Financial Stability and Central Banks

A global perspective

Richard A. Brealey, Alastair Clark, Charles Goodhart, Juliette Healey, Glenn Hoggarth, David T. Llewellyn, Chang Shu, Peter Sinclair and Farouk Soussa

Central Bank Governors' Symposium Series

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Recent events remind us how crucial it is that the banking and payments system should be protected from risks and crises. The difficulties that beset Indonesia, South Korea and Thailand in 1997 are a vivid example, as are the acute problems that confronted Russia in 1998, and the chronic financial malaise that underlay Japan's macroeconomic underperformance throughout the 1990s. Even more dramatic was the banking and economic collapse in the US and much of Europe in the 1930s.

It is a prime responsibility for central banks to try to prevent and contain the financial crises that could precipitate such a calamity. This book, developed from the Central Bank Governors' Symposium on Financial Stability and written by current policy-makers, offers a highly informed account of contemporary policy issues and explores the legal, regulatory, managerial and economic issues that affect central banks, including:

- banking crises
- regulatory and supervisory regimes
- the role of central banks
- crisis management
- the role of bank capital
- capital flows and capital controls

Financial Stability and Central Banks provides an up-to-date and comprehensive overview that will prove invaluable to economists, researchers, bankers, policy-makers and students in this field.

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This book is dedicated with affection to the memory of our friend and colleague Maxwell John Fry, Director of the Centre for Central Banking Studies from 1997 to 1999

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Foreword

In June 2000 the Bank of England hosted its seventh Central Bank Governors' Symposium. The monograph presented at this symposium and the discussion which followed form the basis for this book. Since the Bank of England's 300th birthday celebrations in 1994, its annual Central Bank Governors' Symposium has developed into a structured investigation of particular central banking topics. Our first two symposia looked at the history and nature of central banking, first in the industrialised countries and then in developing countries. Subsequent symposia have examined the implications of government borrowing for central banks, financial regulation, payment systems, and, in 1999, monetary policy frameworks in a global perspective. The full list of resulting publications is provided on page ii.

The 2000 symposium turned to financial stability and the role of central banks. I asked Professor Peter Sinclair, the new Director of the Bank of England's Centre for Central Banking Studies to co-ordinate the project involving authors from the Bank and from academia.

The maintenance of financial stability is complementary to the pursuit of monetary and price stability and a principal concern of central banks the world over. Price stability is imperilled if the financial system is in crisis, and price instability will warp and threaten the stability of the financial system. So financial stability and price stability go hand in hand. You cannot really expect to have one without the other. Both are key ingredients for the economic confidence upon which investment, prosperity and growth depend.

One thing all central banks have in common is an interest in financial stability as a public policy objective, as a key factor influencing macroeconomic performance and the potential for systemic disturbances. But the precise institutional arrangements vary widely country by country, and are also changing rapidly in many cases. How is financial stability secured? There are numerous factors that affect it. The public authorities have a range of tools they can use to influence these structural factors and to address crises when they occur. Some of these factors and tools were explored and discussed during a research workshop and project at our

Centre for Central Banking Studies at the end of 1999. But there was a range of issues that we wanted to follow up.

I asked the authors to look at topical issues in a global perspective so that challenges facing all types of economies—industrial, transition and developing—were addressed. In this complex field, cross-country comparisons are particularly valuable. This volume certainly aspires to add to our stock of knowledge.

The papers in this volume explore the changing environment in which we operate, and discuss the range of policy reponses and which might be most appropriate. The papers cover a wide range of issues. After setting out the questions being addressed and a summary of the papers, Chapter 1 looks at financial crises and the experience of bank failures, the trade-off between competition and safety, the links between financial stability and monetary policy and the roles played by various agents. Chapter 2 sets out the results of a survey of thirty-seven central banks—from industrial, transition and developing economies—comparing their responsibilities across a spectrum of 'financial stability' tools. It examines the background to central bank involvement in regulation and supervision, and current and likely future changes in the institutional structure. Some central banks regulate and supervise, others do not, but all are involved in promoting a robust infrastructure for the financial system, the surveillance of risks to stability and crisis management. As the financial system changes, the authorities need to respond. Chapter 3 further explores the debate over whether it makes any difference where bank supervision occurs, and what its organisational structure is. This topic attracted a good deal of attention at our symposium and is clearly of interest to many countries.

What suits one country may not suit another. Another area where we have seen change is in the 'regulatory regime', which goes much wider than regulation *per se*. This is the theme of Chapter 4. Increasingly the focus is on how to structure incentives to promote market discipline. Chapter 5 explores the role of bank capital, particularly in terms of protecting against bank failure and its contribution to economic activity. The Basel Accord is an important feature of international bank regulation. The principles underlying it, and the modifications proposed to it, are examined in depth in this chapter.

