mimic the properties of other assets. As a consequence, interlinked trading between primary and secondary markets in the same assets has become the norm. Moreover, the proliferation of secondary markets has had the effect of making price movements on the primary markets of different assets react more to one another than ever before. For instance, the currency and stock markets, once so distinct, are now linked by any number of different derivative markets in currency-tracked stock and stock index options, warrants and swaps. This heightens the sensitivity of all markets to price disturbances which originate elsewhere, hence allowing risks to jump from one financial market to another. The more 'complete' the market basis of the financial environment – i.e., the fewer holes there are between individual markets – the greater the propensity for speculation risks to cascade through the system as a whole and to be made manifest as other forms of financial risk.

(3) The dominant form of financial risk is different today due to the changing social structure of asset-holding in contemporary society. Within the industrial society, disposable income was tied pretty much exclusively to the monetary rewards from paid work. In such a society, it was fairly straightforward to establish publicly sponsored coping mechanisms in order to compensate individuals for whom the monetary rewards to paid work were insufficient to sustain a standard of living deemed the minimum acceptable to a particular country. Within advanced industrialised countries today, however, the disposable income of ever greater sections of the population now comes from a combination of the monetary rewards from paid work and the returns to financial market investments. For this reason, the risk that arises from the high volumes of trade in new financial instruments cannot be contained within the financial economy alone. Instability in the pricing structure of financial markets must necessarily have a knock-on effect on levels of activity within the productive economy, via the ensuing reduction in personal disposable income. The social structure of asset-holding within contemporary society therefore allows financial risks to transmute into other forms of economic risk.

Modern financial risks consequently have a systemic as well as a cumulative dimension, and it is speculative activity on derivative

markets in particular which acts as the transmission mechanism in this respect. Access to derivative markets is strictly limited: they are the specialist domains of the traders who work for highly capitalised investment houses and, as such, they operate at arms' length from society. But this does not mean that they have no impact upon society. The open embrace of speculation risk by traders acting on these markets subsequently touches down in society through the way in which the ensuing volatility in financial prices disrupts producers' investment plans.

(4) The dominant form of financial risk is different today due to the legitimisation structure in which it is situated. Beck notes the tendency for risks to be explained away through appeal to an authoritative scientific rationality (1999: 109), and new financial risks are little different in this respect. Here, it is modern economic theory which poses as the ostensibly authoritative scientific worldview (e.g., Maurer 2002; de Goede 2004). Contemporary finance theory is rooted in the more general economics of the efficient markets hypothesis (see Chapter 3). According to the theory, there is no need to control speculation, because it is speculative activity which enforces the otherwise latent tendency towards efficient outcomes.

The most important argument in this respect is that of Milton Friedman (1953), although it was many years after its publication before it became the generally accepted position. He said that speculation could not be destabilising in a market environment, because destabilising speculators would have to buy at a price above the market rate and sell below it. Clearly, such trading strategies would be permanent money losers, so the market environment would necessarily weed out destabilising speculators. The only speculative activity the market environment will tolerate is that from traders who are able to profit from discrepancies between buying and selling prices which work in their favour. This is the route to the discovery of efficient prices, so Friedman argued, and it should be encouraged on these grounds alone. This is very different to the general state of economic theory in the golden age. On questions related to finance, the underlying orientation of theory tended to follow Keynes's assertion that the socially regressive impact of speculation made necessary the state-sponsored "euthanasia of the rentier" (Keynes 1997 [1936]: 376).

To briefly sum up, then, and as shown in Table 1.2 on p. 33, modern financial risks have four dimensions which suggest that they are qualitatively distinct from what has gone before: they are increasingly quick in their transmission; they have a high capacity for cross-contaminating more than one financial market at any one time; they provide a

**Table 1.2** Towards a Financial Risk Society

	<i>Dimension 1</i>	<i>Dimension 2</i>	<i>Dimension 3</i>	<i>Dimension 4</i>
<b>Description of the Dimensions of New Financial Risks</b>	Dimension 1 arises from the shortened timeframe over which new financial risks are made manifest as crises.	Dimension 2 arises from the enhanced potential for cross-contamination of individual financial markets.	Dimension 3 arises from the heightened potential for the financial economy to disrupt the productive economy.	Dimension 4 arises from the legitimization structure which modern economic theory provides for the current financial system.
<b>Nature of the New Financial Risks</b>	New financial risks have an ever smaller incubation time, making it very difficult to know how to be insured against them. Risks have an increasing element of surprise, as they can now go from latent to manifest in a very short space of time.	New financial risks have an unprecedented ability to jump from the pricing structure of one asset market to the pricing structure of another. Financial risks are therefore much more difficult to contain within a single market.	New financial risks are more likely than ever before to escape the bounds of the financial system and to impact adversely on production. Financial risks are therefore much more difficult to contain within the financial system.	New financial risks are disguised by the fact that finance theory is constructed on the basis of the efficient markets hypothesis. This translates, usually explicitly, into support for a highly liberalised financial system.
<b>Cause of Change in the Underlying Nature of Financial Risks</b>	Many governments have chosen to pursue an aggressive relaxation of the preceding system of formal capital controls. Moreover, where governments have been reluctant to follow this policy on their own initiative, the IMF has often gone over their heads to enforce it anyway.	In general, governments have adopted a highly permissive attitude to the question of financial innovation. This has enabled markets to be established in derivative instruments which provide an economic link between what were previously separate financial markets.	Governments have encouraged individuals to rely less on the state and more on private markets to provide them with social insurance. This has tied consumption demand increasingly to the success of financial investments, establishing an economic link between the financial and productive systems.	The economics profession has, in general, distanced itself from the scepticism of market outcomes which dominated the finance theory of the Keynesian era. In its place has flourished an increasingly unquestionable commitment to the tenets of macroeconomic and monetary orthodoxy.

**Table 1.2** Towards a Financial Risk Society – *continued*

	<i>Dimension 1</i>	<i>Dimension 2</i>	<i>Dimension 3</i>	<i>Dimension 4</i>
<b>Potential Outcome of Changes in the Underlying Nature of Financial Risks</b>	Governments' ability to stave off moments of financial crisis has been dramatically reduced. The increasingly small incubation period for financial risks makes it almost impossible for governments to preempt crises through ameliorative policy interventions.	Traders' ability to project instability into many markets on the basis of a single trade has increased significantly. As such, there is now a greater likelihood of a crisis in the market for one asset becoming a systemic financial crisis.	The productive economy has become increasingly dependent upon the flow of capital from the credit economy. As such, there is now a greater likelihood of a crisis in financial markets becoming a systemic economic crisis, as a credit squeeze undermines production.	It has become increasingly difficult in the face of contrary academic economic opinion to link financial crises directly to the operating logic of the prevailing market system. Instead, they tend to be explained away in terms of acts of individual 'irrationality' and/or criminality.
<b>Link Between New Financial Risks and Changes in Capital Mobility Options</b>	The compressed timeframe over which financial risks are now made manifest results particularly from recent increases in the spatial mobility of capital.	The enhanced potential for cross-contamination of financial markets and a systemic financial crisis results almost exclusively from recent increases in the functional mobility of capital.	The heightened potential for the financial economy to disrupt the productive economy results from the combination of recent increases in both the spatial and the functional mobility of capital.	There is no direct link between the legitimation structure for the current financial system and decisions to increase both the spatial and the functional mobility of capital. However, it is interesting to note that the efficient markets hypothesis treats as an axiomatic assumption the existence of perfect capital mobility.

mechanism through which the productive economy is undermined by the financial economy; and they are partially disguised by a legitimating discourse which takes the form of an ostensibly scientific structure. It is these aspects of modern financial risks, rather than their sheer size, which suggests that there is much in Beck's notion of a transition from industrial society to risk society when studying the effects of modern financial trading.

Today's new financial risks are generally the product of attempts to cash-in on speculative opportunities which are deliberately created and which serve no purpose other than to allow those who are on the right side of a speculative price movement to benefit at the expense of those who are not. The fact that such risks are allowed to exist in the first place is testament to the extent to which contemporary society is controlled by a commercial rationality, whereby the instinct is to commodify everything if at all possible, including financial risk.

## **Conclusion**

The depiction of the new financial risks outlined above immediately prompts the questions not only of why a system which creates those risks should be encouraged to expand but also of why it should be tolerated in the first place. It is impossible to envision a commercially-based financial system that is totally devoid of risk. However, Beck's theory of risk society identifies a stage of modernity in which economic progress both confronts and subverts the process of human development (Lash and Wynne 1992: 2). This is a stage that we have almost certainly reached today with respect to the creation of a financial system which has facilitated a rapid increase in both the spatial and the functional mobility of capital. The risks that are sustained by these increases are of a qualitatively different nature to those with which the protective mechanisms of the welfare state can cope. If this creates the image of a financial system that feeds upon the social vulnerability which it creates, then this is perhaps not too much of an exaggeration of the situation in which we find ourselves today. Much, then, is at stake when it comes to ensuring that the multiple ways in which capital can be mobile are adequately theorised, because it is recent increases in the spatial and the functional mobility of capital which have turned moments of distress in the pricing structure of asset markets into risk society events.

On the one hand, increases in the spatial mobility of capital, as evidenced by the relaxation of formal controls on the cross-border

movement of assets, remove the institutionalised impediments which slowed the speed at which financial risks were exposed. The greater ease with which investments can now be exited lessens the time it takes for financial risks to manifest themselves in practice, and it also restricts the capacity of national monetary authorities to use preemptive public policy in order to negate their effects. On the other hand, increases in the functional mobility of capital, as evidenced by recent periods of intense innovation in the design of new financial instruments, create multiple links between different asset markets and allow risks to flow between them. The greater ease with which asset price movements can be caused by trading in related derivative instruments provides a context in which financial risks can become self-reproducing and cascade through the system. Viewed as a whole, what emerges is a context of systematic risk enhancement. In order to learn more about the basis of these new financial risks, in the following chapter I turn to explore in greater depth the conceptual distinction between the spatial and the functional mobility of capital.

# 2

## Spatial Versus Functional Mobility of Capital: A Framework for Analysis

### Introduction

The risk society perspective on international financial markets outlined in the previous chapter takes a number of initial steps in emphasising why it is important to recognise that capital can be mobile in two distinct ways. What is needed now is more detailed examination of the analytical distinction between the spatial and the functional mobility of capital. In order to deepen the abstract nature of this distinction but also to render it more concrete, this chapter proceeds in five stages. Taken together, they establish the foundations of the intellectual framework that will be deployed throughout the remainder of the book.

In section one, I draw out further the basic conceptual distinction between the spatial and the functional mobility of capital. Four sections then follow which apply that distinction to the two markets around which the more substantive elements of the book are oriented: the foreign exchange market and the stock market. Sections two and three focus on the foreign exchange market, and they provide a context for understanding the case studies in Chapters 5 and 6 which relate specifically to that market. Section two asks how changes in capital's spatial mobility have impacted upon the structure of the foreign exchange market, whilst section three asks how changes in capital's functional mobility have impacted upon the structure of the foreign exchange market. Sections four and five focus on the stock market, and they provide a context for understanding the case studies in Chapters 7 and 8 which relate specifically to that market. Section four asks how changes in capital's spatial mobility have impacted upon the structure of the stock market, whilst section five asks how changes in capital's functional mobility have impacted upon the stock market.

## Disaggregating the concept of capital mobility

The most famous economic test of the degree of national capital market integration appeared in a 1980 paper by Martin Feldstein and Charles Horioka. They set themselves the task of showing how the relaxation of capital controls in the early years of the post-Bretton Woods era had led to conditions of capital mobility that were consistent with the increasing interdependence of national economies. In order to construct such a test, they chose to regress the rate of domestic savings onto the rate of domestic investment.

The rationale for so doing was reasonably straightforward. The preceding period of extensive capital controls meant that domestic investment had to be financed primarily through domestic savings, because there were limited opportunities for savings to cross borders to fund overseas investment. By contrast, a world of perfect capital mobility would see the relationship between domestic savings and domestic investment disappear entirely, as investors would not be restricted to a pool of domestic savings when attempting to finance their new ventures. Feldstein and Horioka did not expect for the evidence to reveal that the correlation between domestic savings and domestic investment no longer held at any level, given how demanding the standard of perfect capital mobility is. But they did expect to see a weakening correlation between domestic savings and domestic investment, as this would have been consistent with increasingly integrated national economies. In fact, though, they found that neither the strength nor the statistical significance of that correlation had been diminished by the relaxation of capital controls in the mid-1970s (1980: 321). The deliberate encouragement of cross-border investment activity through eased restrictions on capital mobility thus did not seem to have an obvious impact on actual investment practices. This meant that investors must have been consciously shunning potentially more lucrative investments overseas in order to keep their savings at home.

For fairly obvious reasons, this conclusion came to be known in the economics literature as the 'Feldstein-Horioka puzzle'. The issue that caused most concern to other economists was that Feldstein and Horioka's conclusions appeared to contradict basic economic logic by implying that the liberalisation of the financial environment had almost no effect on the mobility of capital. They have understandably been described as "baffling" for the economics profession (Dornbusch 1991: 220; Sarno and Taylor 1998: 17), to the extent that they "upset" conventional economic wisdom about the way in which markets work

(Frankel 1991: 227). A number of follow-up studies have been conducted, in order to determine whether the anomalous nature of Feldstein and Horioka's conclusion was simply the product of a similarly anomalous data set.

However, the fact of continuing high national savings/investment correlations has been "confirmed by many subsequent studies" (Dooley, Frankel and Mathieson 1987: 503). Such correlations have been described as being both "remarkably consistent" (Glick and Rogoff 1995: 159) and "extremely robust" (Baxter and Crucini 1993: 417; Sarno and Taylor 1998: 20). It is only possible to demonstrate a weakening of national savings/investment correlations using the Feldstein-Horioka methodology when making the interpretation of the tests less exacting (Feldstein and Bacchetta 1991: 206). Even here, though, studies which can be made to show higher levels of capital mobility in the post-Bretton Woods era also show almost the same levels of capital mobility in the Bretton Woods era (e.g., Hoffmann 1998: 24). As such, the crux of the Feldstein-Horioka puzzle remains intact, because financial liberalisation is still not associated with a noticeable increase in capital mobility.

Interventions into the economics literature on the Feldstein-Horioka puzzle have tended to concentrate on whether Feldstein and Horioka worked to such an exacting definition of capital mobility that they in effect negated the possibility of ever 'discovering' significant instances of market interdependence (Watson 2001a: 84–5). My concern here is instead to question whether their underlying conception of capital mobility is appropriate. Two points concerning the meaningfulness of savings/investment correlations as a measure of capital mobility might usefully be made.

(1) Feldstein and Horioka's conception of capital mobility (1980: 314–7) applies to an economic system in which there is a closely integrated relationship between the financial economy and the productive economy. In this respect, capital is to be considered mobile only in circumstances in which the full circuit of capital is completed and cash-based assets are turned into new productive capacity. This is the logic of regressing the rate of domestic savings (or money capital operating within financial sectors) onto the rate of domestic investment (or physical capital operating within productive sectors). However, such has been the pace of financial innovation since the mid-1970s, allied now to the further relaxation of capital controls, that it is no longer necessary to allow savings to be directed towards the productive economy for them to secure returns in excess of simple interest-bearing bank accounts. As

Kurt Hübner puts it (1991: 59), the markets on which new financial instruments trade have become “a genuine realm for the valorisation of capital”. In other words, for an ever greater proportion of activity within financial sectors, the full circuit of capital has increasingly been concentrated solely within the financial markets themselves.

Given these conditions, capital is held for ever longer periods of time as a financial asset, although trading takes place between different types of financial asset at various stages in the circuit of capital. Capital therefore no longer needs to be transposed into investments in the productive economy before it can be considered mobile. However, the Feldstein-Horioka approach simply cannot register any instance of capital mobility which occurs exclusively within the financial economy. As such, it fails to recognise all aspects of capital mobility which involve trading between different types of financial asset.

(2) Feldstein and Horioka’s conception of capital mobility applies to the physical migration of savings in the search for the most favourable investment conditions in the productive economy. It therefore relates to a one-off decision to turn cash savings into new productive capacity. By contrast, my explicitly economic conception of capital mobility outlined in the Introduction is both more general and more dynamic than that.

On the one hand, it is more general in the sense that the Feldstein-Horioka approach captures a special case, albeit one that is also inattentive to other instances of capital mobility which take a different form. My preference is to treat capital mobility more generically as any instance in which a related pair of actions can be observed: an investment is initially liquidated in one form and then the capital released in this way is subsequently redeployed to finance a different investment. Feldstein and Horioka’s example clearly meets this standard, in that a cash-based investment position is liquidated for the specific purpose of taking an alternative investment position in the productive economy. Yet, this does not exhaust all the ways in which capital can be considered mobile. Much of the activity on international financial markets now revolves around investors selling off their holdings of one type of financial asset in order to rebalance their investment portfolios by buying holdings of another type of financial asset (e.g., Jacobs 1999: 19–33). This is every bit as much an instance of capital mobility as the Feldstein-Horioka example, as one investment position is liquidated to prepare the way for taking an alternative investment position. The conception of capital mobility must therefore be sufficiently general so as not to discriminate between these two different cases.

On the other hand, it must also be sufficiently dynamic to capture the reality of modern financial conditions. The decision to allow savings to be directed towards investments in new productive capacity tends to be a one-off decision. At the very least, it will lock-in the capital to the productive investment for a specified period of time, making it difficult for investors to divest their positions in the short term without being penalised for doing so. Once again, however, we must not make the mistake of thinking that this exhausts all the ways in which capital can be considered mobile. The constant rebalancing of portfolios takes place over increasingly short time horizons, such that trading between different types of financial asset is anything other than a one-off event. Such is the intensity with which this trading takes place that many economists now model this sort of behaviour using the assumption of 'continuous time' (e.g., Merton 1973).

Hopefully, it is clear that both of these points relate to the need to conceptualise capital mobility in terms of both its spatial and its functional dimensions. Much has changed in the overall configuration of capital mobility since Feldstein and Horioka first conducted their test, but most of these changes would not be picked up by their test. One aspect of these changes relates to the process of financial liberalisation and the other relates to the process of financial innovation. In general, financial liberalisation influences the spatial mobility of capital and financial innovation influences the functional mobility of capital.

Starting with the process of financial liberalisation, the important point to highlight in this respect is the relationship between transactions costs and the decision to rebalance the internal composition of an investment portfolio. The existence of transactions costs acts as an incentive to maintain current holdings, insofar as they make it more expensive to exit one position in order to enter another than to leave existing positions unchanged. The dynamics of rebalancing portfolios leads investors to incur two sets of transactions costs, one from selling the original holdings and another from buying the new holdings, whereas leaving portfolios as they are incurs none. Transactions costs therefore constitute an impediment to capital mobility, so any reduction in transactions costs is likely to increase investors' willingness to overhaul their current holdings on an increasingly frequent basis.

Transactions costs typically come in one of two forms, but financial liberalisation has a direct impact on only one of them. Perhaps most obviously, there are transactions costs associated with formal capital controls. Since the collapse of the Bretton Woods system of fixed but adjustable exchange rates, many of the formal controls on capital

mobility have been eliminated (see Chapter 4). Such controls came in many forms: from taxes on the domestic stock of foreign assets to taxes on capital outflows, the requirement to match all capital inflows with a non-interest bearing deposit with the central bank, and a variable capital gains tax that was levied at a higher rate for returns generated on overseas holdings (Spahn 1996: 25–6). However, they all shared the same basic rationale, which was to ensure that as much financial activity as possible was focused exclusively on the domestic market (Davidson 2004: 26–7).

It is in this sense that John Gerard Ruggie (1982) was able to talk about the ‘embedded liberal’ compromise of the Bretton Woods era. Money was commodified and capital flows were determined by a commercial rationality rather than by state decree (the ‘liberal’ element of embedded liberalism), yet at the same time such flows were positively discouraged from exiting the domestic market by a whole range of market-based incentives (the ‘embedded’ element of embedded liberalism). The financial liberalisation of recent times acts most clearly to restrict the impact of formal capital controls (e.g., Weber 1996). Modern-day market-based incentives are less obviously discriminating between the domestic and the overseas markets, which brings an additional number of cross-border investment opportunities into the calculations of investors (e.g., Webb 1995). In this way, financial liberalisation increases the likelihood that capital will be spatially mobile. The less extensive the structure of formal capital controls, the less difference it makes to the cost of a transaction whether it is conducted in one national market or another.

However, this does not mean that financial liberalisation has eliminated all market-based incentives for investors to favour their home markets. This may be so in relation to many previously operative formal capital controls, but substantial transactions costs are typically still in evidence at the point at which trades are conducted. For instance, exchanges only allow licensed traders to operate on their markets, and these licences often sell for significant sums of money. Even then, once a place on the exchange has been purchased, traders face additional transactions costs every time they want to take a new position on the market. Any deal to buy or sell exchange-traded financial instruments requires that the deal passes through the exchange’s clearing and settlement system, and a fee is levied for being allowed access to that system. In general, transactions costs are higher for cross-border trades which connect multiple exchanges than they are for trades that are conducted through a single exchange (Bayoumi 1997: 13–17). This is usually a deliberate strategy on the part of exchange managers, who

attempt to structure their user fees in such a way as to encourage trading activities to remain 'in-house' (see Chapter 8). Hence, the process of financial liberalisation alone cannot remove all market-based impediments to the spatial mobility of capital.

By contrast, the impact of financial innovation on the functional mobility of capital is much more clear-cut. It is difficult to emphasise strongly enough just how many new tradeable financial instruments have been introduced since the mid-1970s (e.g., Miller 1986; Cavalla 1993; Dunbar 2000). In almost all cases, these are derivative instruments which are structured to reflect the composition of the underlying asset: options, swaps or warrants, for instance, on currencies, stocks or bonds. The Bank for International Settlements defines a derivative as "a contract whose value depends on the price of underlying assets, but which does not require any investment of principal in those assets" (BIS 1995: 6). Given that there is no requirement to transfer ownership of the underlying asset to settle most outstanding derivative positions, the term structures and the risk/return ratios of derivative instruments can be made to vary in a multitude of different ways (Chew 1996: 29). Investors can therefore choose one amongst an array of possible instruments, solely on the proviso that it best serves their individual investment needs (Carlton 1984: 254). Investors have been quick to adapt to the availability of these new instruments, and the amount of money invested in them now dwarfs the amount of money invested in the underlying asset (Cerny 2005: 44). In this way, innovation has been responsible for an exponential increase in the functional mobility of capital.

There are two main ways in which to diversify an investment portfolio in order to include holdings of derivative instruments within it. Such instruments can be purchased in either exchange-traded or over-the-counter forms. The existence of exchange-traded instruments gives investors the peace of mind to know that they are dealing with a reputable counterparty, because the exchange acts as a linked counterparty to match those who wish to buy with those who wish to sell (Steinherr 2000: 189). However, investing in exchange-traded derivatives requires that investors conduct the deal via the exchange's clearing and settlement system. This means that they also incur the transactions costs associated with the fees imposed by the clearing and settlement house.

Perhaps for this very reason, the vast majority of derivative instruments are now bought in over-the-counter deals. Around 80% of the notional value of outstanding derivative contracts is accounted for by the over-the-counter market (Ben-Ami 2001: 90–1). Here, two consenting parties negotiate the deal between themselves, without the institutional

backing of the exchange to ensure that the contract is honoured. This increases the potential for one party to default when the time comes for the contract to be settled. But it also eliminates at a stroke the transactions costs associated with purchasing derivative instruments on an exchange. Over-the-counter derivative markets have been allowed to develop in a self-regulating environment (Lowenstein 2005: 63–4), and the structure of those markets therefore removes many of the transactions costs associated with external regulation.

Innovation has heightened the overall level of activity on financial markets because it has increased the opportunities to engage in the two dominant financial market trading strategies: hedging and speculation. By enhancing the functional mobility of capital, innovation allows investors to hedge the depreciation risk associated with holding assets whose price is known to be volatile. For instance, if a company is expecting payment in an overseas currency in six months' time for an order that is delivered today, it will want to be sure that the price it is paid will not have been devalued by a depreciation in that currency during the intervening six-month period. It can provide that certainty for itself by investing in a forward contract consisting of derivative instruments which lock-in the lowest possible price it will receive for that currency. If it purchases a currency option that guarantees the lowest acceptable price, then it will exercise that option only if, on payment day, the currency is trading below that level on the spot market. However, if the currency has defied expectations and appreciated over the preceding six months, the option will not be exercised and the company will receive payment at the spot market rate. Either way, it will have successfully hedged the currency depreciation risk.

In addition, increases in the functional mobility of capital have also facilitated new speculative activities. For instance, if investors expect prevailing macroeconomic conditions to lead to an interest rate rise, they can attempt to multiply the gains that they will make on the government bonds they hold by buying particular stock index futures. By buying stock index futures at a price which is below the current level of the index, they are betting on creating the expectation that the overall market index will fall. If falling prices subsequently fail to materialise, then the futures contracts will be 'out of the money' and the investors will incur losses on the risks that they have deliberately engineered. However, if they do materialise, then investors can cash-in twice over on their speculative position. First, their futures contracts will be 'in the money'. Second, a falling stock market index is likely to lead other investors to liquidate their holdings on that market in preference

for assets with a lower depreciation risk. This will tend to increase the demand for government bonds, whereupon the investors holding those bonds will gain from their subsequent increase in price.

As with innovation, liberalisation has also increased the opportunities to engage in both hedging and speculation. Insofar as liberalisation enhances the spatial mobility of capital, it allows for investment portfolios to be diversified by holding the same category of asset in different national markets. For instance, if investors expect a country-specific monetary shock to affect the level of that country's stock market index, they are likely to be exposed to the depreciation risk intrinsic in all of that country's stocks they own. However, they can hedge some of the depreciation risk associated with their overall portfolio by diversifying their stock holdings away from the country in question. This requires that they liquidate many of their stock holdings in the affected country in order to purchase new stock holdings in other countries. Increases in the spatial mobility of capital therefore allow investment portfolios to be at least partially immunised against country-specific shocks.

Of course, they also allow investors much easier access to national markets where price movements conform to a readily identifiable trend. As such, they also add an extra spur to the trend-following behaviour that defines speculative trading activities. For instance, if the currency of a particular country comes under speculative pressure to such an extent that there are few signs of commercial buyers, speculators can attempt to offload their remaining holdings of that currency onto the market. So long as the central bank remains active in buying the currency for a while, investors will cash-in on their speculative cross-border trade. By continuing to offload their currency holdings, they make it more likely that the central bank's buying activities will eventually be overwhelmed, at which point all who have speculated on a subsequent depreciation will benefit.

In one way, though, recent periods of financial innovation have reduced the need for investors to keep their capital spatially mobile. Let me explain this by referring back to the previous two examples. I have suggested that investors can hedge the depreciation risk associated with a country-specific monetary shock by diversifying their stock holdings to include the stocks of companies from a number of other countries. However, there is a much more straightforward way of hedging that risk. Investors can also choose to leave their stock portfolios much as they are, thus avoiding incurring the transactions costs arising from cross-border diversification, and instead purchase a single offsetting option linked to the current level of the stock market index. If the market index

rises unexpectedly, investors will not exercise the option and simply pocket the gains on the individual stocks. But if the market index falls as a reflection of across-the-board declines in stock prices, the option will be exercised in order to offset the losses on the individual stocks. Moreover, if the market index falls but for reasons unrelated to the stocks held in the portfolio, investors stand to make a gain by exercising the option whilst avoiding losses on the individual stocks.

I have also suggested that investors can increase their chances of making speculative gains on foreign exchange markets by shifting their activities to overload the central bank whose currency is under pressure with sell orders. But once again this might not be necessary to enable those investors to enjoy the benefits of a successful speculative attack. It might be much easier for investors simply to increase their presence on the currency futures market. Strong signals are sent to the central bank by high profile purchases of futures contracts which allow investors to sell that currency at a specified future date for a price which is below the prevailing spot market rate. Such purchases forewarn the central bank that the speculative attack will be sustained into the medium term, thus magnifying the cost to the country's foreign reserves of attempting to defend the existing currency levels. If the central bank decides that those costs will be too high, then it will withdraw its support and allow the price of the currency to fall. If the depreciation causes the price of the currency to fall below the price specified in the forward contract, then the contract is 'in the money' and the speculative gain is assured.

This hopefully begins to show the complexities of the issues at stake. Both a fall in the stock market index and a currency depreciation are issues of capital mobility, but we need to be able to say more than that if we are to pinpoint their causes. Both could be the result of changes in investor practice induced by either the spatial or the functional mobility of capital and, a priori, there is no way of telling which of these two is more important in any particular case. Hence, the distinction between the spatial and the functional mobility of capital assists in developing an explanatory IPE which is able to focus on actual causal practices in actual concrete cases. With this in mind, I now turn to apply that distinction to the foreign exchange and the stock market, as these are the two markets from which the book's subsequent case studies are drawn.

### **The foreign exchange market and capital's spatial mobility**

When talk turns to recent changes in the structure of capital mobility, it is usual for it to begin with an observation about the massive increase

in traded volumes on the foreign exchange market since the 1970s. The Bank for International Settlements conducts a survey of global foreign exchange transactions every three years, and its most recent study in 2004 concluded that daily turnover on the foreign exchange market now stands at US\$1.9 trillion (i.e., US\$1,900,000,000,000). Adjusted to take account of exchange rate changes in the intervening three years, this represents a 36% increase on the daily turnover figure recorded in the 2001 survey (BIS 2004: 9). Even more dramatically, it represents an increase of a factor of approximately one hundred since the formal dissolution of the Bretton Woods system in 1973 (calculated from Busch 2000: 41).

Such flows now completely overshadow the monetary value of activity within the productive economy, and their sheer size makes for headline news, especially in times of economic crisis. This was perhaps never better exemplified than during the Mexican peso crisis of December 1994. In the eight days in which the crisis was at its most acute, speculation against the peso led to the liquidation of monetary assets via the foreign exchange market equivalent to 12% of the pre-crisis overseas holdings in the Mexican economy (Porter 1996: 669). The image is one in which the foreign exchange market acts as a conduit for moving large sums of money across national borders with minimal impediment. The US\$1.9 trillion a day that changes hands on foreign exchange markets tends to be seen as essentially footloose treasure chests of money which is disembedded from broader economic structures and which can consequently be relocated with instantaneous effect.

However, such an image requires closer examination. It may well support wider assumptions about the globalisation of the economy, but it may nonetheless be an inappropriate characterisation of the nature of foreign exchange flows. One of the only issues on which economists agree with respect to the foreign exchange market is just how little they know about the determinants of price changes on those markets (Goodhart and Payne 2000: 4). The popular image of a market awash with excess capital and investors unconstrained in their location decisions has been allowed to develop in the absence of such knowledge. But to what extent does the foreign exchange market work as a spatially unconfined aggregation of purely profit-seeking decisions? Is there more to foreign exchange trading than the physically restless search for money-making opportunities wherever in the world they arise? In short, is the recent increase in the spatial mobility of capital the most important fact relating to the restructuring of the foreign exchange market?

The first thing to note in this respect is the existence of very different motives for being an active participant on the foreign exchange market. The popular image of currency traders focuses on their apparently insatiable desire for exploiting the next most likely source of profit. It consequently pictures them moving their funds around the world in order to attack the most vulnerable currency and so to ransack the reserves of the related central bank. In this way, for instance, Gregory Millman (1995: xxii) draws a direct parallel between modern-day currency traders and “the vandals who conquered decadent Rome”, as they “sweep away economic empires that have lost their power to resist”. This is a dramatic account of the impact of recent increases in the spatial mobility of capital, but it reduces the motives for trading foreign exchange solely to speculative gain.

In political economy terms, speculative traders are nonetheless the most important, because it is their activities which lead directly both to exchange rate volatility and to the social distribution of contamination risks that arise from excessive fluctuations in financial prices. The speculators’ aim is to create price instabilities from which they can benefit so long as they have their assets positioned in the right currency pending an anticipated move in the exchange rate. They therefore trade in and out of pairs of currencies in an attempt to engineer the market conditions that replicate those on which they have staked their assets. The short-term nature of speculative activities is consistent with a trading strategy that is informed by so-called technical analysis (Valdez 2000: 195–6). In other words, trading takes place on the basis of data that emerges on the most common trades within the market at that particular moment of time. Speculators attempt to spot the market trend, with a view to loading up their positions in line with the trend, on the assumption that this will provide a relatively easy gain (Shleifer and Vishny 1997: 38).

Yet, for every speculator there must be a willing counterparty to take the opposite side of the speculator’s position. There are generally two types of counterparty. On the one hand, there are the market-makers. Market-makers buy those positions which other traders wish to sell and hold them until they can be sold on again. Their activities are profitable insofar as they are able to take advantage of the spread between the bid (i.e., buying) price and the ask (i.e., selling) price (Bryan and Farrell 1996: 25). On the other hand, there are the liquidity traders. Liquidity traders enter the foreign exchange market in order to protect investments that are held in other assets but which are susceptible to exchange rate volatility (Carlson and Osler 1998: 7). These include large

companies with export business to consolidate, banks who hold assets denominated in many different currencies and mutual funds who have benchmark performance targets to meet (Grahl and Lysandrou 2003: 610). But the most important liquidity traders are central bankers, who intervene in the foreign exchange market to try to quell the momentum effects of speculative trading.

There are many motives, then, for executing the trades which appear to increase the spatial mobility of capital with respect to the foreign exchange market. The popular conception which treats heightened capital mobility as a purely speculative phenomenon is therefore something of an over-simplification. Moreover, the actual dynamics of trading foreign exchange do not necessarily conform to my definition of spatial capital mobility.

The act of trading foreign exchange requires that one position on a currency pair be liquidated in order to take a different position on a currency pair (Howells and Bain 1994: 196). Almost all exchange rates in the spot market are listed with respect to the US dollar, and this in effect doubles the trades for every changed position. For instance, if traders want to increase the chances of making a speculative gain in anticipation of the South African rand depreciating in value relative to the Swedish krona, it is normally not possible simply to sell the rand directly for the krona. Instead, it is necessary to first sell rands for US dollars, before then selling the dollars to buy kronas. The use of the US dollar as a 'vehicle currency' to facilitate the basic day-to-day operations of the foreign exchange market has led to the current situation in which almost 90% of the traded volume of that market involves the dollar as one-half of the trade (BIS 2004: 17). Perhaps more importantly for current purposes, it also ensures that the condition used in this book as evidence of an instance of capital mobility is met: namely, that a related pair of actions can be observed, such that an investment in one asset (in the above example the South African rand) is liquidated in order to prepare the way for an investment in another asset (the Swedish krona). The use of the US dollar as an intermediary between these two positions simply serves to double the instances of capital mobility.

However, does this necessarily make the above an example of capital's *spatial* mobility? At first glance it appears that it does, in that it involves liquidating a position in one country's currency in order to take a position in another country's currency. Yet, closer inspection of the way in which the trade actually occurs might imply something different, especially if an instance of capital's spatial mobility is to be defined as liquidating a position in one country's *market* in order to take a position

in another country's market. For, no physical transfer of assets across borders is required to set up the above movement out of South African rand and into Swedish krona. Under the Classical Gold Standard that lasted until the First World War, gold had to be physically transported from one financial centre to another in order to influence the value of the 'gold points' that operated between the two countries' currencies (see Introduction). But this is not necessary today.

All the major currencies trade on all the major currency exchanges, which means that there is no need to physically transfer investment funds from one country to another in order to change position with respect to the market as a whole. Foreign exchange traders tend to do all their business in the same exchange and, due to trading economies of scale, currency market activity has become increasingly concentrated. Almost one-third of the US\$1.9 trillion per day global turnover of foreign exchange is transacted through the UK market alone, and just over one-half is transacted through the UK and US markets combined (BIS 2004: 13). Virtually none of that money physically migrates from one market to another in order to allow traders to change the currency in which they are invested.

We are thus faced with something of a conundrum in our efforts to characterise the precise nature of this capital mobility. On the one hand, the macroeconomic effects of traders switching their investments from one currency to another clearly transfer across national borders. In this way, the appearance of capital's spatial mobility is readily sustained by the outcomes of current trading strategies on the foreign exchange market. On the other hand, the actual mechanics of foreign exchange trading do not require that capital is physically moved across those same borders. As such, the assumption that capital is spatially mobile within the foreign exchange market can only be applied when adding the suitable qualifications which take account of the way in which foreign exchange trading actually works.

### **The foreign exchange market and capital's functional mobility**

A further important finding of the most recent Bank for International Settlements survey relates to the type of instruments that are traded on the foreign exchange market. That market is really three separate markets, as not all of the US\$1.9 trillion of daily turnover is concentrated solely in the trade of currencies per se. (1) Actual currencies are traded for immediate delivery on the spot market. In 2004, spot trans-

actions accounted for US\$621 billion, or 33%, of total daily market activity. (2) Currency forwards are traded for delivery on a specified date in the future, so that the price of the currency can be determined today rather than on the day that it is delivered. In 2004, forward transactions accounted for US\$208 billion, or 11%, of total daily market activity. (3) Foreign exchange swaps are traded for immediate delivery, but in a way which allows investors to avoid the uncertainties of spot market prices by finding a market-maker who will cater to their particular needs irrespective of the prevailing spot market price. In 2004, transactions in foreign exchange swaps accounted for US\$944 billion, or 50%, of total market activity (BIS 2004: 9).<sup>1</sup>

It is important to note the way in which the foreign exchange market divides in three, because traders' diversification into currency futures and foreign exchange swaps is evidence of the influence of financial innovation on trading patterns within that market. Moreover, innovation of this nature increases the potential functional mobility of capital with respect to the foreign exchange market. It provides additional incentives for investors to liquidate other financial assets in order to take linked positions in spot, forwards and swaps, to try to influence the price of one of the three. Interlinked trading within the three distinct segments of the foreign exchange market makes it much easier for investors to initiate specific price trends from which they can subsequently benefit (e.g., Ngama 1994: 453–4). It is clearly possible to take a position in a particular currency by trading that currency on the spot market (i.e., a genuine foreign exchange position). But it is also possible to take exactly the same position whilst bypassing the spot market altogether (i.e., a synthetic foreign exchange position). Dealing in currencies themselves is no longer a prerequisite for making gains from spot market changes in relative currency prices (Petzel 1996: 89–90).

The trend in recent years has increasingly been for investors to focus their foreign exchange activities in synthetic positions. In 1992, for instance, the split between trading in genuine and synthetic foreign exchange positions was pretty much 50:50 (Grahl and Lysandrou 2003: 604), whilst in 2004 only one-third of market activity took place in

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<sup>1</sup> The observant reader will notice that these three figures do not sum to a daily total of US\$1.9 trillion. This is because the aggregate figure includes a US\$107 billion BIS estimate for known gaps in the reported data, but the disaggregated figures per market segment do not factor in a related estimate for how those reporting gaps divide between spot transactions, forward transactions and transactions in foreign exchange swaps.

genuine foreign exchange positions (BIS 2004: 1). The appeal for investors of synthetic foreign exchange positions is that a carefully calculated position can replicate both the exposure of a genuine position and its potential to realise speculative gain, but at the same time unwanted depreciation risks can be hedged by building an offsetting investment into the original position (Howells and Bain 1994: 202). Derivative instruments constructed in relation to foreign exchange can be used to create cash synthetically if at any time the investor feels that exposure to exchange rate volatility is unwarranted (Jacobs 1999: 27).

This implies that there is an important hedging component to the trade in foreign exchange derivatives, and it is certainly true that they can be used in this way (Strange 1998: 29–30). To this end, the connection should be noted between the development of increasingly liquid currency derivative markets and the expansion of international trade in commercial goods. Increases in international trade lead firms to have larger holdings of foreign exchange (Held et al 1999: 230–1), either from receipt of payment for the export of final products or in advance of payment that they will undertake for imported intermediate products. However, by holding unhedged foreign exchange for any length of time, firms will immediately expose themselves to the depreciation risk that is always a possibility in the context of exchange rate volatility. Equally, if they have agreed to a future payment schedule at one level of relative currency prices, they are also vulnerable to losing money on that payment if exchange rate movements work against them in the intervening period. For both of these reasons, firms might seek to stabilise the financial side of their import/export activities by purchasing derivative contracts written against current foreign exchange prices.

On the one hand, firms are likely to want to liquidate their holdings of cash denominated in a particular currency in preference for a synthetic position that is less susceptible to that currency's exchange rate volatility. They will use suitably constructed derivative contracts to turn their foreign exchange holdings into a synthetic position in a currency whose perceived 'strength' leads to a significantly lower variance in price. On the other hand, firms are likely to want to pre-empt the need to receive future payment in a currency that has depreciated in value since the time at which they agreed on the payment schedule. To do so they will adopt a means of payment that bypasses the need to rely on prevailing conditions within the spot market. They will purchase an option on a forward contract at the time at which the payment schedule is negotiated, enabling them to lock-in the minimum real value of the price they will receive for their goods.

Hedging activities are responsible for multiplying the overall turnover on the foreign exchange market. Firms are almost always able to find a market-maker who will act as the counterparty to their hedge, but it is most unlikely that the market-maker in question will then hold that position because it is exactly what is required to balance their inventory of positions and thus to neutralise their exposure to movements in market prices. It is much more probable that the initial hedge will subsequently trigger what James Burnham (1991: 133–6) has characterised as a game of ‘hot potato’, through which market-makers pass an increasingly smaller portion of the original position amongst themselves until all of it is eventually incorporated within their collective inventories (e.g., Frankel 1996: 41; Garber 1996: 131; Kenen 1996: 120–1).

In the case of a forward contract, the same position can change hands many times over, with the firm remaining oblivious to the changing nature of the counterparty with which it is linked. The dynamic is somewhat different, though, when the firm hedges via a foreign exchange swap. Unlike forwards, swaps are closed positions and, as such, the initial contracting party exits the contract as soon as the original swap is executed (Grahl and Lysandrou 2003: 605). The hot potato process which then ensues as market-makers look to neutralise their inventories of outstanding positions involves the subsequent creation and liquidation of many discrete swaps.

Despite the way in which hedging multiplies turnover on the foreign exchange market, however, the growth rates of international trade and derivative markets in foreign exchange have recently diverged to such an extent that the former cannot be the sole explanation for the latter. Turnover on the foreign exchange market today exceeds world trade in commercial goods by a multiple of approximately seventy-five (IMF 2006). As such, it would require for the hot potato game associated with hedging activities to trigger seventy-five times the volume of subsequent trades per initial hedge for that turnover to be accounted for solely by the combination of trade-related activities and the consequences of hedging trade-related exchange rate risks. This is unrealistic, though, which means that it is necessary to understand additional motives for the continual creation and liquidation of synthetic foreign exchange positions.

Such motives relate to the way in which it is possible to trade between genuine and synthetic foreign exchange positions in order to activate price movements that introduce the likelihood of speculative gains (Tucker 1991: 442). As Stephen Valdez suggests (2000: 200),

the depreciation risk associated with foreign exchange holdings divides into three: transaction risk, translation risk and economic risk. Transaction risk relates to the possibility of losing money due to changes in the exchange rate between the time at which a sale is concluded and the time at which the account is settled. Translation risk relates to the possibility of losing money due to changes in the exchange rate affecting the accounting value of sales recorded in one country compared with the nominal value of those sales as they were undertaken in another country. Both of these elements of depreciation risk can be hedged using foreign exchange derivative markets. It would be usual to hedge the transaction risk by liquidating a cash asset in order to buy a forward foreign exchange contract, whilst it would be usual to hedge the translation risk by liquidating a cash asset in order to buy a foreign exchange swap.

However, economic risk is rather different. It relates to changes in the competitive balance between different countries brought about by long-term fluctuations in exchange rates and, in general, it cannot be successfully hedged. Indeed, it arises in the first place from foreign exchange market activity that is the very antithesis of hedging. It is the result of speculators taking advantage of interlinked trades between genuine and synthetic foreign exchange positions in order to force particular price movements. Such interlinked trading strategies are designed to deliberately engineer new risks in the hope that a successful strategy will lead to speculative gains (Bryan and Farrell 1996: 23). They also represent clear evidence of an increase in the functional mobility of capital with respect to the foreign exchange market.

### **The stock market and capital's spatial mobility**

The orthodox economics account of the stock market focuses on its one perceived function within society: to ensure that the supply of capital is allocated as effectively as possible amongst competing producers (e.g., Allen 1993; Levine 1996). Yet, for an ever increasing number of people within advanced industrialised countries, the stock market now serves an altogether different purpose. Primarily through investments in pension funds and other mutual funds, the stock market has become an arena in which existing individual wealth is stored and, if the right price movements occur, through which new wealth is created (e.g., Clark 2003: 1342–5). There has been a secular increase of investment funds channelled towards the stock market, as more and more people liquidate cash-based assets so that they can invest in stocks. They do so

in the hope that the historic return to the stock market – which has been higher than that to cash-based assets placed in interest-bearing bank accounts (Shiller 2000: 4–5) – will continue.

The increasing flow of funds to the stock market has occurred at the same time as an increase in the sensitivity of the level of one national stock market index to another (Wärneryd 2001: 84). This has led many to suggest that we have seen the internationalisation of the stock market, such that national stock markets have become increasingly integrated into a single interdependent structure (e.g., Ayling 1986; Frankel 1994). In turn, this infers that recent increases in capital mobility with respect to the stock market are primarily spatial in their underlying orientation.

The assumption of spatial capital mobility certainly appears to be more intuitively plausible with respect to the stock market than it does with respect to the foreign exchange market. The increasingly short round-trips associated with trading between different currency pairs simply does not allow the time to transfer assets physically across space in order to take new positions within the foreign exchange market. By contrast, the stock market is structured in such a way as to make it feasible to transfer funds physically across space. Foreign exchange trading takes place almost exclusively through transnational digital networks (Goodhart and Payne 2000: 2; Valdez 2000: 191), whilst most stock market business is mediated via brokers who are specialists in particular stocks or particular groups of stocks. Stock brokers work within particular markets: e.g., in London, New York or Tokyo. So, if their specialist knowledge is to be utilised, capital first has to flow to the market on which the broker operates for the investor to take advantage of the broker's expertise. It is the human dimension of stock market trading which makes the assumption of genuine spatial capital mobility a much more plausible proposition for the stock market than it is for the foreign exchange market.