No discussion of financial stability would be complete without a look at financial safety nets, not just regulation and supervision but also crisis management and deposit insurance. Chapter 6 describes the various roles the authorities undertake and the issues facing them. Central banks have long held the role of lender of last resort but as the financial system evolves so must our forms of response. Increasingly we operate at an international level with new levels of 'connectedness' across the global financial system. The book moves on in Chapter 7 to review the role of international capital movements—both benefits and drawbacks—and includes an analysis of the literature and some of the practical details. This is a topical issue for many countries. And, finally, the last chapter highlights several issues that are currently occupying the policy arena and looks at the changing role of central banks.

There is a great current interest in financial stability issues, both at a national and international level. We hope that this volume will contribute to the continuing debate.

Sir Edward George
Governor of the Bank of England

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We wish to thank the Governor of the Bank of England and the Governors of central banks from around the world who participated in the Bank of England's 7th Central Bank Governors' Symposium for sharing their insights on the issues raised in the preliminary papers upon which this book is based. In particular, we are indebted to our three official discussants at the Symposium, Governors Tito Mboweni of South Africa and Carlos Massad of Chile, and Deputy Governor Stephen Grenville of Australia.

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The views expressed in this book do not necessarily reflect those of the Bank of England or any individual acknowledged within. All errors remain the sole responsibility of the authors.

Juliette Healey
Peter Sinclair

1 Financial stability and central banks

An introduction

Peter Sinclair[1]

1.1 Background

The collapse of a country's payment and banking system is a terrible disaster. It would spell closure for many of its firms, ruin for many of its inhabitants. It is a prime responsibility for central banks to try to prevent and contain the financial crises that could precipitate such a calamity.

But financial stability is not the central bank's sole concern—safeguarding the nation's currency is at least as important a task. Nor is the central bank the only body with financial stability responsibilities. Finance ministries share this role, as do regulators and supervisors of financial firms, when housed outside the central bank.

Recent events remind us how crucial it is that the banking and payments system should be protected from risks and crises. The difficulties that beset Indonesia, South Korea and Thailand in 1997 are a vivid example. So too were the acute problems that confronted Russia in 1998, and the chronic financial malaise that underlay Japan's macroeconomic underperformance throughout the 1990s. Even more dramatic was the banking and economic collapse in the United States and much of Europe in the 1930s.

Without trying to understand such phenomena, whenever and wherever they occur, we can have little hope of preventing their repetition. Sharing knowledge of different central banks' experiences, and debating their implications in the never-ending search for improved monetary and financial policy, is undertaken in a variety of fora. One such is the Central Bank Governors' Symposium, held annually in London since 1994. The Bank of England's Centre for Central Banking Studies presents a set of papers to this annual Symposium.

The subject for the Central Bank Governors' Symposium in June 2000 was 'Financial Stability'. A written report was provided, *Financial Stability and Central Banks*. This contained six papers, each devoted to a different aspect of the subject. The present volume is a revised and expanded version of that report. Together with the report's six chapters, it contains a chapter by Charles Goodhart (Chapter 3), a concluding note by Alastair Clark (Chapter 8), and a record of the discussion at the Symposium on 2 June.

Section 2 of the present chapter presents a summary of the volume, and Section 3 poses twelve key questions about financial stability to which its contributors offer answers. Section 4 takes a brief look at the incidence of bank failure. Some aspects of the trade-off between safety and competition are examined in Section 5. Sections 6 and 7 identify certain links between financial stability policy and monetary policy, and some aspects of the character of the work of those charged with responsibility for financial stability policy. Section 8 concludes.

1.2 Summary of the volume

After his precis of the key points of other chapters in this volume, Peter Sinclair, in this chapter, presents a list of twelve questions about financial stability that he posed to the contributors before we began our work. He goes on to sketch what history tells us about the mortality probabilities of financial institutions. He emphasises the tendency of bank deaths to cluster, to vary over space and time, and to respond (somewhat weakly) to the character of the regulatory regime.

Despite undoubted advantages, liberalisation and intensified competition among banks have a worrying tendency to raise the frequency of failures. Reasons for this are discussed. Various linkages between monetary policy and financial stability policy are identified, linkages that point strongly to preserving the latter as a core function for the central bank, even if and where supervision and regulation are undertaken elsewhere.

Numerous and often conflicting pressures confront those charged with safeguarding the financial system, be they within or outside the central bank. They also face the misfortune of attracting blame when troubles arise, while appearing redundant in quieter periods. Their value in containing or preventing costly crises is not easy to quantify.

The extent and character of central banks' involvement in safeguarding financial stability varies greatly from one country to another. It has also been subject to some radical recent changes. Establishing an up-to-date picture across a wide range of central banks is therefore particularly valuable. This is done in Chapter 2.

After a brief historical review of the evolution of central banks, which have multiplied from ten in 1870 to nearly 180 today, Juliette Healey examines the current spectrum of financial stability activities of thirty-seven central banks across a range of economies, drawing on responses to a CCBS questionnaire. All but one of the thirty-seven deem the promotion of financial stability, and the stability of settlement and payments systems, as core elements in their mandates. While the wide variety of institutional arrangements suggests there is no single 'optimal' model, the responses may shed light on how an effective framework can be developed.

One topical issue is whether the efficiency of regulation and supervision of individual institutions may be influenced by the particular institutional structure in which they are conducted. Juliette Healey explores the issues that have prompted change in this area, the different ways in which authorities from industrial, transition and developing countries have responded, and what further changes might be expected and why. She also explores the principal arguments on whether a central bank should carry out regulation and supervision in addition to its monetary policy role. Evidence from the survey is included.

There is also a brief look at the correlation between the degree to which a central bank enjoys independence in its monetary policy, and the extent of its responsibility for prudential regulation and supervision. Taking a wider sample than the survey, of eighty-three (about half the world's central banks), she finds a statistically significant negative association between independence and supervision: the greater a central bank's autonomy in monetary policy, the less likely it is to conduct supervision and regulation. The chapter ends with some observations about establishing an effective regulatory institutional structure, and notes that not all current movement is towards integrated supervision outside the central bank: some central banks have expanded, or seem set to expand, their regulatory role. The institutional structure is a topic for lively debate; but there are few grounds for thinking that one structure is unambiguously better than another for all countries in all circumstances.

With the present facts summarised in Chapter 2, Chapter 3, by Charles Goodhart, carries forward the discussion about whether, in fact, it makes any difference where bank supervision occurs, and what its organizational structure is. The central bank would have to work closely with bank supervisors and regulators wherever they were located. The disappearance of boundaries between different kinds of financial institution, and the growth of multi-function financial firms, renders the old system of separate supervision for each obsolete. The growth of multi-country banks complicates supervision and implies that it is increasingly Finance Ministries, not the private sector, that fund any rescues of troubled firms.

Possible conflicts of interest, the need to amalgamate supervision, and concerns about excessive concentrations of power, might argue for taking supervision outside central banks, although the first of these three was not compelling by itself. The central bank's Lender of Last Resort function argued in favour of keeping supervision inside the central bank, though perhaps less so when the Ministry of Finance also becomes involved in the resolution of banking crisis. Information flows point to the same conclusion. Supervisory data can assist monetary policy, for example. The central bank can choose what data to look at, and not just rely on information, however full and timely, passed on by another institution. Notwithstanding these points, the combination of blurred boundaries in financial markets (making separate supervisors for separate types of institution anachronistic) and the political disquiet about concentrating excessive power within the (increasingly independent) central bank point in favour of external supervision in many developed countries.

As far as developing and emerging countries are concerned, Charles Goodhart concludes, keeping (or integrating) banking supervision within the central banks has particular appeal: supervision would be better funded, better conducted, more dependable, and less open to outside pressures.

What matters is not regulation *per se,* David Llewellyn argues in Chapter 4, but the *regulatory regime*. This has seven key elements. Three relate primarily to regulated financial firms: how they govern themselves, how the market disciplines them, and the structure of incentives for staff and others within them. Then there are four elements for the regulators—the rules they set, how they monitor and supervise, their intervention, and their own accountability.

It is wrong to focus on just one element, such as monitoring and supervision. Tradeoffs and interactions between all seven elements need to be recognised. The optimum mix of the seven elements is liable to change over time and differ across firms. One promising concept is 'contract regulation'. The regulator sets objectives and principles; the firm chooses how best to satisfy them, entering a contract with the regulator with penalties for infringements.

There is no single course of bank distress or crises. Strict, precise rules have numerous drawbacks. Regulation should reinforce discipline by the market, not replace or distort it. Market discipline is insufficient by itself (externalities, state-owned banks with soft budget constraints, restrictions on takeovers). A rules-based approach to intervention has merit, with a bias against (but no bar on) forbearance. Shareholder monitoring is an important adjunct to regulator supervision. Oversight by directors and senior management is crucial.