Yet, there is a potential irony in this respect. Evidence of increases in the spatial mobility of capital leads to the common assertion that the stock market has been increasingly internationalised. However, if this was actually the case, there would be no need for capital to be mobile between one national stock exchange and another. Under the influence of a truly internationalised stock market structure, an investor would be able to take a position in the stock of any company from any country through activities on any stock exchange in the world (e.g., Tesar and Werner 1994). There would be no need to move assets physically across borders in order to change the underlying national orientation of the

portfolio of stocks, because this change could be effected via trading conducted from a single national exchange. But this simply does not correspond to the situation which confronts stock market investors in their day-to-day activities. Genuine spatial capital mobility is only brought about with respect to the stock market because of the *lack* of integration of national stock exchange structures (see Chapter 8).

We are therefore left with something of an anomaly to explain. On the one hand, economic news from around the world now seems to filter into investors' valuations of stock prices (Jacobs 1999: 273–4). On the other hand, the prevailing structure of national stock exchanges appears to render this news meaningful only with respect to domestic companies. The news might intrinsically be equally as relevant for the prospects of overseas companies as for those of domestic companies, but the structure of national stock exchanges means that its relevance can only be exercised in relation to domestic companies. At the very least, there tends to be a marked asymmetry in the international holdings of the large institutional investors who are the dominant players on the stock market. Although most are heavily invested in international bonds, their portfolios are typically dominated by domestic rather than overseas stocks (Bryan and Farrell 1996: 31–2). In this way, their investments tend to follow the expertise of the brokers to whom they entrust their business (e.g., Haley 1999: 74; Winters 2000: 43). As brokers' expertise is normally restricted to a particular segment of the national market, their advice on which stocks appear to offer good value for money will usually relate only to those stocks that they know best.

As a consequence, institutional investors such as pensions funds and other mutual funds have limited incentives to diversify their investments overseas, because to do so means investing in the absence of the expert knowledge of the brokers who will typically have handled their business for some time. The social relationships which develop within the investment community therefore impart an important influence on keeping much stock market activity close to home. It may well be the case, then, that the assumption of spatial capital mobility is a more plausible proposition with respect to the stock market than it is with respect to the foreign exchange market. But this does nothing to alter the fact that the structure of national stock exchanges and the structure of the social networks within which stock trading occurs both inhibit the *degree* of spatial mobility in practice.

This should come as no surprise if we look a little more closely at the way in which trading dynamics on the stock market actually arise. The role of market-makers is crucial in this respect, because it is the market-

makers who ensure that the stock trading environment is liquid and that stock traders remain confident that they will always be able to exit their positions if they so wish. Market-makers sustain their activities by profiting from the spread between the bid (buying) and the ask (selling) price, and these activities in turn are responsible for the continual turnover of the stock market. In-depth qualitative studies of the function of market-makers are regrettably rare (but see Adler and Adler 1984; Keene 1997; Kynaston 2002). However, the studies that do exist all emphasise the same points: that market-making activity is a highly specialised task and that market-makers restrict their activities to the stock or group of stocks in which they are specialists.

In effect, it is therefore something of a misnomer to talk of 'the' stock market as if it were a single entity. This is more than just recognition of the lack of integration of national stock exchanges. It is also to acknowledge the significance of the market-makers' role. Insofar as there is no market without the market-makers, their specialisms ensure that there is a separate de facto market for each of the stocks or the group of stocks in which their activities are concentrated. Having written a detailed history of the function of market-makers, Bernard Attard concludes (2000: 10–11) that each stock exchange in practice is an aggregation of numerous 'discrete markets' in line with the market-makers' specialisms.

As a consequence of the fragmented nature of the stock market structure, genuine price linkages remain weak across national stock exchanges (Bryan and Farrell 1996: 35). As François Longin and Bruno Solnik (2000) have shown, the correlation between the prices of two typical stocks traded on any single national exchange is considerably lower than the correlation between the market indices for national stock exchanges, and the correlation between the prices of two typical stocks traded on different national exchanges is lower still. Thus, there is no intrinsic economic link between prevailing prices on different national stock exchanges.

The higher correlation between overall market indices perhaps results from the way in which the major national stock exchanges are spread across different time zones. Traders are consequently provided with an indication of what the most likely market mood will be on their exchange for the coming day, depending on what has happened on other exchanges since theirs closed for trading at the end of the previous day. For instance, the *Financial Times* has recently noted (15.12.2005) that the most reliable guide to which way the market index will move on any given day for the London Stock Exchange is which way the

market index moved during the previous trading session on the New York Stock Exchange. There is no intrinsic economic reason for why changes in traders' valuations of companies listed on the New York Stock Exchange on one day mean that the very different companies listed on the London Stock Exchange should consequently be worth correspondingly more or less the next day. But we do see this pattern of price co-movement repeated on an extremely frequent basis.

The fact that stock market prices display co-movement rather than co-integration between different national exchanges suggests that trend-following behaviour has a significant impact upon global stock prices. Given that most large institutional investors concentrate their holdings in domestic stocks, it could almost be said that price trends are more mobile across borders than is the capital on which those price trends are ostensibly based. This confirms that the parallel fluctuations in stock exchange indices around the world is not to be explained by the seamless integration of national capital markets so much as by a common investor psychology shared by the majority of market participants.

### **The stock market and capital's functional mobility**

The process of financial innovation has made it possible to engage in trading strategies which require interlinked positions to be taken on the spot and futures markets for company stocks. As such strategies have become increasingly popular, they have been responsible for forcing up the overall level of activity on the stock market (Bernstein 1992: 269–94). The two most common derivative instruments related to the stock market are both options: on the one hand, options on individual stocks and, on the other hand, options on the level of the stock exchange index as a whole. The reason why investors might buy an option to sell a particular stock at a specified future price level (called a 'put' option) is relatively easily explained. For a fee which is paid to the option writer, the purchase of a put option provides an upper limit on how much money investors will lose if the stock they hold suffers a large fall in price. In this way, the option creates a partial shield against the depreciation risk which is embedded in all stocks. If investors purchase put options on stocks and then those stocks fall in price below the value of the option, investors will simply exercise the option, which forces the option writer to buy the holdings at the pre-specified price.

However, the person buying the option is under no obligation to exercise it on the stipulated expiry date. This is what makes it, quite literally, an 'option'. If the prices of the stocks on which investors have a

put option rise in the period following the purchase of the option, it makes no sense to exercise the option, because the price locked-in to the option will be lower than the price for which the stocks can be traded on the spot market. In such circumstances, the option is allowed to expire without being exercised, thus enabling the option writer to pocket the fee for, in effect, doing nothing. Exactly the same principle applies in relation to put options on the stock exchange index as a whole, only this time it is fluctuations in the value of the whole index which prompt investor activity. Options provide investors with some degree of price protection: against firm-specific factors in the case of options on individual stocks, and against market-wide factors in the case of options on the index as a whole. They allow investors to experience the benefits of favourable price movements, whilst shielding them from the full effects of unfavourable price movements.

In two quite separate ways, activity on the stock market is increased by the ever more pervasive use of put options to protect investors from the depreciation risk that is intrinsic to all stocks. Both of these ways also represent increases in the functional mobility of capital with respect to the stock market. First, whilst the purchase of the put option shields the option buyer from an element of the depreciation risk of the underlying stock, it does not eliminate that risk *per se*. Rather, the depreciation risk that the option buyer has hedged is passed on to the option writer (Jacobs 1999: 21). The option writer must stand ready if the option is exercised to make good the cash difference between the stock price embedded in the option contract and the prevailing stock price on the spot market. The option writer is thus exposed to the full effects of the market's downside. In order to be in a position to make good this difference, option writers are likely to increase their activity on both the spot and futures markets for stocks, in an attempt to balance their portfolios in a way which allows them to pass on to someone else the depreciation risk associated with the original option. Alternatively, they might just enter the spot market with the purely speculative intention of trying to move the price of the stock in question so that it remains above, or as close as possible to, the exercise price of the option. Either way, option writers will attempt to neutralise their potential losses on the option and, whichever way they choose to do so, this requires them to liquidate other positions in preference for stock holdings (Feinstein and Goetzmann 1988: 4–8). Activity by option writers seeking to unwind potentially disadvantageous positions thus increases the functional mobility of capital with respect to the stock market.

Second, the very existence of stock options and stock index options reduces the perceived risks associated with stock market investments, as they provide a means of ensuring that investors can restrict their exposure to the downside of market price movements whilst continuing to realise the gains from their upside. This changes the attractiveness of the risk/return ratio of the stock market compared with riskless cash holdings. Indeed, for put options that perfectly hedge the downside risk on the portfolio of stocks, the option itself takes on all the economic characteristics of cash (e.g., Merton 1973: 169). The only difference is that the ownership of the option allows investors to lock-in expectations of riskless gains from the stock market, whereas holding assets as cash does not. In turn, this increases investors' incentives to construct interlinked positions across the spot and the futures markets for stocks and, for as long as price movements continue to provide investors with a sense of being insured against the downside of the market, these incentives will continue to lead investors to concentrate more of their assets in stocks relative to cash.

The ability to construct interlinked positions between the spot and futures markets also adds an important new dimension to trend-following behaviour on the stock market. Individual investors have an incentive to take positions which harden the existing price trend (Watson 1999: 68–9), on the assumption that past price movements are likely to continue in the future. However, trend-following behaviour remains an inherently risky undertaking if investors restrict their activities solely to the spot market, because it is always possible that the prevailing trend will suddenly reverse. Yet, by creating interlinked positions between the spot and futures markets, they can hedge the depreciation risk associated with trend-following behaviour. If they can create the perfect hedge, then from their perspective at least trend-following behaviour becomes devoid of depreciation risk. As such, the risk/return ratio of trend-following behaviour becomes much more attractive to the investor than does the risk/return ratio of other trading strategies.

Given the existence of liquid derivative markets in both stock options and stock index options, it is no longer necessary to physically own stocks in order to take a position in relation to the stock market (Dunbar 2000: 127). The ownership of stocks can be perfectly replicated simply by investing in suitable combinations of the relevant stock derivatives (Merton 1973: 168). This is the equivalent of creating synthetic stocks out of the ability to trade in and out of positions that are constructed solely on derivative markets (Jacobs 1999: 25–6).

The creation of synthetic stocks allows investors to engage in arbitrage between the price of the genuine stock and the price of the synthetic stock (Black 1989: 8). Given that investors are no longer required to physically own stocks in order to take a position in relation to them, they are now able to take much larger positions with respect to the market as a whole. Single investors in general do not have the capacity, on their own, to move the price of an individual stock particularly far in any given direction. This is because there are a finite number of shares in circulation on the stock market for any one company at any one moment of time. Moreover, many of those shares will be tied up in passive investors' 'buy-and-hold' strategies. As such, it is difficult for single investors to physically get their hands on enough shares of a particular stock in one instant to be able to take an overtly speculative position in relation to the future spot market price of that stock. However, all this changes as soon as it becomes possible to trade in synthetic stock positions as well as in genuine stock positions. At this point, a single investor can leverage an underlying speculative position with respect to the genuine stock as many times as they have the money and the nerve to do so simply by purchasing the corresponding synthetic stock position time and time again with different counterparties in the over-the-counter derivatives market.

Leverage ratios of 100:1 are by no means the norm, as their financing requires exceptionally deep pockets and brave hearts, but at the same time they are far from unknown (Jacobs 1999: 281). The over-the-counter market is both the largest and the least transparent segment of the derivative market, making it not only possible for investors to take highly leveraged speculative positions, but also to do so beyond the gaze of other investors (Kelly 1995: 220; Strange 1998: 31–2). The availability of interlinked yet confidential positions with respect to genuine and synthetic stocks has led to significant increases in activity on the stock market as a whole. This has required that assets first be liquidated in other forms so that the ensuing release of capital can be directed towards the stock market. It is therefore clearly consistent with my definition of instances of functional capital mobility.

## **Conclusion**

It is my hope that this chapter has provided for IPE theorists greater awareness of the concrete trading strategies which have been propelled by recent increases in capital mobility. The discussion has added a substantive economic dimension to the risk society perspective on

contemporary financial markets outlined in the previous chapter. It also helps to confirm that ordinary savers who are incorporated into the market environment have a qualitatively different experience of the financial risk society compared with the traders whose actions drive the pricing trends within the market environment.

The latter sections of the chapter have shown that traders can always call upon recent changes in the structure of capital mobility in order to develop trading strategies which shield them from depreciation risk. At the same time, though, the exact same instruments can be used in speculative attempts to manipulate pricing trends, and it is in moments of deliberate destabilisation of asset markets' pricing structures that contamination risks are created. Whilst traders always have the choice about what sort of risks they will expose themselves to and how much risk exposure is prudent, the same is not true of ordinary investors. The process of financial socialisation places them in situations in which they are confronted with risks that are of other people's making. Recent changes to the structure of capital mobility merely alter the concrete forms which these risks might take.

In this chapter, the analytical dimensions of the distinction between capital's spatial and functional mobility have subsequently been explored in relation to the foreign exchange market and the stock market. In order to take the argument of the book forward, it is now necessary to pay attention to the context in which recent increases in both the spatial and the functional mobility of capital have taken place. Such increases have required the presence of a permissive environment in order to become institutionalised. In the following two chapters I focus on two different aspects of that permissive environment: permissive historical conditions on the one hand and permissive intellectual conditions on the other hand. First, increases in capital mobility could not have occurred in the absence of a favourable system of regulation. The liberalisation of international economic affairs in the post-Bretton Woods era is crucial in this respect. This is the focus of Chapter 4. Second, increases in capital mobility could not have occurred in the absence of a favourable system of academic ideas. Of particular importance here has been the development of both macroeconomic theory and finance theory since the early 1970s. It is to this issue that I now turn, as the origins and evolution of these theories is the focus of Chapter 3.

# 3

## The Intellectual Conditions for Recent Increases in Capital Mobility

### Introduction

As the analysis in the following chapter will show, the process through which capital has become ever more mobile in the post-war period has been an incremental process rooted in step-by-step institutional reform. It was prey to the force of events and both the speed and the nature of the reforms were influenced by partisan changes in government. Viewed from the perspective of today's opportunities for extremely high capital mobility, it can seem like a process that was dogged by many false starts. In this respect, economic theory ran considerably ahead of economic realities. The Bretton Woods system which had regulated capital movements from the end of the Second World War began to be dismantled in the mid-1970s. Yet, by this time the intellectual developments which shifted economics to models of perfect capital mobility had already occurred. Economists have found models based on the assumption of perfect capital mobility to be useful because they provide a relatively easy means of stating the conditions for equilibrium in precise mathematical terms (e.g., Kaldor 1972: 1237–8; Niehans 1994: 313–7; Mirowski 2002: 99–105). These conditions can then be translated into a series of ready-made prescriptions for running a market-based economy with a minimum of government intervention (e.g., Prachowny 1994: 27–8; Keen 2001: 161–3; Mäki 2001: 6–7).

The chapter proceeds in three stages in an attempt to explore the political position embedded in the models. In section one, I investigate the core characteristics of the models which have come to dominate both the policy-making and the finance literatures within economics. I pay particular attention to how they rely on and, in turn, support the

assumption of perfect capital mobility through their reliance on the prior assumption of rational expectations on the part of all economic agents. In section two, I focus specifically on the models which inform economists' understanding of the key problems of macroeconomic policy-making. I take these to be the models cast in the 'time consistency' tradition initiated by the work of Finn Kydland and Edward Prescott, and I show that their internal coherence is entirely dependent upon the starting assumption that capital is perfectly mobile in spatial terms (Kydland and Prescott 1977). In section three, I focus on the models which inform economists' understanding of the key problems of financial decision-making. I take these to be the models cast in the 'options pricing' tradition initiated by the work of Fischer Black, Myron Scholes and Robert Merton, and I show that their internal coherence is entirely dependent upon the starting assumption that capital is perfectly mobile in functional terms (Black and Scholes 1973; Merton 1973).

The chapter is set up in this way in an effort to distinguish it from much of the IPE literature on finance. There, one can expect to find a number of discussions of the rational expectations hypothesis (e.g., Best 2005; de Goede 2005). Such discussions are clearly important, because the core dynamics of neither time consistency models nor options pricing models would work were it not for the assumption of rational expectations. But the discussions are also limited. The focus of so much of the IPE literature is the logical implications of having already accepted the core premises of the rational expectations hypothesis. The models cast in this image are shown to be inappropriate for use within IPE because they are based on a flawed conception of economic agency. They depict all behaviour in terms of an abstract agent who has the characteristics of *homo economicus*.

The usual IPE critique of such models follows from the logical demonstration that the assumptions of the rational expectations hypothesis fit poorly with the practice of momentum trading which fluctuates in line with the prevailing 'mood' of the market. An important tension is thus highlighted when it is shown that the regulation of financial markets is informed by models which assume rational expectations, but actual positions taken on financial markets are influenced by psychological factors which cannot be explained by the rational expectations hypothesis. This tension is then treated as a potential breeding ground for moments of financial crisis.

My approach is somewhat different. It is to expose an IPE audience to what lies inside the 'black box' of the models. Before the full range

of the models' implications can be explored, it is first necessary to understand the internal dynamics of the models themselves, beyond their association with a flawed conception of homo economicus. This is even more important given Donald MacKenzie's recent demonstration that the most important models of this nature come complete with a logic of 'strong performativity' (MacKenzie 2006: 243–75). In other words, acting upon the assumptions of the economic models serves to create exactly the conditions that the models assume. MacKenzie illustrates this claim with respect to options pricing models, but it is no less true of the other models discussed in this chapter: time consistency models. Given the transposition of the models' logic into actual experiences, we need to know more than simply that the models have problems relating to the abstract notion of agents all internalising preferences in the same way. The models also have other inadequacies, and these need to be laid bare in their own terms. The task is to be able to get inside the machine, so to speak, in order to reveal its inner workings.

### **Equilibrium theorising, rational expectations and the assumption of perfect capital mobility**

Economic models abstract heavily from reality. One of the primary tools for developing such abstractions is the *ceteris paribus* condition: the clause which holds everything equal but for the parameters of the model. By such means, important constitutive aspects of all economic actions are relegated to the extra-economic realm, allowing economists to concentrate instead on stipulating behavioural laws which apply irrespective of context (Hausman 1988: 308–9). The use of the *ceteris paribus* clause refocuses economics from a study of what people actually did in a particular set of circumstances to a study of what they could reasonably be expected to do were they to inhabit the socially meaningless world described by the model. As such, it leads to a heavily restricted notion of causality, whereby the sole focus is what people would do were they to inhabit the equilibrium state which 'solves' the problem that lies at the heart of the model.

The existence of equilibrium in turn requires the prior assumption that all agents within the model display the character traits of a 'representative individual' who is concerned only about deriving maximum personal gain (e.g., Fama 1970: 385; Barro 1986: 25). This is a standard characterisation of agential behaviour within the economic worldview, but it contains precious few insights into concrete economic practices (Stiglitz 1989: 774). It is primarily a means of

naturalising the suppositions that investment decisions are best left to unconstrained private actions and that the government has no role in attempting to shape the content of those decisions (Ackerman 2002: 62–3). Recent processes of institutional reform have created an international financial system which responds directly to the normative position embedded in the representative individual approach. Yet, this does not mean that the approach necessarily generates appropriate explanatory models. Indeed, as Alan Kirman argues (1992: 132), it is “fatally flawed because it attempts to impose order on the economy through the concept of an omniscient individual”.

This image of omniscience is enhanced by the introduction into the representative individual approach of the assumption that every economic agent holds rational expectations relating to the future trajectory of the economy (Geweke 1985: 207). Every economic agent consequently becomes equally well placed to be treated as the representative individual, because the assumption of rational expectations ensures that all economic agents internalise the same preferences in any given set of circumstances (Sargent and Wallace 1975: 248). The rational expectations hypothesis turns all economic agents into passive receivers of price signals arising from the economy. Nobody tries to shape pricing structures to their own ends, because the fact that everybody else also holds rational expectations means that such attempts will be fully anticipated and will therefore stand no chance of success. In such a world, investors’ decisions of when to liquidate one investment position in preference for another follow simply as an automatic reaction to the incorporation of news about the future state of the economy (Bray and Kreps 1987: 597–8).

At a stroke, then, the assumption of rational expectations rules out two of the three types of financial risk outlined in Chapter 1. It says that risks cannot be deliberately engineered by traders seeking to earn high multiples on their leveraged positions (i.e., speculation risk), because such risks would always be fully anticipated and hence neutralised. It also says that risks do not emanate from the financial system to society (i.e., contamination risk), because patterns of trading follow rather than lead government policy. Thus, the only type of financial risk remaining is that which is embodied in all assets (i.e., depreciation risk), due to the fact that on any given day they can always be trading on the open market at a lower price than that for which they were bought. The rational expectations hypothesis thereby confirms the textbook account that financial markets exist solely as a means of commodifying depreciation risk. Even here, the source of the risk is not assumed to be the internal

financial market dynamics through which assets are traded. Rather, asset prices change solely on the basis of a reflex, yet fully rational, response to announcements about future government policy. As such, it is the government which must be the source of all price disturbances.

The rational expectations hypothesis has a curious double effect on the place of the individual within economic theory. Perhaps most obviously, it disempowers private economic agents insofar as no single individual is able to be any different from anybody else. Rational expectations models insist that all agents must have perfect foresight about the future trajectory of government policy (Calvo 1978: 1414) and that they must be able to translate that foresight into perfect knowledge about their ideal future investment portfolio (Borio 1986: 1004). The agent is thus stripped of many essentially human characteristics in order to become nothing other than an all-knowing calculating machine. The tendency towards personal disempowerment arises because no creativity or individuality is allowed in the model world of stark agential uniformity.

At the same time, though, the assumption of rational expectations clearly empowers the collective of individuals with respect to the government. The uniform and automatic nature of the private sector's response to announcements of future government policy provides a constant commentary on policy intentions (Saint-Paul 2000: 917) and, as a corollary, it also provides constraints on the scope of those intentions (Attfield, Demery and Duck 1985: 58). If the private sector is fully informed and fully rational, it will see through any attempt by the government to introduce any policy, however well-meaning, which threatens to have negative repercussions for the future trajectory of asset prices. Moreover, it will also be able to embed those repercussions in current prices, either by liquidating assets to invest them overseas (i.e., taking advantage of spatial capital mobility options) or by liquidating assets to invest them in forms where the pricing structure is less susceptible to government plans (i.e., taking advantage of functional capital mobility options). In this way, the private sector is armed with what in effect is a veto over government policy, and it can certainly issue 'correctives' to redistributive policies which threaten to disturb the existing structure of wealth holdings within society (Sheffrin 1983: 93).

The assumption of perfect capital mobility is imposed on both time consistency and options pricing models specifically in order to argue against the introduction of taxes in the real world. Within the context of perfect capital mobility, taxes are distortionary by definition and, as a consequence, it is only possible to move towards the equilibrium solution of the model by scaling down the prevailing rate of taxation. In

many such models, equilibrium entails the complete abolition of the tax system (e.g., Calvo 1978: 1419–20). But, of course, the tax system provides the means for the government to undertake redistributive expenditures, so this also means the end of government intervention and the end of redistribution.

(1) Taking time consistency models first, the important analytical move in this respect is to present inflation as a surrogate tax. A consequentialist logic is inferred in order to sustain the analogy: taxes lead to a direct loss of purchasing power at any given level of wealth holding and inflation has the same effect through its impact on general product prices. If inflation can therefore be thought of as an implicit wealth tax then, from the perspective of a worldview in which all taxes are distortionary by definition, inflation must also be distortionary. Time consistency problems are optimal taxation problems and, within the economics worldview, this means keeping inflation as low as possible (Persson, Persson and Svensson 1987: 1419). The notion of the representative individual and the rational expectations hypothesis are both brought in to provide support for that worldview, and the assumption of perfect capital mobility is used as the enforcement mechanism in order to ‘demonstrate’ that no other policy option is feasible (Drazen 2000: 104–8).

(2) Options pricing models were developed to show how the representative individual might allocate savings between different asset markets in order to minimise exposure to investment taxes (Ross 1991: 8). Options pricing models work on the basis of deriving a precise mathematical formula for allocating capital efficiently. However, the formula only engenders a solution in the absence of distortions arising from government regulation (Mehrling 2005: 177). As such, there is no possibility of equilibrium being achieved within the models unless investment taxes are removed (Lo and MacKinlay 1999: 10). Moreover, the assumption that capital is perfectly mobile in functional terms presents investors with limitless opportunities to transpose their investments from one form to another, thus making tax avoidance possible and ‘demonstrating’ the futility of anything other than a zero tax policy.

The internal dynamics of these two types of optimal taxation model are now explored in turn.

### **The time consistency problem, counter-inflationary overkill and the imposition of contamination risk on society**

The time consistency tradition brings together work based upon the proposition that there is an inherent contradiction in allowing govern-

ments to have discretionary control of the settings of monetary policy. The assumption of rational expectations dictates that it is preferable for the government to follow a series of fixed monetary policy rules rather than retain discretion over policy (Barro 1986: 23). The source of this argument is the claim that the government – necessarily, by definition and irrespective of its political make-up – injects an inflationary bias into the economy.

Time consistency models were a product of their time. They were developed in the 1970s as a reaction to policy-makers' increasing desire to prioritise inflation over unemployment targets. In order to make that case, the notion of a natural rate of unemployment was revived, having fallen out of favour in the economic theories which were constructed in response to the depression conditions of the 1930s. Under attack from the Keynesian presumption that unemployment was a result of aggregate demand weaknesses, economic theory concentrated for two generations on monetary recycling problems within the domestic economy. This theory also had an inbuilt policy prescription: provide cheap money conditions in order to protect against hoarding at home, and buttress this with capital controls that prevent hoarding overseas. It was this type of theory that time consistency models were purposefully oriented against.

For that reason, those developing the models saw nothing wrong with assuming the existence of a natural rate of unemployment. Under the influence of such an assumption, any attempt to artificially lower unemployment below the natural rate necessarily involves the introduction of counter-productive dynamics on the monetary side of the economy (Prachowny 1994: 27). The government can only target unemployment levels below the natural rate through a surprise inflation, which destabilises prices throughout the economy and leads to the continual rebalancing of investment portfolios in order to neutralise the effects of inflation on asset prices. The rebalanced portfolios ensure that the private sector releases progressively less of its accumulated wealth to investment projects designed to maintain levels of productive activity. Unemployment must inevitably return at least to the natural rate and the only thing that remains is the original disturbance to the price level arising from the inflation surprise (Sargent and Wallace 1975: 249–50).

The crux of the time consistency problem is that this all takes place in the context of a fully informed and fully rational government. The government knows that its initial inflation surprise will lead to no long-term net benefit for the economy and, insofar as it might assume that lower levels of inflation are preferable to higher levels, it also knows that

the continued destabilisation of prices resulting from the initial inflation surprise will impose long-term net costs on the economy. Yet, still it chooses to follow the path of the initial inflation surprise.

The reason is that the government's interests depart from those of the representative individual (Backus and Driffill 1985: 530). The latter has no problem with unemployment being at its natural rate. This is because the representative individual is not an actual person and, whilst some people will have to experience unemployment if it is at its natural rate, the representative individual will not. The representative individual therefore has no interest in the government trying to use an inflation surprise in order to lower unemployment below its natural rate. Indeed, an initial inflation surprise can only possibly feed through into long-term price disturbances which the representative individual cannot avoid because they affect the whole of society. Thus, the representative individual has an interest in the government not introducing the initial inflation surprise in the first place.

By contrast, the government still has an incentive to follow such a policy, even if it knows that there will be no long-term benefit to it. The government's interests are aligned with those of actual people rather than those of the representative individual, because it is these people who will vote in subsequent elections. As these people do not have the representative individual's luxury of knowing that they will definitely not be one of those who is unemployed if unemployment is at its natural rate, they will place a higher weight on the government hitting employment targets than will the representative individual. So too, then, in the interests of potential vote maximization, will the government. Thus, it is the divergence of opinion on optimal unemployment policy between the government and the representative individual that explains the origins of the inflationary bias which the time consistency approach treats as an a priori condition of discretionary monetary policy-making (Drazen 2000: 119–20).

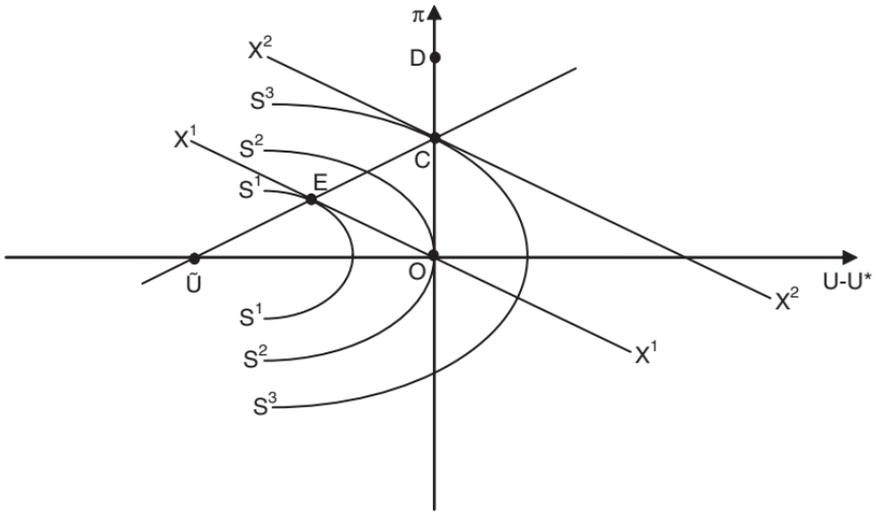
Time consistency models follow the pioneering work of Kydland and Prescott (1977) in attempting to chart the dynamic path which the economy follows in response to the government announcing the future course of its counter-inflationary policy. One important *ceteris paribus* clause embodied in such models is that the economy must necessarily pass through successive points of equilibrium (Stevenson, Muscatelli and Gregory 1988: 326–7). The dynamic path traced by the economy results from the fact that not all equilibrium positions are stable. In general, it is only a time consistent equilibrium which will be stable, whilst any time inconsistent equilibrium will be unstable (Currie 1985: 292–3).

An unstable equilibrium can arise for one of two reasons. (1) After the government has announced targets for its future inflation policy, it might subsequently find that society will experience short-term welfare gains if it ignores its own policy announcements and introduces surprise inflation. Given the assumption of rational expectations, the government will know instinctively whenever it has an incentive to treat its original announcement as non-binding, and on that recognition it will immediately focus policy on a different equilibrium (Calvo 1978: 1421). (2) If the government announces targets for its counter-inflationary policy from which the representative individual believes it has an incentive to deviate, the private sector will change its expectations of the path of future policy from that which the government originally announced to that which it subsequently has the incentive to follow. Given the assumption of rational expectations, this change in private sector behaviour will cause the latter path to materialise irrespective of the government's actual intentions, thus again shifting the economy to a different equilibrium (Sheffrin 1983: 93–4).

Defined formally, the context in which time inconsistency arises is when the government's "optimal ex-post strategy may differ from its optimal ex-ante strategy" (Rodrik 1989: 757): that is, when it is sub-optimal for the government "to continue with the initial plan if policy is subsequently reoptimised" (Miller and Salmon 1985: 124). The general idea is that the divergent interests held by the government and the representative individual always allow for the possibility that the path of a genuinely optimal policy announced at one point in time may no longer be optimal after time has passed and the initial implementation of the policy begins to have its effects on the economy (Cohen and Michel 1988: 263). In other words, the introduction of an optimal policy may change the nature of the optimal policy as time passes.

A time inconsistent policy therefore has a very strict definition. It does not follow the lay meaning of the word 'inconsistency', which might be read to imply that a policy is time inconsistent if its settings change from one time period to the next. Using the economic definition of 'inconsistency', a policy may well remain time consistent even though its settings change, so long as the government has no incentive to renege on its original announcement and thus deviate from the initial policy path. It is the existence or otherwise of the incentive to transfer from the pre-announced path in order to introduce surprise inflation which determines whether monetary policy is time inconsistent or not (Persson and Tabellini 1990: 157).

Figure 3.1 The Kydland and Prescott Time Consistency Model



Adapted from Kydland and Prescott 1977: 479.

In Kydland and Prescott’s model (Figure 3.1 above), the vertical axis denotes the prevailing rate of inflation ( $\pi$ ) and the horizontal axis denotes the prevailing rate of unemployment ( $U$ ) relative to its natural rate ( $U^*$ ). At points to the right of the vertical axis unemployment is higher than its natural rate ( $U > U^*$ ) and at points to the left of the vertical axis unemployment is lower than its natural rate ( $U < U^*$ ). Only at points on the vertical axis will unemployment be equal to its natural rate ( $U = U^*$  or  $U - U^* = 0$ ). The lines  $X^1X^1$ ,  $X^2X^2$ , etc. are short-run Phillips curves, along which the government can temporarily move the economy from right to left in order to trade off lower levels of unemployment for higher levels of inflation by engaging in surprise inflation.

However, given the assumption of rational expectations, the representative individual will know when the government has an incentive to renege on its previous policy announcements. Consequently, whenever the possibility of deviating arises, it will fully anticipate the government executing the move along a short-run Phillips curve. As a result, no point on the figure away from the vertical axis can be a stable equilibrium. The government has an incentive to try to hit points to the left of the vertical axis, because such points involve unemployment being lower than its natural rate. But even the possibility that the government will deviate from the optimal inflation path will trigger a reaction amongst the private sector. Given the expectation that actual inflation will be higher

than that announced as the government's target, the private sector will rebalance investment portfolios in an attempt to defend the existing social structure of wealth holdings. The result will be lower levels of productive investment and a consequent restriction of employment opportunities until the natural rate of unemployment is restored once again. The model dictates, then, that all possible stable equilibria must be at points at which unemployment is at its natural rate.

Where exactly the single time consistent equilibrium will be in any given set of circumstances will depend on the position on the figure of the curves  $S^1S^1$ ,  $S^2S^2$ ,  $S^3S^3$ , etc. These represent indifference curves denoting the social loss function, within which both inflation and unemployment are considered costly to society. The social indifference curves run concentrically outwards from the bliss point,  $\tilde{U}$ , where both inflation and unemployment are zero. Every successive social indifference curve illustrates a progressively larger cost to society. The government is assumed to be a vote maximiser, so it will aim to be on the lowest possible social indifference curve. This occurs when the short-run Phillips curve which passes through the government's target inflation level is tangential to the social loss function.

The dynamic policy path induced by the time consistency problem can now be relatively easily explained. Imagine that the economy starts at point D, which is an equilibrium position since unemployment is at its natural rate ( $U=U^*$ ), but the government is concerned that this is too high a rate of inflation. Imagine next that the government adopts a policy of zero inflation which is both clearly announced and which is accompanied by supporting proposals of how it will restrict the money supply accordingly. The government's intention is to move the economy to point O, where once again unemployment will be at its natural rate, but will this be a stable, time consistent equilibrium?

To be so, all members of the private sector must adjust their inflationary expectations so that they are consistent with zero inflation, but the Kydland and Prescott model says that this will not happen. The reason is that the short-run Phillips curve passing through point O does not coincide with a point of tangency to a social indifference curve at O. It cuts  $S^2S^2$  rather than forming a tangent. Significantly, though, from point O the government can lower society's overall loss by executing the move from  $S^2S^2$  to  $S^1S^1$ . This is achieved by using surprise inflation to move the economy right to left along the short-run Phillips curve  $X^1X^1$  in order to reach point E. Here, the government is in a vote-maximising position, because it has minimised the social loss function by moving to the lowest possible social indifference curve ( $S^1S^1$ ).

However, the economy is not in equilibrium at point E, because unemployment is below its natural rate. According to the model, this must necessarily activate a chain reaction which sees the private sector rebalance its investment portfolios until equilibrium is restored and unemployment is once again at its natural rate. The only time consistent equilibrium on the figure is point C. At this point, the economy is in equilibrium ( $U=U^*$  and private sector inflationary expectations are equal to actual inflation) and, moreover, the government has no incentive to engage in surprise inflation (because exploiting the short-run Phillips curve trade-off will not move the economy to a lower social indifference curve). Abiding by the terms of the Kydland and Prescott model, then, the dynamic policy path in Figure 3.1 is DOEC.

As a study in logic, the basic time consistency model has exceptional credentials. The dynamic policy path might well be driven by self-generating trigger points which exist only within the model itself, but nonetheless there is nothing to question here as a matter of logic. Moreover, it has also been extremely influential, as it has come to inform the way in which advanced industrialised economies undertake monetary policy, what the IMF prescribes as monetary policy best practice and how market traders predict dynamic policy paths when pricing their assets. Yet, as I hope to have shown in the manner in which I have presented the workings of the model, the economic explanation actually resides in the simplifying assumptions that are made in order to make the model mathematically tractable in the first instance.

Pride of place in this respect go to the assumptions which give the social indifference curves their distinctive shape and which dictate that the long-run Phillips curve is vertical and coincidental with the natural rate of unemployment. Whilst they are formally described in the model as assumptions of rational expectations and utility maximising behaviour, underpinning both is the prior assumption that capital is perfectly mobile with respect to space. Without that prior assumption, the social indifference curves would have a very different shape and the notion of a vertical Phillips curve would be unsustainable. Let me take these two claims in turn.

(1) Without the assumption of perfect spatial capital mobility, the social indifference curves would be much closer together. The unemployment effect of capital flight, for instance, is intensified the easier it is for investment positions to be liquidated in order to facilitate new investment positions overseas as a response to inflationary conditions at home. Referring back to Figure 3.1, the large distance which exists between the social indifference curves increases both the inflation cost

and the subsequent unemployment effect of the announcement of time inconsistent monetary policy. That is, it magnifies the distance – as measured in terms of prevailing inflation and unemployment rates – between point O and point C. Assuming anything other than perfect spatial capital mobility reduces the real economic cost of time inconsistent monetary policy, thus making time consistency less of a societal imperative.

(2) Without the assumption of perfect spatial capital mobility, there is no mechanism for enforcing a vertical long-run Phillips curve which is coincidental with the natural rate of unemployment. The vertical long-run Phillips curve arises only as the result of the private sector rebalancing its investment portfolios as a response to surprise inflation. This subsequently takes capital out of production and reverses the employment gains of the surprise inflation. Yet, if capital was anything other than perfectly mobile with respect to space, the government would be able to use tax incentives to retain private sector capital within production and therefore buttress the employment gains. In these latter circumstances surprise inflations would not have such a dramatic impact on the dynamic policy path as they do under conditions of perfect spatial capital mobility. Looking at Figure 3.1, there would be nothing to say that the move along a short-run Phillips curve – such as that from point O to point E – would be unsustainable.

The assumptions underpinning the Kydland and Prescott model are therefore very important to the ‘solutions’ which can be derived from the model (Currie 1985: 292). Moreover, such assumptions have also spilled over into practice (Lucas 1980: 2004), as has been noted by some important recent interventions into the IPE literature. Martin Marcussen (2006) has shown with great effect how central bankers have internalised time consistency models in order to argue for enhancing their own autonomy. Meanwhile, Layna Mosley (2003) has demonstrated equally strongly that financial traders have also internalised these models and embedded their predictions about future asset prices in the simulations which guide their trading strategies (see also Derman 2004).

Putting these two findings together reveals an interesting feedback mechanism. The more that traders incorporate the implications of time consistency models into their strategies, the more that this acts as some sort of policing device designed to tie central bankers to the lessons of the models. At the same time, the more that central bankers incorporate the implications of time consistency models into their practices, the greater become the incentives for traders to act as though the models are now established ‘facts’. Within this feedback loop we see the emergence

of what MacKenzie (2006) has dubbed strong performativity, whereby acting on the premise of a model's assumptions creates in practice the conditions which model parameters describe. Two crucial reforms to the institutional arena for monetary policy-making have tended to follow the increase in performativity of time consistency models.

(1) One key insight from the Kydland and Prescott model is that point O is time inconsistent because the private sector will not believe that the government will stick to the policy path consistent with that point (Muscatelli 1999: 241). If the government always has an incentive to renege on time inconsistent monetary policies, then the implications of the model are that the government's monetary policy-making responsibilities should be transferred elsewhere (Alesina and Gatti 1995: 196). This, at least, was the primary claim embodied in Kenneth Rogoff's extension of the Kydland and Prescott model, in which he makes the case for delegating monetary policy-making responsibilities to a conservative central banker (Rogoff 1985).

The idea here is to appoint a central banker who places a greater weight on low inflation than does society as a whole (Blinder 1999: 46–8). In such circumstances, society might well find announcements of a policy consistent with point O credible if they come from the conservative central banker rather than from the government (Persson and Tabellini 1990: 77). This is because the government, as a vote maximiser, will internalise the weight that society places on unemployment and, as such, it will always trade off higher levels of inflation for lower levels of unemployment along the short-run Phillips curve  $X^1X^1$ . By contrast, conservative central bankers have no need to think in terms of vote maximisation and no need to internalise society's inflation preferences. Indeed, they will be selected specifically because they do not share those preferences, but place a greater weight on low inflation than does society. As such, conservative central bankers will experience no temptation to inflate the economy along the short-run Phillips curve  $X^1X^1$ . Thus, conservative central bankers might well have the credibility which the government lacks to make a time consistent announcement of inflation targets appropriate to managing the economy at point O.

The Rogoff extension is important to scholars of IPE because, whenever its insights are incorporated into the performative elements of time consistency models, they represent a decisive narrowing of policy options. After all, the only reason to select a conservative central banker is to restrict the scope of likely interventions in the productive economy via monetary policy. A conservative central banker can only be expected to respond to demands for conservative monetary policy, otherwise the

government may as well retain the initiative for monetary policy-making. However, by establishing such a structure for taking policy decisions, many forms of progressive political mobilisation might well be rendered redundant. At the very least, problems of both representation and accountability will be opened up if society is successfully mobilised to progressive alternatives but then the mandate to enact them is negated by an uncooperative conservative central banker.

(2) The other key insight from the Kydland and Prescott model is that the government must seek to enhance its own credibility (Rodrik 1989: 756). The goal for the government is to reach the position from which it can make announcements on which the private sector knows it has incentives to renege, but which the private sector will still believe because it does not expect the government to act upon those incentives. This is all about developing a reputation for making credible counter-inflationary announcements (Drazen 2000: 114–16). This aim forms the core of Robert Barro and David Gordon's extension of the Kydland and Prescott model, in which they focus on the reputational benefits of pre-committing to a particular policy path and then sticking assuredly to it (Barro and Gordon 1983).

The idea here is to demonstrate that intervening events will not distract the government from its stated policy course. The government enjoys gains to its inflation fighting reputation in direct proportion to the size of the employment shock it is willing to ignore in order to preserve the integrity of its commitment to its original policy path. A government enhances its counter-inflationary reputation, then, by showing that it is no longer willing to internalise society's inflation preferences by exploiting moves along a short-run Phillips curve (Backus and Driffill 1985: 535–6). In order to derive the desired reputation, the government cannot act like a vote maximiser, but must give the impression that it is disinterested in the electoral consequences of its behaviour (Minford 1995: 195). In effect, it is required to act less like a government and more like a conservative central banker. When subjected to performative dynamics, the Barro and Gordon extension has similar implications for the sphere of democratic politics as the Rogoff extension.

In both of these solutions the same thing becomes clear: if the time consistency problem is to go away, then society's unemployment preferences have to be ignored. Whenever those preferences are taken into account, the dynamic policy path necessarily involves the move to point C on the figure. However, by creating policy-making institutions which are increasingly impervious to societal pressures, points with an inflation rate lower than that at C become possible. There is no

guarantee, though, that these points will be socially costless. Indeed, much evidence exists to suggest that designing institutions specifically to combat the time consistency problem involves real losses in terms of foregone output and, in turn, higher levels of unemployment than would otherwise have been the case (e.g., Cornwall and Cornwall 1998: 52; Gabel 1998: 92; Muscatelli 1999: 251–2). Implementing monetary policy on the lessons learned from time consistency models therefore entails the introduction of inflation overkill policies.

Such policies have been subjected to important dynamics of lock-in, irrespective of whether governments appoint conservative central bankers or internalise the policy stance of conservative central bankers for the sake of their own counter-inflationary reputation. In either case, as soon as the decision has been taken to act upon the inflation preferences of the conservative central banker rather than the inflation preferences of society, incentives arise to undertake additional institutional reforms which will make the chosen inflation path more credible and, therefore, more robust (Keefer and Stasavage 2002: 753). In country after country, conservative decision-makers have attempted to naturalise their conservatism on questions of inflation policy by creating conditions which deliberately magnify the costs of failed inflation policy (Maxfield 1997: 8). This has had the effect not only of tying their own hands when it comes to discretionary interventions into the economy, but also of tying the hands of any successor government that might be inclined to act in this way (Minford 1995: 199–200). Institutional reform can therefore be used as some sort of enforcement mechanism for strict counter-inflationary policy.

The most straightforward way of generating external enforcement of this nature has been to engage in the wholesale relaxation of existing systems of capital controls. This increases the spatial mobility of capital, and the more that spatial mobility options come to resemble the perfect mobility of time consistency models, the greater the implied costs of running inflation rates which exceed the world average. In such circumstances, rationally-minded investors are likely to want to liquidate investments which are most susceptible to losing value due to the effects of inflation. In the absence of formal capital controls to limit their reinvestment options, they can then be expected to explore the possibility of relocating their savings to low inflation countries overseas (Porter 1996: 681). By withdrawing the main institutional safeguard which might once have allowed them to act upon the economic priorities of society, governments have made it increasingly difficult to do anything other than to internalise the inflation preferences of the conservative

central banker (e.g., Cukierman 1992: 21; Pauly 1997: 140; Groeneveld 1998: 191). The cost in terms of potential capital flight may well be considered too prohibitive to allow them to contemplate any other stance.