There are two extreme views, both of them unsatisfactory. One says that banks should be told in detail what to do, watched continuously, and punished for any transgression. The other claims that supervision should be left to shareholder audit and internal monitoring, with the threat of takeover to punish inefficiency. It is far better, Llewellyn argues, to have complementary, flexible external regulation, possibly of the 'contractual' type. Llewellyn sees merit in the recommendations of the 1999 Basel Committee on Banking Supervision, which:

a emphasise internal risk analysis and control, and market discipline;
b suggest a role for market-based risk ratings; and
c strengthen the capital adequacy framework for supervision with extended, revised and improved systems of risk weighting.

Economic growth depends on an efficient financial system, Richard Brealey argues in Chapter 5. Particularly in developing countries, banks play a central role by providing liquidity services to savers and allocating capital to productive uses. Yet their ability to fulfil these functions has been hampered by widespread bank failure, which typically results from a decline in economic activity and sharp falls in asset prices and foreign exchange reserves.

Although banks are not the sole providers of capital, and therefore are not alone in suffering periodic losses, falls in asset prices are generally thought to have more serious consequences if they occur in the banking system rather than elsewhere in the economy. There are three reasons for this view. The first arises from banks' role in the payments system. The second arises because banking crises may restrict credit and accentuate the fall in economic activity. The third comes from the fragility of bank deposits and the costs of monitoring bank solvency. These externalities provide the justification for bank regulation.

There are many ways to protect a bank against failure, but bank equity constitutes a general-purpose buffer against failure from any source. Thus capital requirements have played a central and increasing role in regulation. However, they are effective only if prompt corrective action is taken when capital is becoming exhausted. Capital requirements can trigger a credit crunch when constraints bind, but most G-10 banks, at least, now hold more than the statutory minimum. Riskier banks require more capital.

The international standard for bank capital was set by the Basel Accord. Because the values of bank assets do not evolve smoothly and cannot be observed continuously, banks with risky assets should hold more capital. An important contribution of the Accord was that, in computing capital ratios, the Accord made formal allowance for risk.

The Basel system of credit risk weightings suffers from two weaknesses. First, it focuses on the risk of individual loans and ignores the diversification of the loan portfolio. Second, it applies a broad bush treatment to the classification of loans. The proposed revisions to the Accord will tackle the second weakness, but the diversification problem may prove less tractable. This raises two issues. The first is the need to value bank assets at their true value, and the second is the appropriate level of bank capital. Decisions on the latter question depend on a better understanding of the cost of capital. Bank equity is commonly thought to be very costly, but the source of these costs is unclear.

Confidence in a bank can crumble quickly, and its failure can generate large external costs. This is why Glenn Hoggarth and Farouk Soussa argue, in Chapter 6, that central banks cannot ignore the threat to financial stability posed by a troubled bank.

The financial safety net of regulation, supervision and deposit insurance will prevent some crises and contain others. But the risk of failure cannot be wholly removed, not least because deposit insurance discourages depositor monitoring and the safest types of bank lending.

Honest brokering by the central bank can facilitate and co-ordinate a private sector rescue or takeover of a financial institution in distress. Private sector solutions may require central bank involvement, particularly when competition between financial institutions intensifies.

The central bank is lender of last resort, meeting regular liquidity needs for the market, and occasionally, and temporarily, providing discretionary emergency lending in response to exceptional strains. Inter-bank markets should satisfy normal liquidity demands of an individual bank, backed up by central bank lending on very rare occasions if and when these markets malfunction. While too high a price for official lending may induce gambling for resurrection, risking taxpayers' funds is potentially very costly. Official emergency lending should be limited in size, highly infrequent, on tight terms, collateralised, and not mechanical. An element of ambiguity reduces moral hazard problems, especially when supported by other types of punishment for deficient management.

Current trends to larger, conglomerate and global banks complicate crisis prevention and management practices. This is recognised, in part, in the current Basel proposals that place an increased emphasis on the need for market discipline and supervision of banks' management systems and controls, rather than formulaic capital standards. The importance of timely information sharing and cooperation between central banks and (bank and non-bank) supervisors within and across countries is also recognised. These may, however, need to be enhanced in the future.

International capital movements may damage output, and employment or wages, in the source country, and profit incomes and competitiveness in their destination. Despite these drawbacks, Peter Sinclair and Chang Shu argue, in Chapter 7, that they should in principle increase national income in both countries. International capital migration also provides valuable opportunities for smoothing consumption, diversifying risk and intertemporal trade; and despite the problems they pose for central banks, they accommodate imbalances in the current account of the balance of payments. The presumption of positive net effects on social welfare constitutes a general case against capital controls.