The policy norms associated with time consistency models are thus entirely different to those of a former era in which economic theory decisively refuted the idea of a natural rate of unemployment. This is much more than coincidence. For, it is the assumption of a natural rate that propels the internal logic of time consistency models. As such, it is also the assumption of a natural rate from which all the performative implications of time consistency models flow (whether in their original form or in either the Rogoff or Barro and Gordon extensions). The withdrawal of an institutionalised system of capital controls is part of that performative loop, and it helps to bring time consistency models to life.

The removal of capital controls restricts governments' policy options at the same time as it enhances investors' spatial mobility options (Garrett 2000: 121). It therefore increases society's susceptibility to the propagation of financial risks arising from an attempt to defend asset prices from the effects of inflation. Yet, such risks cannot be discussed within the framework of time consistency models, even though acting upon the prescriptions of the models encouraged governments to cede their capital controls, because the models' constitutive assumption of rational expectations rules them out by definition. The same is true in relation to the models of financial decision-making that I discuss in the following section. Acting on the implications of those models engineers new forms of speculation risk within the pricing structures of financial markets, but their existence is masked by the assumption of rational expectations. Once again, then, the models are silent on the risks which internalising their lessons helps to create.

### **The options pricing problem and the creation of speculation risks within financial markets**

The options pricing problem was initially stated with respect to the stock market, and the effort that was put in to deriving its solution was driven by the unpredictability of stock market prices. Indeed, economists tend to work with the assumption that stock price movements follow a random walk (e.g., Working 1934; Samuelson 1965; Scholes 1998; Ayres 2000 [1963]; Roberts 2000 [1959]). To state this formally, it is taken as given that stock prices are serially uncorrelated looking forward in time: one price movement is just as likely as another within

the parameters of a normal distribution. Very few large-scale empirical studies in economics have been able to reject the random walk hypothesis. There have been exceptions (e.g., Keim and Stambaugh 1986) but, in general, analyses of this nature have received much less attention than those that support the random walk hypothesis (e.g., Fama 1970).

However, testing the random walk hypothesis against past changes in stock prices reveals, at best, an incomplete fit. The major difference between a random walk and actual time series data on stock prices tends to be that the data show fatter tails than those of a normal distribution (Lo and MacKinlay 1999: 18). In other words, there is a much greater probability of experiencing a day of considerably larger profits (i.e., speculative gains) or losses (i.e., the manifestation of speculation risk) than the mathematics of the normal distribution predicts. The former are likely to fall in the midst of a stock market bubble and the latter in the midst of a stock market crash. But, as the general pattern of stock price changes mimics the shape of the normal distribution, most economic models of financial decision-making simply ignore the existence of fat tails in the data (LeRoy 1989: 1589–92). As such, they are constructed on the basis of the random walk hypothesis, which suggests that returns on stock portfolios will always be distributed symmetrically (Malkiel 1999: 203–4).

Random walk theories are closely associated with the assumption that stock markets price all assets efficiently. Given the auxiliary hypotheses on which it rests, the notion of efficient markets is clearly an idealisation (Lo 2000: x). For it to hold in practice, every participant in the market must be fully rational, and they must have an instinctive capacity to process all relevant information relating to all stocks into their expectations of future prices. Understood literally, the presence of just one trader who invests on a whim and backs hunches rather than relies on rationally-based calculations reflecting full information is enough to prevent the market from being efficient. Yet, still the efficient markets hypothesis represents the starting point for all mathematically tractable models of options pricing (Jensen 1978: 95; see also Hudson 2005: 75–6).

Using Paul Samuelson's formal definition of an efficient market (1965: 41), the emphasis is placed upon both the presence and the use of information. Under conditions of perfect information, if price changes are properly anticipated, then prices must be impossible to forecast. Eugene Fama's more straightforward definition of an efficient market might help to resolve this seemingly anomalous assertion that fully anticipated price changes lead to unpredictable prices. Fama (1991:

1575) argues that a market is efficient if prices fully reflect all available information. Every market participant must be able to factor into their own expectations of future price trends every other market participants' expectations of those same trends. These other expectations will be distributed normally, with the long-term increase in the stock market index acting as the median of the distribution. As such, the more efficient a market becomes, the less possible it is to forecast correctly which way prices will move next, because the price change generated by such a market will be increasingly random (Merton 1980: 324).

This is all very well as far as it goes, but it only provides a probabilistic explanation of financial price movements. As yet, there is no economics in the explanation, but it would seem reasonable to assume that the dynamics which propel changes in asset prices are economic in origin. Consequently, it is necessary to add further assumptions about investor behaviour. It has to be assumed that, in every time period, investors will maximise the profits that they can make from whatever informational advantage they hold in relation to a freely available stock (Shleifer and Vishny 1997: 37). As a result of such behaviour, they will quickly impose their informational advantage on the pricing mechanism of the asset, but the ensuing price changes reveal the nature of their informational advantage to other investors. Acting on their advantage therefore subsequently erodes it, and the profit opportunities opened up by the new information evaporate as soon as that information is shared (Merton 1973: 143).

Although it is not formally expressed in these terms, the economic dynamics which produce efficient market outcomes rely on the presence of perfect functional capital mobility. In order for investors to be able to exploit small information advantages and to turn them into profit-making opportunities, they must be able to rebalance their investment portfolios with immediate effect as soon as it becomes clear to them that they are in possession of new price-sensitive information. There must be no impediments which prevent them from liquidating existing investment positions so that they can take on new investment positions consistent with their information advantage. If it is time-consuming, costly, or otherwise difficult for investors to liquidate their initial investment – whether within or outside the stock market – then the information advantage they hold with respect to a particular stock immediately becomes less valuable to them in monetary terms. Yet, if investors are unable to transpose their holdings easily from one position to another, then there can be no mechanism through which the stock market becomes efficient. Thus, to be working with the efficient markets

hypothesis must necessarily be to internalise the assumption of perfect functional capital mobility. The significance of this observation will hopefully become apparent as the analysis unfolds in the remainder of this section. What remains to be done first is to demonstrate the significance of the efficient markets hypothesis.

The efficient markets hypothesis takes on economic meaning to the extent to which it can be used to inform optimising investment strategies. The seminal contribution to this tradition of thought is contained in the work of Harry Markowitz (1952, 1959). In terms of pointing the way towards what would follow, Markowitz's most important insight was to demonstrate that the whole process of investing revolves around risk (Bernstein 1992: 47–8). For the first time, this allowed models of financial decision-making to be devised which had nothing to do with the ability to pick winners. Instead, they could be constructed around themes which were well known to those who were familiar with what Uskali Mäki (2001: 6–7) calls the 'economics worldview'.

The Markowitz approach is chosen here to start the review of the most important developments in financial economics because, in a significant sense, it came to define the field (e.g., MacKenzie 2006). Markowitz began writing in the early 1950s. By that time, the influence of Samuelson's *Foundations of Economic Analysis* (1947) was such that it had already made significant inroads in redefining the economics worldview in its own image. As a result, Samuelson's use of differential calculus began to dominate economic methodology, to the point at which the study of economic behaviour increasingly became the study of behavioural patterns consistent with turning points in differential equations (e.g., Tabb 1999: 13–14; Colander 2001: 35). All economic agents thereby had to be, by definition, either maximisers or minimisers if their conduct was to be understood through the perspective of formal economic models. Markowitz's financial decision-makers fitted perfectly into such a framework, because the sole condition for their investment decisions was to minimise the risk to which they were exposed. This perspective fitted well with dominant trading practices, which for two generations at least by the time that Markowitz was writing had shifted from emphasising past performance to emphasising expected performance.

Markowitz's search for formal rigour and mathematically tractable principles of investor behaviour immediately curtailed his discussion of the nature of financial risk. It limited all such discussion to the risk that is embodied in the very practice of holding assets. This type of risk – what I have called depreciation risk – arises from the lack of certainty that a buyer will be found in the future who will pay at least as much

for the asset as the investor paid for it in the present. However, this is only one of the three generic types of financial risk outlined in Chapter 1. Markowitz's approach can say nothing about the other two. It must remain silent on the contamination risk that emanates from financial markets in the interests of preserving the existing social structure of wealth holdings, because it treats financial decision-making as an isolated activity which abstracts the individual from society. It must also remain silent on the speculation risk that is engineered by traders in order to harness the process of financial innovation to their own advantage, because it places the individual in a context in which the only decision to be taken is which stocks to buy and sell in order to achieve a balanced portfolio.

Markowitz's focus on the depreciation risk that is embodied in the very practice of holding assets led him to an important observation concerning the source of that type of risk. He noted that, in general, there were actually two quite distinct sources. One related to the way in which the price of a given stock would vary due to factors linked specifically to the company issuing the stock. The other related to the way in which the price of a given stock would vary due to factors linked to the state of the stock market as a whole. Markowitz's most fundamental insight was that, whilst investors were powerless to do anything about the depreciation risk resulting from company-specific factors, they could do something about the depreciation risk resulting from general pricing trends within the stock market as a whole.

The former assertion is consistent with the random walk tradition in which Markowitz works. He assumes the presence of an efficient stock market and, as such, the variance in price of every stock from its long-run average on any given day is distributed normally. In a market of this nature, it is impossible to have such an information advantage as to render individual stock price movements predictable. Yet, if it is not an individual stock price movement but the relative movement of a number of stock prices in which the investor is interested, this might be a different matter. Investors who diversify their portfolios to include stocks that are likely to be affected in different ways by the same underlying shock to the stock market might well find that the variance in individual stock price movements comes close to cancelling one another out.

According to the principles of differential calculus, minimising the depreciation risk of the portfolio as a whole occurs when the variance in individual stock price movements exactly nullify each other (Markowitz 1952: 78–9). In such circumstances, investors still experience

depreciation risk on their individual stocks, but the short-run depreciation risk of their suitably diversified portfolio is zero (Tobin 1958: 71). Of course, such a perfectly balanced stock portfolio is exceedingly hard to construct in practice, but there are some simple rules-of-thumb thrown up by the Markowitz approach which help investors to take advantage of increasing, if not quite perfect, portfolio balance.

Burton Malkiel, whose random walk theories of the stock market are themselves cast in the Markowitz tradition, describes the mathematics of modern portfolio theory as “recondite and forbidding” (1999: 207). Yet, he suggests that, in general, twenty equal-sized and well-diversified stocks will yield reductions in portfolio depreciation risk which are not too dissimilar to those of the fully specified mathematical solution (*ibid*: 212). Markowitz himself calculated that a portfolio of fifteen stocks chosen entirely at random will only display 5% more price variance than a portfolio of one hundred stocks chosen at random (Bernstein 1992: 54).

Subsequent refinements of portfolio theory adopted the basic framework of the Markowitz approach but sought to push the notion of the optimal portfolio still further. All the time, this served to embed the Markowitz approach as the professional common sense of financial economics. In the search for generally specified equilibrium investment conditions, the next major development was the publication of William Sharpe’s Capital Asset Pricing Model (1963, 1964, 1970). Known more commonly by its initials, the CAPM approach incorporates two important empirical findings. The first is that there is, in general, a difference between the direction and magnitude of price variability when comparing the trajectory of individual stock prices. Whilst stock prices on the whole are more likely to move in the same rather than in opposite directions on any given day, the strength of that move is far from uniform (Treyner 1965). The second is that the single most significant influence on what will happen to the price of an individual stock on any given day is what will happen to the level of the stock market index as a whole (Roberts 2000 [1959]).

Sharpe’s proposition was that, under these conditions, any attempt to adopt a selectively diversified portfolio in the manner of the Markowitz theory necessarily led to behaviour which was out of equilibrium. This was due to the overbearing, but individually random, influence that the stock market index bears upon the price of particular stocks. Selectively diversified portfolios cannot eliminate the random element of that influence and, therefore, choosing such a portfolio cannot be an optimising strategy. The goal must be to eradicate the disequilibrium aspects

of choosing individual stocks from within the overall market of potential stock purchases in circumstances in which price trends of the market as a whole affect the price trends of individual stocks. Using more complex mathematics than Markowitz, Sharpe was able to show that this desirable situation arises only when investors choose to buy and hold the market as a whole. In other words, the random character of the influence of the market index on individual stock prices can only be eliminated when the investor is exposed to every stock which comprises that index. According to the CAPM, no portfolio other than the entire market results in equilibrium behaviour on the part of the investor.

The next major breakthrough in portfolio theory came in the early 1970s, and it was based on the recognition that intervening periods of financial innovation had changed what it meant to be holding a balanced portfolio of stocks. In Markowitz's and Sharpe's days, this meant diversifying as broadly as possible amongst stocks, but holding only stocks. By the time that a subsequent generation of scholars approached the same question, it had become possible to reduce the potential price variability of a stock portfolio by complementing the stock holdings with holdings of other, related assets. The key in this respect was to be holding assets which performed in exactly the opposite way to the stocks following any given price shock to the stock market index as a whole. Whilst actual markets in such assets did not exist at that time, economists were able to work with a hypothetical notion of an optimal options contract in order to devise an alternative derivation of the equilibrium stock portfolio. Equilibrium could only be achieved, though, when the mathematical formula for the 'correct' options pricing structure was worked out.

Two different papers were published in 1973 which specified the basic terms of that formula. The first was a paper by Fischer Black and Myron Scholes (1973), which put in place the mathematical structure on which the formula was to be based, and the second was a paper by Robert Merton (1973), which provided a more rigorous proof that the options pricing problem had been resolved than Black and Scholes had been able to present themselves. The Black-Scholes formula is a product of the efficient markets tradition of financial economics (Bernstein 1992: 212), but an important question remains as to whether there is actually any economics in it. At the very least, neither risk nor expected return, the two properties which give genuine economic meaning to efficient market models, are present within the formula (Gastineau 1996: 26). Given a series of initial simplifications and then complex mathematical moves, the risk and expected return can be shown to directly offset one another.

The formula itself is entirely mechanical and its solution is intrinsic to the mathematical structure of the equation rather than being contained in the underlying economics of options pricing (Feinstein and Goetzmann 1988: 6). Merton extended the analysis by setting the Black-Scholes efficient markets equations within the context of his own preferred general equilibrium approach. This added the finishing touches of economic respectability to Black and Scholes's pure mathematical logic and it hinted at offering more robust economic foundations for the following options pricing formula:

$$C = S N(d_1) - E e^{-RT} N(d_2)$$

where:  $C$  = the 'correct' option price, as determined by the way in which Black, Scholes and Merton set up the problem in the first place

$$d_1 = (\ln(S/E) + [R + (1/2)\sigma^2] T) / \sigma \sqrt{T}$$

$$d_2 = d_1 - \sigma \sqrt{T}$$

$N(d_1), N(d_2)$  = cumulative normal probability values of  $d_1$  and  $d_2$  respectively

$S$  = stock price

$E$  = exercise price of the option

$R$  = the risk-free rate of interest

$\sigma$  = the instantaneous variance rate of the stock

$T$  = time to expiration of the option

Yet, we should not be fooled into assuming that what emerges is a genuinely economic solution to the options pricing problem. It is only necessary to have a basic grasp of algebraic principles to see that  $C$ , the equilibrium options price designed to solve the Black-Scholes-Merton equation, depends crucially upon the two probability distributions  $d_1$  and  $d_2$ . But these are not derived economically and neither can they be explained in economic terms. Instead, they are assumptions which are made to facilitate the possibility of setting the problem up as one which has a solution. The genuinely economic model parameters have only a subsidiary effect on the value of its solution, with that value being primarily driven by the assumption of a normal distribution in stock prices. Remember, though, that this is a flawed specification of actual patterns of stock prices, which in practice have much fatter tails than the assumption of a normal distribution says is possible.

It is in this mis-specification that we can begin to see how excessive adherence to trading strategies based on the Black-Scholes-Merton

formula might lead to the creation of new financial risks. The options pricing formula may well be based on a lack of genuine economic content, but it is nonetheless used for economic purposes. It provides practical guidelines for investment strategies insofar as it is able to 'show' investors how to construct an essentially risk-free hedged position (Jacobs 1999: 22). It is therefore devised very much in the spirit of Markowitz's portfolio theory, but it requires none of the complications of having to hold a portfolio which is consistent with the market as a whole, as is implied by Sharpe's CAPM approach (Mehrling 2005: 130–1). The key to eliminating depreciation risk using the Black-Scholes formula is to construct an options position whose value is equal to that of the related portfolio of stocks, but one where an unexpected shock to the underlying market environment will have directly compensating effects on the two values. In such circumstances, what might be lost on the portfolio of stocks will immediately be made up for on the options position.

The Black-Scholes formula therefore provides a closed-form equation which stipulates a precise price at which options should be bought and sold in order to ensure that all depreciation risk is hedged. As the hedged position will be risk-free, the return on that position will equal the short-term risk-free interest rate (Black 1989: 4). This in turn is a unique solution, which provides investors with a simple trading rule associated with the price at which stock options should be bought and sold. The only non-observable variable underpinning this trading rule is the variance rate of the related stocks (Merton 1980: 325). However, it is taken as given from the efficient markets approach that price changes to individual stocks follow a random walk (Jackwerth and Rubinstein 1996: 1631).

It had been recognised quite some time before the development of the Black-Scholes formula that options could be used, theoretically at least, to convert one investment position into another. Moreover, this required the investor to do relatively little, retaining all the initial holdings and simply adding the correct options holdings in order to transform the likely performance of the original portfolio. For instance, in a paper which proved to be an important forerunner for Black and Scholes, Richard Krueger (2000 [1956]: 475) demonstrated how buying a put option to sell a stock at a specified trigger price whilst actually owning the stock as well created exactly the same portfolio characteristics as if a call option had been held on the stock in the first place. Similarly, purchasing the stock on which a call option is already held converts the original portfolio characteristics so that they are the same

as if a put option had initially been held. As a result of this demonstration, Herbert Ayres later argued (2000 [1963]: 611) that equilibrium trading amongst investors required that they treat options and their related stock as a single, integrated investment opportunity. This, remember, was still a long time before the development of liquid options markets which could make such integrated trading possible. But the logic of using options to convert one investment position into another was already established before then.

Merton realized straightaway (1973: 168–9) that the publication of the Black-Scholes formula showed that it would always be possible to extend Kruiuzenga's insight and replicate the dynamic path of returns to any one of a stock, a stock option or cash by deriving the optimal portfolio combination of the other two. From this time onwards, investors have been able to create perfectly replicating positions in stocks by using only the related derivative instruments combined with cash (Feinstein and Goetzmann 1988: 3–4). Conscious exposure to changes in stock prices in order to make speculative gains therefore no longer requires that the investor has holdings of actual stocks, which makes it much more difficult to take preventive action against speculative pricing dynamics via regulation. With sufficient creativity on the part of the investor, interlinked stock and stock option positions can be put together to establish an overall holding which has all the characteristics of a synthetic cash position (Jacobs 1999: 27). This in turn renders it much less likely that a highly skilled investor who is familiar with the principles of options replication theory will make substantial losses from speculative investments. As a consequence, it creates incentives for investors to act speculatively.

In order to expand on this claim, consider the following example. An investor will make money on any speculative investment so long as someone else can be found at a subsequent point in time who will purchase the same investment position at a higher price. By extension, an investor will lose money on a speculative investment whenever there is a temporary absence of buyers for that investment position above or at the price that was paid for it. But now imagine that the investor responds to the prospect of holding a loss-making position in stocks by replicating the characteristics of that position using an array of stock options. Employing the Black-Scholes formula to create a perfectly symmetrical position in stocks, the skilled investor can conceivably transform the balanced portfolio of stocks and stock options into a synthetic cash position.

In other words, from starting with a speculative position on the stock market, it is possible to convert such holdings into assets which are

identical in nature to cash and behave in exactly the same way as cash. By treating stocks and stock options as a single, integrated investment opportunity, investors can eliminate the dangers posed to their holdings by the sudden emergence of a general unwillingness amongst other investors to buy their stocks from them. Irrespective of what happens to prices on the stock market, investors will be able to transform their stock holdings into a synthetic cash position. Given this, the incentive to speculate is heightened, because the skilled investor will always possess a get-out clause from their original speculative position in terms of their ability to use stock options to turn a faltering stock position into cash.

The greater the degree of functional capital mobility, the easier it is to liquidate other investments in order to free up capital which can then be used to create perfectly replicated positions in stocks through the use of stock options. In turn, though, the greater the degree of functional capital mobility, the greater is the incentive investors experience to speculate. This is because the enhanced functional mobility facilitates an easier exit from potentially loss-making stock positions by transforming them with stock options into synthetic cash positions.

Of course, higher levels of speculative activity lie at the heart of new forms of financial risk which are deliberately engineered by traders seeking to earn high multiples on their investment positions. Moreover, much of this speculation risk is created within the fat tails of stock prices that the assumption of a normal distribution rules out by definition. Acting upon the intuition, the implications and, crucially, the mis-specification of the Black-Scholes-Merton formula therefore increases the risks which are generated for society by everyday patterns of trading within financial markets. The innovation which has occurred over the last thirty years has enabled a new range of financial instruments to be bought and sold in much the same way as Black and Scholes described in the hypothetical environment which features in their 1973 paper. The result has been that their options pricing formula works better in its own terms (e.g., MacKenzie 2006: 32, 37–8, 166), but this also makes society increasingly susceptible to the risks which are engineered when investors are able to construct increasingly risk-free speculative positions. Given their underlying assumptions, models which purport to solve the options pricing problem cannot even begin to discuss these types of financial risks. But they are nonetheless present, and they are facilitated by the high levels of functional capital mobility which the models take as given and which adherence to the models has propelled in practice.

## **Conclusion**

Two important conclusions follow from the preceding pages for the analysis which is to be found in later parts of the book. The first is that both time consistency and options pricing models are the source of new financial risks which the models themselves cannot discuss. This theme is revisited, as well as being shown to apply in different ways, throughout the illustrative empirical chapters (Chapters 5 to 8). Economic knowledge can thus be shown to be anything other than socially neutral. By acting on its maxims some groups of actors are able to exploit new financial risks for their own gain, whilst others are forced to adapt to the adverse social consequences resulting from the creation of those risks.

The second major conclusion is that these models became the template for subsequent processes of institutional adaptation. Reforms have been undertaken on a more-or-less systematic basis in order to create in practice the same kind of institutional environments which were originally nothing more than simplifying abstractions to make the models mathematically tractable. In particular, great effort has been expended to produce something close to the conditions of perfect capital mobility (in both its spatial and functional dimensions) which the models depict. I turn in the following chapter to study the political decisions through which the mobility of capital was reconfigured in order to become a better match for the institutional environment described by time consistency and options pricing models.

# 4

## The Historical Conditions for Recent Increases in Capital Mobility

### Introduction

International financial orders are historically produced and are created through direct political interventions (e.g., Langley 2002: 104–20). The dominant economic theories outlined in the previous chapter may well provide intellectual support for the maintenance of a liberal international financial order, and their continued acceptance amongst the economics profession almost certainly restricts the debate about feasible alternatives to such an order. However, they are not, in and of themselves, directly responsible for its creation. The formally constitutive moment of any international financial order arises at the point at which deliberations about the preferred form of international economic relations reach a temporarily definitive conclusion.

Therefore, the process through which an international financial order is established must be seen as one of political struggle. It might appear to have intermittent periods of apparent resolution, but it can always be reactivated given the force of events. Political struggle over the financial structures of everyday life will persist for as long as there is political struggle over the type of society to be preferred. However, the current highly liberalised international financial order may prove to be an important exception to this rule, insofar as its reproduction only partially requires general societal consent and, as a result, it often appears to bypass the dynamics of political struggle.

One point to ponder in this respect is the extent to which recent increases in the mobility of capital preempt much of the discussion about how best to organise international finance in line with agreed social priorities. This is an issue to which I return in the conclusion to the chapter. For now, it is sufficient to note that capital mobility acts

as a protective mechanism for a highly liberalised international financial order. Linked investment decisions to exit one position in order to enter another serve to police the regulatory boundaries of the market environment, and they do so in a way which increases the likelihood that policy-makers will adopt liberal regulatory forms (e.g., Bienefeld 1992; Wade 1998; Gelleny and McCoy 2001; Swank and Steinmo 2002). Indeed, it might be argued that policy-makers will be likely to shy away from even *discussing* the possibility of progressive financial regulation because asset holders can now issue such credible exit threats against governments that declare a preference for anything other than today's light-touch prudential regulation. If this is true, then the liberal international financial order appears to have become something of a self-reproducing entity.

However, raising such a possibility at this stage is to run in front of the argument, as it does nothing to explain how the liberal international financial order was created as a matter of political design in the first place. In order to achieve this task, the chapter proceeds in three stages. In section one, I use Benjamin Cohen's typology of four different organising principles for the world's money to suggest that today's liberal international financial order is based on the principle of 'automaticity', at least with respect to the pricing structures of asset markets. I pay particular attention to tracing the political bases on which the principle of automaticity rests, focusing on the complex process through which finance is disembedded from society (in terms of the lack of social regulation of pricing structures in financial markets) at the same time as society is becoming ever more deeply embedded into financial markets (in terms of relying on capital gains from asset-based wealth for funding future consumption). In sections two and three, I show how this principle has shaped the historical evolution of the international financial order such that it now exhibits its highly liberalised form. In section two, I focus on the political decisions which have had a cumulative impact on the spatial mobility of capital and which, taken together, have resulted today in spatial mobility options that sustain a liberal international financial order. In section three, I build up a similar chronology of events with respect to the political decisions which have facilitated important increases in the functional mobility of capital.

### **Liberal automaticity: disembedding pricing structures, but embedding society**

Since the 1970s, the process of institutional redesign governing the buying and selling of financial assets has concentrated on eliminating

external controls that affect the price at which transactions take place. This has produced a situation which is consistent with Benjamin Cohen's definition of automaticity (1977: 9) as "a self-disciplining regime of rules and conventions". The rules in question refer to a series of legal measures which ensure that contractual obligations are respected, whilst the conventions re-establish the sense that financial markets exist in a realm of private property relations where governments have only minimal formal authority (e.g., Kristensen and Zeitlin 2004).

Cohen contrasts automaticity with three other principles of organisation, which he calls supranationality, hegemony and negotiation. (1) A supranational regime implies the existence of an autonomous international institution, such as a world central bank, which creates a system of asset price determination appropriate to the satisfaction of a collective global economic interest. (2) A hegemonic regime implies the existence of a leading country, such as the oft-cited *Pax Americana* of the immediate post-Second World War era, which regulates a system of asset price determination in line with its understanding of what is best for the world economy. (3) A negotiated regime implies the existence of a set of intergovernmental institutions, modelled perhaps on the United Nations, which allow elected officials access to an inclusive participatory system for deciding the preferred structure of asset prices (Cohen 1977: 197–268).

In recent years, we have seen the deliberate creation of an integrated system of financial markets, where activity on each market responds to pricing dynamics which are determined within the market environment itself. Traders are able to stay in their trades until the point is reached at which they are either unable or unwilling to commit more money to maintain their current position within the prevailing structure of prices. It is as if the pricing structure acts as the primary regulator of modern financial markets. This suggests that the move to a highly liberalised international financial order results from the eclipse of the organisational principles of supranationality, hegemony and negotiation. Order is maintained in today's markets through the voluntary act of transferring ownership of assets between two parties at an agreed price. This is often told as a story of public authority being increasingly withdrawn from the market environment, such that governments play an ever more restricted role in fixing financial prices in line with the public interest (Strange 1994: 110–18). The logic of market-based exchange has thus been allowed to dominate, which is seen as a reassignment of the power of financial price determination into private hands. To almost all commentators, this represents the 'novelty' of current conditions.

Two points need to be raised straightaway in this respect. The first is that, when looking at the two markets which are the focus of this book, there is a different degree of novelty in the extent to which current regulatory conditions are dominated by automaticity. Academic analysis of the international financial order tends to concentrate on the relationship between an institutionalised system of capital controls and the process of exchange rate determination. In other words, it is typically focused on the outcomes of trading activities within the foreign exchange market. From this perspective, the present extent of automaticity can indeed be seen as a relatively recent phenomenon. It is, after all, an artefact of the collapse of the Bretton Woods system of fixed but adjustable exchange rates in the early 1970s, as well as the subsequent decision of governments to systematically withdraw their capital controls. It is therefore a situation that has been only thirty years in the making. By contrast, there is nothing recent about organising the stock market on the principle of automaticity. Ever since its formal inception, stock market trading has been conducted on the basis of voluntary association, whereby prevailing price levels have been set by free exchange. In anything other than isolated incidents of systemic market distress, governments have resisted the temptation to intervene in a regulatory capacity to ensure that stock markets produce price levels which are consistent with the public interest.

The second point to raise is that, even though the foreign exchange market has only relatively recently come to be organised on the basis of liberal automaticity, this is not the only example of an automatic self-disciplining regime in that market's history. Indeed, the process of removing the capital controls which supported the Bretton Woods system had only just begun when Cohen was writing in the mid-1970s, so he had not had the chance to observe a period of liberal automaticity along the lines of today's market-based system of free exchange. The period of automaticity that Cohen talked of was the brief interlude of the Classical Gold Standard from the 1870s to the outbreak of the First World War (Cohen 1977: 77). The Classical Gold Standard locked the currencies of all participating countries to a fixed price denominated in gold, and this was the same as having a pure fixed exchange rate regime (e.g., Bordo and Schwartz 1984; Eichengreen and Flandreau 1997; Wilson 2000). Changes in the price of a country's currency could not be engineered by central bank activity on the foreign exchange market, so balance-of-payments adjustments had to come instead from changes in output and the subsequent effect of such changes on commodity prices. The fixed link between the price of all currencies and the

common denominator of gold guaranteed automatic adjustments and, hence, the stability of the system as a whole.

With these important qualifications in mind, two further points now need to be made in relation to the assumption of qualitative novelty in today's international financial order of liberal automaticity. In the first instance, whilst the tendency to promote liberal automaticity is not unique to the contemporary world, we must be careful not to dismiss the notion of novelty altogether. What is new is the extent to which the two financial markets that do most to shape the credit economy and the distribution of private wealth at the global level – the foreign exchange market and the stock market – form part of an integrated whole of liberal automaticity when viewed through the perspective of their pricing structures.

The first recorded documentary evidence of an explicit international financial order dates to the Roman Empire, and numerous attempts were made during the Middle Ages to impose a dominant currency in order to stabilise cross-border commercial activities, before the dominance of Britain's trading position following the Industrial Revolution allowed the British Government to establish the first modern international financial order based on gold in the early nineteenth century (e.g., Braudel 1973; Bernstein 2000). However, all of these orders were founded on the external imposition of limits on the degree to which currency prices would be allowed to fluctuate. They represented conscious attempts to prevent the process of price determination from responding solely to private patterns of buying and selling on the foreign exchange market. Given the long history of international financial orders, it is a very recent decision to reverse these attempts and to treat the exchange rate not as a public good but as a private property relation.

This leads to a second aspect of novelty. The automaticity of the Classical Gold Standard was clearly based on a political bargain and, even though it restricts the degree of formal political control of the exchange rate, so too is today's system of liberal automaticity. There is consequently nothing which sets today's system apart from its predecessors in the fact of its political construction. What is novel, though, is the objective of the political bargain. All attempts to create an international financial order containing automatic self-adjustment up to and including the Classical Gold Standard represented attempts to provide autonomy for the governments committing themselves to the bargain. Whilst the Classical Gold Standard required necessary macroeconomic adjustments to ensure the preservation of parity with gold (e.g.,

Simmons 1994; Gallarotti 1995), this was within the context of governments having previously chosen what they considered to be the most appropriate par value to allow them to execute their preferred macro-economic stance. Indeed, the automaticity of the Classical Gold Standard worked precisely to defend that chosen par value. As such, the power to determine currency prices lay with governments rather than with the traders who were active on the foreign exchange market.

The distinctiveness of the current system of liberal automaticity is that it has been designed specifically to allow currency prices to be set by the dynamics of market trading. Governments have consequently entered into a political bargain – both with each other and with powerful economic interests at home – specifically to remove their influence over the way in which the price of the national currency is determined (Duménil and Lévy 2004). This is consistent with the lessons to be derived from the time consistency models outlined in the previous chapter, and acting upon those lessons helps to create in practice the conditions that the models describe by institutionalising increasingly pristine market pricing structures. Another aspect of the novelty of current circumstances, then, is the degree to which governments have been willing to cede authority over the structure of asset pricing to trading dynamics across all types of financial markets (O'Brien and Williams 2004: 230–7).

The current financial regime of liberal automaticity is therefore reminiscent of the situation that Karl Polanyi described as the disembedding of the market from society (Polanyi 1957 [1944]: 68–76). This is not the existential claim that financial markets are now instituted somehow beyond society, as this would be to ignore the fact that the flow of funds onto those markets originates within society, in the form of the savings of ordinary investors seeking to use asset-based wealth to enhance future consumption possibilities. At first glance, such flows do not appear to constitute evidence of 'disembedding'. However, a closer reading of Polanyi's concept of the market does allow this claim to be sustained. Polanyi had a technical definition of the market which is rather different to the usual understanding of an institutional form that promotes free exchange. He preferred instead to understand 'the market' as regulation through the price mechanism (ibid: 43). By emphasising the centrality of the price mechanism to the reproduction of market life, the argument still stands that current financial conditions of liberal automaticity conform to the disembedding of the market from society.

From Polanyi's perspective, the preferred form of economic relations reduces to the following generic choice: to organise prices so that they

are an accessory to the satisfaction of society's interests, or to organise social life so that it becomes an accessory to the satisfaction of private interests within the pricing structures of markets (Watson 2005: 149–53). Recent changes to the institutional structure of international finance represent a choice to grant operational autonomy to those who engage in trading activities on financial markets and to allow them to be regulated almost solely through pricing dynamics (e.g., Sobel 1999). As a consequence, it is also a choice to subordinate social priorities to the defence of a pricing structure that responds solely to market-based dynamics of private buying and selling. The decision has been taken to launch a concerted political defence of financial market autonomy and, in this way, the needs of society have been increasingly subsumed by attempts to preserve the pristine nature of private property relations within financial markets. This leads both to the creation of speculation risk within the pricing structures of asset markets and to the subsequent diffusion of that risk within society.

Polanyi defined money – and, by implication, all financial assets that take the form of money substitutes – as a ‘fictitious commodity’ (Polanyi 1957 [1944]: 72). By this, he meant that money and its substitutes are themselves given monetary values so that they can be bought and sold for private gain, even though this was not the original reason for their creation. The founding rationale for developing a range of financial assets was to provide a means of initiating new forms of productive economic activity in order to drive social progress. The subsequent creation of financial markets which are regulated by little more than their own pricing dynamics shows just how far the financial system now operates from its original objectives. Whilst those objectives were to take the economy forward as a whole in the interests of society, the subsequent promotion of financial assets as fictitious commodities demonstrates that financial market activity now serves private rather than social interests. This, perhaps more than anything, captures the features of disembeddedness which are an important constitutive aspect of the system of liberal automaticity.

It is possible to push this characterisation one stage further and argue that modern financial markets also encourage the disembedding of capital from society. Money serves social functions other than increasing wealth through self-valorisation (Polanyi 1982: 46), but these social functions are necessarily suppressed when the owners of financial assets are able to continually re-position their investments solely for the purpose of personal gain. This becomes increasingly possible the more that capital mobility is facilitated by changes in public policy. Today's

system of liberal automaticity promotes an investment context which places very few restrictions on capital mobility. In general, investors are able to liquidate their existing investment positions without financial penalty and, equally, they are also able to take new investment positions at will. This applies whether they are trying to change the spatial location of their investments or whether they are trying to change the functional form of their investments. Thus, the disembedding of capital from society is linked to increases in both the spatial and the functional mobility of capital. For Polanyi, the most important principle of embeddedness is the social control of economic relations through institutional means (Baum 1996: 4), but increases in capital mobility reduce that control.

However, this is most certainly not to say that there are no features of embeddedness remaining within the modern international financial system. At the level of the pricing structures which establish the terms of exchange relationships within modern financial markets, the market is definitely disembedded from society, insofar as societal interests are clearly subordinate to the desire to impose pristine self-regulating price dynamics. But at every other level society remains fully embedded within financial markets. Indeed, the extent of that embeddedness has increased in recent years, as more and more people come to depend on asset-based wealth in order to cover their future consumption needs. As Paul Langley has shown to considerable effect (2004, 2007), the flow of funds around modern financial markets relies on the self-disciplinary aspects of ordinary investors planning how best to channel current savings into future consumption possibilities. The growth in financial socialisation through pension funds, mutual funds and institutional investors has arisen from a perceived need to take personal responsibility for one's consumption in old age (e.g., Gourevitch and Shinn 2005). Yet, the more that financial socialisation of this nature draws new savers into its ambit, the greater the degree of embeddedness of society into financial markets.

Looking at current circumstances, then, there are two dimensions to the question of the social embeddedness/disembeddedness of modern finance. To fully capture these dimensions, it is necessary to distinguish between the flow of funds which help to sustain any given level of prices on financial markets and the internal market dynamics of buying and selling which cause the prevailing structure of prices to change. The former illustrates the considerable extent to which society remains embedded within financial markets. In the absence of ordinary investors releasing their savings to particular asset groups, there would be little capital for financial markets to recycle and, as such, they would cease

to function in their current form. The latter illustrates the degree to which societal concerns have been removed from the process of price determination on financial markets, which is why it is still possible to talk about the disembeddedness of capital even in the midst of so much financial socialisation.

The contemporary system of liberal automaticity is based on such an amalgam of disembedded pricing structures and embedded social structures. There is clear potential for this dialectic of embeddedness and disembeddedness to prove contradictory in practice, particularly if political decisions to enhance the mobility of capital increase the likelihood of those contradictions being manifested. Such manifestations expose the risks discussed in previous chapters, which shows why increases in capital mobility have such social significance. The remaining sections of the chapter focus on the political decisions which have created conditions of liberal automaticity consistent with increases in both the spatial and the functional mobility of capital. I begin with the spatial mobility of capital.

### **The evolving institutional framework for enhanced spatial capital mobility**

The story of the political decisions that have led to increases in the spatial mobility of capital is one that has been told many times within the IPE literature (e.g., Germain 1997; Seabrooke 2001; Verdier 2003; Mosley 2003; Best 2005), and it is usually presented as the story of increased capital mobility per se. It revolves around the rise and fall of the Bretton Woods system of fixed but adjustable exchange rates: successively leading to first institutionalised restrictions on the mobility of capital and then to direct political encouragement of that mobility. The Bretton Woods system thus tends to be presented as an interlude between two periods of market self-regulation. The first period corresponds to the brief but failed experiment with disembedded capital flows in the 1930s, when governments responded to the breakdown of the restored interwar Gold Standard with a set of 'beggar-thy-neighbour' policies based on floating exchange rates. The second period corresponds to the ongoing experiment with liberal automaticity since the 1970s, as governments have responded to the breakdown of the post-1945 international financial order with a renewed faith in floating exchange rates (e.g., Gilpin 1987: 131–4).

As a consequence, it is usual to tell the story of the institutional evolution of enhanced spatial capital mobility solely as an issue relating to

the foreign exchange market. This is understandable, as it was the foreign exchange market in which spatial mobility options were consciously constrained before the beginning of the current trend towards liberal automaticity. The other market which concerns me here, the stock market, has historically been less influenced by such constraints. The capital controls that were introduced as a protective mechanism for the Bretton Woods system were also intended to act as an impediment to transferring money abroad for the purpose of investing on overseas stock markets (Tew 1963: 19). However, as Eric Helleiner has shown (1994: 27–30), in practice such controls were relatively easy to circumvent. Their ineffectiveness led to the early development of disembedded stock market pricing structures, within which the prevailing price level was determined by trading dynamics in the market itself and not by external regulation. For this reason, I am happy to follow the vast majority of the existing literature in focusing the following discussion on the changing degree of formal regulation of the foreign exchange market.

Taking his cue from both the ideas and the language of John Maynard Keynes, US Treasury Department Secretary Henry Morgenthau described the aims of the Bretton Woods system as part economic and part normative. The economic goal was to restore the growth trajectory that had been all but absent from the international economy in the 1930s, whilst the normative goal was to reconstitute the political interests that had been inscribed into the management of the international economy in the period preceding that decade. Morgenthau captured both dimensions of the plan in his frequently quoted comment to the original 1944 conference that the objective was to “drive the usurious moneylenders from the temple of international finance” (cited in Gardner 1980: 76). A hierarchy of interests was thus posited for the post-war world, in which finance was to hold, in Lawrence Krause’s words (1971: 536), at most a “second-class status”.

The delegates to the Bretton Woods conference were concerned that the interwar economy had been derailed by the profit-taking activities of an increasingly autonomous financial sector, and they committed themselves to an institutional design that would preclude the same situation from arising again in the future (e.g., Bird 1996: 149; Cerny 2005: 38–9). Keynes’s *General Theory* had provided the economically literate amongst the conference delegates with a theory of liquidity preference to explain how the increasingly disembedded nature of pricing dynamics within the financial sector choked the productive economy of necessary investment and hence led to the underutilisation of economic resources (Keynes 1997 [1936]: 165–74). Yet, it would be a mistake to

over-intellectualise the issue and to claim that the mood of the times was simply due to the power of ideas. All of the documentary evidence relating to the Bretton Woods conference shows that the desire to reduce the operational independence of the financial sector resulted from the perceived need to demonstrate that the private interests of Morgenthau's 'usurious moneylenders' were to be subordinated to the public interest of making the economy grow in a more robust and sustained manner than had been the case in the interwar years (e.g., Eckes 1975; Van Dormael 1978; Mikesell 1994).

The outcome was an attempt to institutionalise what John Gerard Ruggie (1982, 1991) has called a macroeconomic regime of 'embedded liberalism'. Under such a regime, governments were to be granted an environment in which it was possible both to liberalise their trade sectors and to provide the additional welfare protection that enhanced exposure to world economic conditions often entails (cf. Blyth 2002: 127–9). Trade liberalisation was advocated as a means of fostering increased economic interdependence between nations, whilst the extension of the state's social safety net was treated as a means of holding together the domestic political consensus for an ever more open economy (e.g., Cameron 1978; Rodrik 1997; Garrett 2000).

These dual goals were only considered to be compatible, however, in the context of stable currency prices and the creation of an institutional buffer between government macroeconomic policy-making and the pressure that currency traders can bring to bear on what governments do. The institutional condition for making the Bretton Woods system a success was the creation of an autonomous sphere of policy-making beyond the influence of the buying and selling of currencies on the foreign exchange market. The embedded liberal compromise of free trade plus the welfare state was thus founded on the comprehensive rejection of the organisational principle of liberal automaticity. Flows of hot money were thought to be detrimental to the reproduction of the exchange rate stability on which embedded liberalism relied (Crotty and Epstein 1996: 123). Accordingly, formal restrictions were introduced on the spatial mobility of capital (e.g., Grieco and Ikenberry 2003: 135–40; Brawley 2005: 297–8).

Whilst the economic logic of the organisational principles of the Bretton Woods system appeared to be sound on paper, in practice the system experienced a fairly turbulent history (Newton 2004: 27–36). With hindsight, the beginning of the end for the system can probably be traced to 1958, with the death knell for the system really sounding with the establishment of the first Gold Pool in 1961 (Seabrooke 2001). The

Gold Pool was introduced in recognition of the destabilising effects of the decision, taken three years earlier, to restore currency convertibility (Germain 1997). For almost all countries, convertibility was restricted in the first instance to the current account (Helleiner 1994: 71), but nevertheless this one move began to undermine the institutional logic on which the Bretton Woods system was based. Current account convertibility meant that currencies could be converted into US dollars in order to allow for money that was earned from trade in physical commodities to be taken out of the country of issue by converting it into the one currency that was recognised as a unit of account around the world (Tew 1963: 174). The dollar thus acted as the 'vehicle currency' for transposing surpluses on the balance of trade into capital that could be repatriated (albeit only at this stage for surpluses arising from the balance of trade).

The use of a motion metaphor in the concept of a vehicle currency is more than coincidence. Current account convertibility reduced the effectiveness of capital controls, because it provided a relatively straightforward means for capital to become increasingly mobile across borders. Only in the exceptionally unlikely circumstances in which every country's current account was in perfect balance would there be no need for compensating flows of spatially mobile capital. The embedded liberal compromise of the Bretton Woods system might well have been founded on the rejection of the organisational principle of liberal automaticity, but the introduction of current account convertibility was inconsistent with this normative stance when it came to facilitating cross-border capital flows (Davidson 1994: 231).

The success of the GATT system in removing trade restrictions during the 1950s accentuated the destabilising effects resulting from the restoration of current account convertibility (Eichengreen 1996: 120–1). Prior to the process of trade liberalisation, pressures arising on the exchange rate from the restoration of current account convertibility could have been mitigated by tightening import licences. The ensuing reduction of imports would have stemmed the flow of convertible currency out of the country, thus serving to protect the existing exchange rate. However, as soon as trade liberalisation made it more difficult to use import licences to protect the exchange rate in this way, the task of defending exchange rate parities fell solely to manipulation of the capital account. That is, countries that had an external imbalance in the traded goods sector had no choice but to attempt to engineer a countervailing flow of capital in order to eliminate the imbalance. Otherwise, they would have invited speculative pressure on the exchange rate.

As a consequence, the restoration of current account convertibility, when set within the context of even embryonic trade liberalisation, came complete with an attendant logic of enhanced spatial capital mobility. Even though almost all governments refused to countenance the return to capital account convertibility alongside the return to current account convertibility in 1958, they were nonetheless required to allow at least some of the flows of capital that would have arisen under conditions of full capital account convertibility in order to eliminate external imbalances on the current account. The defence of exchange rate parities under the Bretton Woods system post-1958 therefore relied on increases in spatial capital mobility with respect to the foreign exchange market.

The trend towards increased spatial capital mobility intensified during the 1960s due to the development of London's Euromarkets (e.g., Quinn 1975; Johnston 1983). However, this had very different consequences in terms of the stability of the exchange rate system as a whole. The Euromarkets were, in effect, offshore in terms of the absence of state regulation, and they consequently created a space for financial activity in which it was as if full capital account convertibility had already been restored.

The Eurocurrency market began life as a small-scale operation which was dominated by money market functions. It provided a relatively cheap means for import and export firms to meet their currency conversion needs, as well as for national monetary authorities to engineer short-term capital account-based corrections to their external imbalances. However, as the 1960s progressed, the City of London witnessed an influx of American banks that traded in the Eurocurrency market both on behalf of US multinationals and on their own account (Kynaston 2002). As a result, the Eurocurrency market quickly developed into a "full-fledged international capital market" (Helleiner 1994: 89), which operated in some sense beyond the Bretton Woods system. In its infancy, this market helped to create the capital flows that protected exchange rate parities against instability arising from current account convertibility. However, in its mature phase it provided an autonomous sphere of currency transactions which threatened to overwhelm existing exchange rate parities.

Given the increasing influence of the Eurocurrency market in the 1960s, many countries had to resort to the imposition of one-off or even extended periods of capital controls in order to quell speculative activity against the domestic currency. Because of the centrality of the US dollar to the whole system, these measures could only prove successful

as a temporary palliative so long as the American Government was willing to use capital controls as a short-term policy tool. However, in 1971 the Nixon Administration signalled a decisive change in its policy approach by seeking solutions other than capital controls for its increasing macroeconomic difficulties (Newton 2004: 99–100).

By that time, the financing of the Vietnam War had led to a substantial increase in the US money supply. The Bretton Woods system, whose adjustment mechanism had been designed for a world of dollar shortage, subsequently had to cope with a situation of ‘dollar glut’ (Cohen 1977: 98–103). Set within such a context, the decision to impose a series of rigorous capital controls would have prevented the Federal Reserve from selling large quantities of dollars abroad. Yet, the Nixon Administration needed capital account activities of this nature to take place, otherwise it would not have been able to finance the Vietnam War solely through an internationally-oriented monetary expansion. Instead, it would have been required to raise extra money at home, most likely through increases in direct taxation, and this was not something that it was prepared to do (Brawley 2005: 329–31).

As a consequence, it turned its back on the use of capital controls to stabilise exchange rate parities, which led to an important shift in the mindset governing world monetary affairs (Oatley 2006: 231–5). Although the institutional apparatus was not in place in the early 1970s to support a regime of liberal automaticity with respect to the foreign exchange market, this was still a decisive moment. It represented the first time since the 1930s that a regime of liberal automaticity was not ruled out a priori for the foreign exchange market. The Nixon Administration subsequently ushered in the formal end of the Bretton Woods system of fixed but adjustable exchange rates by unilaterally suspending the convertibility of the dollar into gold in 1971. Before then, the memory of the 1930s and the failed experiment with allowing currency prices to be determined by capital’s spatial mobility was still sufficiently ingrained to make governments wary of any obvious increase in spatial mobility.

From 1971 onwards, the institutional apparatus for a regime of liberal automaticity has been created through a series of one-off decisions which have had a cumulative impact. In 1972, the Nixon Administration sided with the Treasury Department on the withdrawal of daily intervention aimed at stabilising the dollar exchange rate, even though the Federal Reserve supported continued intervention (Strange 1997: 38–41). This meant that the vehicle currency for the international payments system was freely floating, with the result being a large increase of disembedded

capital flows within the foreign exchange market to enable the pricing structure of the payments system to work.

The process of disembedding the pricing structure of the foreign exchange market received additional impetus in 1976, when the United States successfully lobbied for a significant revision to the International Monetary Fund's Articles of Agreement. The amendment to the newly formulated Article 4-1 stated that the goal of the IMF was to preside over a regime which facilitated the free exchange of capital between countries (Best 2005). Countries wishing to reaffirm their commitment to the IMF's Articles of Agreement were thus left to ponder the tension between their existing capital controls and the IMF's insistence that impediments on justifiable capital flows be eradicated.

As the 1970s and 1980s progressed, an increasing number of countries resolved this tension by moving towards full convertibility of the capital account through ceding their right to formally regulate capital flows into and out of their territories. At first, this mainly involved piecemeal reductions in the severity of capital controls. In 1979, however, the British Government followed the American lead by abolishing all remaining capital controls in one go and opting instead for a wholly liberalised capital account. Ten years later, similar decisions had been taken across pretty much the whole of the OECD. The European Union adopted a financial reform programme in the mid-1980s through which all countries were to remove their capital controls in advance of the completion of the Single Market in 1992. The Nordic countries committed themselves to a parallel timetable of reform so that they could keep track with their European Union neighbours. By this time, Australia and New Zealand had already abolished their capital controls in a coordinated process, as had Japan in a series of independent moves.

Underpinning these moves, as James Hawley (1987) has shown, was the failure of the United States in the late 1970s to be able to act upon its desire to protect the domestic banking system by imposing regulation on the Euromarkets. The Carter Administration found that it was either too difficult or too late to introduce such regulation and, instead, it paved the way for the creation of international banking facilities in New York in 1980. When this decision was then replicated elsewhere, another important institutional component was established for a disembedded pricing structure within the foreign exchange market.

Over the last thirty years, then, the OECD countries have displayed a clear normative preference for matching the stock market's historic regime of liberal automaticity with a similar regime for the foreign exchange market and, bit-by-bit, they have constructed commensurable

institutional conditions. This has emboldened the IMF to seek additional liberalising revisions of its Articles of Agreement, on the presumption that it would receive the support from its chief sponsors for doing so. At its annual meeting in September 1997 it first proposed to make fully liberalised capital accounts a formal prerequisite of continued membership (Wade and Veneroso 1998a: 34; IMF 2000; Watson 2002: 200–2). The proposal was aimed particularly at the countries of the developing world (Soederberg 2004). It is these countries that are most likely to require IMF assistance in the form of stabilisation loans and it is they who are therefore least able to revoke their IMF membership.

Looking back to the early 1970s, then, we can see how a regime of liberal automaticity has been incorporated within the foreign exchange market through a combination of some countries voluntarily giving up their capital controls, other countries feeling market pressures to do likewise and others still being coerced into accepting capital account liberalisation. This has been one of the most important developments in what Gill has called (1998: 9) the ‘new constitutionalism’ of disciplinary liberalism (see Chapter 1). The embrace of disciplinary liberalism has supported substantial increases in the spatial mobility of capital with respect to the foreign exchange market, bringing these into line with the spatial mobility options which have always existed in the stock market. However, there is also another dimension to the regime of liberal automaticity, and this is one that is almost always overlooked. It relates to the functional mobility of capital.

### **The evolving institutional framework for enhanced functional capital mobility**

The trend towards increased spatial capital mobility has resulted from changing governance priorities within established financial markets (Verdier 2003). It has been a matter of reconstituting the way in which existing markets work. A very different process has been required, however, in order to facilitate parallel increases in functional capital mobility. This latter process started from a position in which the necessary financial markets did not exist and therefore had to be created. The most remarkable aspect of the work of Fischer Black, Myron Scholes and Robert Merton on the options pricing formula was that it preceded the introduction of markets in exchange-traded options (see Chapter 3). Thus, in this instance, trading practice clearly lagged behind the development of academic theories, and the ideas embedded within the the-

ories became a constitutive part of the way in which the practice was subsequently formalised. This is true of both the market in foreign exchange options and the market in stock options, and I will now take these two markets in turn.

Increases in functional capital mobility with respect to the foreign exchange market are rooted in the exchange rate uncertainty that resulted from the demise of the Bretton Woods system between 1971 and 1973. That demise served only to magnify the exchange rate pressures arising from the increasing dominance of the Eurocurrency market. The development of the Eurocurrency market had two effects. First, it provided the conditions for regulatory arbitrage elsewhere in the world, particularly in the United States, where financial market managers worried that an increasing amount of business would be lost as it migrated instead to the less rigorously regulated Euromarket. Successive US administrations from the 1960s onwards have moved to offer investors operating within American financial markets similar regulatory advantages to those that they could enjoy were they to operate within the Euromarket (Helleiner 1994: 101–22). In Alan Hudson's words (1999: 139), this represented a conscious decision to try to create a financial structure of "offshores onshore".

Second, the development of the Eurocurrency market facilitated trading patterns that led to additional volatility in exchange rates. The volatility provided incentives to hedge for market actors whose underlying financial positions were exposed to the effects of adverse exchange rate movements. This can be achieved via a complicated process of buying and selling multiple currencies on the spot market, hoping that the losses on the underlying financial position can be offset by gains from the speculative currency trading. But it can also be achieved in a much more straightforward manner by simply purchasing a futures contract which locks in the value of an underlying financial position in a designated currency for a specified period of time.

These two effects provided the impetus for the creation of the International Monetary Market, which opened for business under the stewardship of the Chicago Mercantile Exchange on May 16<sup>th</sup> 1972 (Petzel 1996: 88). The International Monetary Market sustained a regulatory structure for currency trading in the United States that was similar to the one initiated by London's Euromarket (Dunbar 2000: 60–1). Yet, in terms of market innovation, its most important contribution was to establish the first exchange-traded futures contracts in seven major currencies: those of the UK, Switzerland, Germany, Italy, Japan, Canada and Mexico (Steinherr 2000: 21).

Before it could open the International Monetary Market for business, the Chicago Mercantile Exchange first had to convince the Federal Government that there was a legitimate economic purpose for doing so. The case it presented for the new markets in currency futures was based upon a paper written specifically for the job (and for a commensurable fee) by Milton Friedman. Friedman had apparently been displeased that no bank had enabled him to sell short large quantities of the British pound that he did not physically own before its devaluation in 1967 (Loosigian 1981: 48–50). The eventual devaluation proved to be of sizeable proportions, which meant that his short-selling strategy would have earned him handsome profits. Friedman's paper was titled, 'The Need for Futures Markets in Currencies', but that 'need' corresponded only to finding a way of making it unnecessary to go through the banking system in order to take speculative short-selling positions (Mehrling 2005: 167–70).

Prior to the Nixon Administration's suspension of the convertibility of dollars into gold in 1971, the only traders who would have been likely to use currency futures markets were those who shared Friedman's original speculative motives. This would have been insufficient to sustain a liquid market in currency futures, because there would have been no supply of counterparties to take the opposite position within the market to that of the speculators. It was only with the suspension of dollar convertibility for gold that these counterparties emerged. The introduction of an embryonic system of floating exchange rates exposed all companies that worked in export or import industries to new forms of exchange rate risk. They were eager to use currency futures for their money market functions, so that they could guarantee the future value of their export or import business irrespective of interim exchange rate fluctuations between their home currency and the currencies of the countries they traded with. These companies, as well as banks who were also exposed to exchange rate risk on their overseas activities, became the counterparties who provided the necessary market liquidity for the Friedman-style speculators to feed off.

The success of the first seven currency futures traded by the International Monetary Market led to many more being issued in an attempt to cover as many of the world's currencies as possible (Loosigian 1981: 70). Moreover, the process of financial innovation did not end there, as traders began to demand more flexible derivative instruments linked to prices in the foreign exchange market. The great advantage of a currency futures contract compared with buying and selling currencies on the spot market is that it offers an easy and relatively certain means

of passively hedging exchange rate risk. But it does not allow the person who purchases the contract the chance to pull out of it in the event of spot market prices defying expectations and moving in a favourable direction. It offers no opportunities for dynamic hedging, whereby investors insure themselves against unfavourable exchange rate movements but still retain the ability to benefit from favourable exchange rate movements. A person who buys a futures contract must retain that contract and settle at the terms inscribed therein, no matter how the price of the underlying asset has changed since then. What the dynamic hedger wants is not a standard currency futures contract so much as a currency option.

A currency option grants its owner the right to buy a specified amount of a given currency on a particular day, but there is no obligation on the owner to exercise the exchange at that price (e.g., Howells and Bain 1994: 213–4; Valdez 2000: 204). For an appropriate fee, then, option buyers are able to transfer all of the depreciation risk associated with their exchange rate exposure to option sellers. The option sellers act as market-makers and provide the market with its liquidity, and their activities as multiple counterparties allow them to create overall inventories which are roughly in balance. This enables them to make money from the fees they charge, without standing to lose all this and more from being caught on the wrong side of any single exchange rate movement.

The first currency options exchange was not founded in Chicago, even though prior innovations in currency derivatives had been centred there. The Chicago Mercantile Exchange was dominated by trade in agricultural commodities, and the New Deal legislation enacted in 1934 to outlaw options on agricultural commodities was still on the statute books into the 1980s. As a consequence, the Mercantile Exchange had neither the institutional structure nor the trained personnel to facilitate an easy switch from trading currency futures to trading currency options (Millman 1995: 11–12).

The first active market for currency options was instead established by the Philadelphia Stock Exchange, although it took an act of Congress to make this possible. The Futures Trading Act was passed in 1982 and provided stock exchanges with the right to set up subsidiary exchanges for trading currency options. The one important proviso was that they had to sell those options as securities, as this was the only part of the financial sector in which stock exchanges were allowed to operate, even though the currencies underpinning the options are commodities rather than securities (Fischel 1986: S88–90). The Philadelphia Stock Exchange subsequently introduced the first exchange-traded currency options on

December 10<sup>th</sup> 1982 (Steinherr 2000: 21). Shortly afterwards, Citibank started a lucrative inter-bank market in currency options to complement the exchange-traded market (Millman 1995: 15–22). By this time, financial economists had shown that, as a matter of logic, there was nothing to distinguish the process of pricing currency options from the process of pricing stock options (Mehrling 2005: 234). They therefore extended the basic structure of the Black-Scholes-Merton formula reviewed in the previous chapter as a means of developing ‘off-the-peg’ trading strategies for use within the currency options market. The more that traders worked with the extended Black-Scholes-Merton formula, the more that a performative loop kicked in and the Black-Scholes-Merton prices became a close correspondence for actual prices on the currency options market.

Currency options are now traded in huge volumes in every financial centre around the world within a context organised around the self-regulation of the pricing structure. They are part of a deeply integrated foreign exchange market, where trading takes place between positions in cash, foreign exchange, currency futures and currency options. Portfolios are constantly being rebalanced in line with the insights of the options pricing formula (Jacobs 1999: 22), so as to ensure that exchange rate movements do not have a particularly adverse effect on the overall monetary value of investment holdings. This requires that traders are frequently looking to liquidate one position in order to balance their holdings by taking another position. It is therefore equivalent to an increase in functional capital mobility with respect to the foreign exchange market. Such increases have resulted from a sustained period of financial innovation which has its origins in the collapse of the Bretton Woods system of fixed but adjustable exchange rates, but which has subsequently developed a momentum of its own. Much of this momentum has allowed the new derivative instruments associated with the foreign exchange market to become instruments of speculative trading activity as well as instruments of hedging. The introduction of markets in currency futures and currency options thus enables investors to deliberately engineer new risks in the hope of holding profitable positions from doing so. The same is also true of activity on the new derivative markets constructed in relation to both individual stocks and stock market indices.

The historical conditions for the development of the two sets of markets are also similar. Both arise from the same period of instability within the world economy. From 1972 to 1974, as the last remaining elements of the Bretton Woods system finally fell apart amidst the first

major oil price shock of the 1970s, prices on the world's stock markets experienced a prolonged dip (e.g., Mishkin, Gordon and Hymans 1977: 156–61; Barsky and DeLong 1990: 278–9). On average, major stock market indices fell by over 40% in these two years, making it the most severe bear market in stock prices since the crash of 1929 and the ensuing depression (Bernstein 1992: 2–3). In an attempt to ameliorate their exposure to these price falls, professional investors sought refuge in portfolio diversification, hoping that the price of at least some of the stocks they held would not be dragged down by the losses in the overall market index.

Portfolio diversification had long been advocated by academic economists as a logical corollary of pure economic theory (see Chapter 3), even in the face of a finance industry which continued to be dominated by stock-pickers whose assumptions of superior insight led them to believe that they could always beat the market. However, the prolonged market downturn from 1972 to 1974 provided succour for the academics' argument (Warburton 1999: 102). For, in this context, even a market-beating strategy was likely to be losing money. The task for finance professionals consequently became less focused on necessarily beating the market than on how best to avoid losing money. For this task, they began to purchase stock options alongside the matching stock. An option provides an investor with the right to a future purchase of an agreed quantity of a stock at a specified price (Steinherr 2000: 17).

The attraction of buying stock options in a market where underlying prices are falling is that they are likely to be sold at a level below the current stock price. As a consequence, investors are provided with opportunities for arbitrage between the price of the stock option and the underlying stock (Dunbar 2000: 36–44). Moreover, if they are successful in their arbitrage operations, they need not lose money irrespective of whether the price of the underlying stock falls below the price at which it was purchased. The only problem in the early 1970s was that no formal exchange existed that provided a continuous market in stock options. Investors could only defend the value of their portfolios by purchasing stock options if they could find a counterparty that was willing to create the desired option as part of an over-the-counter deal.

However, by that time, a process was already under way to replace this cumbersome and really rather primitive system of negotiated exchange. This process centred on the actions of members of academic faculty at the University of Chicago, who hoped to see their pure economic theories of finance translated into a commensurable market structure. To this end, they engaged in extensive lobbying of the Chicago Board of

Trade, in an attempt to persuade the Board's directors to agree to the creation of a fully-fledged options exchange. In 1969, the Board established an advisory committee whose task was to demonstrate how an options exchange might work, and the committee's final report acted as the basis of the Board's submission to the Securities and Exchange Commission (Mehrling 2005: 137–8). Within a further two years, federal government permission to institutionalise the proposals had been granted and so, on April 26<sup>th</sup> 1973, the Chicago Board Options Exchange was opened (Chicago Board of Trade 1998: 5–7).

Less than one month later, the article containing the Black-Scholes options pricing formula was published in the *Journal of Political Economy* (Black and Scholes 1973), which at the time was edited out of the Economics Department at the University of Chicago. The options pricing formula was already reasonably well known by then within the community of finance scholars, as both Black and Scholes had presented the paper's main findings at a number of academic seminars. But it was only when it was fully in the public domain that it was able to provide real sustenance for Chicago's fledgling market in stock options.

The Chicago Board Options Exchange was formally constituted before it was provided with its own autonomous trading space. Peter Bernstein (1992: 225–6) tells of how the Board of Trade's directors initially would only make available a converted smoking lounge, but within three years the success of the Options Exchange forced the Board to provide a specialist trading floor that could become its permanent home. That success was based on three factors. (1) There was a continual demand for stock options, as the faltering recovery of stock prices from their 1974 low was supported by the extra confidence that the availability of stock options brought to the assumption that each successive increase in prices represented a new price floor. (2) There was a matching supply of options to keep pace with this continual demand. From day one, the Options Exchange was inhabited by a cadre of ever-willing market-makers, who ensured that traders could buy pretty much any stock option that they wanted to buy, hence guaranteeing the liquidity of the stock options market. (3) Federal regulators made no attempt to impose direct regulation on the process of buying and selling within the stock options market. Instead, they allowed the organisational principle of disembedded pricing structures to dominate, so that market participants could remain regulated simply by their ability to stay in their trades (Lurie 1979). By 1984, the Chicago Board Options Exchange had become the second largest securities market in the world, with only the New York Stock Exchange conducting a greater volume of business (Steinherr 2000: 130).

Taken together, these three factors ensured that an ever larger amount of integrated trading took place between stocks and the related stock options, in much the way that familiarity with the Black-Scholes-Merton formula encourages (Jacobs 1999: 299). This integrated trading represented important increases in the functional mobility of capital, as cash-based assets had to be liquidated in order to buy the stock options that helped to stabilise the value of the underlying stock position. Dramatic further increases in the functional mobility of capital occurred when the logic of the dominant academic theories of finance was extended to this trading strategy.

As discussed in the previous chapter, the Capital Asset Pricing Model suggests that there is only one super-efficient diversified stock portfolio, but that is the stock market in its entirety (Sharpe 1970). In other words, to fully minimise depreciation risk through taking complementary positions in stock options and the underlying stock requires that an investor's portfolio consists of every stock within the market plus an equivalent amount of the related stock options. Clearly, however, it would be asking too much to expect that any individual investor could possibly keep such an over-sized portfolio in balance.

This task becomes rather more manageable through the creation of an index tracker fund, whereby computer software responds to changes in stock prices by buying or selling individual stocks so that the portfolio contains an equal monetary value of all stocks listed on a particular exchange. Such a fund was first established in July 1971 by Wells Fargo bank, but it was not an unmitigated success (Mehrling 2005: 60). The initial problem of how to keep the portfolio in balance remained. The prices of the underlying stocks changed so frequently that it required the computer software to constantly update its buy and sell calls. But the process of repeated portfolio rebalancing often made it necessary to spend more money covering transactions costs than was saved by creating a portfolio that replicated the market as a whole.

This problem was only really resolved with the launch of the first stock index futures in 1983 (Bernstein 1992: 282–3). Here again, an extension of the Black-Scholes-Merton formula provided the foundation of a simple trading strategy by calculating the logically 'correct' price for options on stock index futures. A stock index future works when two counterparties agree to settle a contract written against the stock market index on a specified day and at a specified price (Feinstein and Goetzmann 1988: 4–5). Each counterparty hopes that a differential will emerge between the value of the index written into the futures contract and the actual value of the index on the day of contract settlement. The

buyer is 'in the money' if the actual index value proves to be the higher, whilst the seller is 'in the money' if the value written into the contract proves to be the higher. Importantly, the settlement process is undertaken in cash and, as such, it does not require for any of the underlying stocks to be bought or sold (Steinherr 2000: 129). This eliminates the problem of high transactions costs that derailed the early index tracker funds. With the advent of a liquid market in stock index futures, investors can make a simple cash-based purchase of a single financial instrument which has exactly the same properties as if they had constructed a permanently balanced portfolio including every stock listed on the whole market (Leland 1980: 583).

Not surprisingly given this, stock index futures have been an immensely successful innovation and now command lots of attention from professional investors. Offsetting positions in the stock index futures market can be taken in order to lower the depreciation risk that is an inherent feature of owning the underlying stock. All the major market indices are now covered by a futures market, as well as all the major industry sub-indices. The result has been a massive increase in integrated trading strategies involving cash, stocks, stock options and stock index futures. This in turn has speeded up the process whereby investors liquidate one investment position for the specific purpose of taking another. It is therefore equivalent to an increase in the functional mobility of capital. Incentives for further increases continue to arise from the fact that holding the correct combination of cash, stocks, stock options and stock index futures significantly reduces the depreciation risk associated with speculation. That risk is reduced even further when traders load up their portfolios with options on stock index futures and create synthetic cash positions with the right combination of stock index futures and the related underlying stocks.

## **Conclusion**

Recent increases in both the spatial and the functional mobility of capital have been born of conscious political attempts to construct a market-based international financial order of liberal automaticity and an economic space of disembedded pricing structures to guide the flow of capital. Developments within the market environment itself – in particular, the ever greater proportion of world credit now made available for financial investments and the ever greater number of financial instruments in which it is now possible to invest – have deepened the trend towards increased capital mobility. Yet, in the absence of the

initial political will for disembedding capital pricing structures from the productive sectors of the world economy, no such trend would have arisen in the first place.

The political desire for an international financial order of liberal automaticity arose from within a period of adversity in world economic affairs. The instability of the embedded liberal compromise in the 1960s led to what Susan Strange has described (1998: 6) as its outright "sabotage" in the early 1970s. In turn, this resulted in a protracted period of constrained growth within the world economy, during which time increasing discontent was expressed with an international financial order based on coordinated macroeconomic stabilisation negotiated amongst states (Pauly 1997: 36). A more general reaffirmation of basic market ideology ensued, and the financial structure underpinning world economic affairs was increasingly recast to reflect that ideology.

These were the historical conditions under which the prevailing system of liberal automaticity was created. Moreover, the process of subsequently disestablishing that system appears to be much more difficult to achieve than was the process of establishing it in the first place. There is no inherent symmetry between the two processes. On the one hand, the innovations in tradeable financial instruments which have occurred since the 1970s cannot simply be disinvented as if time can be rewound in linear fashion. On the other hand, the elimination of the capital controls that had protected the post-war embedded liberal order was undertaken one country at a time. It required only single decisions enacted by single governments in a sequential manner to move from a situation in which capital flows were controlled at both their point of origin and their point of destination to a situation in which capital flows are now regulated almost purely by the trading pressures of buying and selling. As before, the reverse process is simply not an option. To restore an international system of capital controls would first require a change of governance mentality amongst world leaders which is currently not in sight. It would then require a coordinated introduction across all states at exactly the same time of the same type of capital controls with the same scope and intended targets. But this would entail a degree of collaboration amongst states on international economic matters that is unprecedented in world history.

Moreover, even then, there is still nothing to say that these measures would be effective. Traders can now purchase derivative instruments to create exactly the same position, albeit synthetically, as if they had transferred their holdings across national borders to take positions within the spot market. That is, they can take advantage of recent increases in the

functional mobility of capital in order to circumvent whatever controls might be introduced in an attempt to impede the spatial mobility of capital. As these derivative instruments cannot now be disinvented, the only way in which to guarantee the move away from a regime of liberal automaticity would seem to be an outright ban on their use.

Once again, though, there is no evidence that world leaders are currently taking this option seriously. Moreover, neither should we necessarily expect them to do so. An outright ban on trading in derivative markets would be exceptionally difficult to police. It would also be a direct challenge to both the status and the interests of the financial sector. As that sector accounts for a reasonable proportion of the jobs within the domestic economy and an even larger proportion of its GDP, this places it in a strong position to block such proposals.

In all circumstances other than an outright ban on derivatives, though, the system of liberal automaticity facilitates trading activities which are conducive to its own reproduction. It would be slightly too much to conclude that this equates to the creation of a self-sustaining order. For, the organising principle of liberal automaticity remains contingent on the absence of a successful challenge to the legitimacy of market-based outcomes in international finance. But still we should be under no illusions about how difficult the political task would be to disestablish the current international financial order now that it has been established.

Perhaps the decisive issue in this respect will be the patterns of risk which emerge from the financial system and their distribution within society. The content of those risks is itself a reflection of political choices to institutionalise systemic conditions conducive to liberal automaticity. So, this could always produce a flashpoint which results in mobilisation against the character of the prevailing system. Even then, though, to be successful such mobilisation would have to recognise and respond to the degree to which financial socialisation has embedded ordinary investors within financial markets.

This is the backdrop against which the focus of the book now changes. My concern in these opening four chapters has been to outline the conceptual distinction between the spatial and the functional mobility of capital and to show how recent increases in both have come about. Now that the theoretical foundations of the book have been set, my concern shifts to illustrating the utility of the conceptual distinction and to demonstrating some of the effects of recent increases in both the spatial and the functional mobility of capital. Four such illustrative chapters now follow. As with the rest of the book, they are divided equally between the foreign exchange market and the stock market. I begin with two chapters that focus on the foreign exchange market.

# 5

## Capital Mobility, Exchange Rate Instability and Contagious Credit Crunches: The Causes and Spread of the Asian Financial Crisis

### Introduction

The Asian financial crisis led to eighty million new cases of absolute poverty being recorded in only six months after the first of the region's currency depreciations (IMF 1998). This represents the most concentrated incidence of new poverty cases in history, and most of it occurred in countries where, over the previous three decades, unprecedented increases in economic well-being had occurred (Stiglitz 2002: 91–2). This outcome was a manifestation of the intense distributional struggles which followed as currency collapses led to a regional credit crunch. The ensuing loss of GDP meant that some people would have to forgo their current net economic worth. Yet, a number of speculators made their fortunes from taking preemptive positions against the stability of existing exchange rate pegs, many international banks cashed out loss-making investments before the eventual depreciation in the hope of avoiding larger losses in its aftermath, and many more stayed in their positions and waited for the IMF to decree that all non-performing loans should be repaid in full. In general, the greatest burden of the crisis fell onto ordinary people (Lee 1998: 43–5).

The social consequences of the Asian financial crisis are therefore clear. However, what caused the crisis in the first place is less well established. Various stated in the existing literature, the causes are attributed to: (1) the destabilisation of productive sectors as domestic banks acted as willing intermediaries to channel international credit into increasingly inefficient investments (e.g., Jackson 1999: 5); (2) the lack of adequate prudential regulation which allowed domestic banks to act

in the above way (e.g., Bevacqua 1998: 416–7); (3) the overly close relationship between governments and business elites which distorted the whole notion of prudential regulation (e.g., Krugman 1998: 4–5); (4) the debt trap into which so many companies allowed themselves to fall on the expectation that the governments of the region would never renege on their industry-friendly approach to macroeconomic policy (e.g., Johnson 1998: 659–60); (5) the supreme faith which the corporate sector placed on the continuing stability of the dollar pegs (e.g., Eichengreen 1999: C8); (6) the contradictory balance sheets which arose for both financial and non-financial firms from having their assets denominated in a potentially less stable currency than their liabilities (e.g., Neftci 1998: 2); (7) the IMF, acting on behalf of the embedded interests of Wall Street, enforcing capital account liberalisation onto East Asian economies which lacked the institutional capacity to make that reform a success (e.g., Wade and Veneroso 1998b: 18–19); and (8) exceptionally large levels of ‘carry trade’ activity from Japan, facilitated by capital account liberalisation but triggered specifically by the Bank of Japan’s cheap money policy, leading to significant incidences of non-productive lending (e.g., Seabrooke 2001).

In order to adjudicate between these competing explanations and to situate them within the general themes of the book, the chapter proceeds in three stages. In section one, I investigate further the competing characterisations of the crisis. I concentrate in particular on the way in which these characterisations are based upon assumptions about both the nature and the scope of the mobility of capital, but which themselves remain implicit. The task of sections two and three is to explore whether these characterisations continue to be appropriate once those assumptions are rendered explicit. In section two, I focus on characterisations of the crisis which invoke the spatial mobility of capital. In general, these characterisations suggest that the crisis was caused by a build-up of capital inflows into East Asian economies which suddenly reversed when the expectation of future exchange rate instability took hold. In section three, I focus on characterisations of the crisis which invoke the functional mobility of capital. These characterisations tend to suggest that the crisis was caused by an increasing volume of investments being concentrated in assets which accentuated balance sheet currency mismatches and which therefore made the economy as a whole more susceptible to the adverse effects of changes in exchange rate expectations.

A chapter on the Asian financial crisis is included in order to reflect the book’s two main claims. (1) The onset of the crisis dynamics arose

from patterns of concerted trading in Asian currencies and the subsequent implications of falling currency prices for the banking sector. This much is typically recognised in the IPE literature, but it is necessary to dig deeper in order to understand the different financial practices which prompted different groups of actors to sell Asian currencies en masse. The ‘black box’ of currency trading must therefore be unpacked. (2) It will be shown that the mutually reinforcing dynamics of the currency and banking crises involved instances of both the spatial and the functional mobility of capital. The distinction between the two must therefore be drawn if the full dimensions of the crisis are to be understood.

### **Characterising the crisis: geographically in East Asia but economically not of East Asian making**

The Asian financial crisis primarily affected five countries: Thailand, the Philippines, Malaysia, Indonesia and South Korea. In geographical terms, then, the crisis was certainly centred *in* East Asia but, in economic terms, there were insufficient structural similarities in the growth profiles of the affected countries to describe it as a crisis *of* East Asian capitalism (Jomo 1998: 24–5). The lack of a truly common regional development trajectory immediately casts doubt on explanations which focus on the intrinsically ‘Asian’ nature of the crisis. Most other explanations suggest that the crisis-hit countries, to use a phrase of *The Economist* (07.03.98: 4), were “victims of their own success”. From this perspective, the argument is that a rise in unprofitable investments occurred, but that this was driven by a largely irrational surge of trend-following international funds into the region, supported by large levels of carry trade activity taking advantage of interest rate differentials between the region and the rest of the world (Radelet and Sachs 1998: 2–3).

This alternative explanation changes the characterisation of the crisis by emphasising its international origins. Richard Higgott (1998: 334) goes as far as to call it “the first crisis of globalisation”. The crisis itself had two main flashpoints – concerted selling of East Asian currencies in the foreign exchange market and concerted selling of East Asian securities in the stock market – and both of these had their initial trigger through trading on overseas rather than domestic financial markets. George Soros describes the crisis (1998a: 56) as “a symptom of pathologies inherent in the global [financial] system”. Traders in short-term assets often act in ways which, when aggregated to the systemic level, unleash self-sustaining tendencies that destroy both productive capacity and

social wealth. The sheer weight of funds with which strategically positioned traders now operate makes the international economy more prone today to such moments of destruction than it has been in any other previous era of financial integration (DeLong 1999: 279).

This is almost certainly what happened in the East Asian case. A sudden shift in expectations occurred, focusing in the first instance on the exchange rate. The likelihood of a depreciation of the Thai baht was already almost fully anticipated by international foreign exchange traders some months before it actually happened (Henderson 1998: 81–109): the question was not if it would occur, but when and with what magnitude. Emerging market fund managers specialising in East Asian assets appear to have picked up on this and to have reacted to the situation by becoming increasingly concerned about their own investments. Acting all the time with one eye on each other, they consequently entrenched the developing sense that now was probably the right time to sell. The situation has been described, quite fittingly, as “disaster myopia” (Griffith-Jones et al 1998: 4). Even though the manifestations of that myopia were concentrated in East Asia, its origins were within international financial markets.

This crucial distinction between the geographical and the economic dimensions of the crisis takes on added poignancy insofar as it played no role at all in informing IMF policy towards the beleaguered countries. The IMF conflated these two dimensions, as if to say that if this was a crisis *in* East Asia then it also had to be a crisis *of* East Asian capitalism. Such a response appeared to affirm the appropriateness of the initial shift in expectations and, if anything, it served only to harden the extrapolative trend within those expectations. This is the basis of the frequently rehearsed opinion that IMF interventions in the crisis-hit countries only made matters worse. In general, there are three versions of this claim: (1) that the crisis exposed the limits of the IMF’s understanding of the world economy; (2) that the crisis revealed the IMF’s primary concern to be the ideological purity of the free market solution; and (3) that the crisis forced the IMF to prioritise the economic interests of its principal financial backer, the United States, over its own stated mission.

First, the IMF overlooked the fact that the indebtedness in East Asia was of a qualitatively different nature to that of previous crisis episodes it had been required to manage (e.g., Kregel 1998a: 415–16; Leaver 2000: 287–8; Grabel 2003a: 321). Elsewhere, the accumulated debt had resulted from the issue of government bonds and, as these had been used to serve the needs of current consumption rather than to expand the produc-

tive base of the economy, they were largely unpayable in the absence of a large scale fiscal restructuring. By contrast, the Asian financial crisis revolved around private sector indebtedness. Nevertheless, the IMF undertook the same style of fiscal restructuring once again (IMF 1999), guided as in its previous interventions by the implications of time consistency models for successful counter-inflationary policy (see Chapter 3). Propelled by these intellectual blinkers, it insisted on a substantial increase in interest rates and the forced closure of domestic banks which were unable to meet their immediate obligations (e.g., Radelet and Sachs 1998: 43; Mishkin 1999: 7). However, both measures served only to heighten the pressure on indebted private sectors to continue to meet their credit repayments, because they were introduced at precisely the moment that domestic assets were losing value due to the depreciation of the national currency.

Second, part of the reason for the IMF's inability to see the Asian financial crisis for what it was is the insular nature of the research environment in which its staff members operate. They do not work on their country assessments from a position physically in the field, but undertake their research from the institution's headquarters in Washington. In addition, their credentials for the job are not linked to any degree of prior expertise on the country for which they are subsequently entrusted to write reports. What counts is their orthodox neoclassical economics training (Blustein 2001: 24–5). Yet, this in itself imposes obvious limits on what they are able to think and the policy advice that they are able to give. It is a core Polanyian observation that neoclassical economics falsely circumscribes the scope of economic possibility so that it is consistent with those that are enabled by market institutions (e.g., Stanfield 1986: 41; Baum 1996: 48; Watson 2005: 143–9). Polanyi himself (1957 [1944]: 159, 1982: 50) defines habits of thought which elide the generic category of 'the economy' and its specific market form as "the economistic fallacy", and it is precisely such a fallacy that the training of IMF staff members ingrains into them as their most basic worldview. In such circumstances, only one solution presents itself when they are confronted with evidence that the basic structure of the relationship between government, business and society runs counter to that described by neoclassical economics: expose the offending economy to ever larger doses of market 'normality' (Vestergaard 2004: 819–20).

Third, there is also a geopolitical as well as an intellectual reading of the IMF's sense of priorities. During the Cold War, the United States had accepted the role of 'market of last resort' for East Asian products (e.g.,

Felix 1998: 163–4; Johnson 1998: 656–7). This served its goals by promoting dynamic capitalist economies in Asia, and for this reason it tolerated asymmetric trade arrangements through which US markets were more open to East Asian goods than vice versa. However, the end of the Cold War changed US willingness to offer extensive access to its markets but to expect no economic advantage in return (Higgott 1998: 338–40). The crisis therefore presented a convenient opportunity for the US to use its influence over IMF conditionalities in order to push for greater bilateral access to East Asian markets (Haggard and MacIntyre 1998: 389–90; Beeson 1999: 7–8). The result was IMF pressure for the crisis-hit countries to maintain the existing momentum for both current and capital account liberalisation. Current account liberalisation served US commercial interests by lifting restrictions on US firms doing an increasing amount of business in East Asia, whilst capital account liberalisation served US financial interests by ensuring a continued flow of East Asian savings to Wall Street (Wade and Veneroso 1998a: 22–3).

Whichever reading of IMF motivations is preferred, one thing is clear. Far from alleviating the distress that East Asian economies were experiencing, the IMF's response multiplied the instances of corporate failure and the associated liquidation of invested assets in the region (e.g., Stiglitz 2002: 96–7). By paying no heed to the geographical mismatch between the process of expectation formation about East Asia and the impact of those expectations on East Asia, IMF actions deepened investor sentiment still further against maintaining existing holdings of East Asian assets. In Jeffrey Sachs's much cited phrase (1998: 16–17), "through its ostentatious declarations that all was wrong and that fundamental and immediate surgery was needed ... [i]nstead of dousing the fire, the IMF in effect screamed fire in the theater".

From the perspective of the book as a whole, one interesting observation arises from the foregoing analysis. All of these readings of IMF motivations follow more general characterisations of the crisis by intimating that the crisis dynamics were initiated by repeated instances of capital mobility. The IMF is deemed to have made matters worse by forcing yet more capital out of East Asia, thus intensifying the process of exit that initially ushered in the crisis. It provided a rationale for investors to increase the pace with which they were seeking to leave the region by affirming their suspicions that their existing East Asian investments should now be seen as low-grade holdings. The suggestion is rife within the literature of a concerted 'flight to quality', in which investors deserted low-grade markets en masse in preference for high-grade markets (e.g., Ferri, Liu and Stiglitz 1999: 340–2; Singh 1999: 23; Kim

2000: 101). This sense is perhaps most vividly captured in Jeffrey Winters's allusion (2000: 40) to the development of "a pure psychology of escape". The image is one of capital physically in motion as it moves from one place to another. This corresponds to what I called in the Introduction a lay definition of capital mobility. The principal aim of the book has been to reformulate the understanding of capital mobility in order to facilitate the move from a lay to an economic definition. This involves focusing less on the generic image of capital being in motion and more on the economic characteristics of the process through which one investment position is liquidated in favour of another. It is only appropriate, then, that this same move will be used to inform the analysis in the remaining sections of this chapter.

### **Imploding balance sheets: spatial capital mobility and the Asian financial crisis**

In almost all accounts of the Asian financial crisis, the major allusion to spatial capital mobility comes in descriptions of how the repatriation of capital by international investors imposed unbearable pressure on domestic currency prices. For many years, East Asian companies had pegged their currencies more or less formally to a basket of other currencies, with the price of the US dollar providing by far the largest influence on the nominal value of that basket (Radelet and Sachs 1998: 25). This was to ensure that individual East Asian currencies traded in a narrow band with respect to the currency of the country which historically had acted as market of last resort for their goods. The massed ranks of international speculators subsequently broke these pegs one after another in a repeated wave of devastating raids throughout the summer of 1997. The move to a fully free float started with the Thai baht on July 2<sup>nd</sup>, and then on to the Philippine peso on July 11<sup>th</sup>, the Malaysian ringgit on July 14<sup>th</sup>, the Indonesian rupiah on August 14<sup>th</sup> (following successive widening of the dollar band from July 11<sup>th</sup> onwards), and finally the South Korean central bank stopped supporting the won on October 20<sup>th</sup> (Henderson 1998: 111–50).

The collapse of each currency compared with its pre-crisis dollar value was well-nigh complete. By the time that the depreciations had bottomed out at various dates in early 1998, each of the five affected currencies had lost at least 40% of its pre-crisis dollar value, the average loss was around 55% and the worst affected, the Indonesian rupiah, had lost over 80%. This all occurred in just over six months. In that time, the average person from the five crisis-hit countries had seen their net

wealth more than halve in purchasing power parity terms with the dollar. For every dollar of consumption possibilities they enjoyed at world prices before the crisis they now had only 45 cents, and for the average Indonesian this was now only 17 cents. Put this way, it is hardly surprising that so many new cases of poverty were recorded in East Asia in late 1997.

Taking Asia as a whole and thus comparing the countries which were affected by the crisis with those which were not, the social effects wrought by the financial instability were discriminating with respect to the degree of currency convertibility restrictions in operation (Singh 1999: 28; Winters 2000: 44; Grabel 2003a: 331). Indeed, the instability itself followed very closely the countries which had made the greatest efforts to liberalise both the current and the capital account. Liberalisation certainly makes it easier to transfer holdings from one country to another, but care still has to be taken in imposing a spatial capital mobility reading on the collapse in currency prices which triggered the Asian financial crisis.

Going back to my favoured economic definition of capital mobility, spatial mobility occurs when an investment is liquidated in one country in order to release the funds to invest in exactly the same category of asset in another country. It is these economic actions which give rise to the sense of capital being in motion across space. However, it is difficult to reconcile this image with the dynamics of the speculative attacks on East Asian currency pegs. To execute the attacks, the speculators did not have to physically move any capital out of the countries in question because they did not have any capital physically in those countries in the first place. It is one of the ironies of a floating exchange rate regime that an investor can own significant quantities of a country's currency in the hope of making gains from those holdings without at any stage committing any money to that country. Foreign exchange trading can take many forms, depending on whether it is being undertaken on the spot market or via the use of one of many derivative instruments. But the physical coordinates of the actual trade are wholly unconnected to the physical coordinates of the economic consequences of the trade having taken place (see Chapter 2).

For instance, consider the case of Thai bahts being sold for US dollars. This occurred to an ever greater degree through the first six months of 1997, in anticipation of the eventual depreciation of the baht against the dollar. Yet, tempting as it might be to tell this as a story of spatial capital mobility, to sell bahts for dollars does not require that holdings are physically transferred from Thailand to the United States. To be

invested in Thai bahts requires only that investors be recognised as the legal owners of those bahts, not that they have money placed physically in Thailand. Similarly, to be invested in US dollars requires only that investors be recognised as the legal owners of those dollars, not that they have money physically placed in the United States. The pricing mechanism of the foreign exchange market was overwhelmed in early July 1997 with traders wishing to sell bahts for dollars, but such transactions do not fit the economic definition of spatial capital mobility being used here.

However, for current purposes it would be wrong to labour this point, because the Asian financial crisis was not solely a currency crisis. It was also a banking crisis, which remained latent as the dollar pegs held but which was fully exposed when the initial depreciations undermined the balance sheet positions of credit-reliant firms. Part of the reason why the currency prices of the crisis-hit countries continued to fall after the initial depreciations was that the balance sheet problems fed traders' expectations of further falls. The rest of this section will focus on the dynamics of the banking crisis, because these are clearly related to instances of spatial capital mobility.

One aspect of the IMF's response to the crisis which drew the attention of its critics was that its account of overly regulated economies and market-distorting bureaucracies strategically masked its own success in enforcing an under-regulated process of capital account liberalisation on often reluctant East Asian countries. Even as the consequences of the Asian financial crisis were unfolding, the IMF moved at its annual meeting in September 1997 to revise its Articles of Agreement in order to provide itself with the same jurisdiction over the capital account of its members as over the current account. As the latter has involved the constitutional oversight of open current accounts since the first tentative steps back towards full currency convertibility in the late 1950s (see Chapter 4), this in effect amounts to a requirement for fully open capital accounts (IMF 2000). The IMF was also a vocal advocate of the World Trade Organization's agreement in December 1997 of binding global limits on the restriction of free financial services markets worldwide, which locked-in the pressure for capital account liberalisation (Wade and Veneroso 1998a: 34).

The economic benefits of capital account liberalisation have yet to be demonstrated, but in political terms it is clear that it serves the interests of rentiers (Griffith-Jones et al 1998: 4). In James Crotty and Gerald Epstein's phrase (1996: 121), it constitutionalises rentiers' "freedom to 'run'", the very potential for which in turn lies at the heart of their

influence over the policy process. It is the ease of disinvestment which enforces credibility constraints on monetary policy and which requires governments to prioritise policies that defend existing asset values over policies that make credit available to industry on favourable terms (see Chapter 3). As Jakob Vestergaard suggests (2004: 824), capital account liberalisation should thus be seen as a disciplinary project in a Foucauldian sense, in that it not merely creates pressures for normalisation but that those pressures will also only have their intended effects in the presence of adequate systems of oversight and monitoring.

But this is precisely what East Asian countries lacked. Liberalising dynamics were introduced into the capital account in the absence of the necessary institutional capacity to make the reforms a success. The IMF justified its liberalisation programme for East Asia by arguing that this would be a stabilising measure for the countries in question, as it would force them to internalise time consistent inflation preferences (Stiglitz 2002: 100). Yet, given the absence of appropriate regulatory institutions to oversee the reform process, the opposite was always more likely to be the case. With the admitted benefit of hindsight, the capital account liberalisation programme appears to have been largely indiscriminate in its extension to East Asia.

The prior development trajectory of the crisis-hit countries had involved placing deliberate restrictions on the international integration of the domestic financial system. In this way, the influence of the state could be used to determine financial prices, allowing an industry oriented monetary policy to provide cheap sources of state-backed credit to assist in the expansion of productive sectors (Bevacqua 1998: 421). The process of capital account liberalisation changed all this in two important ways. (1) It inserted international rentier interests into the calculations of national policy-makers, as credibility considerations now had to include defending existing asset values as a means of minimising the possibility of destabilising capital outflows (Chang and Yoo 2002: 378). (2) It propelled the rapid international integration of domestic financial systems, thus presenting an opportunity for international market-based sources of credit to replace the previously dominant state-backed sources of credit (Thirkell-White 2005: 155).

An unsustainable process of market-based over-lending to East Asian countries followed. Given the context of capital account liberalisation, portfolio flows to emerging markets are self-regulated. The governing principles of liberal automaticity ensure that their scope and intensity is determined only by the calculations which fund managers make about how best to balance their overall positions. There are no globally

enforceable prudential limits on such flows (Griffith-Jones et al 1998: 20–1). So, when a particular region acquires a reputation for above average gains, it can quickly become a magnet for oversized inflows of capital, especially given fund managers' incentives to duplicate one another's behaviour through having their performances judged against the industry norm (e.g., Barber and Ghilarducci 1993: 288).

From the 1950s onwards, East Asia has been the recipient of a significant amount of international capital. Until the end of the Cold War, though, a large proportion of that had been official government flows, which were motivated by geopolitical concerns and consequently channelled into long-term infrastructural projects in an effort to guarantee future economic stability (Winters 2000: 36). This motivation clearly dissipated with the change in geopolitical environment in the early 1990s. Moreover, it did so at the most inopportune moment for the countries in question. Most East Asian countries had used Japanese foreign direct investment as a spur, initially to rapid industrialisation and then to continued economic growth (e.g., Kregel 1998a: 44–5; Singh 1999: 11; Ravenhill 2005: 4). But with the deflationary dynamics coming out of Japan following the collapse of its asset bubble in the early 1990s, these inflows dried up and contracted the overall productive potential of East Asian economies (e.g., Dattel 1999: 63–4; Kim 2000: 102; Leaver 2000: 284–5). Yet, it did so at a time when the region's new middle classes were becoming more used to their wealth and to their increased purchasing power allowing them to finance consumption from abroad. These two factors, put together, led to increasing current account deficits and, as a consequence, increasing pressure to protect the overall balance of payments position by generating a surplus on the capital account.

Given the vibrant nature of the region's nascent stock market structure at the time, East Asian firms attracted significant portfolio flows as pension and mutual fund managers added the region's high-performance stocks to their investment portfolios (Partnoy 2003: 248). This served only to push East Asian stock prices still higher, thus creating additional incentives for fund managers to continue to channel investments into East Asian stocks. On the back of this, the firms were able to use their own stock as collateral on international bank loans which provided short-term credit to service their traditionally high-debt corporate structures (Jomo 2000: 26–7).

In addition to this, capital flows from Japan changed from their old focus on foreign direct investment to purely financial flows aiming to take advantage of notable interest rate differentials. In response to the

collapse of the asset bubble, the Bank of Japan operated an increasingly cheap money policy throughout the 1990s. For part of that decade, real interest rates were negative: in effect, the Bank of Japan was paying investors to take out loans in an attempt to kick-start new economic activity. These circumstances provided Japanese commercial banks with an easy way to profit through carry trades. They borrowed money at exceptionally low interest rates at home before re-lending it, often in dollars, at higher interest rates elsewhere in East Asia. Such were the gains that could be made from so simple a strategy that a massive amount of carry trade activity emerged from Japan in the 1990s, being particularly concentrated in East Asia in the years 1993–1996 (Seabrooke 2001).

For a time, as confidence in the region amongst international investors held, it appeared that the combination of portfolio flows and carry trades would lock in a virtuous circle. (1) The debt servicing function of international credit enabled firms to expand their production base and, in the bullish stock market conditions of the 1990s, this was enough to increase their market values. (2) The increase in market values continued to make the region an attractive proposition for international portfolio managers and for Japanese commercial banks, who could continue to profit from largely indiscriminate investments in the region. (3) The continued inflows of portfolio funds and carry trades defended the overall balance of payments position, ensuring that private consumption did not have to be reined in to eliminate the current account deficit.

However, what looked like a virtuous circle of economic effects in fact only emphasised the increasing macroeconomic fragility of the countries concerned. The conspicuous over-lending to East Asia by international banks – particularly by Japanese and European banks (e.g., Robertson 2005) – corresponded to equally conspicuous over-borrowing on the part of those countries. In turn, this led to the rapid exhaustion of efficient uses of the incoming portfolio funds and carry trades, as well as their subsequent reallocation to non-productive purposes (e.g., Johnson 1998: 659; Jackson 1999: 3). The systemic over-investment in these economies facilitated the development of ‘mega-projects’, white elephant constructions which were designed to enhance national prestige but had no intrinsic economic justification (Soros 1998b: 139). In addition, and especially in Thailand, where the currency instability originated, the over-investment created a spectacular bubble in property prices (Winters 2000: 46).

In such circumstances, the virtuous circle situation threatened to turn into a vicious circle. (1) The surge in portfolio flows and carry trades

would not counteract the underlying current account imbalance if they were largely being allocated to unproductive uses. (2) The onus would then be on firms to correct the balance of payments problem by reducing their debt servicing requirements. (3) The ensuing contraction in output would be expected to lead to lower market values for the country's securities, lower levels of international capital flows into the country and thus further exposure of the balance of payments difficulties.

East Asian economies had expanded significantly throughout the 1970s and 1980s on the back of a high-debt model of corporate governance (Wade and Veneroso 1998b: 6–7). The difference by the mid-1990s was that the *nature* of this debt had changed in crucial ways. International investors were keeping East Asian firms afloat, but they were not lending directly to them. Their money was routed through their pension or mutual fund contributions via emerging market fund managers to internationally oriented banks, often from their country of origin, and from here the money was lent on to local banks in East Asia and then on again to local firms. This provided fund managers with a means of escaping prudential regulations, because their funds' balance sheets would show them to be dealing with the international bank (with its investment grade credit risk) rather than the local firm (often with a junk grade credit risk) (Kregel 1998b: 681). Moreover, in order to defend the value of the funds' investments, the international banks typically lent to East Asia on an increasingly short-term basis (Radelet and Sachs 1998: 11; Mishkin 1999: 11–12; Vestergaard 2004: 811). This provided both them and the funds with a 'get out of jail free' card. If macro-economic conditions turned against the East Asian countries, the banks could always exercise their spatial capital mobility options, insisting that the loans were repaid on or before maturity and hence reversing the flow of funds into East Asia (Block 2002: 215).

Table 5.1 shows just how short term the maturity on the average bank loan to the five crisis-hit countries had become in the twelve months prior to June 1997. The total in outstanding loans averaged over a quarter of a trillion dollars during this period and was rising as it came to an end. Almost two-thirds of this had a maturity of less than one year. The structure of East Asian corporate governance therefore hung from a very slender thread. Unless the international banks were willing to continually roll over their short-term lending through issuing new credit to replace old, then the corporate debt structure of all these countries would very quickly unravel, leading to economic implosion.

As Table 5.2 demonstrates, this willingness came to an abrupt halt in the second half of 1997. The aggregate current account deficit for the

**Table 5.1** Maturity Distribution of Lending to the Crisis-Hit Countries by BIS Reporting Banks, 1996–1997, in US\$ million

	<i>Total Lending</i>			<i>Value of Lending with less than Twelve Month Maturity</i>			<i>Percentage of Lending with less than Twelve Month Maturity</i>		
	<i>June 1996</i>	<i>Dec 1996</i>	<i>June 1997</i>	<i>June 1996</i>	<i>Dec 1996</i>	<i>June 1997</i>	<i>June 1996</i>	<i>Dec 1996</i>	<i>June 1997</i>
Thailand	69,409	70,147	69,382	47,834	45,702	45,567	68.9%	65.2%	65.7%
Philippines	10,795	13,289	14,115	5,948	7,737	8,293	55.1%	58.2%	58.8%
Malaysia	20,100	22,234	28,820	9,991	11,178	16,268	49.7%	50.3%	56.4%
Indonesia	49,306	55,523	58,726	29,587	34,248	34,661	60.0%	61.7%	58.3%
South Korea	88,027	99,953	103,432	62,332	67,506	70,182	70.8%	67.5%	67.9%
Total	237,637	261,146	274,475	155,692	166,371	174,971	65.5%	63.7%	63.7%

*Source:* Bank for International Settlements, adapted from Jomo 1998: xvi.

**Table 5.2** External Financing of the Current Account Imbalance for the Crisis-Hit Countries, 1994–1998, in US\$ million

	1994	1995	1996	1997	1998
Current Account Balance	-24,600	-41,300	-54,900	-26,000	17,600
External Financing (Net)	47,400	80,900	92,800	15,200	15,200
Private Flows (Net)	40,500	77,400	93,000	-12,100	-9,400
Commercial Bank Credit	24,000	49,500	55,500	-21,300	-14,100
Flows to/from IFIs (Net)	-400	-600	-1,000	23,000	18,500

Source: International Monetary Fund, adapted from Singh 1999: 24.

crisis-hit countries rose from US\$24.6 billion in 1994 to US\$54.9 billion in 1996, but this was almost entirely matched by the growth in commercial bank credit in the same period. The two figures follow each other remarkably closely, with commercial bank credit rising from US\$24 billion in 1994 to US\$55.5 billion in 1996. Following the onset of the currency crisis, however, international banks took advantage of the short-term maturities on their loans to reverse their lending stance. Loans were called in on recognition that firms' debt positions had become even worse now that the dollar value of their assets had plummeted on the back of the currency depreciations. IMF conditionalities ensured that the loan repayments were met (e.g., Sachs 1998: 18), massively reducing the overall effect of the IMF assistance. In the first eighteen months following the currency depreciations, the repayment of international bank credit by the crisis-hit countries was of such magnitude that it accounted for the monetary equivalent of 85% of total IMF disbursements. For the five economies as a whole, the reversal of commercial bank credit between 1996 and 1997 came to US\$76.8 billion, making up the lion's share of the overall reversal of private capital flows of US\$105.1 billion. This represented more than 10% of the countries' pre-crisis GDP (Grieve Smith 2004: 61).

It also represents the most concentrated incidence of spatial capital mobility in history. The capital structure of the crisis-hit countries thus changed dramatically as the crisis unfolded. International banks liquidated short-term East Asian assets in concerted fashion, either whilst trading on their own accounts or on behalf of highly capitalised clients. The repatriation of funds subsequently allowed new positions to be taken in other countries, and the combined decisions to liquidate East Asian holdings to take the same type of positions elsewhere creates the sense of capital being physically in motion across borders.

The different trajectories of stock market prices around the world aptly illustrate the degree of spatial capital mobility involved. From 1997 to 1999, the flow of bank-mediated funds into the New York Stock Exchange propelled the already bullish Dow Jones Industrial Average ever higher. The market index rose by the equivalent of three-quarters of its original value in just three years. By contrast, the stock market indices for all but one of the crisis-hit countries suffered considerable falls. South Korea bucked the trend in this respect but, for the other four, the fall rebased to the value of the Dow was anywhere from 25% (the Philippines) to 40% (Indonesia). The average fall for the four over that three-year period was 33%. The two price trends are more than coincidental. They represent the outcome of the linked decisions of international investors to liquidate their holdings of East Asian stocks specifically to enable them to purchase stocks in a lower-risk market.

The Asian financial crisis therefore featured significant instances of spatial capital mobility. These instances were concentrated in the banking rather than the currency dimension of the crisis. Of course, the two dimensions are related. The signal for the international banks to liquidate their East Asian holdings was initially the anticipation and then the reality of the currency depreciations. The depreciations undermined the balance sheet positions of Asian firms who had their assets denominated in the domestic currency but their liabilities denominated in dollars, providing further incentives for disinvestment. The banking dimension of the crisis can be explained through reference to the spatial mobility of capital, but the currency dimension of the crisis cannot. To explain that, it is necessary to look instead to the functional mobility of capital.

### **Collapsing currency prices: functional capital mobility and the Asian financial crisis**

In the first twenty-four hours following the forced move to free floating, the currencies of the crisis-hit East Asian countries lost an average of around 15% (calculated from Henderson 1998: 285–91). Yet, despite these dramatic one-off falls, it would be a mistake not to widen the time-frame of the analysis. The crisis was an event contained in stages or, perhaps more accurately, a series of events which were connected economically and which occurred in a particular temporal sequence.

There are two aspects to this temporal unfolding. The first relates to the different times at which the dollar pegs of the individual currencies were broken. This is the contagion effect through which the separate

pegs were picked off one after another as if in a process of dominoes tumbling. The second relates to the build-up of selling activity against each of the pegs, as initially one and then another group of market participants switched their holdings into asset types which had the effect of selling the currency short. The first aspect has received considerable attention in the existing literature but, as the second has been much less extensively researched, I will pay most attention to it. In the terms which I adopt in this book, both are linked in important ways to the functional mobility of capital. To preserve the temporal sequence in which the events actually occurred, I now take them in reverse order to the way in which they have been presented in this paragraph, focusing specifically on the deliberate destabilisation of the first of the dollar pegs to be broken.

The collapsing price of the Thai baht provides the ideal illustration of three key elements of the crisis: (1) how the initial depreciation followed the iterative build-up of speculative pressures against the baht in anticipation of just such an event; (2) how its continued depreciation followed the emergence of new selling pressures triggered by the original fall; and (3) how the different stages of the crisis unfolded around the activities of different groups of market participants.

It is all-too-easy to over-homogenise the causes of the selling pressures on the currencies of any of the crisis-hit countries. This happens in much of the existing literature, where all of the selling pressures tend to be treated as though they have the same economic origins and all are given the single word description of 'speculation'. In practice, however, different people sell currencies for different economic reasons and, whilst the liquidation of currency positions in the context of concerted selling activity has the effect of intensifying existing speculative pressures for a depreciation, it is not the case that all instances of selling will be motivated by purely speculative purposes. It is therefore necessary to be working with a disaggregated view of the selling activity which took place in the period both before and after the collapse of the baht's dollar peg.

For a number of months before the initial depreciation, the Bank of Thailand was forced to undertake higher than normal levels of intervention in the foreign exchange market in an attempt to stabilise the value of the baht against the dollar. A noticeable increase was recorded throughout the spring of 1997 in the purchase of derivative contracts which had the economic effect of short-selling the baht (e.g., Neftci 1998: 4–5; Dodd 2000: 14; Grabel 2003a: 324–5). Derivative positions were being taken which created synthetic bahts being traded with future

maturity dates at a level below the price of bahts being traded in the spot market. These tended to be very large positions, taken through the use of significant degrees of leverage (Felix 1998: 170). They represented purely speculative positions, whereby exceptionally big bets could be landed if the price of bahts in the spot market could be forced below the price of the synthetic bahts created by the derivative contracts. The act of switching between higher priced bahts and lower priced synthetic bahts created pressures for the spot market price of the baht to fall, thus threatening the sustainability of the dollar peg.

The Bank of Thailand pursued three different strategies in response to the build-up of speculative pressures against the baht. First, in the very early days of the pressure, it sought a purely market-based response, pushing up interest rates in an attempt to create incentives for investors to liquidate their synthetic baht holdings in preference for spot market purchases of bahts backed by the higher interest rates (Jomo 1998: 17). However, interest rates could only be pushed so high, because any increase made the already fragile balance sheets of indebted Thai companies even more unstable and forced the companies into ever greater reliance on international sources of short-term credit (Bevacqua 1998: 415–6). Recognising that the Bank of Thailand's interest rate strategy locked the country even more tightly into financing its current account deficit with international hot money, most of the speculators were unwilling to change the nature of their bet.

The second of its three defence strategies was to use its foreign exchange holdings, particularly its dollar holdings, to counteract the potential flashpoints within the economy which the short-selling of the baht could create. On the one hand, it sought to prop up the domestic banking system by undertaking lender of last resort functions in dollars rather than in bahts (Kregel 1998a: 50). This immunised at least part of the domestic banking sector's balance sheets from the effects of an eventual depreciation, thereby enabling the banks to conduct business as usual and lessening the chances of a credit crunch. On the other hand, it sold dollars for bahts on the spot market so as to ensure that selling activities were met with a comparable amount of buying activities and thus to guard against a temporary seizure in the pricing mechanism of the baht. In May and June of 1997 alone, the Bank of Thailand committed US\$9 billion to spot market purchases of the baht, almost a quarter of the country's total foreign exchange reserves (Bello 1998: 429).

It complemented this with the third of its three strategies for seeking to defend the value of the dollar peg. It also sold massive amounts of

dollar-denominated forward contracts that it promised to settle in bahts. This was an attempt to signal its determination to preserve the dollar peg at all costs, but the size of the contracts it issued suggested only that this was its last throw of the dice and that it now had insufficient reserves remaining to continue the defence (Henderson 1998: 136–7). In an effort to quash the speculation in one decisive intervention into the foreign exchange market, it sold US\$23 billion of forward contracts linked to the existing dollar value of the baht (Partnoy 2003: 250). This was the equivalent of over three-quarters of its remaining foreign exchange reserves once its spot market interventions are taken into account.

However, widespread awareness already existed of hedge funds' concerted short-selling strategies against the baht. This knowledge had an important impact on the assumptions of other foreign exchange market participants about the likely sustainability of the baht's dollar peg. As soon as rumours began to circulate on the foreign exchange market about the degree to which the Bank of Thailand had over-extended itself in the forward market in defence of the baht, expectations of a depreciation became ever more entrenched. This created incentives for other investors to mimic the positions that the hedge funds had already taken.

Two groups of foreign exchange market participants were especially important in this respect. First, many banks saw the increasingly precarious reserves position of the Bank of Thailand as a perfect opportunity to make some money at the latter's expense. They chose to trade on their own account, weighing in behind the hedge funds' positions and thus reinforcing the pressure on the baht. These trading activities were motivated pretty much solely by speculative inclinations (Mishkin 1999: 13). Second, many institutional investors also began short-selling the baht in anticipation of the eventual depreciation. They were mainly intent on preserving the overall value both of their holdings and of their clients' net worth in the expectation that Thai securities prices would fall in the wake of the eventual currency depreciation (Soros 1998b: 142). Profiting from that depreciation represented a means of insuring the overall value of their holdings. Institutional investors' short-selling of the baht was thus more of a hedging strategy than a speculative strategy.

Irrespective of their motivation for short-selling, though, each of the three groups of foreign exchange market participants reviewed here – hedge funds, banks and institutional investors – short-sold the baht in similar ways. Each took out either straightforward put options on the baht or more complex structured notes paying interest in dollars but which acted economically just like put options on the baht. The sheer

volume of the former contracts purchased in the last few days of June precluded the possibility of all liquidity oriented market-makers being able to fully cover their short positions, thus exacerbating the spot market selling of bahts even amongst those who normally could have been expected to continue buying (Morales 2001: 15). The latter contracts were less extensively used, but they were designed specifically to exert maximum pressure on the dollar peg (Kregel 1998b: 681). The result was an unstoppable momentum of short-selling against the baht, overwhelming the Bank of Thailand's last remaining defences and forcing it to float the baht on July 2<sup>nd</sup> 1997.

The build-up of the speculative pressures against the baht was symptomatic of repeated instances of the functional mobility of capital being exercised on a massive scale. The Bank of Thailand was powerless to prevent an unwanted depreciation of the baht due to the highly concentrated pattern of asset liquidation which prefigured the final attack. As the middle months of 1997 wore on, the liquidation of spot market baht holdings increasingly occurred specifically to facilitate the purchase of derivative instruments which exacerbated the pressure on the baht's dollar peg. In the presence of these functional mobility options, the success of the attack was practically assured once the expectation of a depreciation became firmly established.

Given the near exhaustion of its foreign exchange reserves, Thailand was forced to adopt not only the free float of the baht but also IMF assistance. Of course, the latter came complete with accompanying macro-economic conditionalities (IMF 1999). All of these were derived from an unquestioning acceptance of the internal logic of time consistency models and the associated concern for using spatial capital mobility to discipline governments into introducing inflation overkill policies (Blustein 2001: 73–8; see also Chapter 3).

In an attempt to defend the counter-inflationary credibility of domestic policy-makers, the IMF insisted on preserving the interest rate stance which had been partially to blame for creating the conditions for the banking crisis in the first place. The dollar pegs were successfully maintained in the mid-1990s via interest rate differentials between the US and East Asia. In such circumstances, loans to East Asia were made readily available, routed either directly through dollars or through third currencies using the dollar as an intermediary (Partnoy 2003: 248–9). It has already been noted the extent to which Japanese commercial banks engaged in carry trades of this nature. However, the repackaging of the loans using derivatives ensured that they did not keep their original relatively simple form. The banks protected the value of their

investments by lending in local currencies but by ensuring that the repayments were structured in other currencies, principally in dollars. They achieved this through the use of total return swaps, the attraction of which for the issuer was that they transferred all depreciation risk to the borrower. No matter what happened to the dollar exchange rate between the date at which the loan was agreed and the date at which it became due the banks immunised themselves against losses (Dodd 2000: 10–11). The only danger to the value of their holdings might come in the event of a default on the part of solvent local borrowers, but IMF conditionalities guaranteed against this eventuality. This, then, represented a potentially lucrative business for the banks, as their chances of not realising a profit were very low.

East Asian firms issued extremely large amounts of corporate bonds in the mid-1990s as a means of propping up their faltering financial positions with international sources of credit. However, international banks could not purchase most of these bonds directly, because they had prudential regulations which disqualified them from taking below investment grade credit risks onto their balance sheets (Sinclair 2005: 41). In order to bypass such regulations, they set up Special Purpose Entities to facilitate short-term lending to East Asian firms via local banking intermediaries (IMF 2002: 68–9). Special Purpose Entities also played a leading role in the collapse of Enron (see Chapter 7) and, in both cases, the important point is that they enjoy legally independent status even though they are clear economic subsidiaries of the establishing company. As a consequence, trades which are conducted through Special Purpose Entities do not appear on the balance sheets of the establishing company.

This enabled the establishing banks to involve themselves with East Asian firms through carry trades to a far greater degree than their own prudential regulations would have otherwise allowed. It also enabled them to do this through off-balance sheet transactions, thus disguising the true nature of their dealings from their own shareholders. The banks bore little risk in such strategies. In addition to the legal separation between the Special Purpose Entities and their parent banks, the purchase of East Asian corporate debts was structured so that it was economically indistinguishable from short-term lending. This was then repackaged using total swap returns to ensure that the lenders shouldered none of the accompanying exchange rate risk (Kregel 1998a: 47–8).

Moreover, when recognition of that risk triggered the first instances of speculation against the dollar pegs, it was once again derivatives which

were used to take the speculative positions. In particular, traders made considerable over-the-counter purchases of non-deliverable futures in East Asian currencies (e.g., Henderson 1998: 115; Soros 1998b: 136). As their name suggests, non-deliverable futures do not require actual stocks of the currency involved to be exchanged on the contract maturity date. As such, they have no intrinsic macroeconomic purpose. They are purely speculative instruments and their sole aim is to allow traders to bet on future exchange rate values. The IMF reports (2002: 55–6) that a large proportion of the non-deliverable futures purchased in anticipation of East Asian depreciations in 1997 were routed through offshore markets and, as this is the location of choice for most hedge funds, it confirms that they were at the forefront of the speculative attacks.

Once again, though, it is necessary to guard against working with an overly homogenised account of the dynamics of the currency crisis. There is another stage of the crisis which has yet to be reviewed and which had little to do with the actions of hedge funds. Stage three occurred after the initial depreciation exposed the full extent of the exchange rate risk that now had to be incorporated into Thai balance sheets.

East Asian firms were used to operating in a context in which industry-friendly governments assured them that the primary goal of macroeconomic policy was to maintain the stability of the dollar pegs. Most of the dollar-denominated corporate borrowing in East Asia in the mid-1990s was consequently left unhedged (Jomo 1998: 6–7). For such firms, the initial depreciation had a dramatic impact on their very viability as going concerns. By the evening of July 2<sup>nd</sup>, their survival depended entirely on their ability to get their hands on as many dollars as possible. They therefore entered the foreign exchange market as spot traders in an attempt to buy dollars (Eichengreen 1999: C12). As their assets were denominated in bahts, the only option available to them was to sell their bahts for dollars in a desperate last-ditched effort to reduce their exposure to the collapsing baht.

Of course, this sparked a fresh selling frenzy and drove the value of the baht down still further, forcing other firms to enter the foreign exchange market and to duplicate the selling strategies which were doing so much damage to their collective balance sheet positions. Within twenty-four hours of the initial baht depreciation, the hedge funds, international banks and institutional investors had generally already cashed out their gains. The continuing pressure on the baht instead came from distressed local firms seeking some sort of shelter from the initial depreciation (IMF 2002: 64). In stage three, then, the crisis genuinely became one of the Thai economy as well as one which took place *in* Thailand.

This pattern was subsequently repeated throughout the other crisis-hit countries of East Asia: a currency crisis originating externally became a domestic event in its third stage as unhedged exchange rate risks forced local firms into inadvertently self-harming selling strategies. It is what, in understated terms, Steven Radelet and Jeffrey Sachs call "a disorderly workout" (1998: 8). The similarity in dynamics across cases gives rise to the impression, much commented upon in the existing literature, of the crisis spreading contagiously from one country to another (e.g., Haggard and MacIntyre 1998: 384–5; Smadja 1998: 69–70; Dattel 1999: 63–4; Leaver 2000: 285–6). What actually spread contagiously, though, was the potential for self-reinforcing credit crunches, the economic causes of which can only be explained through appeal to the functional mobility of capital.

The balance sheet losses which Thai firms were forced to report following the initial depreciation of the baht exposed local banks to similar losses as some of their major clients went bankrupt. The prospect of local bank failures consequently threatened to spill over into losses in international banks' total return swap positions with Thai banks (Dodd 2000: 21). Whilst IMF guarantees were sufficient to defend international banks from local firms using the threat of default to renegotiate their loan repayments, they offered no such protection against local bank failures. When international banks were caught with unrealisable profits from total swap returns in Thailand, they cut off credit supplies to Thai banks (Neftci 1998: 10). This came on top of local bank failures, leading to a general credit crunch for the Thai economy (Ferri, Liu and Stiglitz 1999: 340).

Japanese banks had lent heavily to Thai banks in the mid-1990s and, when they became entangled in the fall-out from the Thai credit crunch, they quickly restructured their lending programmes elsewhere in East Asia to insure themselves against similar events in other countries (e.g., Kim 2000: 102). They liquidated cash-based lending positions and used a combination of derivative instruments to replace them with positions which would generate synthetic cash flows to allow them to recover their investments in a future credit crunch. Yet, by exploiting their functional capital mobility options in this way, the banks only succeeded in hastening the onset of the economic conditions which they were seeking to insure themselves against.

We thus see the problem of a 'common creditor' within the context of a potentially systemic regional credit crunch (Kaminsky, Reinhart and Végh 2003: 70). Following the depreciation of the Thai baht, the retrenchment of Japanese banks' lending positions using ostensibly

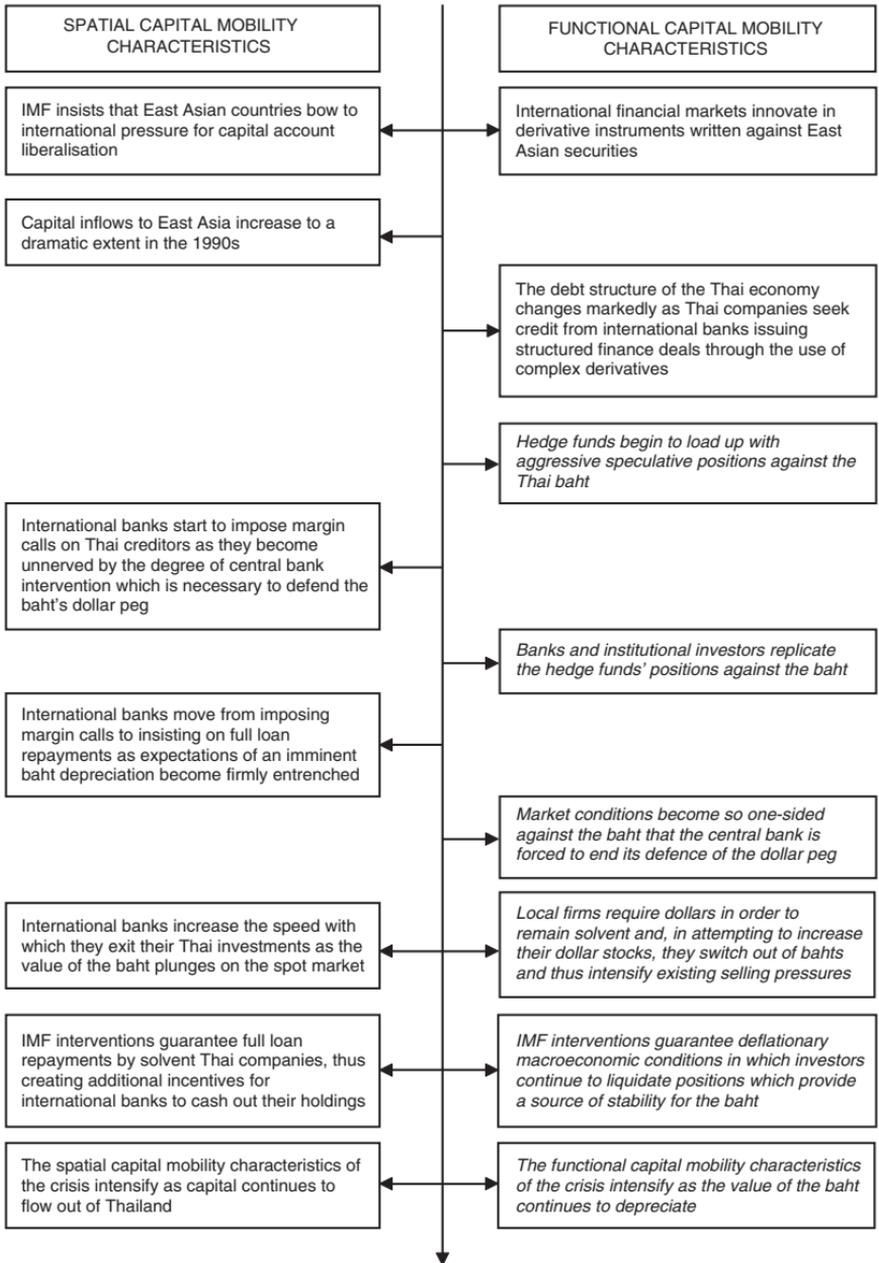
protective derivatives instruments tightened the flow of credit to debt-dependent firms in Malaysia. Thai banks had also invested heavily in Malaysia but were forced to retrench in similar ways and, as this created pressures on Malaysian banks to focus more of their activities domestically, they partially withdrew from their lending activities in Indonesia (Blustein 2001: 59–60). Fearing regional contagion, US banks followed suit with respect to their lending in the Philippines and European banks with respect to their lending in South Korea (Kaminsky, Reinhart and Végh 2003: 51–3). All of this took place amidst feverish banking activity in the week following the initial depreciation of the Thai baht. The scene was thus set for the spread of the Thai credit crunch around the region (Neftci 1998: 18). The only thing missing at this stage was the catalyst of subsequent currency depreciations. But, as noted in the previous section, the first of these arrived shortly and then the rest came thick and fast.

## Conclusion

Perhaps more so than any other event in living memory, the Asian financial crisis demonstrates how risks can emanate from patterns of trading on financial markets to impact upon society (what was labelled in Chapter 1 ‘contamination risk’). Moreover, many of these risks were deliberately engineered by international market actors in an attempt to find new ways to make money by riding on the back of the massive increase in short-term lending to East Asia in the mid-1990s (‘speculation risk’). Structured finance deals were put together which were of little or no macroeconomic benefit to the countries involved, but which enabled international rentier interests to profit from the transaction. Such deals were packaged so as to transfer the depreciation risk associated with holding financial assets from the international lender to the East Asian borrower. The three generic types of financial risk outlined earlier in the book were therefore all present in the dynamics of the Asian financial crisis.

The two types of capital mobility which feature throughout the book were also present. Important insights can be gained by differentiating clearly between the spatial mobility and the functional mobility dimensions of the crisis, as Figure 5.1 captures schematically. On the left hand side of the dividing line are those aspects of the crisis dynamics which have spatial mobility characteristics, and on the right hand side are those aspects which have functional mobility characteristics. Although the timeframe is not drawn to scale, reading down the page gives some

Figure 5.1 Capital Mobility and the Causes of Thailand's Financial Crisis



idea of the temporal unfolding of events in Thailand. The events which propelled the currency crisis are presented in italics, whilst the events which propelled the banking crisis are presented in standard text.

As Figure 5.1 shows, the banking crises and the currency crises had different capital mobility manifestations. (1) East Asian banking crises were caused by the repatriation of capital from the region as international banks first initiated a lending boom of bubble proportions and then entirely reversed their lending stance at signs of trouble. This led to the liquidation of assets in advance of a 'flight to quality', whereby the same funds were reinvested elsewhere in the world but in markets with a lower degree of depreciation risk. (2) East Asian currency crises were caused by speculators initially loading up their portfolios with short-selling positions against the baht, which subsequently created momentum effects until the point at which the market was completely devoid of traders wishing to buy bahts. Assets were liquidated as the expectation of a depreciation took hold specifically so that they could be reinvested in forms which magnified the pressure on the baht's dollar peg.

The former process relates overwhelmingly to the spatial mobility of capital, whereas the latter relates overwhelmingly to the functional mobility of capital. However, what made these events particularly catastrophic for the countries and the people involved was the fact that the banking crises and the currency crises fed upon one another in order to magnify each of their intensities. Thus, the contagious credit crunches resulted from the dynamic interaction between the economic effects of the spatial and the functional mobility of capital.

# 6

## Currency Market Transactions and the Desire for Progressive Regulation: Capital Mobility and Tobin Tax Avoidance

### Introduction

The idea of taxing the spot market purchase of foreign exchange received its best-known treatment in Nobel Laureate James Tobin's Janeway Lectures delivered at Princeton University in 1972 (Tobin 1974). In view of this, it is entirely unsurprising that contemporary proposals for introducing a currency transactions tax tend to be presented under the name of 'the Tobin tax'. The Keynesian lineage of Tobin's basic assumptions about how the economy works is unmistakable (Tobin 1978, 1997). However, much has changed since the time of his original lectures. Keynesian macroeconomic theory has been almost completely superseded by time consistency models which question the very validity of government policy-making discretion (see Chapter 3). Perhaps because of this, most pieces written in support of the Tobin tax today begin, as if apologetically, by describing it merely as 'a modest ad valorem tax'. The 'modest' denotes the level at which the tax might be set (maybe as low as one or two basis points, 0.01 to 0.02%) and the 'ad valorem' denotes that the tax payment will be proportional to the value of the position (thus the bigger the position the greater the tax liability). Both denotations are intended to signal the reasonableness of the tax.

Most commentators on modern currency transactions taxes – proponents and critics alike – now challenge Tobin's original Keynesian justification for such a tax. This was that it might insulate the policy instruments at the government's disposal from the unsettling effects of speculative trading in the foreign exchange market. Very few today believe that such a tax could deter all speculative activities and consequently restore to governments full policy-making discretion

(e.g., Akyüz and Cornford 1995: 188; Kaul, Grunberg and ul Haq 1996: 5; Grabel 2003a: 325).

Even with Tobin's original rationale removed, though, proponents still present it as a potential 'double dividend' tax. For those whose primary concern is to counter the regressive effects of excessive exchange rate volatility, the tax would act as a stabilising measure (e.g., Obstfeld 1996: 1039; Harvey 1999: 208; Palley 2003: 8). For those whose primary concern is to finance sustainable economic development in the Third World, the revenue-raising potential of the Tobin tax makes it an instrument of global social justice (e.g., Atkinson 2005: 8; Caney 2005: 106; Nissanke 2005: 60). But its main attraction is that both purposes could be served at one go.

Presented in this way, the normative case for a Tobin tax appears pretty much unanswerable. In practice, however, it would have to be both desirable and feasible. We would have to be sure that its introduction would not lead to different patterns of currency and currency-related trading which would create new risks for financial markets to propagate into society. In order to assess this case, the chapter proceeds in three stages. In section one, I move beyond the terms of so much of the debate about a Tobin tax by attempting to disaggregate the separate trading strategies which, when taken together, constitute the foreign exchange market. By doing this, it becomes possible to postulate whether a Tobin tax would work as intended. Sections two and three study the likely unintended consequences of the tax, emphasising the feasibility constraints which might ensue from the presence of capital mobility options. In section two, I concentrate on spatial capital mobility options, whereby a Tobin tax could be avoided by traders moving the settlement of foreign exchange transactions to offshore markets. In section three, I concentrate on functional capital mobility options, whereby a Tobin tax could be avoided by traders refocusing their activities on derivative instruments which bear the same trading characteristics as foreign exchange but which are untaxed.

A chapter on the Tobin tax is included because the analysis contained herein helps to illustrate the book's two main claims. (1) It attempts to unpack the 'black box' of financial practices which is evident in so much IPE writing on the subject. Whilst it is commonplace to read of IPE scholars' political support for the redistributive potential of a Tobin tax, markedly less attention tends to be paid to the economics of the financial practices on which a Tobin tax would impact. The current chapter acts as a corrective to this tendency. (2) It once more demonstrates the analytical utility of working with the distinction between the

spatial and the functional mobility of capital. The new financial practices that a Tobin tax would likely elicit are a combination of the two mobility types. As such, it is not possible to understand the full implications of introducing a Tobin tax without recognising the distinction between the two.

### **The Tobin tax dilemma: taxing speculation but not market-making**

The results of the most recent Bank for International Settlements survey show that the daily worldwide turnover on the foreign exchange market in 2004 totalled almost US\$1.9 trillion. This is 3.19 times greater than the comparable level of 1989, or an average annual increase of just over 21% for that fifteen-year period (BIS 2004: 9). It is also way in excess of the dollar value of world trade, which for the same year was over seventy-five times smaller at US\$24.97 billion per day (IMF 2006).

For the economic case for a currency transactions tax to hold, it must be that every increase in volume leads to a corresponding rise in exchange rate volatility. This in turn assumes that all of the increase in volume is accounted for by speculation. Yet, it could be that it takes only a small number of well-capitalised speculators to move exchange rates. In these circumstances, the huge recent increases in trading volume on the foreign exchange market are a reaction to the volatility that speculation produces rather than its cause. The response to enhanced volatility is thus more and more trading activity as other market participants try to neutralise the effects of exchange rate instability on their underlying financial positions. Both scenarios begin from the same premise that speculative activities play a dominant role in determining exchange rate values. So, much rests on the precise nature of the relationship between speculation and other trading strategies, because it is on this question that the two scenarios part company.

Proponents of a Tobin tax claim credence for their view that most foreign exchange activity is speculative from the evidence of the time-frame to which it is oriented. The 2004 Bank for International Settlements survey data show that four-fifths of all foreign exchange transactions are conducted as part of a round-trip of seven days or less, whilst almost one-half are conducted as part of round-trips of two days or less (BIS 2004: 10). These percentages have proved to be relatively stable over several BIS triennial surveys. Indeed, as far back as 1981, Norman Fieleke was able to show (1981: 35) that banks had already become noticeably reluctant to hold foreign exchange positions open

overnight. Given the underlying institutional context of floating exchange rates, their fear was that selling pressure in markets in other time zones might undermine the value of their positions between the end of trading on one day and the resumption of trading on the following day. As a consequence, whilst most banks are prepared to authorise large foreign exchange exposures on their own account within the course of a single trading day, they often attempt to complete their desired round-trip and thus close out their position before the end of the day.

Evidence of this nature is used by proponents of the Tobin tax to argue that the tax is both justified (on the grounds that foreign exchange trading is dominated by short-term speculators) and likely to work as intended (in the first instance by weeding out the shortest of the short round-trippers). The latter part of the argument works by multiplying the rate at which the Tobin tax might be levied by the number of round-trips that a short round-tripper could conduct in a year in order to work out the equivalent annualised Tobin tax rate (e.g., Frankel 1996: 57–8; Grieve Smith 2004: 65). As the round-trip gets progressively shorter, the annualised rate of the tax becomes progressively larger, to the point at which it appears to act as a considerable deterrent to speculative activities. The compound effects of the annualised tax rate kick in quite dramatically for even a one basis point Tobin tax at exactly the round-trip horizon which now dominates foreign exchange trading.

For round-trips of two days or less – which now encompasses around half of all foreign exchange transactions – the annualised rate of tax comes close to 4%. In order to cover a tax liability of that nature, traders would need to have a directly offsetting investment in a highly risk-free asset, such as a government debt issue, which was capable of delivering an identical rate of return. Given the large size of speculative foreign exchange positions, this would more likely be a smaller offsetting investment in an asset with a higher rate of return. The trend towards lower world interest rates from the early 1990s suggests that such assets are today hard to come by. Consequently, even the one basis point Tobin tax appears likely to act as a significant deterrent to short-term speculative round-trips of two days or less. It is therefore relatively easy to see why, for its proponents, the introduction of a Tobin tax would be the centrepiece of an anti-speculator manifesto (Akyüz and Cornford 1995: 189; Felix 1995: 196; Arestis and Sawyer 1997: 753).

Yet, there is a flaw in the economics of this argument, as most tellingly pointed out by Paul Davidson. Davidson argues (1997: 674–5) that the deterrence potential of a Tobin tax is completely unconnected to the length of the transaction round-trip. A speculative attack succeeds via

the development of a massive imbalance between the quantity of currency for which there is a seller and the quantity of currency for which there is a buyer, such that the pricing mechanism for the currency temporarily seizes up. But this situation tends to arise from one-off moments of position switching by traders who are able to command such large sums of capital that they are able to overwhelm the buying side of the market with coordinated single decisions (Grabel 2003b: 95–6). In particular, it arises from traders stacking one side of the futures market, so it is known in advance that an avalanche of selling will soon occur as spot market prices adjust to the pattern of futures market trading.

In such circumstances, what counts is not the hypothetical annualised tax rate but the nominal tax rate and, as we have seen, this could never be set high enough to deter speculation on its own (Chavagneux 1996: 518; Frankel 1996: 59–60; Palley 2003: 11). Every country experiencing currency crises since 1990 has seen an almost instantaneous currency depreciation of at least 15%, and many have seen the speculative attack reduce the level of their currency by at least 50% (Hutchison and Neuberger 2002: 31). A Tobin tax would have to be set at a comparably high level to prevent the type of speculation which led to these depreciations (Dodd 2003: 36–7).

One possible way of meeting this challenge is Paul Bernd Spahn's proposal for a two-tier Tobin tax (1995, 1996). Under such a system, so long as a currency is being traded within pre-specified limits, foreign exchange transactions are taxed at the normal low rate. However, anyone attempting to sell a currency at a value below the lower limit of the target band immediately triggers a much higher tax rate. The aim is to disincentivise deliberately destabilising trades by differentiating transactions costs within pre-set rules in order to defend national policy choices (Raffer 1998: 531). As Spahn notes (1996: 26), the essential element of his tax is that it is price sensitive, such that its impact can be staggered to penalise most heavily those trades that have the greatest effect on exchange rate volatility (Clunies-Ross 2003: 21; Grabel 2003b: 95). The higher gradings of the Spahn tax target the negative externalities of excessive volatility, to the point at which the tax can be outright confiscatory (Grieve Smith 1997: 751). The justification for treating speculative gains so harshly is that they are the functional equivalent of windfall profits (Spahn 1996: 27): i.e., they are unearned in a real sense, and therefore there is nothing untoward in appropriating them for public use.

The Spahn two-tier tax appears to have many merits in this respect, although it would leave unresolved one other major potential flaw in

the economic case for taxing currency transactions. This arises from the fact that liquidity-enhancing market-making foreign exchange transactions share many of the characteristics of purely speculative transactions (Grahl and Lysandrou 2003: 597). They tend to be very short term in nature and they are concentrated towards the end of the trading day in order to ensure that traders hold overnight as balanced an overall portfolio of positions as possible. The difficulty comes in trying to distinguish between a market-making, liquidity-enhancing, short-term round-trip which balances the portfolio positions of traders and hence brings expectations of stability to the market as a whole and a disruptive, purely speculative, short-term round-trip which is designed to make money out of destabilising relative currency prices.

It is easy enough to draw a normative distinction between the two. Market-making interventions lessen the probability of even more pronounced short-term exchange rate movements than we see today. They therefore reduce both the risk of losing money from holding assets denominated in a particular currency and the societal risks that emanate from financial markets. Market-making interventions should thus be encouraged. By contrast, purely speculative interventions are the cause of the destabilising exchange rate movements that we see today and should thus be discouraged.

But, beyond this, how do we tell one type of foreign exchange transaction from another to be able to differentiate them economically? Existing empirical surveys of the foreign exchange market can only distinguish between the length of the round-trip and not between the separate motivations for trading currency. It would also be naïve to expect traders to report their motivations to any form of monitoring agency, as this would require them to provide other traders with information about their trading strategies. We have to conclude that we simply have no reliable *prima facie* knowledge of what type of transaction any particular trade is (Goodhart and Payne 2000: 4). More worryingly for its proponents, there is nothing in the proposed workings of the Tobin tax that would allow it to distinguish between market-making and speculative activities. It might therefore act as an equal deterrent to transactions which should be encouraged as to transactions which should be discouraged.

Increasing the costs of speculation at the same time increases the costs of market-making (Dooley 1996: 92). In the presence of a Tobin tax, then, market-makers might become increasingly reluctant to bear the costs of balancing their overall portfolios at the end of every day's trading. As a consequence, they might accept the risks associated with

leaving an unbalanced position open overnight rather than incur the additional transactions costs arising from the Tobin tax. This in turn would render the whole of the market environment more unstable than it would otherwise be in the presence of more committed market-making activities and the absence of a Tobin tax (Wachtel 2000: 340–1).

The most obvious drawback arising from less committed market-making activities would be a reduction in market liquidity (Davidson 1997: 685). A liquid foreign exchange market is one in which relatively large trades can be absorbed without an effect on the prevailing market price, because there will always be market-makers who can continue to trade at that price without destroying the balance of their overall portfolio (Dodd 2003: 43). In a less liquid market with more restricted market-making activities, the pricing mechanism is more susceptible to one-way sentiment in which a temporary absence of buyers materialises (Palley 2003: 13). This is because liquid markets have more compressed bid/ask spreads, whereby buyer and seller sentiment converges on a generally agreed market price, whilst in illiquid markets bid/ask spreads can widen considerably in response to buyers and sellers valuing an asset very differently (Frankel 1996: 65; Nissanke 2005: 61).

There is no way of telling exactly what the effect of a Tobin tax would be on market liquidity, although there are reasons to be concerned. The most recent Bank for International Settlements survey data show that the majority of trades continue to be inter-dealer, and many of these are likely to have market-making characteristics. Whilst dealers can still choose to hold open foreign exchange positions if, like other traders, they believe that they have identified an obvious speculative momentum in the pricing mechanism of the market, most of their activities are concentrated on balancing their overall portfolio position having absorbed a big fee-paying trade from a large commercial client. The process of absorption usually entails a prolonged game of ‘hot potato’, as portions of the original trade are passed through many hands until all dealers have come as close as possible to neutralising their exposure to the original trade (Burnham 1991: 135; see also Chapter 2).

This, however, is not decisive evidence against the introduction of a Tobin tax. For, the share of the foreign exchange market accounted for by inter-dealer trading has fallen quite considerably in recent years, from 64% in 1998 to 53% in 2004 (BIS 2004: 10). This leaves a hefty proportion – almost one-half – of a near US\$1.9 trillion daily market which cannot be explained away as inter-dealer hedging strategies manifested in hot potato games. Much of the remainder is likely to be motivated by speculative concerns. This appears to reinvigorate the economic case

for a Tobin tax, but still the tax could not be expected to discriminate between speculative and market-making activities (Spahn 1996: 24). If a Tobin tax makes prolonged hot potato dynamics prohibitively expensive, then there is no reason to presume that market-makers would enforce additional costs on their own business by attempting to keep the market as a whole liquid following a large commercial trade. The result would most likely be a less stable foreign exchange market and greater exchange rate volatility.

Moreover, we should also assume that large numbers of traders would try to avoid the tax, and this would also be likely to have important effects on the liquidity structure of the market. I concentrate in the remainder of the chapter on potential avoidance resulting from both spatial and functional capital mobility options.

### **Spatial capital mobility and a currency transactions tax: migration to offshore markets?**

The most frequently cited concern over the feasibility of a Tobin tax relates to the necessary geographical coverage of the tax. In 1996, just as academic writings on the subject were at their most intense, four US Senators, Republican Presidential candidate Bob Dole amongst them, introduced to Congress the 'Prohibition on United Nations Taxation Act' (Raffer 1998: 529–30; Erturk 2002: 1). This was a preemptive strike against even the suggestion that international organisations might acquire tax-raising rights on economic activity conducted in the United States. Whilst the bill also had other targets in mind, its primary focus was financial market activity. It was designed to prevent future legislative time from being given to discussions of a Tobin tax and to stop the very idea of a Tobin tax from becoming a totem for progressive political alternatives oriented around notions of global social justice. This one bill aptly highlights the twin political obstacles that stand in the way of a currency transactions tax. (1) It demonstrates the political power of the financial lobby in all countries with large enough financial sectors for a Tobin tax to make a real difference to the way in which they work (e.g., Posen 1993: 42). (2) It also demonstrates the potential for the disruption that might be caused if just one country sides with the wishes of its financial lobby and fails to implement an international agreement to introduce a Tobin tax (e.g., Mendez 1996: 500).

It has been suggested that one way to incentivise the take-up of a Tobin tax is to make it a precondition for continued membership of the International Monetary Fund (Grieve Smith 2004: 65). However, the

IMF is more dependent on the quota payments of the countries with the largest foreign exchange markets than those countries are on IMF disbursements, so it is difficult to see why this measure would resolve the problem of non-take-up. Besides, the IMF has in any case continually stressed its preference for international harmonisation of the prudential regulation of foreign exchange markets over the introduction of a Tobin tax (Felix 1995: 197–8). Moreover, it has been a central figure in the rise of an international anti-tax populism (Grabel 2003a: 335). A Tobin tax would empower the public sector to increase the number of interventions that could be made in the public interest, but this is against the backdrop of deeply ingrained assumptions about the need to rein back the role of government (Raffer 1998: 537). Given such a context, only the most optimistic Tobin tax proponents are likely to believe that the tax could be introduced with a broad-based international consensus.

Yet, most commentaries on the feasibility of a Tobin tax suggest that, to be successful, the tax would have to be applied in the same way, to the same degree and at the same time in all places. In technical language, it is assumed that the effectiveness of the tax is a function of how complete its base proves to be (Spahn 1996: 24). The fear amongst its supporters is that a number of countries might choose to free-ride on other countries' efforts to introduce the tax globally and, hence, deliberately frustrate attempts to institutionalise a truly complete tax base (Kaul, Grunberg and ul Haq 1996: 8).

The whole point of a Tobin tax is to raise transactions costs associated with trading currencies in order to turn some trades which are currently profitable into unprofitable trades (Erturk 2002: 2). Yet, by reneging on an international agreement to implement a Tobin tax individual countries can introduce important asymmetries into the global structure of transactions costs. In all likelihood this would be a deliberate ploy, undertaken in the expectation of being able to attract a greater share of foreign exchange market business. Under a selectively imposed Tobin tax, a previously profitable trade only becomes unprofitable if it is conducted in a jurisdiction which has embraced the tax. In such circumstances, whether or not a transaction is profitable depends on where it is conducted.

A certain paradox in the relationship between global capital and the international state system is thus invoked. On the one hand, the ease with which it is now possible to relocate asset holdings places definite constraints on the capacity of states to enforce progressive regulation on capital (Picciotto 1999: 43). On the other hand, the resulting power vested in the hands of the owners of capital actually has its origins in

states attempting to seize market share by free-riding on international regulatory regimes (Bienefeld 1996: 434). The absence of capital controls is crucial in this respect (Crotty and Epstein 1996: 133).

A logic of spatial capital mobility is implied. It is assumed that traders will react to whatever asymmetries arise in the global structure of currency transactions costs by undertaking their transactions in the least taxed environments. They will do this by liquidating their currency holdings in the markets of countries which have adopted the Tobin tax in preference for creating new currency holdings in the markets of countries which have not. In this instance, taking advantage of capital's spatial mobility options makes no difference to the *type* of transactions in which traders engage: they can be expected to trade between exactly the same currency pairs as before. It is only the *location* in which the transactions are declared for tax purposes that is affected.

What is suggested in many commentaries on the feasibility of a Tobin tax is the possibility of a wholesale migration of the foreign exchange market to untaxed environments (e.g., Hampton 1996: 35; Kenen 1996: 110; Grieve Smith 1997: 746). John Grahl and Photis Lysandrou go as far as to say that the global potential embedded in all capital flows today makes the Tobin tax an "anachronism" (2003: 618). Tobin himself thinks that these concerns are overplayed. He argues (1997: 5) that the one-off costs involved in physically transferring trading capacity from one market to another outweigh the one-off increases in transactions costs occasioned by the tax to such a degree that banks will prefer to pay the tax than to face the uncertainties arising from restructuring their whole operation. In the rest of the literature, however, much of the argument tends to assume that the selective introduction of the tax would lead to increasingly intense tax competition amongst jurisdictions, with most countries attempting to steal a march on one another by introducing loopholes that could lead to increasingly lucrative strategies of tax avoidance (e.g., Palan and Abbott 1999: 180). As Howard Wachtel notes (2000: 335), this is a concern which is shared by the international financial institutions. During his time as Director of the IMF's Fiscal Affairs Department, Vito Tanzi warned about the problem of 'tax degradation', whereby countries which free-ride on international regulatory agreements erode other countries' tax base (Tanzi 1996: 3).

The Tobin tax is assumed to be particularly vulnerable to such effects. As Michael Dooley argues (1996: 97), only partially in jest, members of "the financial sector would consider efforts to avoid a transactions tax as little short of their moral and patriotic duty" (see also Eichengreen and Wyplosz 1996: 15; Frankel 1996: 68). They also have a real commercial

interest in acting this way. Arbitrage activities in foreign exchange markets tend to be profitable only to the extent that large sums of capital can be marshalled to trade on extremely thin operating margins (see Chapter 2). Such activities would find a Tobin tax to be a noticeable inconvenience. Therefore, to defend their own business, arbitrageurs could be expected to seek ways of minimising their tax exposure.

Most arbitrage activities in foreign exchange markets are undertaken by banks, and banks are particularly well placed to take advantage of a selectively applied Tobin tax. As it is, most are already global organisations with operations stretching across many different countries (e.g., Baker and Smith 1998: 22–3; Augar 2005: 32–3). If a currency transactions tax were to be imposed in some countries but not others, a bank would most likely find that it had operating capacity in both taxed and untaxed jurisdictions. In such circumstances, there would be incentives for the different constituent parts of the bank to specialise in different activities. In order to minimise the transactions cost exposure of the bank as a whole, its constituent parts in the taxed jurisdictions would focus on raising credit that could be used in foreign exchange transactions, whilst its constituent parts in the untaxed jurisdictions would undertake the actual transactions (Garber 1996: 134). In the absence of capital controls credit flows are freely mobile across space, so the restructuring of the bank's internal functions in this way would escape all intended regulations (Wachtel 2000: 337).

A number of important instances of market migration in the face of asymmetric transactions costs seem to confirm the supposition that a Tobin tax would likely be ineffective unless it was introduced globally. For example, the exchange-traded derivative market in German government bond futures migrated en masse from London to Frankfurt in the late 1990s (Young and Theys 1999: 11–16). The market was founded by LIFFE, the London International Financial Futures and Options Exchange, where the bond futures were traded through an open outcry system and the transactions costs involved were associated with the human effort required to match buyers and sellers under this system. A similar phenomenon to tax degradation effects then kicked in for LIFFE, when EUREX, the Deutsche Börse Group's subsidiary which operates its derivative markets, began to trade German government bond futures using an automated electronic trading system. The transactions cost advantage from matching buyers and sellers electronically rather than through open outcry led all market participants in a very short space of time to switch to EUREX's trading systems (Deutsche Börse Group

2005a: 5). But, as Randall Dodd notes (2003: 29), the transactions cost differential involved in this instance was much smaller than that implied by the selective introduction of a Tobin tax of anything more than a couple of basis points.

In another example, in the mid-1980s the Swedish Government established a small securities transactions tax on Swedish stocks and stock options traded through registered Swedish brokerage services. Domestic political support for the tax was mobilised around the view that it would be a national solidarity tax, allowing some of the excess profits from trading securities to be recycled as additional welfare-enhancing government expenditures (Campbell and Froot 1994: 281). In much the same way, the Tobin tax is presented by its proponents as a global solidarity tax with the aim to finance worthy development causes for the poorest communities in the world (Grabel 2003b: 94; Atkinson 2005: 15). However, all remnants of the Swedish securities transactions tax had been removed from the statute books by 1991, as the effects of the tax on market migration became apparent (Umlauf 1993: 228). The overall volume of trading in the stocks of the largest Swedish companies was not affected by the introduction of the securities transactions tax. What did change, though, was the spatial location at which the trading took place. The tax applied to trades conducted through registered Swedish brokerage services, so traders avoided the tax by re-routing much of the market in the largest Swedish stocks to London and New York (Ericsson and Lindgren 1992: 3).

Given these precedents, it is understandable that its proponents are concerned that a Tobin tax, even if it were to be applied uniformly across all OECD countries, might still lead to a migration of the foreign exchange market to offshore financial centres. As it is, these centres have already attracted a significant proportion of the world's private banking business by consciously marketing themselves as tax havens. It is offshore financial centres, then, that act as the fulcrum for contemporary dynamics of tax degradation: so much so, in fact, that Ronen Palan and Jason Abbott have been moved to describe them as "parasitical states" (1999: 166). The primary motivation for registering activities in offshore financial centres is what is euphemistically known as 'tax planning', where what is being planned, of course, is how to avoid as much of the tax liability from another market as possible. A company might have no physical presence as a going concern in the offshore financial centre, but will simply establish a 'brass plate' subsidiary for the purpose of reporting its earnings there (Picciotto 1999: 58–9; Palan 2003: 41). A Tobin tax could be avoided through the use of non-participating off-

shore financial centres simply by re-routing the location of the registered foreign exchange transaction from a dealing room in a taxed jurisdiction to a brass plate subsidiary in a tax haven.

The use of offshore financial centres for tax planning purposes reveals an obvious case of double standards in the regulation of international capital flows (Sharman 2006). Offshore financial centres have had their wings clipped in recent years by the OECD's insistence that tough new anti-money laundering international laws be both introduced and upheld. This has also been deliberately framed as a moral issue by representing it as the centrepiece of the 'war on terrorist finance': to continue to turn a blind eye to money laundering activities is thus to offer tacit support for terrorism (Amoore and de Goede 2005). At the same time, though, the OECD has given no formal indication that it sees anything wrong in using offshore financial centres for tax planning purposes, even if this undermines the effectiveness of domestic tax laws in a manner directly comparable to money laundering. The asymmetries of OECD policy hence do nothing to defend a future Tobin tax from the likelihood of concerted avoidance.

The avoidance described above is, in effect, a market migration of the settlement function rather than a migration of the actual deal. The infrastructure for setting up and executing the deal remains concentrated in the global financial centres and it is only the inter-dealer settlement of final accounts which is moved offshore. For this reason, Peter Kenen suggests (1996: 112) that a currency transactions tax could be made more robust in the face of problems caused by spatial mobility options if the tax was to be levied at the dealing site rather than at the settlement site. In the case of both the German government bond futures market and the Swedish stock and stock options market, the migration occurred in the first instance at the settlement site, so the precedents seem to support Kenen's argument. Its rationale is that it would cost little to set up new settlement facilities domiciled in offshore markets, but that the transfer of trading technologies and human know-how offshore, plus the creation of brand new trading support systems, might prove to be prohibitively expensive. Kenen's position therefore mirrors Tobin's on the same point.

However, taxing at the settlement site without provoking mass market migration is more feasible today than it was when Kenen was writing ten years ago. In the intervening period, settlement has become a more centralised and a more automated process (Nissanke 2005: 75). The trend has been triggered by the introduction in 2000 of the Continuous Linked Settlement System, with its fully operational phase

commencing in 2002. This represents an attempt to reduce the risks associated with settling transactions when the counterparties know nothing of each other's creditworthiness. For the first time, it made it possible to settle both sides of a foreign exchange transaction simultaneously, even if this is across markets or across time zones (CIDSE 2004: 5; Stamp Out Poverty 2005: 23). If one of the counterparties has insufficient credit to settle their side of the transaction with immediate effect, then the other counterparty is released from any remaining obligation to the transaction. This has brought an extra degree of stability to the spot market in foreign exchange (D'Arista 2000: 64). Moreover, its very existence might disincentivise attempts to avoid a Tobin tax. As Dean Baker points out (2003: 102), any traders who subsequently revert to settlement beyond the Continuous Linked Settlement System will do so knowing that they will be sacrificing the certainty which the system delivers for the riskiness of a series of ad hoc arrangements for each transaction they conduct. This might be enough to persuade them to pay the tax rather than face an unpredictable settlement context.

Thus, there are arguments both for and against the possibility that the selective imposition of a Tobin tax might lead to the migration of the foreign exchange market. Each has something to commend it, although none is compelling. Yet, the mere possibility that market migration might occur could well be sufficient on its own to tilt the debate away from the prospect of experimenting with a currency transactions tax. The fear is that spatial mobility options might undermine the liquidity of the foreign exchange market as a whole, as more and more transactions are re-routed away from the taxed global financial centres and are conducted instead involving non-transparent positions and using ad hoc settlement arrangements in untaxed offshore financial centres. If the result of the loss of market liquidity turns out to be even greater exchange rate volatility, then the imposition of a Tobin tax would prove to have the exact opposite of its intended effects.

Similar results might also ensue from traders moving out of the liquid spot market in foreign exchange in response to a Tobin tax and moving into less liquid markets in substitute assets. It is to this issue that I turn in the following section.

### **Functional capital mobility and a currency transactions tax: migration to substitute instruments?**

As John Campbell and Kenneth Froot suggest (1994: 278), it is possible to alter trading behaviour in three quite distinct ways in an attempt to

escape the burden of a financial transactions tax. One way is to take advantage of uneven applications of the tax by being spatially mobile and diverting trades to untaxed jurisdictions. This is to put assets physically in motion, consistent with the lay definition of capital mobility. The other two relate to opportunities for investors to exercise their functional mobility options. On the one hand, they could simply refuse to trade again in the future, liquidating their investments in the taxed asset and holding their capital instead in the form of cash. On the other hand, they could shift their focus away from the taxed asset and concentrate their investments instead in close substitute assets which are untaxed. The aim would be to move into derivatives of the taxed asset, to ensure that the newly traded assets have as many of the trading characteristics of the taxed asset as possible and therefore offer the same money-making opportunities.

Both of these functional mobility instances of tax avoidance are of relevance to the foreign exchange market and to discussions of the feasibility of a currency transactions tax. The former instance actually represents a description of the major economic aim of such a tax. The objective is for additional transactions costs to incentivise the refusal to trade. The hope of all proponents of a Tobin tax is that these incentives would apply most directly to speculators working on thin margins and, in this way, the refusal to trade would bring extra stability to the foreign exchange market.

The latter instance occurs when traders invest instead in foreign exchange substitutes, assets which will allow them to profit from being on the right side of speculative pricing dynamics in the foreign exchange market, but which do not necessitate the physical ownership of foreign exchange. This could be thought of as the 'have your cake and eat it' option. For, it means that traders can continue to engage in overtly destabilising activities in the hope of making rentier gains from exchange rate volatility, but they can avoid being taxed when doing so. As Charles Goodhart notes in his discussion of the use of derivative instruments to avoid a Tobin tax (1997: 8), there are "n alternative ways through which a speculator can go long or short of a currency without going himself through the spot market, and n is quite a large number".

The changing profile of the foreign exchange market is instructive in this respect. For foreign exchange trading to occur in the first place, there have to be stocks of foreign exchange to trade. Additions to these stocks arise from increases in the money supply. In recent years, however, the influence of the time consistency problem has been so strong on both the theory and the practice of macroeconomic policy-

making that governments have attempted to keep increases to the national money stock to a minimum (see Chapter 3). From the mid-1980s onwards, increases in the money supply have not kept pace with the dramatic increases in turnover on the foreign exchange market. This is reflected in the decline in the proportion of the foreign exchange market accounted for by spot transactions, whereby positions made up of actual stocks of foreign exchange change hands. Between 1995 and 2004 this proportion fell by around one-fifth to 35% of the total foreign exchange market (BIS 2004: 10). This signals a noticeable shift away from the spot market and towards the use of foreign exchange derivatives.

To be effective, then, it is unlikely that a Tobin tax could be levied only on spot transactions. Much of the trade in foreign exchange derivatives takes place in the inter-bank over-the-counter market, in which settlement is an essentially virtual process through which adjustments are made in an accounting ledger to one bank's overall balance of assets and liabilities with respect to another bank. Such activities are much more difficult to monitor and to regulate than those in which actual processes of settlement occur, because no stocks of foreign exchange physically change hands (Mendez 1996: 500; Grabel 2003a: 324). If a Tobin tax is to be introduced with the specific intention of weeding out speculation, then it would somehow have to encompass transactions such as this, as inter-bank over-the-counter foreign exchange derivatives are today used as much for speculating as they are for hedging (Akyüz 1995: 71–2).

Even in instances in which the derivative contract implies subsequently taking possession of foreign exchange, the introduction of a Tobin tax will still provide incentives for traders to switch their attention from the spot market to derivative markets. Take the case of foreign exchange futures and foreign exchange options. Purchasing either makes it possible that a subsequent taxable trade in foreign exchange will take place to close out the contract. But in both of these instances the transactions costs associated with trading on the derivative market at most can only ever be as high as the transactions costs associated with trading on the spot market, and in practice they will almost certainly be lower (Baker 2003: 102). Traders are thus provided with an incentive to shift their activity from one market to the other. This will involve exploiting functional capital mobility options, liquidating positions in the spot market in order to free up capital which can then be used to create new positions in derivative markets.

The economic rationale for exploiting the functional mobility of capital in this way has its origins in the resolution of the options pricing

problem (see Chapter 3). The Black-Scholes formula shows that a single price exists at which a stock option can be traded so that it provides investors with all the economic characteristics of a portfolio combining stocks and cash (Mehrling 2005: 127–32). For the purposes of the current discussion, two extensions of the resolution of the options pricing problem are particularly noteworthy. (1) It was demonstrated that what applied to stocks and stock options also applied to foreign exchange and foreign exchange options (Bernstein 1992: 229–30). The options pricing formula made it possible to calculate the exact price at which foreign exchange options should be traded in order to replicate a position consisting of foreign exchange and cash. (2) It was also demonstrated that the combination of any two of the instruments creates what in effect is a synthetic position in the third (Jacobs 1999: 27). As such, it is possible to bring speculative pressure to bear on the exchange rate without trading foreign exchange at all, simply by acquiring the correct portfolio combination of foreign exchange options and cash.

This has important implications for the possibility of escaping the burden of Tobin tax payments. Even in the presence of a Tobin tax levied on spot market transactions, traders can still speculate on exchange rate movements without incurring any incidence of tax. This is achieved by replicating a foreign exchange position using a combination of foreign exchange options and cash. If the resulting pressure on the exchange rate subsequently moves relative currency prices in the desired direction, then the synthetic foreign exchange position stands to be profitable. The trader then faces one of two choices to cash-in that profit. The trader might choose to exercise the in-the-money option and convert the synthetic foreign exchange position into actual foreign exchange holdings. This will incur exposure to the Tobin tax. But the differential between the gain on the exchange rate movement and the loss on the tax exposure might well render the tax payments negligible. Alternatively, the trader could choose to enter the market for foreign exchange options once more. Purchasing additional options to balance the speculative gain on the synthetic foreign exchange position now creates an overall portfolio with all the economic characteristics of cash. By synthetically replicating a cash position in this way, the trader has no need to enter the spot market in foreign exchange and therefore avoids the Tobin tax completely.

Most proponents of a Tobin tax have responded by suggesting that the coverage of the tax be extended to encompass derivative as well as spot transactions in foreign exchange (e.g., Akyüz and Cornford 1995:

190; Eichengreen and Wyplosz 1996: 31; Kaul, Grunberg and ul Haq 1996: 7; Michalos 1997: 13; Wachtel 2000: 340; Palley 2003: 5). Such suggestions acknowledge the fact that exchange rates are determined just as much by activity in derivative markets as they are by activity in the spot market, and they also recognise the problems that the process of asset substitution would cause for a Tobin tax. However, the proposal to tax derivative transactions is more simply stated than it is applied in practice. Two types of difficulty arise in designing a transactions tax which extends from the spot market to derivative markets: the first relates to the current structure of the foreign exchange market, and the second relates to the likely future structure of the foreign exchange market.

At present, the largest single component of the foreign exchange market consists of the trade in swaps. In 2004, these trades alone accounted for US\$944 billion of market turnover per day, or 53% of the foreign exchange market as a whole (BIS 2004: 10). As the trade in swaps is usually undertaken to close out positions which contain intrinsic depreciation risk, it has many of the characteristics of market-making interventions (Grahl and Lysandrou 2003: 602–3). Whilst it is difficult to distinguish precisely between market-making and speculative interventions, any attempt to extend the coverage of a Tobin tax to foreign exchange swaps is likely to lead to the unwanted outcome of a loss of liquidity for the market as a whole.

Moreover, strictly speaking, a swap is a combination of a spot transaction and an offsetting forward, albeit bundled into the same instrument (Kenen 1996: 117). As a consequence, extending the cash equivalent of the nominal Tobin tax rate to all derivative characteristics might result in a swap being subjected to double the nominal Tobin tax rate. But this would also potentially lead to a double hit to market liquidity. It is thus an extremely complex matter to ensure the equivalent taxation of spot and derivative transactions (Spahn 1996: 29; Baker 2003: 105). Moreover, the surveillance costs necessary to enforce a transactions tax in over-the-counter derivative markets might be a significant drain on the revenues from the tax, even assuming that avoidance strategies did not erode the tax base altogether (Dooley 1996: 97; Dodd 2003: 30).

The present difficulties in extending a Tobin tax to derivative transactions are therefore not to be dismissed lightly. However, they might pale into insignificance compared with future difficulties. One thing that we can say for sure about financial markets is that they are dynamic institutions. The primary impetus for this structural reform is endoge-

nous to the market environment itself, being rooted in innovation of available tradeable instruments. This makes the task of regulation particularly troublesome: as soon as a tax is imposed to deter the trade in one instrument, a substitute instrument is likely to be created which has all the economic characteristics of the original instrument but which is not subjected to the tax. Regulators are therefore always likely to be one step behind the process of market migration to new and untaxed instruments. Traders can be expected to liquidate at least some of their holdings in a taxed asset the moment that it becomes possible to invest in an untaxed asset which performs in the same way (Gros 1987: 621). Sol Picciotto draws an important distinction in this respect between the legal form and the economic substance of a transaction (1999: 66–7). Regulations can only apply to the legal form of a particular type of transaction, whilst substantively equivalent economic results can emerge from combining in innovative ways a number of different types of transaction. The economic substance is therefore malleable across legal forms, but the transaction-specific regulation is not.

Given the innovative tendencies of financial markets, it is inconceivable that the introduction of a Tobin tax would not trigger the development of new and as yet unthought of instruments to replicate the performance of a foreign exchange transaction (e.g., Akyüz and Cornford 1995: 191; Chavagneux 1996: 520; Garber 1996: 138; Raffer 1998: 535; Nissanke 2005: 69). As Kenen puts it (1996: 116), “a tax on a ‘plain vanilla’ currency option would merely inspire the ‘rocket scientists’ to design synthetic currency options and more complex contracts”. Peter Garber and Mark Taylor outline one way in which this might happen (1995: 179–80): “If foreign exchange is defined as an exchange of one bank deposit for another in a different currency, gross trading in these claims will be effectively eliminated in favour of T-bill [i.e., government bond] swaps in currencies with liquid (same day) T-bill markets. The swapped T-bills will be immediately sold for deposits. The foreign exchange market will shift to this form, no tax will be paid, and position taking will be unaffected” (see also Goodhart 1997: 8).

Governments will not want to disincentivise activity in their own bond market, as the presence of buyers in this market is crucial for their attempts to roll over the accumulated national debt (Drazen 2000: 691–2). A government which discourages traders from operating in its bond market is one that will experience increasing constraints when it comes to funding state-sponsored welfare-enhancing programmes. If it finds that it cannot roll over the accumulated national debt in private markets, then it will have to reprioritise public spending to scale down

the overall level of the debt. As Layna Mosley has shown (2003), governments have responded to these choices by consistently signalling to financial traders that they have no intention of introducing impediments to market turnover. Refusal to even contemplate in public the possibility of a Tobin tax might be seen as one such signal. Moreover, even if they were prepared to impose constraints on their own autonomy in this way by taxing government bond swaps being used as synthetic foreign exchange positions, this would not prevent further innovation from creating options on government bond swaps. These could then be combined with cash in the appropriate proportion according to the options pricing formula in order to sustain a synthetic government bond swap position and hence enable traders to work once again with tax-free synthetic foreign exchange holdings.

It is impossible to predict the actual pattern of asset substitution that is likely to follow the introduction of a Tobin tax. However, the bewildering array of possible forms that this type of tax avoidance could take highlights that it is a significant problem. It would represent a clear instance of the functional mobility of capital. As with spatial mobility tax avoidance, this would most probably have unsettling effects on the structure of market liquidity. But an increasingly illiquid market is one in which large trades are less likely to be absorbed in the market without disrupting its pricing mechanism. We cannot rule out the possibility, then, that the process of asset substitution in response to a Tobin tax would lead to greater exchange rate volatility, which is the exact opposite of the hopes of its proponents.

## **Conclusion**

Despite the extensive potential problems raised by tax degradation via capital mobility, the idea of a Tobin tax remains an alluring proposition. It is important, however, not to vest too much hope in its transformative capacity. The introduction of a very small ad valorem tax on currency transactions will not reconfigure the basic structure of social forces globally (Crotty and Epstein 1996: 138). But it does contain very definite development potential if it can be applied successfully. The great attraction of the Tobin tax for development campaigners is the revenue-raising goal that Tobin himself relegated to a by-product of stabilising exchange rates (1997: 1).

It would be remiss to write a chapter on the Tobin tax without mentioning the immense sums of money that it could raise for development purposes. Whilst many estimates of exact amounts can be found in the

existing literature (e.g., Felix and Sau 1996: 237–40; Nissanke 2005: 79–80), they are clearly no more than educated guesses, because the precise effects of the introduction of a tax on the structure of currency trading will remain unknown until such time as the tax is actually introduced. Those effects will depend on the elasticity of demand for the taxed instruments in taxed jurisdictions in the context of capital mobility options which bring untaxed instruments and untaxed jurisdictions into play. The higher the elasticity of demand, the more intense the tax avoidance strategies are likely to be and the greater the change in the structure of the foreign exchange market in response to a Tobin tax.

Given the very small margins on which foreign exchange traders habitually work, we should expect the elasticity of demand for taxed instruments in taxed jurisdictions to be high (Davidson 1994: 234; Frankel 1996: 65; Arestis and Sawyer 1997: 761–2). But so long as we are not looking at perfect elasticity, in which case the introduction of a currency transactions tax would lead to the immediate cessation of all taxable trading, implementing Tobin's proposal would be a significant money-spinner for funding global good causes. I am reluctant to add my own guess of the precise extent of its revenue-raising potential to those already in the literature. It is sufficient to say that we are talking about revenues of a magnitude which could very well turn the United Nations' Millennium Development Goals from a noble statement of virtue to an achievable reality.

Currency transactions taxes are therefore progressive in nature (Raffer 1998: 537; Grabel 2003b: 94). All proposals thus far for such taxes have been designed to appropriate money produced by rentier activities for the specific purpose of redistributing it to assist the development of the world's poorest communities. The social benefits of the Tobin tax are therefore clear to see, provided that it can be made to work as its proponents envisage (e.g., CIDSE 2004: 1; Stamp Out Poverty 2005: 41). The constraints on rentier activities can be expected to reduce some of the financial risks which are deliberately engineered in financial markets in the hope of profiting from destabilising bid/ask spreads in the market in question (what was labelled in Chapter 1 'speculation risk'). At the same time, the redistribution of the tax receipts as development assistance for the world's poorest communities can also be expected to reduce some of the risks which emanate from financial markets and which are shouldered by those communities due to their current exclusion from the international financial system ('contamination risk'). From the perspective of global social justice, then, the consequences of introducing a Tobin tax would represent a much more

efficient use of world economic resources (Felix 1995: 204; Tobin 1997: 3–4; Wachtel 2000: 335–6).

Yet, here we reach a paradox. If we focus solely on the social benefits of a Tobin tax, then we might be inclined to argue for setting the rate of the tax relatively high, on the grounds that this can be expected to maximise its social benefits. At the very least, it is likely to be thought that levying a tax of only one or two basis points will leave much of the tax's revenue-raising potential untapped. However, it is at this point that we see how focusing solely on the revenue-raising objective of the tax will most probably undermine the chances of meeting its exchange rate stabilisation objective. Despite the widespread notion that it would be a 'double dividend' tax, the social benefits and the economic benefits of the Tobin tax conflict with one another.

The higher the tax rate is set in the interests of harnessing its development potential, the greater will be the incentives for traders to alter the focus of their activities in an attempt to escape the burden of the tax. But it is precisely by exploiting capital mobility options to avoid the tax that traders' changed behaviour might adversely affect the liquidity of the foreign exchange market, leading in turn to larger price swings and greater exchange rate volatility. Attempting to maximise the social benefits of the Tobin tax in order to rebalance the social incidence of two of the three generic types of financial risk ('speculation risk' and 'contamination risk') might therefore be at the expense of initiating a significant increase in the underlying level of the third ('depreciation risk'). Any increase in exchange rate volatility as an unintended consequence of a Tobin tax would usher in enhanced depreciation risk for all currency denominated assets. Hence, the socially optimal level of the Tobin tax and the economically optimal level of the Tobin tax are not the same.

Indeed, from the perspective of exchange rate stabilisation, the economically optimal level of the Tobin tax might well be a zero rate. In economic terms, such a rate differs substantively from the outright absence of a currency transactions tax. Introducing the institutional and technological infrastructure for a currency transactions tax by levying a zero tax rate still makes it possible to monitor the pattern of position-taking within the foreign exchange market in the public interest. This degree of public oversight is not possible in the complete absence of a tax. Moreover, the constant monitoring of traders' motivations might be enough on its own to deter large banks from taking the most aggressive speculative positions. They have a commercial interest in protecting a reputation for prudential behaviour and, in an age of escalating

concerns for corporate social responsibility, they might be reluctant to engage in socially disruptive speculation if there is a chance that such actions will subsequently become public knowledge. However, a zero rate Tobin tax would clearly be incapable of providing any financial assistance for development at all. Indeed, establishing and maintaining the monitoring procedures would be a costly undertaking in itself. The level at which to set a Tobin tax is therefore a highly complex issue.

# 7

## Stock Price Psychosis and the Pathology of a Corporate Meltdown: The Collapse of Enron

### Introduction

The word 'Enron' today refers to much more than the company that bore its name. It is now treated as the most potent symbol of the excesses of the 'Roaring Nineties' (Stiglitz 2003); as a warning of the multiplicative economic effects of personal indiscretions (Cruver 2003); as the most important manifestation of the decline of corporate ethics (Rockness and Rockness 2005); as short-hand for the erosion of trust in the authenticity of company accounts (Unerman and O'Dwyer 2004); as evidence of the contradictions of shareholder capitalism (Froud et al 2004); and as a measure of the hubris that enveloped the stock market during the dotcom bubble (Bryce 2002).

My chosen reading of events follows the major analytical themes of the book. It focuses in particular on the effects on Enron's stock price of its changing business model. In the mid-1990s, Enron's healthy stock price was the result of harnessing spatial capital mobility to enhance its share of the global product market in natural gas. By the late 1990s, though, it had stepped back from this business model in order to source additional increases in its stock price from the functional mobility of capital (Enron 2001). At that time, generally bullish stock market conditions turned into a full-blown bubble in the dotcom sector. Investors rushed to liquidate other profit-bearing assets so that they could direct an ever greater proportion of their savings towards the fastest growing market. Enron's senior managers sought to appropriate these dynamics in an attempt to paper over a basic contradiction that ran right to the heart of its operations. The company was dedicated to generating ever higher earnings, but without having a readily

identifiable product on which to base its earnings growth (Hirsch 2003: 565). Instead, its managers actively courted investor confidence and used all manner of dubious accounting devices in order to put the company in a position from which it could gain from increases in its stock price. Indeed, they staked the whole of the company on the prospect of an ever growing stock market valuation and, in this context, they willingly submitted themselves to a largely psychotic focus on the stock price.

The rise and fall of Enron is almost perfectly reflected in the judgments passed on its performance via the stock market. The events which resulted in the company's collapse relate to a moment in which the selling of Enron stock so completely overwhelmed its buying that the pricing mechanism for the stock seized up. In order to develop this perspective on the Enron affair, the chapter proceeds in three stages. In section one, I present details of both the causes and the consequences of Enron's demise through the lens of the three generic types of financial risk which feature throughout the book (depreciation risk, contamination risk and speculation risk). In section two, I turn specifically to the issues of capital mobility which underpin the Enron affair. In section three, I examine the way in which Enron became a victim of its own attempts to be a magnet for capital's functional mobility. Senior managers deliberately created a social structure within the company which encouraged employees to internalise the company's interest in permanent growth in its stock market valuation. Yet, this also produced the context of stock price psychosis in which employees willingly acquiesced in the systematic accounting fraud that prefigured the company's eventual downfall.

A chapter on the Enron affair is included in order to emphasise the two main focal points of the book. (1) It is clear that events at Enron involved many examples of unethical and illegal actions, but these are inadequately understood if they are presented purely as personal indiscretions, as generic features of contemporary capitalism or as generic features of the US economic model. It is necessary to learn more about the specific financial practices which underpinned these instances of corporate wrongdoing and, in this respect, one must attempt to unpack the 'black box' of Enron's internal operations. (2) By locating Enron within its specific financial milieu, the distinction between the spatial and the functional mobility of capital is once again shown to be of analytical significance. The company's collapse is much more difficult to explain in economic terms if appeal cannot be made to that distinction.

## **Enron and the political economy of risk production**

Enron filed for bankruptcy on December 2<sup>nd</sup> 2001. Only eighteen months previously, on some measures, it had been the seventh largest company in the US, with a peak stock market valuation of very nearly US\$80 billion (Gordon 2002: 1234). At the time of its bankruptcy, Enron's shares, which had once traded at in excess of US\$90 each, had a value of just a handful of cents. As such, the loss of wealth occasioned by the company's collapse was pretty much the same as its peak stock market valuation. This was not a redistribution of wealth from one group of shareholders to another, but a straightforward loss of US\$80 billion. As is immediately apparent, then, the losses sustained in a destabilising moment of stock price depreciation are socialised (Brennan 2003: 35–6). It is not as if the US\$80 billion came straight from Enron's cash reserves: had Enron owned that amount of cash-based assets then it would not have imploded in the first place. Instead, the losses accrued against the savings of ordinary shareholders.

The social repercussions of Enron's demise then spread ever further outwards. Federal regulators in the United States responded to revelations about Enron's duplicitous bookkeeping by offering a period of amnesty for American firms to 'volunteer' additional investor-sensitive information related to their accounts. In other words, they presented an opportunity for firms to restate previous earnings reports where the final figures had been arrived at using accounting techniques which failed to comply with the spirit of fair and open disclosure. This process was in large part complete by the time that the telecommunications giant, WorldCom, filed for bankruptcy in July 2002 with residual assets twice the size of those of Enron. In the seven months between these two bankruptcies, so many S&P500 companies restated their earnings that an estimated US\$64 billion of paper wealth was written off from the US economy (Davis 2002: 9).

In the immediately preceding years, the expansion of American wealth had been a prime motor for the international economy. US consumers had acted as a market of last resort for many overseas producers, pump-priming their own consumption through increasing household debt (Calder 1999; Brenner 2002). This led to enhanced overseas production runs and expanded levels of economic growth. As Herman Schwartz has shown (2002–3: 333), throughout the period of the long American boom of the 1990s, the US was "an 'overconsumptionist' capital importer", to be contrasted with the position of many of its subordinate economic partners as "'underconsumptionist' capital

exporters". The US was consequently able to fuel economic growth for others through a credit economy which balanced wealth-backed consumption at home with excess supply of capital goods abroad. However, as wealth holdings contracted in the fallout from the Enron affair, US consumption was temporarily reined in, resulting in loss of product markets for the country's overseas suppliers. If dollar recycling via over-consumption helps to explain the 'go' phase of the world economy in the mid- to late 1990s, the end of dollar recycling due to falling wealth holdings is equally important in explaining the onset of the 'stop' phase in the immediate post-Enron period.

In addition to this impact on the world economy, the collapse of large American firms amidst concerted earnings restatements also had a negative effect on the US economy. Many investment banks found that they suddenly had no means of making good the loans that they had made to these companies on the basis of largely bogus earnings reports. The banks' losses triggered a credit squeeze which depressed underlying levels of activity in the rest of the economy. For instance, in the WorldCom case alone, the company went bankrupt with outstanding debts of US\$3.3 billion to Citibank, US\$6.6 billion to Mellon Bank and a staggering US\$17.2 billion to J. P. Morgan Trust (*The Guardian*, 22.07.02).

The knock-on effects of destabilising the credit economy in this way can be estimated by feeding the size of the shock into the Federal Reserve's model of the US economy. It then becomes clear that the revelations of systematic earnings manipulation by large American companies were a direct cause of the recession which took hold in the US in 2002. The US\$64 billion of lost wealth fed reductions in consumption which translated into further losses of US\$35 billion in production and US\$62 billion in GDP (Arnold and de Lange 2004: 752).

This shows the way in which price movements on financial markets spread risks within society. The trigger for Enron's final collapse was a haemorrhaging of the company's stock market valuation (what was labelled in Chapter 1 'depreciation risk'). Yet, the effects of its collapse were not contained within the company itself. Instead, their dispersal took on a complex geographical pattern in terms of its social effects ('contamination risk'), impacting adversely upon livelihoods and lifestyles in disparate communities both across the US and beyond. Some were affected directly by the loss of savings that they had invested in stock markets whose index levels were tumbling around the world as part of the 'Enron effect'. Others were affected in a more roundabout manner as the ensuing credit squeeze in the US economy lowered

consumption demand for goods produced both domestically and overseas.

Despite this geographical dispersal of the fallout from the Enron affair, the most obvious losers were closest to home, amongst the company's own employees. The effects of their job losses were compounded by the fact that they also saw most of their savings disappear as the company's stock price crashed. Enron employees had shown such faith in senior managers' assurances that the company was a paragon of financial health that they inadequately diversified their pension plan investments. This, of course, goes against the teaching of the Capital Asset Pricing Model which dominates economic accounts of optimising investments (see Chapter 3). The model suggests that investors should limit their exposure to the depreciation risk embodied in individual stocks by investing as widely as possible across the stock market as a whole (Sharpe 1970). Taken collectively, though, 63% of Enron employees' pension plan assets were concentrated in Enron stock alone (Brennan 2003: 35).

One of the most frequently reported aspects of the Enron case involves the infamous 'pensions blackout', through which senior managers attempted to create a support mechanism for the faltering stock price by introducing an embargo on employees selling Enron stock accumulated in their pension plans (Sims and Brinkmann 2003: 246). This rendered employees powerless to defend their savings as they watched the stock price fall almost to zero. At the same time, however, Enron managers were hastening the decline in the stock price by cashing-in massive windfall gains through selling large amounts of stock options into a falling market (Deakin and Konzelmann 2004: 141). Enron's most senior executives sold US\$105 million of company shares in the first seven months of 2001, on top of US\$570 million of company shares in 1999 and 2000 combined (Smith and Emshwiller 2003: 172). Precise calculations of the overall value of stock options cashed-in by Enron managers are difficult to come by, but it has been estimated that this was a minimum of US\$1 billion (Fusaro and Miller 2002: 115–6).

As Julie Froud and her co-authors note (2004: 899), "All this is poignant because [it demonstrates how] risk and reward were so unequally distributed as the firm collapsed". Senior managers were able to receive excessively high rewards by cashing-in their executive stock options, even though it was their decisions which exposed the company to the potential for extreme losses. Yet, it was ordinary employees who were forced to shoulder these depreciation risks. Those who had concentrated their pension plan investments in Enron stock were not only

excluded from the reward structure as the company collapsed. They also saw their previous rewards – in the form of their savings – taken away from them.

Something similar could be said, although perhaps in less dramatic terms, about shareholders in general. The systematic nature of the earnings restatements which followed the post-Enron amnesty on accounting fraud cast doubt on prior assumptions about the market value of publicly listed companies. Such assumptions had been locked-in to those companies' stock price and, as a consequence of sudden doubts about their authenticity, stock prices fell pretty much across the board as a result of the Enron affair. The Dow Jones Industrial Average, which had peaked in excess of 11,700 in 2000, fell below 7,300 in 2002 at the low point of the confidence crisis caused by increasing evidence of systematic earnings manipulation.

This was the equivalent of a nearly 40% loss to the value of the stock market as a whole and, in terms of the accumulated wealth of American households, it represented a loss equivalent in size to wiping out the whole of the US private housing stock (calculated from Shiller 2000: xvi). Commentators began to talk of a 'cult of equities' developing in the US in the late 1990s, as capital gains from the stock market were used as a means of expanding aggregate household wealth (Unerman and O'Dwyer 2004: 983). *Business Week* calculated that, at the top of the bull run which led the Average over 11,700, the stock market held more than US\$2.5 trillion of American household wealth (*Business Week* 2002: 42). A 40% decline in overall stock market value therefore equates to a total wealth loss to American households of more than US\$1 trillion.

The cult of equities has not been, in all instances, a purely voluntary phenomenon (see Introduction). There has also been a strong push factor underpinning the increasing concentration of household savings in potentially profit-bearing assets. State support for public welfare has become noticeably less generous in most advanced industrialised countries since the 1980s (Stephens, Huber and Ray 1999). Welfare retrenchment has been understood as a demonstration of the commitment to establishing the kind of counter-inflationary credibility which time consistency models of macroeconomic policy-making deem to be necessary (see Chapter 3). As such, investments in equities have provided a way for the household to make good the loss in entitlement to public health-care, education and pensions, by attempting to use capital gains from the stock market to purchase private insurance cover instead.

Many millions of individuals, most of whom had no personal connection with the company itself, were therefore dragged in to the fallout

from the Enron affair. They may have had agency in engaging with financial socialisation in the first place, as they attempted to enrich their wealth holdings via capital gains arising from the ownership of many different asset forms (e.g., Castles 1998; Langley 2004). But they were not active agents either in any of Enron's decisions or in the general collapse of stock prices precipitated by those decisions turning sour. The one thing that united all these individuals and their disparate communities is that a destabilising corporate event immediately becomes a social event under the influence of the 'contamination risk' transmission mechanism of financial markets.

As David Brennan suggests, this points to a fundamental tension between the lack of democratisation of corporate decision-making and the necessary requirement that the losses resulting from bad corporate decisions are socialised (Brennan 2003: 35). The corporation thus appears in normal circumstances to exist beyond the influence of society, and this separation is maintained until the point at which firms cease to be viable entities. At that moment, responsibility is forced upon society to internalise the losses that the corporation sustains.

The frenzied selling of Enron stock throughout the latter months of 2001 revealed the full extent of the depreciation risk which is embodied in all financial assets. Investors attempted to shield themselves from that risk by selling their Enron stock. However, in doing so, they inadvertently sparked a chain of events which transformed the depreciation risk into a trillion dollar loss to American household wealth. Enron placed itself at the centre of this spiral of heightened depreciation risk by loading its balance sheet with a huge number of extremely complex financial deals. It used these deals for two purposes. On the one hand, they represented an attempt to disguise the company's true dynamic debt position so as to present misleadingly positive quarterly earnings reports. On the other hand, they represented an attempt to make legitimate profits from trading activities so as to reduce the company's reliance on earnings manipulation. In this latter respect, Enron was operating just like a hedge fund (McLean and Elkind 2003: 219).

As with all hedge funds, Enron concentrated its activities on deliberately engineering new financial risks which allowed its traders to profit from well placed investments (this is the 'speculation risk' outlined in Chapter 1). It packed its balance sheet with a whole host of mutually reinforcing speculative positions, each of which required it to issue numerous over-the-counter derivative instruments to its trading counterparties. All of these instruments came complete with their own constitutive depreciation risk. By adapting its basic operations ever more

along the lines of a hedge fund, Enron exponentially increased its exposure to depreciation risk. The company's collapse followed from that exposure becoming so large that Enron was no longer deemed credit-worthy by the large credit rating agencies (Partnoy 2003: 338).

I turn in the remaining sections to explore this issue in more depth. In the next section, I focus on the way in which the company's increased exposure to depreciation risk was caused by adaptations to its business model. These in turn resulted from a conscious decision by senior managers to position the company differently with respect to the changing structure of capital mobility.

### **Enron's business model and the changing structures of capital mobility**

By the end of its life, Enron sought to reproduce its underlying business activities more on the basis of the narratives that it constructed about itself than on its ability to be competitive on a particular product market (Boje et al 2004: 755–6). For a while at least, these narratives were so successful that they co-opted all the important company stakeholders to the image of an organisation which had cleansed itself of standard operating risks. It was for this reason that Enron's stakeholders did not ask more searching questions about the company's trajectory when evidence first began to surface that its business model was non-performing in terms of generating sufficient cash flows (Trinkaus and Giacalone 2005: 238).

(1) Enron's accountants, Arthur Andersen, signed off largely fraudulent accounts, seemingly on the expectation that its future success would render current cash flow difficulties immaterial (Benston and Hartgraves 2002: 125). (2) The financial press only belatedly strove for deeper answers from the company's managers about why even Enron's published accounts revealed extremely low rates of return on capital employed (Kulik 2005: 349). (3) Only one of the seventeen prominent stock market analysts covering Enron had anything other than a 'buy' or a 'strong buy' recommendation on its stock, even as the first evidence of its earnings manipulation was being discussed (Froud et al 2004: 891). (4) Enron's Board of Directors waived the company's own code of conduct to allow senior finance officials to structure the complex deals which finally brought the company down (Smith and Emshwiller 2003: 316).

All of these stakeholders appeared more ready to believe Enron's confidence in its future prospects than to focus on facts which pointed

to its increasing financial problems. They became sensitised to balance sheet discrepancies only at the point at which it was already too late to do anything about them. In turn, those difficulties arose from the decision to systematically reinvent the organisation as a derivative trading company with hedge fund characteristics (Partnoy 2003: 297).

The modern Enron had its origins in a series of acquisitions of natural gas distribution companies from the mid-1980s onwards. By the end of that decade, the company captured the attention of the renowned corporate raider, Irwin Jacobs, given its increased prominence in the newly deregulated natural gas marketplace, its potential for growth and the fact that it carried little debt on its books. The approach was rebuffed, but only by using junk bond financing to buy back, for way in excess of the prevailing market price, the stake that Jacobs had taken in the company (Fusaro and Miller 2002: 5–9). The result was to secure the continued autonomy of the company, but to do so at the cost of introducing exceptionally large debt holdings onto its books. This created a growth imperative for Enron right from the start of its life if it was to be able to pay off its junk bond loans.

Enron initially focused its growth strategy on the business area it knew best (natural gas distribution), whilst branching out into an area which gave it greater control over its core business activities (natural gas production). It sold off those assets which were performing least well in terms of underlying rates of return, and it invested in new heavy assets which would improve its future earnings profile (Fox 2002: 92–3). The former helped reduce its short-term debt holdings, and the latter secured a firmer footing for its long-term debt position.

At the same time, Enron diversified its geographical sphere of operations. It had started life with its business heavily concentrated in Texas, but its investment in physical infrastructure, particularly natural gas pipeline networks, quickly allowed it to become a truly national company. Senior managers also pumped money into Enron International in order to fund overseas acquisitions (Eichenwald 2005: 101–10). Enron showed itself to be a willing first-mover, taking advantage whenever foreign governments deregulated their energy sectors by making major investments.

These major overseas investments added to, rather than removed, debts from Enron's books. However, they did provide the company's balance sheet with a major asset base, with the additional promise that these would prove to be high-performing assets. At a single stroke, then, Enron reduced both its short-term debt-to-asset ratio and its likely long-term debt-to-earnings ratio. This provided the company with a reasonably

strong financial position from which it could pay back its junk bond loans and enhance its perceived creditworthiness amongst investment banks.

Enron's early growth strategy was predicated upon changes to the international economy which have increased capital's spatial mobility (see Chapter 4). It became a more internationally oriented company by liquidating assets held at home before reinvesting overseas. Such decisions required for two contextual conditions to be met. (1) Enron's plans were entirely dependent on the absence of capital controls. Its overseas investments were for extremely large sums of money: the deal it struck to build a power plant in Dahbol, India, alone was worth US\$3 billion (Swartz and Watkins 2003: 79). Investments of this nature would have been impossible had Enron not been able to secure loan finance at home with the specific intention of then taking that money abroad. (2) It also required compliant government policy in overseas markets if its investments were to be a success. Enron specialised in working at the cutting edge of the worldwide deregulation of energy markets in the late 1980s and early 1990s and undertook extensive lobbying activities in countries that had signalled an intention to embrace deregulation. It needed access to consumer markets on an equal competitive footing with erstwhile national monopoly service providers and it used its lobbying prowess to secure such access.

Enron initially approached the task of stabilising its long-term financial position, then, from the perspective of a fairly conventional business model. It invested heavily in physical assets, on the assumption that these assets would give it sufficient presence in the product market to enable its cost recovery to be underpinned by commercial sales. Its ability to dominate particular sections of the product market would therefore determine not only whether it could sustain its current operations, but also whether it could begin to scale down the debts from its junk bond loans. For much of the 1990s, the trajectory of Enron's stock price followed very closely that for other companies operating with a conventional business model, thus appearing to confirm this designation. Much of the commentary on Enron's collapse focuses on the barely believable heights to which its stock price was pushed in 2000, yet this meteoric rise was a relatively short-lived phenomenon.

There were other companies with a similarly inflated market valuation at the time of Enron's peak stock price, but they were not what had once been Enron's closest competitors in the energy distribution industry. Instead, they were the internet companies associated with the dotcom sector. As the 1990s' bull market turned into a full-blown bubble in the

dotcom sector, there developed what Hengyi Feng et al have called a capital market 'double standard'. Whilst firms operating in established sectors had to demonstrate to analysts how they intended to recover costs via the product market if they were to receive favourable recommendations, for a while at least firms operating in the dotcom sector received similar recommendations even if they had no means of recovering costs other than through the capital market itself (Feng et al 2001: 478–85).

Enron shifted, some time around 1998, from being valued in the same way as traditional companies to being valued as an internet company. This was a shift that Enron's senior managers actively courted, because, in the midst of the dotcom bubble, they associated it with a structural boost to the stock price. Senior managers made a conscious effort to reconstitute the image of the type of company that Enron was, as well as to reposition the company in terms of its core business activities. At the very moment that Enron was building up its physical assets overseas, it was also changing its basic operations so that it could become a trading company rather than an energy distribution company. This involved recasting its underlying business model to integrate itself into a very different structure of capital mobility.

Enron's transformation depended upon bypassing the product market as much as possible in order to make its money through the capital market. It began this transformation by signing long-term contracts with customers which required it to guarantee future supplies of natural gas over which it had no control. It did so by innovating with respect to the financial instruments that were available to traders in the natural gas industry. Enron developed two new types of instrument, both primarily in the first instance as a means of hedging the possibility that it would lose money on its long-term supply contracts. Such losses would occur whenever the supply price that was written into its customer contracts was lower than the price at which it could buy the gas on the required date on the spot market.

On the one hand, it created a range of relatively straightforward swap instruments. These allowed it to sell to other suppliers a future entitlement to Enron gas at a discount on the spot market price, so long as those suppliers would grant Enron a reciprocal entitlement in the present. On the other hand, it created a more complex range of option instruments, through which other suppliers could purchase the opportunity to sell their gas to Enron at a specified date at a pre-arranged price, but without a binding requirement for them to do so if their commercial interests dictated otherwise. Enron built up a substantial portfolio of

options, from which its finance department could calculate, more or less exactly, precisely how much an adverse movement in the spot price would cost the company. These potential losses could then be hedged using other derivative instruments.

Enron found little use for its swap instruments other than as a purely hedging mechanism. They ensured that it would have to pay no more for the gas that it intended to supply to its customers than the price that was written into the supply contracts. Yet, they contained precious little speculative potential through which Enron could leverage a potentially profitable position and hence make substantial trading gains. The same was not true, though, of its option instruments. Enron's options portfolio necessarily contained the depreciation risk that is an intrinsic feature of all financial assets. This presented the company's managers with two choices. They could instruct their traders to fully hedge the outstanding depreciation risk, or they could allow them to leave the risk uncovered if the traders were confident that future spot price movements would produce a speculative gain on its options portfolio. The more that Enron invested in physical infrastructure linked to natural gas production, the more it could act as a price-maker in the natural gas market. This meant that it could, in effect, move prices in a direction that favoured the underlying composition of its options portfolio. Enron therefore had an incentive not only to treat its option instruments as speculative assets, but also to leverage its options position in order to extract larger speculative gains.

Enron's option instruments allowed its traders to play an ever more prominent role in the company's earnings profile. But, the traders' successes presented a dilemma for Enron's managers. If they wanted Enron to become a trading company per se, they needed to secure additional lines of credit from their investment bankers in order to adequately leverage the company's potentially profitable speculative positions. Yet, the bankers were unlikely to agree to the managers' request for additional credit, because Enron's major investments in new physical infrastructure had piled up debt on the company's balance sheet. This debt immediately made the company less creditworthy (Sinclair 2005: 128). However, it was only Enron's investments in physical infrastructure that increased its market power to the point at which it could act as a price-maker in the natural gas market. Thus, it was only Enron's major investments in heavy assets which made its trading operations such a success in the first place. Its managers were therefore left with the choice: (1) of retaining existing levels of debt on its books and restricting the scope of its trading activities accordingly; or (2) of attempting to expand

its trading activities but doing so at the cost of undermining the basis of its trading advantage.

They chose to throw their lot in with the prospect of Enron becoming a fully-fledged trading company. To this end, they authorised a programme to sell off many of the company's major heavy assets, so that they might be able to present to their investment bankers a balance sheet which was much less extensively encumbered with debt. They complemented this by massively expanding the number of automated markets in which the company traded. The aim was to create the impression that Enron should be seen as an internet company and, just like other internet companies in the dotcom bubble era, it consciously trumpeted its new 'asset-light' business model (Deakin and Konzelmann 2004: 135–6).

The clearest example of its desire to be seen solely as an internet trading company came when it took all of its market-making activities online. EnronOnline provided its users with instantaneous access to a virtual marketplace in which they could record the price at which they were prepared to buy or sell any particular energy commodity or related derivative instrument (Partnoy 2003: 319). Importantly, though, Enron decided that it was not satisfied with allowing one user to access the virtual marketplace to trade with another user, for this would have limited its earnings potential to the money it could make from users' fees. Instead, it decided that all users had to trade directly with EnronOnline. This increased the ways in which Enron could make money, but it also made it the counterparty to all trades that were conducted on its multi-billion dollar markets.

The system was consequently established specifically so that Enron's traders alone could see all of the bid and ask prices on any energy commodity or energy derivative instrument at any moment of time (McLean and Elkind 2003: 223). This meant that Enron's traders alone could exploit the price spreads that arose from EnronOnline's users having less than perfect knowledge of all other users' intentions. Enron's traders were thus presented with endless arbitrage opportunities, from which they could profit – potentially handsomely – by matching pairs of users, one of whom was willing to sell the relevant commodity or instrument for a lower price than the other was prepared to buy it for. Yet, to stay in all of these trades in order to make them successful, Enron needed to be able to call upon a constant stream of spare cash to signal its continuing creditworthiness.

It hoped to be able to satisfy its cash requirements by drawing as much attention as possible to its asset-light approach. The goal of this new

approach was to operate with the lowest possible level of net assets. This became known at the time as a 'gravity-free' balance sheet. The benefits of selling off major heavy assets arose because investment banks had shown themselves to be increasingly willing during the 1990s to release largely unrestricted flows of credit to firms that had no visible signs of debt (Mauboussin and Hiler 1999). This credit could then be used to capitalise Enron's trading operations and to allow it to act as the counterparty to every position taken with EnronOnline.

In addition, an asset-light approach could also be expected to increase the return on capital employed, as the capital which Enron required to maintain its core activities was much reduced. As the 1990s' bull market gathered ever greater momentum, increased rates of return on capital employed tended to contribute to a significant boost to the stock price (Higson 2001: 4–5). This led Enron to try to take increasingly leveraged trading positions in an attempt to enhance its underlying rate of return on capital employed. But it did so by issuing derivative instruments constructed against its stock price as collateral for its leveraged positions (Fox 2002: 64). The stock price therefore appeared on both sides of the equation: it was the promise of a stock price boost which tempted Enron to take ever more leveraged trading positions, but the stock price was the only assurance it could offer to its credit suppliers of being able to successfully exit those positions.

In effect, Enron's senior managers wagered the very survival of the company on its ability to report quarterly earnings, real or otherwise, which would help to propel the stock price ever higher. This meant that Enron required not only that increases in the functional mobility of capital in the 1990s continued unabated, but also that they took a particular form. It needed the bullish attitudes in the stock market to persist, so that investors would continue to liquidate other financial assets in order to direct an ever higher proportion of their savings towards Enron stock.

As a result of this change to its business model, Enron's senior managers sought to introduce support mechanisms for the stock price. In particular, they attempted to secure employees' acquiescence to making the stock price the company's sole concern by consciously aligning their personal interests with those of the company. This had both an intended and an unintended consequence. It focused Enron employees on managers' concerns for harnessing particular increases in the functional mobility of capital to the company's advantage. However, it also provided them with incentives to allow the company's increasing flirtation with accounting fraud to develop in the absence of overt employee

restraint. I explore these issues in more depth in the following section. They emphasise an important contradiction in Enron's actions. The company projected itself to the outside world as if it had eliminated the depreciation risk on the assets it used to construct its complex structured finance positions, but its earnings manipulation was a direct recognition of the persistence of that depreciation risk.

### **The culture of stock price psychosis and Enron's accounting fraud**

As a straightforward chronology of the events which finally pushed Enron over the edge, we need look no further than the way in which its banks became ever more unwilling to extend it credit as the degree of its exposure to depreciation risk was revealed, until eventually the point was reached when it simply ran out of cash (e.g., Sims and Brinkmann 2003: 245; Smith and Emshwiller 2003: 162; Boje et al 2004: 768; Craig and Amernic 2004: 818; Reinstein and McMillan 2004: 355–6). Yet, we need to scratch the surface of this explanation to discover more about the link between the time at which its credit lines were withdrawn and the time at which its stock price, which underpinned the collateral that it posted for bank loans, began to fall (Baker and Hayes 2004: 778). Enron's success in artificially inflating the value of its stock price was spectacular whilst it lasted, but it was also a very short-lived phenomenon.

Taking the period of the 1990s' bull market as a whole, from 1994 to 1997 Enron's stock price benefited from the prevalence of generally bullish investor attitudes, but no more so than for similar companies (Reinstein and McMillan 2004: 961). Indeed, growth in Enron's stock price trailed the growth in the S&P500 Composite Index for almost all of the bull market period. The Index was driven higher by the influence of internet stocks, whilst, until at least 1998, the increase in Enron's stock price was pegged by its valuation as a traditional stock. That increase began to parallel the gains in the S&P500 from late 1998 to early 2000. But, it is only from that point onwards, as the tech-stock bubble burst and investors engaged in a belated flight to quality, that Enron's stock price outperformed the market as a whole. This did not last long, though, as the company was bankrupt by the autumn of 2001.

It was only in this last, brief period that something exceptional happened to Enron's stock price (Froud et al 2004: 893). Throughout the period in which Enron's stock market valuation struggled to match the performance of the S&P500 Index as a whole, the company's day-to-day operations provided two sources of pressure points for the stock price.

(1) Enron used its own stock as collateral for the bank loans without which it had no means of ensuring the liquidity of the trading platforms on its online markets (Reinstein and McMillan 2004: 963). (2) The stock price was also required to help the company meet its cost recovery targets, with any failure to do so likely to lead to an adverse profits warning (Fusaro and Miller 2002: 64). For the brief period in which Enron succeeded in pushing its stock market performance as high as that of the Index, it had introduced a third pressure point for the stock price. (3) It had created three thousand private equity funds – so-called Special Purpose Entities – to disguise its cost recovery problems and to massage its earnings reports (e.g., Fox 2002; Cruver 2003; Swartz and Watkins 2003). However, the funds it created as vehicles for manipulating its accounts were capitalised from Enron's side with structured finance deals which relied on the stock price at least maintaining its current level (Froud et al 2004: 895–6). Enron issued countless derivative instruments against its stock price as the financial makeweight in its commitment to ensuring that the private equity funds were sufficiently capitalised to provide the company with 'free' sources of new cash flow.

The important point to note in this respect is that all three of these pressure points reinforced one another as the company cascaded into collapse. Whenever the performance of its stock price undermined Enron's business model in one of these three areas, it did so in a way that also activated the other two pressure points. Therefore, the relationship between Enron's stock price and its business model was not merely one of interdependence. It was a mutually self-accentuating interdependence which became ever more detrimental to the company's chances of survival every time that it was triggered.

Such triggers were manifested most dramatically at each moment that investigative reporting by financial journalists raised new questions about the legality of its Special Purpose Entities. Special Purpose Entities are used in other contexts as a means of legitimately front-loading a proportion of expected earnings, but Enron used its private equity funds specifically to produce a false impression of the company's dynamic earnings position. Many of Enron's dealings with its private equity funds had no intrinsic economic substance beyond their ability to manipulate earnings reports. It has been estimated that almost three-quarters of its reported earnings from transactions with Special Purpose Entities were fictitious, designed merely as a palliative for the stock price (Baker and Hayes 2004: 771). That is, they did not reflect any additional substantive economic activity that they allowed the company to undertake. But crucially, most of the derivative instruments it used to

capitalise its private equity funds were constructed on the basis of mark-ups on the existing stock price (Benston and Hartgraves 2002: 105), thus multiplying potential losses in the event that the desired stock price increase failed to materialise. The scale of Enron's attempts to manipulate its stock price is shown by the fact that, at the time of its collapse, the company had half of its remaining assets tied into the complex financial dealings of its Special Purpose Entities (Froud et al 2004: 896).

Arthur Levitt, who at the time was Chairman of the US Securities and Exchange Commission, made the following comments about the acculturating effects of the tech-stock bubble on corporate behaviour immediately after it burst. He argued that the bull market presented investment conditions in which: "Too many CFOs are being judged ... not by how effectively they manage operations, but by how they manage the street [i.e., the stock market]" (Levitt 2000: 2). The corporate culture into which employees were inculcated at Enron increasingly focused on practices which were designed to 'manage the street'. The position taken by stock market analysts, right until the end, merely confirmed the success that Enron enjoyed in such a strategy. The analysts just could not bring themselves to believe that Enron employees would do anything to harm the share price.

According to Donald Wolfe (1988), however, an overriding focus on the bottom line of the prevailing stock price distorts the calculative rationality with which employees approach day-to-day issues of corporate management. No clearer example of this can be offered than Enron's commitment to creating an ever-expanding array of Special Purpose Entities which facilitated no new substantive economic activity but simply assisted the goal of earnings manipulation. Wolfe argues that, by elevating financial considerations above concerns for both the product and ethical behaviour, employees are socialised into an organisation which reduces all dilemmas to those of a pecuniary game. In such situations, all ethical questions are reformulated so that they can be made compatible with the ultimate validation of the stock price (Sims and Brinkmann 2003: 247–52). It is even possible to go as far as to suggest that Enron's unswerving focus on the financial bottom line provides evidence of character traits which Burkard Sievers (1999) argues are consistent with a 'psychotic organisation'. Such traits manifested themselves in what seemed to be a pathological fixation with inventing new measures of the company's 'true' value which, whilst giving no new economic information about the company, provided senior managers with a means of stating that the current stock price undervalued it (Craig and Amernic 2004: 823).

Enron's senior managers gambled on investor perceptions of the depreciation risk associated with internet stocks remaining subdued due to the bubble. With hindsight it is easy to say that this was foolish. There was certainly no economic sense in tying the very viability of the company to such a precarious strategy. Yet, this is not to say that managers walked into the situation blindly. They engaged in deliberate attempts to establish a corporate culture suited to the company's increasing stock price psychosis.

Enron created three separate means of locking-in the significance of the stock price in the minds of its employees. First, even the physical space in which they worked was set up as a constant reminder of the stock price's overbearing presence. Enron's senior managers had their own ticker installed in the lobby of the company's Houston headquarters. This gave a minute-by-minute update on the market price of Enron common stock (Partnoy 2003: 306). The same information was also relayed through the computers that sat on each employee's desk (Smith and Emswiller 2003: 23). In this way, the stock price stalked every decision that Enron employees made during their working days.

Second, it also entered directly into their calculations of their own wealth, as Enron employees were encouraged to load up their pension funds with Enron stock (e.g., Brennan 2003: 39–40). In an important sense, this blurred the lines of authority operating between the company and its employees. The fact that employees' future wealth was tied so closely to the performance of the company's stock provided a strong countervailing force preventing Enron employees from speaking out against short-term practices which undermined the long-term position of the company. At the very least, so long as those practices were presented as being in the interests of the stock price, this would also have been understood as being in *their* interests.

Third, Enron used stock options as part of the remuneration package for personnel above a certain grade (Friedrichs 2004: 120). Standard corporate practice is now to incentivise managers to think like shareholders by including stock options in their remuneration package (Rockness and Rockness 2005: 50). This guarantees that managers have a personal stake in devising corporate strategies which have the sole purpose of driving the stock price ever higher. By 2000, the stock options granted to senior managers came to the equivalent of 5% of the company's outstanding shares (Partnoy 2003: 306). This presented US\$4 billion of personal incentives for Enron's managers to willingly submit themselves to increasing stock price psychosis.

Overall, Enron's senior managers were successful in enlisting the support of many of the company's employees for its earnings manipulation strategy (Hirsch 2003: 565; Friedrichs 2004: 120). As such, they managed to neuter many employees as potential voices of dissent to conspicuous accounting fraud. With Enron employees thus failing in their monitoring duties, senior managers were temporarily given relatively free rein to operate an 'anything goes' corporate governance regime (Craig and Amernic 2004: 823).

By creating a corporate culture which treated accounting irregularities as an 'acceptable' means of inflating the stock price, the company began to indulge new but often highly questionable accountancy norms. Even when its earnings profiles depended upon income flows from the heavy assets on its books, Enron used aggressive mark-to-market accounting techniques to put a positive spin on its earnings position. Under mark-to-market accounting, the value of assets is reassessed at the end of each quarter, so that a 'fair value' price can be recorded for all assets which takes into consideration the way in which their resale price changes over time (Revsine 2002: 141–2). Whenever Enron signed long-term supply contracts which exposed it to fluctuations in the spot price in energy markets, it was left with decisions about how to record future earnings from those contracts in its quarterly accounts. Whilst it is common to view accounting as a conservative profession, Enron's finance department exploited loopholes in US Generally Accepted Accounting Principles (GAAP) to adopt a very different approach. It would often record its outstanding exposure to the demand-side of the spot market in terms of the lowest spot price for that quarter, at the same time as recording its outstanding exposure to the supply-side of the spot market in terms of the highest spot price for that quarter (e.g., Fusaro and Miller 2002: 13–14; McLean and Elkind 2003: 39–42, 127–8). In other words, Enron's accounts suggested that it would be able to buy all the gas it required to fulfil its contracts at the lowest price of the previous quarter, but be able to sell all of its own gas at the highest. This was simply not possible and, as such, there was no economic substance to many of the earnings that appeared on Enron's accounts (Baker and Hayes 2004: 779–80). Although this represented a clear case of earnings manipulation, it was not strictly illegal under GAAP rules.

Enron continued to take advantage of accounting loopholes to overstate its true earnings position as it moved from an asset-heavy to an asset-light business model. By this time, its core activities were concentrated on trading a whole host of specially created derivative

instruments. This raised additional difficulties of how to value a portfolio of outstanding contracts when the prices embedded in those contracts were susceptible to constant changes (Smith and Emshwiller 2003: 77–8). The solution Enron adopted was increasingly to abandon mark-to-market accounting for mark-to-model accounting for all of its extremely complex financial dealings. The models that are used to determine the future value of derivative positions allow the reporting entity's own finance department significant discretion to establish what counts as 'reasonable' model parameters (Benston and Hartgraves 2002: 115). As Sue Ravenscroft and Paul Williams argue (2005: 367), under such a system, "Choices among reporting alternatives are basically choices as to which constituent group's preferences will be honored". Enron consistently chose to treat itself as the favoured constituent group. Its preference was for the most impressive possible earnings reports, as it assumed that such reports would provide an important source of support for the stock price. As a consequence, it exploited the subjectivity that is inherent in all mark-to-model accounting techniques in order to load its models with its own earnings-inflating assumptions (Arnold and de Lange 2004: 756). This represented another exercise in earnings manipulation which, whilst blatantly unethical, nevertheless conformed with the letter of GAAP rules.

Enron only crossed the boundaries into illegality in relation to a handful of the three thousand Special Purpose Entities it established (Partnoy 2003: 344). As Bethany McLean and Peter Elkind argue (2003: 228), Enron insiders often wilfully mistook mark-to-market and mark-to-model earnings for the cash that was necessary for the company to maintain its trading operations. Accordingly, the company was still left to find some way of increasing the cash flows to capitalise its increasingly elaborate derivative positions (Reinstein and McMillan 2004: 962–3). It was at this point that it turned to the use of Special Purpose Entities in an attempt to generate the impression of a gravity-free balance sheet and, hence, to secure new bank loans (Eichenwald 2005: 231–50).

Of course, we now know that the corporate governance watchdogs eventually became much more vigilant about the numbers it posted in its earnings reports. Increasingly searching questions came to be asked about how, precisely, Enron made its money. In time, these resulted in revelations of extensive accounting fraud, which had exactly the opposite impact of the fraud itself. They drove down the price of Enron stock to the point at which the company's business model imploded, leaving it with no choice but to file for bankruptcy.

## Conclusion

The regulatory response of the US Government suggests that culpability for the Enron affair rests solely with the individuals who ran the company. The Sarbanes-Oxley Act criminalises much of the knowingly duplicitous behaviour undertaken by Enron's managers and punishes it severely (e.g., Rockness and Rockness 2005; Trinkaus and Giacalone 2005). Media interest has also concentrated on the fate of the individuals who have faced criminal proceedings for their part in the company's collapse. However, to focus merely on "how a group of people ... went bad" (Fusaro and Miller 2002: xi) is only to get at part of the story.

Here, I have concentrated on the way in which the collapse of Enron raises important issues concerning changes in the structure of capital mobility. In general, Enron insisted on being seen as both a manifestation of and a standard bearer for the modern business world, continually emphasising its own dynamism and its willingness to reinvent itself (e.g., Boje et al 2004: 763–6). The company thrived on a self-styled image of being more intelligent than anyone else, of seizing market opportunities more quickly than anyone else, of being at the forefront of new initiatives in corporate management and of operating at the cutting edge of modern finance. Crucially, it also constructed a corporate culture that matched this image. It was this which prompted senior managers to try to insert the company within the dynamics of a new structure of capital mobility.

Even if the internet bubble had not burst quite so dramatically in the spring of 2000, Enron's managers still seriously misjudged one crucial feature of this new structure. The increasingly psychotic focus on the stock price was an attempt to tap into the particular change in the functional mobility of capital associated with the stock market conditions of the late 1990s. In general, though, changes in the functional mobility of capital follow a much less uniform pattern than do changes in the spatial mobility of capital. In this way, they are much less predictable, and certainly not sufficiently predictable to act as the basis for a company's whole business model.

Changes in capital's spatial mobility follow from governments' decisions of whether to withdraw or add to the current system of formal capital controls. In this way, they are tied to the dominant ideological structure through which the international economy is governed. This structure is sustained via a repeated process through which the private interests it advantages provide both material and discursive support for

its continued reproduction. As a consequence of this support, the dominant ideological structure can become embedded as the 'common-sense' of society, in particular by removing the appearance of desirable alternatives (e.g., Gill 1994). In such circumstances, whilst it remains difficult to predict the precise timing of changes to capital's spatial mobility, the general trajectory of those changes is easier to detect. In between the very infrequent moments in which a decisive political rupture reshapes the dominant ideological structure, changes to capital's spatial mobility tend to be linear. That is, the next change is always likely to continue the current trend. Since the start of the liberalisation drive in the 1970s, for instance, increases in the spatial mobility of capital have been followed by further increases, as the trend has been to follow the initial relaxation of capital controls with further relaxations (Scholte 2005: 165–70; see also Chapter 4).

The same pattern of linearity is simply not in evidence with respect to changes in capital's functional mobility. The latter is affected by the process of financial innovation, but that process can take a limitless number of forms. The introduction of every new tradeable financial asset adds another dimension of complexity to the overall structure of functional capital mobility. Moreover, that structure is determined endogenously to the market environment itself. Changes in capital's functional mobility follow prior changes to investors' perceptions of competing assets' relative depreciation risks. Such perceptions are susceptible to what Keynes called 'animal spirits' (Keynes 1997 [1936]: 147–64), whereby psychological factors displace fundamental economic calculations as the main reason for investors preferring one asset to another at any particular moment of time. It is the significance of psychological factors which helps to explain why investor preferences often give rise to the appearance of herding mentalities, especially in moments when there is a general reluctance to purchase a particular asset. Of course, their significance also introduces a crucial, and wholly unpredictable, non-linearity into changes in capital's functional mobility.

By the time that Enron had been transformed into a trading company with hedge fund characteristics, its business model was no longer tied to the predictabilities of the changing structure of spatial capital mobility. Instead, its cost recovery strategy became oriented to the capital market rather than the product market, as it sold off many of the heavy assets that had given it a presence in the product market in order to fund its leveraged trading operations. It was the inherent dysfunctionality of this business model – in particular the psychotic approach to boosting the stock price no matter what the cost to the ethics of the firm – that

paved the way for the systematic accounting fraud which eventually resulted in the company's downfall.

As Peter Gourevitch and James Shinn have recently shown (2005: 48), the United States ranks extremely highly on all indicators of shareholder protection, meaning that Enron had to subvert many of the established norms of the country's corporate governance model. Under a diffuse shareholding model, shareholders act through formal structures of representation to discipline managers' behaviour on the basis of information provided by reputational intermediaries. This is arms' length control exercised through 'expert systems' (e.g., Arnold and de Lange 2004: 754; Unerman and O'Dwyer 2004: 978), which is made necessary because no direct supervision of managers is possible by the owners of the firm. In normal circumstances, discipline is imposed when shareholders believe that managers are inattentive to the trajectory of the stock price because they are focused too much on satisfying their own interests. What was perhaps most ironic about the Enron affair is that shareholder discipline was most urgently required at the point at which the company's managers first displayed a psychotic fixation with the stock price. However, the duplicitous manner of the company's insertion into the changing structure of capital's functional mobility disguised the need for more extensive shareholder activism until it was too late.

# 8

## Capital Mobility in an Age of Shareholder Value: The Battle for Control of the London Stock Exchange

### Introduction

In November 2005, the Board of Directors of the London Stock Exchange (LSE) suspended discussions with the Swedish exchange operator, OMX, about the possibility of a tie-up that could eventually have led to a full merger (*Financial Times*, 28.11.05). This enabled the Board to concentrate instead on withstanding another in a line of hostile takeover bids for the Exchange, this time triggered by the German exchange operator, Deutsche Börse Group (Deutsche Börse Group 2005b). Given the recent history of the LSE, the irony of such a situation was clear. In May 2000, the respective Boards of Directors of the LSE and the Deutsche Börse announced plans for the largest ever cross-border merger of national stock markets through the creation of International Exchanges plc, more commonly known as iX (iX 2000a). In August 2000, the Swedish technology company, OM Gruppen, the forerunner of OMX, took advantage of the merger negotiations to offer LSE shareholders what it saw as a favourable alternative (OM Gruppen 2000a). It sought to buy a majority shareholding in the Exchange, thus diverting the Board's attention from the iX proposals in order to fend off OM Gruppen's hostile approach. The result of both of these events is that, for the time being at least, the LSE remains an independent entity. However, the very fact that it has been so clearly 'in play' for much of the last decade – as either potential merger partner or takeover target – raises important issues from the capital mobility perspective outlined here.

The first thing to note in this respect is just how different these individual bids were. All of them were presented as initiatives designed to

assist in the consolidation of European stock markets. Thus, the hope was to transcend the current nationally demarcated stock market structure in a manner that was more in sympathy with EU single capital market legislation. But there the similarities end. Some of the proposals revolved around plans to segment the European stock market according to market specialisms, so that each national exchange would become *the* specialist operator for a particular category of stocks. Others sought instead to make the London market so large that it would act as a magnet for the stock market business of other national exchanges. Some embodied an attempt to put the LSE in a position from which a tie-up would become possible with one of the giant New York exchanges. Others envisaged a purely European solution to the issue of stock exchange consolidation. The different options for European stock exchange managers are thereby underpinned by different conceptions of capital mobility.

The eventual decisions they take regarding the preferred form of market consolidation are particularly important given the macroeconomic context in which they will occur. As is now well documented, the constitutive business model sustaining many national capitalisms in the EU has increasingly been adapted in response to demands for enhanced shareholder value (e.g., Jurgens, Naumann and Rupp 2000; Morin 2000). This supports complementary macroeconomic shifts through which the expanded reproduction of the economy as a whole is now ever more reliant on flows of credit arising from the capital gains that can be made from the stock market (e.g., Brenner 2002). Existing levels of consumption, both of basic and welfare-enhancing goods, are today tied more closely than ever before to the ability of the stock market to continue posting higher levels of overall valuation.

The backdrop against which the battle for the LSE has played out is therefore one which has changed the balance of generic financial risks within stock markets. With social welfare increasingly linked to expanding stock market valuations, individuals are increasingly vulnerable to the risks which are propagated from the stock market into society (what was labelled 'contamination risk' in Chapter 1). The accumulation strategy developed as a by-product of the shareholder value movement requires that state-sponsored social insurance is increasingly withdrawn in the interests of balanced budgets and expectations of strong counter-inflationary performance (Sinclair 2000). This is the time consistent solution which it is assumed, by eliminating inflationary options, will lead to a situation in which the depreciation risk associated with any individual stock is lowered (see Chapter 3). Investors are expected to

respond to the favourable investment climate for stocks by deepening their stock market positions, hence adding to the number of potential buyers on any particular trade and enhancing the liquidity of the market as a whole. What we see, then, as a result of the shareholder value movement, is a systematic transfer of risk from those who operate on the stock market itself to those who are forced to rely on ever higher stock market valuations to maintain existing levels of welfare.

In an attempt to draw out the significance of such a shift, the chapter proceeds in three stages. In section one, I review the debate about shareholder value, focusing in particular on the disjuncture between political support for shareholder value strategies and academic concern related to the increased exposure of individual life chances to the enhanced depreciation risks created by such strategies. This discussion sets the scene for the empirical sections, which focus on the events of the summer and autumn of 2000, when the LSE announced plans for a full merger with the Deutsche Börse, only then to be confronted with a hostile takeover bid from OM Gruppen. This battle between the two suitors is favoured over the more recent one, because it shows more clearly the different conceptions of capital mobility underpinning the two bids. In section two, I detail the major themes of the merger proposal, showing that they were founded on a conception of capital mobility which emphasised its functional dimension. The iX initiative represented a liquidity-led proposal for stock exchange consolidation and concentrated on deepening the savings base of the Anglo-German stock market. In section three, I present the counter-proposal from OM, showing that it was based on a conception of capital mobility which emphasised its spatial dimension. The OM initiative represented a cost-led proposal for exchange consolidation and concentrated on providing ease of access to trading on the LSE.

A chapter on this issue is included for the same reason as the other three substantive chapters: it helps to draw out through empirical illustration the book's two main claims. (1) There is a tendency in IPE to treat the integration of national stock exchanges simply as an epiphenomenon of the globalisation of capital. However, this is a 'black box' understanding which does nothing to highlight the different ways in which stock exchanges might be integrated or the different implications that this would have for financial practices within the stock market environment. My analysis is designed instead to emphasise these differences. (2) In doing so, it also points to the analytical advantages that derive from thinking in terms of the distinction between the spatial and the functional mobility of capital.

## Shareholder value capitalism and stock price boosterism

Karel Williams (2000: 1) refers to strategies designed to enhance shareholder value as a “more carnivorous type of capitalism”, such is the extent to which recent gains in stock price valuation have fed upon job losses, restricted wage growth, reduced entitlement to state-sponsored welfare and the destruction of socially-useful capital. Shareholder value strategies thereby contain the origins of political struggle for an alternative form of economic organisation, one which does not prey upon the social advances of previous periods. As a consequence, if they are to be successful then they have to be introduced alongside mechanisms of social control (Erturk et al 2004: 702), such that the capital market is both the beneficiary of that control and the disciplining agent. The very fact that companies are subjected to the public valuation of the stock market constrains the autonomy of managers (Screpanti 1999: 9). The current value of the stock price provides a signal as to the capabilities of managers, where the sole standards against which they are judged are whether the trajectory of the stock price is positive and, if it is, is it more so than that for comparable firms.

But this in itself is nothing new: it is a core aspect of any economic system which permits the development of a modern capital market, especially in their deregulated guise in the post-1980s period. The distinguishing feature of the shareholder value era relates to the elite political consensus on the issue of how best to distribute the rewards from the capital accumulation process. For accumulation to occur at all, firms must be able to report turnovers whose monetary values are in excess of the costs of production (Jessop 1991: 158). Yet, this on its own still permits large diversity in how the surplus is distributed: as wage increases, as reinvested profits, as retained cash, as shareholder dividends, or as funds for artificially inflating the stock price. What makes the shareholder value era different is the general lack of political challenge to the assumptions that dividend payments are the first priority when it comes to distributing wealth, and that attempts at conscious stock price manipulation are to be tolerated. As Michel Aglietta notes (2000: 147), shareholders’ claims on a firm’s surplus-generating capacity are not “the direct outcome of a ‘natural order’ of property rights”. Currently, however, they are clearly considered to be hierarchically superior to other claims.

The dominance of shareholder value strategies is not simply the result of the privileged political position occupied by the shareholding classes. There is an important sense in which these strategies are themselves

commodities, earning returns in their own right for the consultancy firms who develop, market and sell them (Froud et al 2000: 81). The consultants present managers who are struggling to meet stock market expectations with a series of ready-made prescriptions for value-based management on the premise that these will recast the performance of the company along more favourable lines. Such advice has become big business in itself, and it helps to sustain the impression that managers have no choice but to ensure that their companies' business models are oriented towards increasing the stock price. To really take hold, value-based management techniques must be adopted in a context in which there is widespread faith that 'the market' really does know best (e.g., Craig and Amernic 2004: 814; Friedrichs 2004: 116).

Yet, even the conception of what 'the market' is has changed dramatically in recent years. As this chapter focuses on the LSE, the important moment in this respect was the liberalising reforms enacted upon the City of London in the 'Big Bang' legislation of 1986 (e.g., Poser 1990; Coakley and Harris 1992). This changed the whole operating culture amongst the investment banks and other financial firms specialising in stock brokerage and trading. By extension, it also changed London's stock market itself. These cultural shifts are described by Philip Augar (2000) as 'the death of gentlemanly capitalism'. They involved extricating the institutions of traditional English class-based society – the public school, the gentleman's club and the country house – from both the choice of City personnel and the style of management of City firms. In their place was introduced a new professionalism, where managers focused much more ruthlessly on corporate strategies designed to make money and demanded a similar attitude amongst their recruits (see also Fraser 2005).

The result was behavioural change associated with short-term entry and exit from stock positions, such that the stock market could be viewed as an autonomous site for the valorisation of capital (e.g., Kristensen and Zeitlin 2004). A new incentive structure of performance-related pay was introduced into the work culture in what proved to be a highly successful attempt to institutionalise these new financial practices (Sobel 1994). As a consequence, investment decisions on the stock market have been increasingly de-linked from the process of production (Watson 1999). Historically, stock markets were established to provide a means of matching corporate borrowers with individual lenders, whereby capital in private hands could be recycled (for an appropriate fee, of course) in the interests of expanding overall levels of productive capacity (Seabrooke 2006). The process of recycling private capital

through the stock market is now significantly different. The actual mechanics of buying and selling stocks is much the same as it has always been, but the purpose to which trading activity is oriented has changed. The new reward structure established within the City encourages the recycling of private capital through the stock market to be focused on eliciting gains solely through trading stocks themselves. The implications of stock market activity for the health of the productive economy now largely fall out of the calculations of stock market traders.

We can therefore point to significant elements of behavioural change on the LSE associated with traders' increasing embrace of short-termism. Given that this change has its origins in the Big Bang, it clearly pre-dates the more contemporary emphasis on shareholder value. But it is nevertheless an important constitutive factor creating the context in which shareholder value strategies will today either succeed or fail. To be successful, they must be able to create new cash flows from the capital gains that can be generated if the firm's retained stocks increase in price. Yet, this leaves firms entirely in hock to the new work practices which dominate City trading houses. Their shareholder value business models are dependent upon traders preferring short-term buying over short-term selling of their stocks, thus driving their stock price ever higher. Without this dynamic, firms have no way of creating cash-based resources which enable them to invest in new productive capacity. Add to this the fact that the stock market is today used less to facilitate corporate borrowing than at any time in its history, and the firm's accumulation function appears to be increasingly reliant on securing capital gains from retained stocks.

Because of this, a generic macroeconomic contradiction of shareholder value strategies is often highlighted in academic accounts of the process. It is assumed that the contradiction arises from the tension between the needs of the product market and the demands of the capital market (Williams 2000: 7). For the expanded reproduction of product markets to take place, it is necessary for the surplus extracted from the production process to be divided in two ways. On the one hand, some of the surplus must be used to strike a wage bargain which will enable demand on product markets to rise (Boyer 2000: 125). On the other hand, some of it must be used to service the further accumulation of capital, so that existing supply schedules can be extended in order to satisfy the additional demand (Screpanti 1999: 23). Yet, both of these factors have been subdued by shareholder value strategies.

Disinvestment is the only certain way of increasing shareholder value: that is, selling off or closing down all but the most profitable parts of the

business (Holmstrom and Kaplan 2001: 138). This is guaranteed to generate higher returns on capital employed, thus providing a rationale for an increase in the stock price. But it does so at the expense of lower overall profits (Aglietta and Reberioux 2005: 85). Two effects are apparent. (1) The destruction of all but the highest performing capital inevitably entails downsizing the company workforce and disciplining the wage growth of the workers who remain (Kennedy 2000: 51–2). The result is constrained demand growth within the product market. (2) By privileging the rate of return on capital employed over aggregate profits, companies that incorporate shareholder value norms into their business models necessarily have less cash to plough back into upgrading their productive base. The result is constrained expansion of the supply-side of the product market. Indeed, the point has recently been reached at which many of the companies at the top of the management consultants' shareholder value league tables spend as much on stock options to reward their executives for that exalted position as they do on product research and development (Lazonick and O'Sullivan 2000: 33).

During the intensifying bull market of the late 1990s, four-fifths of the total shareholder return resulted from the general increase in stock prices (Erturk et al 2004: 688–9). This highlights the extent to which companies overlooked the needs of the product market in preference for the demands of the capital market. Developing the product market basis of their operations would have been the best option for the long-term viability of the economy as a whole. Instead, though, they chose to prioritise short-term earnings growth in order to satisfy the bottom line targets imposed by the capital market, even if this undermined their prospective future earnings profile. One shortcut in particular was used to meet those targets, and that was for firms to buy back their own shares (e.g., Kennedy 2000: 59–60).

The most basic demand that the capital market sets is for the company to demonstrate that its earnings-per-share has risen. This does not necessarily require an increase in earnings themselves, especially when a company is active on the buying side of the market for its own stock. Share repurchases retire a proportion of the outstanding common stock of the company. As such, all the firm has to do to increase its earnings-per-share is to ensure that its earnings do not fall by a greater percentage than that of the common stock it is able to buy back on the open market. A firm that meets this standard can expect its stock price to increase on the news that it has experienced growth in earnings-per-share, which is why so many companies repurchase their own shares as a simple stock price booster. No value is added to the economy in such

circumstances; indeed, an overriding focus on the financial bottom line might lead to economic value being destroyed. Yet, a firm can still enhance its short-term shareholder value in this way.

Of course, this is not a viable strategy beyond the short run. Without a systematic expansion of the firm's product market activities, it cannot hope to continue increasing its return on capital employed, thereby endangering its existing stock market valuation (Froud et al 2000: 106–7). However, current strategies for artificially boosting the stock price are responsible for undermining the prospect of a product market expansion. The massive wealth creation that occurred during the bull market of the late 1990s did not lead to a commensurable increase in the capital made available for productive purposes (Lazonick and O'Sullivan 2000: 32). As Ismail Erturk and colleagues note (2004: 690–1), this was more the case of 'value-skimming' by shareholders than value creation for the economy as a whole.

Within this characterisation, the impact of short-termist stock market attitudes can be seen to dominate the relationship between the firm and trading activity in its stocks. This relationship now revolves principally around the dynamics of the stock price rather than the use of stocks to prepare new investment funds. The question then becomes what determines the price at which traders are willing to buy and sell stocks. Part of the professionalisation drive in the City's post-Big Bang era was to recruit employees with a suitable education for jobs in investment banking. Many of the new breed of investment bankers had first studied for MBAs (Thrift 2005) and, with this background, they had learned about the likely trajectory of stock prices via William Sharpe's Capital Asset Pricing Model (Mehrling 2005).

Sharpe's discussion contains the intriguing suggestion that the single most important influence on the return from individual stock purchases is nothing to do with the economic performance of the company in question. Instead, what most of the new breed of investment bankers were taught was that the expected return on a given stock relates primarily to the level at which the stock market index is trading (see Chapter 3). For sixty years prior to Sharpe's analysis – to be precise, since the publication in 1900 of Louis Bachelier's conclusion that, on average, "the mathematical expectation of the speculator is zero" (Bachelier 1964 [1900]: 38) – economists had attempted to devise a formula for the optimal portfolio of stocks. The Capital Asset Pricing Model pointed the way in this respect, for it provided insights on how to allocate savings to stock purchases efficiently, even if it had to be assumed that stock prices, on average, fluctuate randomly (e.g., Malkiel 1999).

The substantive studies on which the Capital Asset Pricing Model is based suggest that around 90% of the variability of a portfolio's overall value has nothing to do with factors that relate to specific stocks contained within the portfolio. Instead, it is explained by movements in stock prices which themselves mirror broader movements in the stock market index. Harry Markowitz had previously demonstrated, both as an exercise in logic and through careful empirical testing, that diversified stock portfolios contained less intrinsic depreciation risk than concentrating the same volume of savings in a single stock (Markowitz 1952). Sharpe extended Markowitz's analysis to suggest that there was no end to the efficiency gains that could be made through diversification. In other words, the optimal portfolio is not to concentrate on hoping to purchase 'the next big thing', but to be invested evenly across the stock market as a whole (Sharpe 1970).

According to the CAPM, then, from the investor's point of view, it makes no sense for the company to spend its hard-earned cash purchasing the consultants' shareholder value products. The stock of that company, taken on its own, should be no more attractive after the advice has been imparted than it was before. Sharpe's model states very clearly that the price at which the company's stock is traded will still be more heavily influenced by the level of the stock market index than it will be by any firm-specific factors. If the stock market as a whole is the optimal portfolio before companies submit themselves to the performance cult of shareholder value, then it remains the optimal portfolio irrespective of the changes that any single firm introduces to its business model on the basis of management consultant advice. Despite the concerted efforts to sell value-based management as a market-beating technique, the CAPM suggests that the adoption of such techniques does not affect the attractiveness of holding a particular company's stock.

The incorporation of a new culture of stock trading in the LSE in the 1980s involved the introduction of trading strategies which increasingly divorced the decision of whether to buy a stock from its association with the company in question. Instead, that decision is now oriented to how best to exploit favourable movements in the overall level of the market index and to how best to seek protection from unfavourable movements (Derman 2004). Inculcation of habits of thought consistent with the CAPM therefore act alongside the City's new incentive systems in order to establish extremely high turnover rates in the trade of individual stocks. From the firm's viewpoint, attempts to enhance shareholder value depend on the underlying stability of the pricing structure of the stock market as a whole. In the

absence of such stability, the liquidity required to support the current level of the market index is unlikely to be forthcoming. It is against this backdrop that I introduce the substantive details of the most high-profile attempt at European stock market consolidation: that associated with the battle for control of the LSE.

### **Increasing market liquidity via capital's functional mobility: the iX proposal**

On May 3<sup>rd</sup> 2000, the Board of Directors of the LSE put to its shareholders a proposal to merge the Exchange with its German counterpart, the Deutsche Börse. The merger proposals were set against the backdrop of concerted attempts by EU political elites to encourage the development of a working single capital market within the European Union (e.g., Watson 2001b). The legal provisions for such a market were established in the Maastricht Treaty signed a decade earlier, but little headway had been made in the intervening period in terms of matching the legal entitlements to day-to-day practice. However, the bull market of the late 1990s raised such faith in the surplus-generating capacity of the stock market that it acted as the impetus for renewed efforts towards stock market consolidation. In September 2000, ironically shortly after the bull market had come to an end, the merger of the Amsterdam, Brussels and Paris exchanges was finalised, creating the single exchange operator, Euronext. The iX proposal to merge London and Frankfurt was therefore very much in the spirit of its time.

The tie-up with the Deutsche Börse offered LSE shareholders one obvious advantage. The stock price of the holding company that runs the Exchange includes a mark-up resulting from the LSE's status as Europe's premier market operator. The turnover on the LSE for the twelve months prior to the iX announcement was US\$2.8 trillion (*The Economist*, 02.09.00). Whilst this was more than the combined turnover on Europe's next five most highly capitalised exchanges, the creation of Euronext threatened to undermine both the LSE's market-leading status and the holding company's stock price. The proposed merger with the Deutsche Börse promised to restore the LSE's advantage over other European exchanges and, as a consequence, it was also likely to lock-in the associated reputational effects on the stock price enjoyed by LSE shareholders. A number of spikes arose in the trading volume of shares in the LSE Group in the period 2000–2006, and each of these corresponds either to a formal proposal for modernising the institutional structure of the LSE or rumours of the imminent announcement of such

a proposal. They also led to a clear increase in the holding company's stock price.

In addition, LSE shareholders are generally also LSE customers, and customers had much more to gain from a successful realisation of the iX blueprint. The proposal to merge Europe's two largest stock exchanges was presented as a 'merger of equals' (*Observer*, 02.04.00), even though the figures on aggregate market capitalisation showed a noticeable disparity between the two. The daily business on the LSE accounted for almost two-thirds of the overall business of the two exchanges put together (*Wall Street Journal Europe*, 03.05.00). London was able to boast more than twice as many quoted companies as Frankfurt, with over twice the combined earnings value (*Guardian*, 07.05.00), as well as a leading market index embodying almost twice the wealth. However, there were two countervailing factors which were deemed to balance out the LSE's size advantage and to enable the iX proposals to refer so explicitly to a merger of equals (iX 2000a, 2000b).

(1) The proposal to merge the LSE and the Deutsche Börse was seen as the first step of a two-stage process that would lead to a subsequent merger with NASDAQ (*The Economist*, 06.05.00). The negotiations for iX took place, it should be recalled, before the bubble in internet stocks burst. The context for the negotiations, then, was the massive increase in market valuation of companies listed on NASDAQ, which was responsible for creating the feel-good factor that forced up the general price level of all US stock markets. There was little doubt at that time amongst the investment community that internet stocks were the future (e.g., Feng et al 2001: 469–75). As such, a potential tie-up with NASDAQ represented the star prize for any growth-oriented stock exchange manager.

However, at the time that the iX plans were unveiled, the LSE lacked a market to serve as a suitable platform for the link with NASDAQ, and it also lacked a trading system which could be incorporated into NASDAQ's (*The Economist*, 02.09.00). By contrast, the Deutsche Börse had both. Its Neuer Markt for internet stocks was by far the most important European market in that sector, with its pre-crash market capitalisation of approximately US\$200 billion almost six times that of its nearest rival, the Nouveau Marche in Paris (*Financial Times*, 04.10.00). In addition, its Xetra trading system utilised superior technology for the electronic matching of buyers and sellers than NASDAQ's, allowing NASDAQ to offer its customers more efficient trading than it could have provided by establishing an autonomous European market using its existing technology (*Financial Times*, 17.07.00).

(2) The proposal to merge the LSE and the Deutsche Börse provided LSE customers with a deeper integration between the primary and the secondary markets for share trading. The British markets for trading stock and stock index derivatives had been developed in competition with the LSE, by a wholly independent exchange, LIFFE, the London International Financial Futures and Options Exchange (Kynaston 1997). Moreover, at the time of the iX announcements, LIFFE's managers had declared their interest in an institutional link with Euronext, which was subsequently formalised through a direct Euronext acquisition in January 2002 (Euronext 2002). As such, traders in London were left to trade across two different exchanges acting in direct competition with one another when they wanted to hedge some of the depreciation risk associated with individual stocks by purchasing an offsetting asset derived from the level of the stock market index as a whole.

By contrast, the iX proposals presented a much simpler route to executing such trades. The Deutsche Börse built up clear institutional capacity for trading between the stock market and its related derivative markets by first acquiring the company running the futures markets in Germany. It then extended this capacity through its acquisition of the well-established and high-profile Swiss futures exchange operator, SOFFEX, to create the combined EUREX markets (*Financial Times*, 13.12.04). Indeed, between the Deutsche Börse's attempts to merge with the LSE in 2000 and to take it over in 2005, it developed its exchange-traded equity index fund business to such an extent that it had an overall European market share of over 50%, including controlling 95% of the market for futures and options on cross-border European indices (Deutsche Börse Group 2005a: 4–6). At the end of 2004, the Deutsche Börse acted as market-maker through EUREX for 63 different exchange-traded stock index funds and 161 different equity options, which provided the basis for 1.1 billion traded contracts (Deutsche Börse Group 2005c: 12–14). Already by 1999 EUREX had overtaken the Chicago Board Options Exchange as the world's largest futures exchange in terms of volume traded (Young and Theys 1999: 1).

The key promise that the iX proposal offered to LSE customers was additional liquidity in the share trading environment. Traders have a material interest in the most liquid market possible, because such markets reduce their exposure to the depreciation risk which is embodied in the ownership of all financial assets. Compared with an illiquid market, a liquid market will have a greater pool of money supporting the prevailing price of any particular asset. As such, that price proves less susceptible to destabilisation in the face of a single large speculative

position taken against it. This means that investors will feel more confident that the pricing mechanism in a given asset market is robust, which is likely to persuade them to commit a higher proportion of their savings to that market.

What results is a virtuous circle. The more money that backs a particular price level, the more likely it is that individual traders will find a buyer for their position if they wish to liquidate their holdings at that price. The greater the ease with which sellers can be matched to buyers, the more that the market will take on the appearance of being liquid. Yet, this in itself provides additional incentives for investors to release their money to that market, which consequently turns the appearance of an increasingly liquid market into a reality. The more liquid that a market becomes, the less likely it is for it to experience a temporary absence of buyers. As a consequence, we should expect that seizures in the pricing mechanisms of a liquid market will be less frequent than those of illiquid markets, hence reducing the likelihood of the manifestation of large depreciation risks.

Both of the advantages that a tie-up with the Deutsche Börse presented to LSE customers involved heightening the liquidity of the London market. Perhaps most obviously, had full integration with NASDAQ been achieved, this would have brought with it a flood of American money to support the pricing mechanisms for individual stocks traded out of London. At the time of the iX announcements, NASDAQ's market capitalisation was greater than that of the Deutsche Börse's Neuer Markt by a factor of thirty (*Financial Times*, 04.10.00). A three-way tie-up between the LSE, the Deutsche Börse and NASDAQ would therefore have produced a significant liquidity surge for the London market.

The same was true of the possibility of incorporating the London market into the Deutsche Börse's integrated structure for trading stock market-based derivative instruments alongside the stocks themselves. When derivatives are bought for purely hedging purposes, they help to support the prevailing price at which the linked stock is traded. Insofar as this creates something akin to a price floor for the underlying stock, it is likely to lower the perceived depreciation risk associated with owning that stock. Anything that acts in this way can be expected to increase investors' willingness to concentrate a higher proportion of their investments in that asset.

Returning the analysis briefly to the discussion in the previous section, it appears as though liquidity-led exchange consolidation can act as a boost to general stock price levels, and hence to the price of

individual stocks, thus disguising what might otherwise be the failure of shareholder value strategies to deliver sustainable increases to the trading price of the stocks in question. The fear of illiquidity, according to Keynes (1997 [1936]: 147–64), is the single greatest depressant of investors' 'animal spirits'. A trading environment that proves to be illiquid is one in which investors are susceptible to sudden losses of confidence in the ability of the price system to reflect a fair value for the asset being traded. Even the suspicion of illiquidity can be sufficient to cause investors to act as if the market were indeed illiquid, which then creates precisely that outcome as buyers absent themselves from the market. By contrast, there seems little reason to doubt that the enactment of the iX merger would have heightened the liquidity of the London market in both of the ways outlined above. As such, it could have been expected to facilitate greater confidence in the stock market's underlying pricing mechanisms, thus activating the animal spirits that bring more investors into the market and boost the market's general price level.

Had these circumstances come to pass, the management consultants would no doubt have claimed that this was vindication of the decision to spend money on their value-enhancing products. Yet, here, the actual causal mechanism explaining the rise in individual stock prices would have been the additional liquidity which increased the price level of the overall market index. It would have been this that attracted new investors into the market for individual stocks, not the ostensible success of shareholder value strategies.

In terms of the underlying intimation of capital mobility, we must be careful how we characterise this idea of bringing more investors into the London market. Aside from the eventual hope of enticing American savings to London via a future link with NASDAQ, at no stage did iX's documents present the merger between the LSE and the Deutsche Börse as an attempt to reorient the geography of the share trading system in Europe (see iX 2000a, 2000b). The iX proposal restricted its focus to consolidating the Anglo-German stock market, and it made no allusion to influencing the spatial coordinates of the European stock market as a whole (*Financial Times*, 29.08.00). Its goal was merely the horizontal integration of the Anglo-German trading platform. The existing national character of everything other than the trading platform was to be left very much as it was (LSE 2000a). As such, introducing the institutional capacities for inducing cross-border spatial capital mobility within the EU's single capital market structure was simply not considered.

The real issue here was that of capital's functional mobility. The target investors addressed by the iX proposal were already operating out of either London or Frankfurt, so it would be wrong to see this as an attempt to induce capital currently invested elsewhere to be placed physically in motion. The aim of the iX proposal was to persuade these investors to rebalance their overall portfolios in a manner that was consistent with committing an ever greater proportion of their available resources of capital to the stock market. This would have involved the liquidation of those aspects of their portfolios which were concentrated in other asset types, in order to increase the amount of money that could be invested on the stock market. A liquid market tends to encourage asset-switching, so that more funds can be prioritised for use within the most liquid market. A structural increase of market liquidity, as promised in the long-term vision set out for iX, could therefore have been expected to lead to significant additional activity on those markets which iX was responsible for operating.

The change in investor practice that iX sought to induce revolved around lowering the perceived level of depreciation risk associated with investing in shares within the Anglo-German financial space. The efficiency gains promised by iX were a function of scale. The more highly capitalised the market in which investors find themselves, the greater their expectation that they can tap into the market's underlying liquidity to both enter and exit their preferred trading positions, hence increasing the overall capitalisation of the market and further deepening its liquidity. It is in situations such as this that investors are faced with incentives to reconstitute the composition of their portfolios, so that they can minimise their exposure to illiquid markets and maximise their exposure to liquid markets. Of course, if acted upon, such incentives serve to reinforce the distinction between liquid and illiquid markets, making already liquid markets even more liquid and accentuating the relative illiquidity of other markets.

They also lead to circumstances in which we should expect to see capital being mobile between its different functional forms, as available resources of capital are concentrated in assets which trade in the most liquid markets. The basic rationale of the iX proposal was that the horizontal integration of the Anglo-German share trading platform changed the risk/return structure of stocks compared with other assets trading in the Anglo-German financial space. For any given level of risk, such a change would have increased the expected rate of return from the stock market relative to other markets. As such, it would have led to the liquidation of assets held on those other markets in order to allow

investors to take advantage of the more favourable trading conditions on the Anglo-German stock market.

Increases in market liquidity serve as a protective buffer against the depreciation risk that is intrinsic to all financial assets. As the Capital Asset Pricing Model informs us, a significant part of the depreciation risk inherent in company stocks results from fluctuations in the level of the stock market index as a whole. The changes to the structure of Anglo-German share trading proposed by iX might well have acted as some form of insurance against such fluctuations. At the very least, they would almost certainly have led to the heightened liquidity which is consistent with diminished expectations of fluctuations in the value of the index. Insofar as these developments would have been likely to occur, we should associate the iX proposal with attempts to increase the functional mobility of capital with respect to the stock market. A very different prospect is contained within the counterproposal for the LSE presented by OM Gruppen. This focused instead on attempts to increase the spatial mobility of capital within the European share trading system.

### **Reducing share trader costs via capital's spatial mobility: the OM counterproposal**

On August 29<sup>th</sup> 2000, the Swedish technology company, OM Gruppen, initiated the process that eventually scuppered the LSE's plans for a full merger with the Deutsche Börse. It submitted a formal attempt to buy sufficient quantities of the LSE's outstanding stock to take over the company (OM Gruppen 2000a). OM hoped to collateralise its bid using its own stock. However, its stock price suffered the same fate as that of other technology companies in the autumn months of 2000. Its falling stock price in effect reduced the value of its bid for the LSE and, as the deadline for the bid expired, very few LSE shareholders chose to accept its offer. When the offer closed on November 10<sup>th</sup>, OM had secured the purchase of less than 7% of LSE shares (*Economist.com* 15.11.00).

The financial press tended to view the OM counterproposal as a diversionary tactic (e.g., *Financial Times* 07.09.00). Despite the formal nature of the bid, actually buying the LSE might have been only the second of its priorities. Irrespective of the result of its bid, OM had in any case planned to utilise its expertise in designing exchange technology in order to open a new online link between trading patterns on the New York Stock Exchange, NASDAQ and European exchanges in London, Frankfurt, Paris, Milan, Amsterdam and Stockholm (news.bbc.co.uk 10.10.00). This was called Jiway. OM marketed its new Jiway share

trading system under the by-line, 'the single access point' (OM Gruppen 2000b), which neatly captured the essence of the company's vision.

Jiway's introduction created a digital link between market business on the eight exchanges across which it operated, and that link relayed pretty much instantaneous information about the cross-border spread between the bid and offer prices for the stocks of the six thousand companies it listed (Morgan Stanley 2000). This made arbitrage opportunities on cross-border trades easier to spot, and OM believed that this would lead to a significant migration of market activity from existing national exchanges into the currently under-populated cross-border sector of the market.

Given the circumstances, its hostile takeover bid for the LSE might very well be seen as an attempt to undermine the plans of two of its competitors for the business that it hoped Jiway would attract. Had the merger plans between the LSE and the Deutsche Börse been successful, investors would have been faced with a clear choice. (1) They could have concentrated their investment activities within the increasingly liquid iX market, where the market's underlying liquidity made headline-grabbing speculative gains more difficult to secure, but where the risks involved with being caught on the wrong side of an adverse market trend were less apparent. The extra depth of a liquid market provides a surer means of incorporating large trades without disturbing the underlying price. (2) They could have opted to enter the new Jiway market, which offered significant opportunities for speculative gains on complex cross-border arbitrage trades, but which provided none of the protection against seizures in the market's pricing mechanisms that accompany a highly liquid market. OM was unsure whether investors would be prepared to trade-off the advantages of market liquidity for the chance to work within a high risk, high return environment. The iX proposal, which was founded on precisely the promise to increase market liquidity, consequently provided a threat to OM's business plans. The OM hostile takeover bid was almost certainly as much about derailing the iX proposal in the interests of Jiway's future success as a genuine expectation that it would be able to buy the LSE.

Jiway provided screen-based access to a virtual market which was created through the existing structure of independent exchanges (OM Gruppen 2000b). As such, it had a significant operating cost advantage compared with traditional exchanges. Its system required almost nothing by way of physical infrastructure, as it ran through software that could be loaded onto existing trading mainframes. Its day-to-day running costs were also limited to a group of technicians who maintained and

upgraded the software. OM was able to use these cost advantages and pass them on as savings to its customers. It thus had the capacity to out-compete traditional exchanges in terms of the transactions costs that investors face when executing a trade, as it had no need to raise large amounts of money from these transactions in order to maintain its normal operations.

The fact that Jigsaw enabled investors to trade exclusively online also meant that they could bypass the exchanges' in-house clearing and settlement organisations. The clearing and settlement process in effect acts as a charge levied on all stock market activities, and it is currently the source of the largest transactions costs associated with European stock markets (Tirez 1997). In traditional exchanges, the route to settlement is heavily influenced by the market-based incentives which exchange managers have introduced in order to prevent the migration of national business overseas (*The Economist* 23.09.00). These include a deliberate structuring of fees to encourage trading to be concentrated within the national market. By contrast, OM's Jigsaw system eliminated a whole range of transactions costs associated with cross-border share trading (Morgan Stanley 2000), thus making cross-border arbitrage a potentially much more profitable undertaking. Its online status enabled investors to operate without regard for the regulations that exchange managers impose in an attempt to keep business at home.

The Jigsaw system acted as the model for OM's counterproposal for the LSE. OM promised, not the liquidity-led exchange that formed the heart of the iX proposal, but a cost-led exchange. Its overriding aim was to use the technological advantages contained within its trading system in order to provide lower transactions costs which would attract new business to London from overseas. The difference between the iX and the OM visions for the LSE therefore went all the way down to different assumptions about investor psychology. The iX proposal was based on the assumption that investors prefer to operate in environments in which they feel confident that their investments are safe, whereas the OM counterproposal was based on the assumption that investors prefer to operate in environments in which trading is least expensive. As a consequence of these very different starting points, iX attempted to lower the risk/return ratio for any given level of transactions costs, whereas OM attempted to lower the transactions costs associated with trading at any given risk/return ratio.

Another significant difference between the two bids relates to their conception of the relationship between market liquidity and market activity. The iX proposal was based on the supposition that market

activity follows market liquidity. It assumed that liquidity develops from within a given market setting, arising from enhanced investor confidence that there will always be a buyer to enable existing positions to be exited, and that this then acts as a spur for additional market activity. This represents an 'animal spirits' reading of investment decisions, whereby investors choose how to allocate their savings on the basis of their perceptions of relative market liquidities.

By contrast, the OM counterproposal was founded on a more orthodox economic explanation of market behaviour. It eliminated confidence factors from its assumptions about why investors choose to commit their savings to particular markets. OM assumed that investors will operate wherever the costs of investment are lowest and, as a result of attracting ever more market activity on the basis of offering the lowest possible transactions costs, its market would automatically become more liquid. That is, market liquidity follows market activity and not, as iX envisaged, the other way around.

OM's understanding of the relationship between market activity and market liquidity was based on a particular conception of capital mobility. By assuming that investors simply follow cost advantages, OM appealed to the image of investors liquidating stock market investments elsewhere so as to reinvest on its trading platforms. The costs of operating in one place are easily compared with the costs of operating in another and, if OM's assumptions were valid, investments should be attracted disproportionately to the lowest cost environment. This is the image of a world in which capital is spatially mobile and where investors exploit this spatial mobility in order to create their own liquidity.

The OM counterproposal would have made no difference to the structure of stock market liquidity relative to that of markets in other financial assets. Instead, it aimed to alter the spatial distribution of existing stock market liquidity amongst European exchanges. If investors are potentially mobile across borders and market liquidity follows market activity, then in effect liquidity is mobile across borders as well. OM's vision for the LSE revolved around an attempt to make London the magnet for migrating market liquidity.

OM's takeover bid was thus hostile in more than the conventional sense of not having been actively encouraged by the LSE's Board of Directors (LSE 2000b). It also represented a departure from the norms which have traditionally regulated the behaviour of stock exchange managers. At the height of the battle for control of the LSE, the *Financial Times* (01.09.00) described European stock exchanges as "monopolistic national utilities". Viewed at the European level, though, they were

perhaps better seen as operating a geographic cartel. The integrity of the national orientation of stock exchange activity was safeguarded by an unwritten code of conduct which dictated that the market for other countries' companies was off-limits (e.g., Michie 2001). This tacit agreement ensured that exchange managers did not engage in open competition for each other's business. At the same time, it also created an important cultural impediment to the spatial mobility of capital.

The OM counterproposal for the LSE was an overt attempt to circumvent this cultural standard (*The Economist* 01.04.00). OM's Jiway system acted as the template in this respect. Jiway enabled traders to conduct 'at a distance' market business that would previously have required direct access to the exchanges (OM Gruppen 2000b). As such, complicated arbitrage positions could be created which blurred the traditional distinction between the market of one exchange and the market of another. With its digital links between the market business on eight different exchanges, Jiway thus released investors from the exchange managers' concerns for preserving the integrity of distinct national stock markets. OM approached its hostile takeover bid for the LSE with the view that both the existing market activity and the existing market liquidity of other exchanges was fair game. This raised the possibility of enhancing the liquidity of the London market, then, but only within the context of a presumed zero-sum game amongst Europe's stock exchanges. The LSE could only be expected to gain if this was at the direct expense of liquidity losses elsewhere in the share trading system, with the reallocation of market liquidity being driven by capital's spatial mobility.

Let me now return the analysis to the discussion from the opening section. For, it appears likely that the iX and the OM proposals would have had very different impacts on the possibility of sustaining strategies for enhancing shareholder value. As suggested in the previous section, the full merger of the LSE and the Deutsche Börse might have provided a means of insulating shareholder value strategies from the troubling conclusions of the Capital Asset Pricing Model. At the very least, the iX proposal focused on creating a more liquid Anglo-German stock market environment, in which it was likely that the protection provided for the market's pricing mechanism by the additional liquidity would have stabilised the level of the stock market index as a whole. In such circumstances, an individual stock does not have to defy the insights of the CAPM and beat the market for the company issuing the stock to protect its shareholder value. Hence, within the context of the heightened market liquidity promised by iX, shareholder value strategies might not necessarily fail in their own terms.

By contrast, it is likely that the OM counterproposal would have fared worse on this count. A successful OM bid might well have increased the attractiveness of London's stock market to investors, but it would have done so solely on the basis of offering cost advantages relative to other stock markets. This would not have arisen, though, from lowering the risk/return ratio of the stock market as a whole. Consequently, the CAPM's conclusions would have remained as relevant as ever, in particular the finding that the price of individual stocks is susceptible to changes in overall market prices which are unconnected to the performance of the company in question. The OM counterproposal therefore could not have improved the chances of shareholder value strategies working in their own terms. The potential for such moments is increased the more that market liquidity is encouraged to be mobile across borders in response to competition for market activity.

Indeed, the shareholder value movement creates macroeconomic conditions in which increases in the spatial mobility of capital possibly serve only to accentuate disturbances which are projected from financial markets into society. By aligning corporate strategy to the demands of the capital market, society is exposed to the contamination risk which arises when adverse trading activity against a company's stock undermines the stability of the product market on which the company operates (Williams 2000: 7). However, this possibility was completely overlooked by the British press, which tended to act as cheerleader for the OM bid. The *Financial Times* derided the LSE's rebuttal of the OM approach as a preference for "the graceful management of decline" (*Financial Times* 17.04.00). The *Economist* meanwhile stated that OM "won most of the intellectual arguments" about how to replace the LSE's existing structure, due to the priority it placed on trading technology (*The Economist* 10.11.00).

From the perspective outlined in this book, what is most interesting is the particular conception of capital mobility that underpinned the OM proposal. OM looked no further than the most basic economic assumption that investment decisions are based purely on cost-oriented calculations of likely returns. In real-world rather than textbook economic circumstances, however, psychological factors play a large role in determining investment decisions. The issue of how best to redesign the stock market environment consequently involves more than the most basic consideration of cost advantages. Short-termism might have become a dominant cultural trait in the City of London post-Big Bang. But, after a number of years of speculative excess in which there seemed to be no limits to short-termism, the decisions of investment banks

situated in London once more reflect a rather greater number of influences (Augar 2000: 128). These decisions also revolve around the question of risk and, in particular, the depreciation risk that is an intrinsic feature of holding any financial asset. Investors are highly unlikely to concentrate their portfolios on assets that can be traded at the lowest cost if this does nothing to lower their overall exposure to depreciation risk (e.g., Mehrling 2005: 108–9). They therefore have to be attentive to relative market liquidities and they are likely to concentrate their holdings amongst assets which trade on the most liquid markets. In turn, this implies strategies to induce the functional mobility of capital: selling off positions in assets which trade on less liquid markets in order to recycle capital to buy different categories of assets which trade on more liquid markets.

## Conclusion

The question of European stock market consolidation is often posed by political elites as a technical response to the increasing globalisation of capital (e.g., Council of the European Union 2000). It would be a mistake, however, for IPE theorists to adopt a similar characterisation, because it is much more than that. Given the significance of stock market gains to current models of growth, it is also likely to influence the future structure of capital accumulation in Europe, as well as the social context in which accumulation takes place. Consumption possibilities have recently been expanded throughout the advanced industrialised world via enhanced asset-based wealth. These increases in spending have driven the growth dynamic, at the same time providing governments with a period of grace from pressures to engage in more fundamental restructuring of the social basis of the economy.

However, stock market consolidation is not guaranteed to provide a continuation of the capital gains which have created the conditions for enhanced consumption possibilities. Insofar as it might break the link between the national capital market and activity on national product markets, it could even destabilise current growth dynamics. The situation to be avoided is one in which wealth effects are activated in reverse: instability on the stock market hits investor confidence and forces down general market valuations; consumers are forced to realign their activity on product markets with current income, a proportion of which is allocated to making good the savings gap resulting from losses on the stock market; firms downsize to prevent their ensuing over-capacity from harming their stock price still further; the depressed state of both

the demand- and the supply-side of product markets hits investor confidence even harder, causing the cycle to kick in again. Growth models that rely on a constant stream of capital gains from the stock market are thus susceptible to the knock-on effects of a deflationary spiral in asset prices.

The deflationary spiral manifests the risks which emanate from the financial environment and flow into society (i.e., contamination risks). The stock market is now so deeply embedded in the social structure of accumulation of advanced industrialised economies that the consolidation of the market environment can never be a solely technical affair. Contrary to the commentary from the financial press about the monopolistic tendencies of national exchanges, exchange managers' deliberate structuring of market incentives to keep as much share trading business as possible in-house should be seen as more than merely an exercise in empire-building. The defence of the national capital market has social repercussions, however unintended these might be from the perspective of the exchange managers.

By creating impediments to the migration of market liquidity, the incentives to maintain trading activity at home also provide some protection for the pricing mechanisms of the stocks which are listed on the national exchange. Insofar as some designs for stock market consolidation threaten that protection, they also increase the likelihood that society will experience the full contamination effects of the risks which emanate from the financial environment. A world of footloose market liquidity is one in which the pricing mechanisms for individual stocks is increasingly vulnerable to moments of seizure, for it raises the prospect that investors will be left with positions for which they can find no buyer. It is such seizures that lead contamination risks to be transposed from the market environment, as society is forced to bear the costs of adjustment to the instability in asset prices. Much is at stake, then, in the continuing battle for control of the LSE. Debates about the different forms of capital mobility encapsulated by the reform proposals are therefore much more than merely technical debates.

# Conclusion

The book has been written on the basis of a novel conceptualisation of the essence and the dynamics of capital mobility within contemporary economies. My subject matter is thus the same as for many other authors within the field of IPE, but my approach is different.

## Unpacking the 'black box' of international finance

My principal concern in working through the distinction between the spatial and the functional mobility of capital is to highlight the need to explore the substantive content of the way in which financial markets work. There is a tendency in IPE to restrict the analysis to demonstrating that global inequalities exist: (1) in access to the international financial system; (2) in the distribution of rewards from the day-to-day operation of the system; and (3) in the effects of moments in which the system temporarily malfunctions. This helps to sustain a compelling political narrative about the injustices which are transmitted through systemic dynamics. However, to fully ground moral arguments against the current orientation of the international financial system first requires detailed knowledge of the particular investment practices which propel the system.

In a previous book (Watson 2005), I argued that IPE theorists are generally more comfortable when passing moral judgement on the *outcomes* of contemporary economic processes than they are at building their critiques on the basis of understanding the *substantive content* of the processes themselves. As a rule, there is not enough political economy in IPE. My basic argument proceeds along the same lines in this book. Here, I suggest that in general IPE theorists concentrate primarily on critiquing the outcomes of international financial practices. Much excel-

lent work has recently been published in this vein, feeding powerful moral arguments about why it would be desirable to transcend the existing state of affairs. But this still does not negate the need for a rather deeper understanding of the actual practices which dominate the day-to-day operation of the international financial system. It is in recognition of this latter need that I have written the current book and that I have developed the analytical distinction between the spatial and the functional mobility of capital as a means of doing so.

The aim is not to supplant the explicitly political reading of capital mobility which tends to appear in the IPE literature, but rather to supplement it. In particular, it is to add an extra dimension to what it means, substantively, to be analysing contemporary conditions of capital mobility. It is usual in IPE to understand such conditions simply in terms of capital being physically 'in motion'. If we wish to be working solely with a political reading of capital mobility, then there is much to be gained from this image. (1) It provides a clear indication of the power of the owners of capital to ensure that they are operating in an economic context in which their interests will be satisfied. If they do not get their way then they can simply exercise their exit options by placing their capital in motion. (2) It also emphasises the fundamentally undemocratic nature of the process through which this situation arises. No prior consultation is necessary, no thought need be given to the interests of society and nobody is ever formally held to account for the decision to exercise mobility options unless in doing so a law has been transgressed.

To my mind, though, it is also necessary to augment this explicitly political reading of capital mobility with an equally explicit political economy reading, so as to learn more about the actual economic decisions that lead to the image of capital having been placed in motion. The four illustrative chapters show that none of the cases can be recounted in such economic detail or such analytical nuance were it not for the fact of working with the heuristic distinction between the spatial and the functional mobility of capital. Discussions of the spatial mobility of capital generally involve focusing on the implications of financial liberalisation, whilst discussions of the functional mobility of capital generally involve focusing on the implications of financial innovation. Ignoring one of the two dimensions of capital mobility therefore necessarily implies ignoring one of the two most important changes to the structure of financial markets to have occurred in the last thirty years.

My preferred approach defines capital mobility as any instance in which one holding is liquidated specifically so that the resulting flow

of funds can be used to finance a different investment. In economic terms, then, a single instance of capital mobility relates to two linked decisions: an initial decision to withdraw money from an existing position and a further decision to recommit that money to another position. From this perspective, the mobility of capital is all about the process of rebalancing overall investment portfolios. The more intense the repetition of that process, the greater we can say is the mobility of capital.

Recent changes in the institutional structure of the international financial system have prompted a dramatic increase in the liberalisation of capital flows. The most marked outcomes of liberalisation have been greater volatility in financial prices and more pronounced oscillations between moments at which buying dynamics dominate a particular asset market and moments at which selling dynamics dominate (e.g., Almekinders and Eijffinger 1991: 645; Akyüz 1995: 73; Arestis and Sawyer 1997: 755). In addition, the speed with which transactions can now be executed in response to both market news and market rumours imposes momentum effects on the pricing dynamics of financial assets (e.g., Grabel 2003a: 326; Palley 2003: 11; Nissanke 2005: 61). The ensuing extrapolative element in price trends creates a heightened sensitivity to the possibility of portfolio imbalance. In turn, this provides greater incentives to take the linked decisions of asset liquidation and reinvestment in order to undertake the necessary rebalancing. Recent increases in capital mobility have resulted from the greater intensity of the need to rebalance overall investment portfolios combined with the greater speed with which that rebalancing can take place. They include instances in which an investment is liquidated in one country so that exactly the same type of investment can subsequently be undertaken in another country (spatial capital mobility) as well as instances in which an investment is liquidated in one form so that a new investment can be undertaken in an entirely different form (functional capital mobility).

### **Politicising the mobility of capital**

By distinguishing between the spatial and the functional mobility of capital, it is also possible to focus on a case-by-case basis on the specific ways in which different types of financial risks are created, hedged, multiplied and passed from one person to another. It is important to give due consideration to the issue of risks, because it raises the possibility that there are important social biases in the day-to-day operation of the contemporary international financial system. The flow of socially

consequential risks around the system appears to be inversely related to the flow of wealth around it.

In the period which preceded the recent liberalisation of international financial markets, the poor could often turn to the apparatus of the state in order to seek protection from destabilising asset price movements. The Bretton Woods agreement facilitated direct state intervention in the pricing mechanism of many asset markets. Under the influence of subsequent liberalisation, though, this capacity has been withdrawn, as has the associated protection it offered to the poor from moments of extreme pricing distress. Now, if protection is to be sought, this has to take place within the market environment itself. It implies the need to purchase offsetting investments which might neutralise the original pricing discontinuity. But the poor in general will not be able to afford this sort of market-based insurance against depreciation risk, whilst the not-so-poor and, in particular, the highly capitalised professional investment houses, will not be similarly inhibited.

The process of financial innovation plays a large role in enforcing this division between the poor and the not-so-poor. Derivative markets are an environment in which only investment specialists operate and where access is strictly limited for ordinary investors. The instruments traded on these markets were initially designed for hedging purposes (e.g., Steinherr 2000: 147–68) and, as such, they insure against overall exposure to depreciation risk. The depreciation risk will still be present for individual assets, as their price can still go down as well as up. But, by combining an asset and a derivative instrument with the correct internal characteristics, a synthetic asset can be created which neutralises the effects of individual assets' depreciation risk on the overall value of an investment portfolio. Highly capitalised investment houses now routinely employ many quantitative analysts, whose sole job is to identify the firm's current exposure to depreciation risk and to work out what derivative instruments need to be bought in order to shelter the firm from losses accruing to that risk (e.g., Derman 2004). Ordinary investors have no such recourse to similar strategies, let alone the poor.

The social biases inherent here also take a second form. Derivative instruments can be purchased for purely hedging purposes, but they can also be traded in order to stake a bet on future price movements. The hedging strategy reduces the incidence of depreciation risk, whilst the betting strategy increases the incidence of speculation risk. Such risks occur when destabilising price movements are made more likely by the positions that traders take purely as a means of profiting from the ensuing price volatility. In moments in which the volatility is so

extreme that there is a temporary seizure in the pricing structure of an asset market, speculation risk quickly turns into contamination risk. The initial risk is transposed into society as the introduction of policies to defend asset prices entails the diversion of public funds away from other expenditure programmes. The impact of contamination risk thus falls disproportionately on the poor, but it only arises in the first place because the not-so-poor – indeed, often the extremely rich – are free to pursue their own trading strategies within the market environment.

The reason for this is that, today, public authority is called upon only to ensure the existence of basic prudential regulations which limit the degree of market exposure of any financial firm, in an attempt to prevent non-performing loans from cascading through the system with multiplicative effects. The Bank for International Settlements' capital adequacy rules is a prime example of such prudential regulation (BIS 1997, 2002). Beyond that, regulatory dynamics are concentrated in the medium of money. So long as investors have sufficient capital to stay in their trades then they are allowed to continue trading, no matter what the social consequences of failing to restrict the size of the positions being taken. It is only in circumstances in which investors run out of money that they can no longer stay in their trades and that they are forced to unwind their positions. In such circumstances, it is as if the pricing mechanism of the market, rather than the needs of society, has exercised regulatory control over the investors in question.

The crux of Karl Polanyi's *Great Transformation* (1957 [1944]) was to show that regulation of economic activity through the price mechanism is loaded with social significance. For Polanyi, regulation through the price mechanism required that the distributive concerns of society be subordinated to the needs of the pricing mechanism (Jessop 2001: 222–3). The aim is to allow the free flow of price signals to protect the pristine condition of the market. Polanyi continually emphasised the coercive nature of prioritising the abstract needs of a preferred institutional form over the real needs of actual people (Inayatullah and Blaney 1999: 328). The current pattern of risks created by and disseminated through financial markets reflects this sense of priority. At the moment at which prices are determined on financial markets, those markets are now increasingly disembedded from society insofar as they operate to their own internal logic (e.g., Sobel 1994; Augar 2000; Kristensen and Zeitlin 2004). But it is *only* at the moment of price determination that the condition of disembeddedness holds (see Chapter 4). In every other way financial markets remain fully embedded within society.

## The social significance of prudential regulation

The social dynamics of price determination within financial markets is very different to the social dynamics of the monetary recycling which financial markets facilitate. (1) The pricing structure points to an increasingly autonomous market environment in which trading activities are self-regulating. (2) The recycling function highlights the extent to which ever more people now rely on financial markets to secure their future consumption needs (pensions, healthcare, homeownership, insurance, etc.). In Polanyian terms the pricing structure is increasingly disembedded, whilst the recycling function highlights a process through which society is increasingly embedded within financial markets through an ever greater reliance on the capital gains which financial markets make possible. The latter trend is, of course, restricted to advanced industrialised countries. But, within those countries, the trend itself is clear.

The regulatory settlement which came into being at the end of the Second World War deliberately excluded rentier interests from the institutional norms which it sought to create. Yet, its wholesale dissolution from the 1970s onwards has allowed for the increasing incorporation of rentier interests into the process of price discovery and price determination within the sphere of international finance (see Chapter 4). This required not only first convertibility and then liberalisation of both the current and the capital account, but also the endorsement of a new range of financial instruments which enable the trade in synthetic assets to take place alongside the trade in the assets from which they are derived. The former relates to the deliberate encouragement of the spatial mobility of capital and the latter relates to the deliberate encouragement of the functional mobility of capital. Each is associated with the increasing concentration of economic power in the hands of rentier interests.

This leads to an important new perspective on the significance of economic theory to the progressive institutionalisation of rentier interests. The economic power of rentier interests has been enhanced by decisions which increased both the spatial and the functional mobility of capital. However, the dominant economic theories assumed the existence of *perfect* capital mobility long before the reconstruction of the international financial system made this anything other than a fanciful extrapolation of current trends. I showed this in Chapter 3 in relation to both the 'time consistency problem' and the 'options pricing problem'. The former describes situations in which recommendations

for macroeconomic policy are oriented towards the preservation of asset values so that the spatial mobility of capital can be called upon to suppress societal expectations of welfare-enhancing programmes. The latter describes situations in which recommendations for financial governance are oriented towards the right of market-makers to innovate in derivative trading so that the functional mobility of capital can be called upon to provide pristine market conditions in which to embed social relations. In both instances, the dominant economic theories rationalise the corresponding dominance of rentier interests over the human needs which the economy might otherwise be capable of sustaining. As such, these must be seen both as theories *of* the rentier economy and as theories *for* its maintenance.

The most important thing to remember in this respect is that the recent disembedding of the pricing structure of financial markets runs in parallel to the progressively deeper embedding of society into the markets themselves. In other words, an increasing number of people have found that they have been drawn into the ambit of rentier interests and that they are more susceptible than at any previous time to the demonstration of rentier power. They therefore have an important material stake in the prudential regulation of capital mobility and the limits which might be imposed through prudential regulation on the wilful creation of speculation risk.

Set in such a context, capital mobility should not be seen merely as a feature of the economy. It is also a political condition which requires continual nurturing in order to secure its reproduction. The Bretton Woods system constrained capital mobility by enabling direct state intervention into the pricing structure of many asset markets. More recently, however, rentier interests have been allowed to dominate the process of price determination and, in this way, state intervention has been phased out and marked increases in the scope of capital mobility have been witnessed.

Thus, the organisational and operational logics of contemporary financial markets are grounded in a fundamental tension between the rentier interests of modern investment banks and the interests of those whose future consumption is tied to the monetary recycling function of financial markets. The prevailing approach to prudential regulation cannot simultaneously satisfy both sets of interests indefinitely. The image of a harmony of interests can be temporarily sustained, but only in the unusual circumstances associated with price bubbles. In such circumstances, the rapid rise of asset prices allows for rentier interests to be satisfied at the same time as financial markets provide for a general

increase in welfare arising from the structure of capital gains. Within the context of a bubble, then, rentiers can introduce speculation risk into financial markets without necessarily exposing to additional depreciation risk the savings of those who are embedded in the broader financial market environment. Yet, at all other moments the two sets of interests fail to align in a win-win fashion. The manifestation of contamination risk is always a possibility as rentiers serve their own interests by destabilising the pricing structure of financial markets, but this type of risk is generally shouldered within society rather than by investment banks.

The financial socialisation which draws ever more people into the material consequences of rentier strategies therefore provides political incentives for these people to care about the prudential regulation of financial markets. Throughout advanced industrialised economies, the state is creating a context in which it is becoming increasingly difficult for people with more than a basic income to opt out of engaging with financial markets (e.g., Harmes 2001). State-sponsored engagement arises both from the redrawing of tax laws to offer preferential treatment to savings invested through financial markets and to the redrawing of welfare entitlements to place more responsibility on individuals to fund their own future consumption. Given such trends, the potential for the pricing structure of financial markets to experience distress is very much a social matter. The loss in value of accumulated savings is socialised as soon as rentier activities force a potentially profitable disjuncture between the buying and selling of a particular asset. The embedding of ever more people into modern financial markets thus heightens the social significance of crisis dynamics in any given market.

In order to fully understand the implications of this situation, it is necessary to be working with as complete a conception as possible of how financial markets actually operate. The distinction outlined in this book between the spatial and the functional mobility of capital will hopefully serve such a purpose. It is recent increases in both dimensions of capital mobility which have heightened the social significance of moments at which the pricing structure of financial markets temporarily seizes up. There is a tendency for IPE theorists to treat contemporary financial markets as an epiphenomenon of modern economic theory and, in particular, as the concrete manifestation of the performativity of homo economicus assumptions (see Chapter 3). This is fine as a statement of why it might be inappropriate to construct models of financial markets on the abstract notion of agents all internalising preferences in the same way. However, it does not show how the prevailing structure of capital mobility is built upon particular financial practices, how

those practices are influenced by the existing system of prudential regulation or how they are linked to the distribution of market rewards.

As such, it is essential that IPE theorists get inside the machine of international finance, so to speak, in order to learn why those practices are problematic beyond their relationship with a flawed conception of basic economic agency. Such problems arise primarily from the way in which modern financial practices spread risks around both economy and society. Moreover, they become a means of transposing risks from one group of agents to another through the exercise of mobility options. The task of understanding the precise economic configuration of instances of capital mobility is therefore both socially and politically significant.

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