Temporary controls may be helpful in crises, however. From many standpoints inflow controls are preferable to outflow controls, and both tend to outrank the blunt instrument of prohibition. Currency crises may stem from fundamentals (such as inconsistencies between exchange rate and macroeconomic policies), but information disparities and asymmetries, together with mimicry by imperfectly informed investors, play important roles. While this may justify intervention, capital controls have not prevented crises, and their anticipation may provoke them.

A survey of the evidence and literature on capital controls reveals several general insights. First, they tend to be most effective under sound macroeconomic policies. Further, their impact diminishes rapidly, as agents learn how to bypass them. Next, their ability to insulate the domestic economy from financial developments abroad is qualified, and comes at the price of costly distortions. Finally, they are no alternative to wise prudential regulation and prompt corrective action.

The final contribution to this volume, by Alastair Clark, concludes by selecting a group of important policy questions for special scrutiny.

1.3 Twelve questions about financial stability

All contributors to the volume were shown a list of questions about financial stability, which the author of this chapter drew up before we embarked upon our work. Twelve questions came to the fore as our research progressed. Here they are:

1. Can or should central banks have responsibility for financial stability, if regulation of financial firms has passed to another authority? Or is it best to split prudential regulation from business-conduct or consumerprotection regulation, with the former remaining with central banks?
2. Can we learn anything (yet) from the experience of countries where central bank responsibilities (no longer) include bank regulation? Is there (so far) any discernible difference in stability between those countries and others?
3. How could we attempt to measure the (marginal) benefits and costs of central bank actions to promote financial stability? How could we tell if a central bank was doing too much or too little in this regard? What in principle determines the optimum level and character of financial protection by a central bank?
4. Why can't the financial system 'look after itself—or are there parts of it that can or could?
5. Is 'financial protection' a strict public good, that the market would underprovide, if left to itself, or not provide at all?
6. Does public financial protection make private sector actors significantly more careless, and if so does this matter? Is there a satisfactory and workable practical distinction between systemic and asystemic risk?
7. What are the precise differences, boundaries, and overlaps between monetary policy and operations on the one side, and policy or operations to promote financial stability on the other?
8. In financial markets, is there a trade off between safety and competition? If there is, what determines the ideal point of balance between the two?
9. Does evidence suggest that financial instability is mainly a cause or mainly a consequence of business cycle fluctuations, to the extent that the two are correlated at all?
10. How should a central bank decide when to pull the plug on a troubled financial institution, as opposed to awaiting news, or committing to brokering a rescue?

11 Is the present structure of international monetary and financial institutions appropriate, in the face of globalisation and mounting threats to financial stability?
12 Are there any good reasons for restricting international capital movements? If so, what are they, when do they apply and what form should restriction best take?

The volume does not examine all these questions, and some others are investigated. Nonetheless, many are considered in the pages that follow. Key aspects of questions 1, 2 and 3 are examined in Healey's survey in Chapter 2. In Chapter 3, Goodhart provides important insights, *inter alia*, into question 1. Questions 4, 5 and 6 are all addressed by Llewellyn in Chapter 4. Brealey (Chapter 5) and Hoggarth and Soussa (Chapter 6) throw interesting light, between them, on questions 9, 10 and 11. Sinclair and Shu (Chapter 7) address question 12 directly, and touch upon others. In Chapter 8, on Challenges for the Future, Clark provides some powerful insights on several questions, particularly 11. The two remaining questions, 7 and 8, are considered below in later sections of the present chapter.

1.4 Financial crises and the morbidity of banks

The most obvious symptom of a financial crisis is a bank failure. So it is useful to give a broad indication of financial institutions' survival rates. Each year, on average, about 960 financial firms out of 1,000 survive as independent entities. Thirty-four in a thousand join a larger institution as a result of takeover or merger. Finally, the remaining five or six in a thousand perish and vanish, with uninsured depositors standing to lose some of their funds.

These figures are widely drawn averages. They relate to the past century's experience in Western Europe and North America, much of which is described, for example, in Heffernan (1996) and sources cited therein. The annual mortality hazard faced by a financial institution is, on this showing, less than one-third of that now confronting a person in those countries; financial institutions are more like Galapagos turtles or oak trees in this regard—they appear to have a half-life of about 115 years. If survival is defined more strictly as neither death nor absorption into a larger company, morbidity worsens to give a half-life of some twenty-four years.

Averages such as these conceal large disparities. Clearing banks have somewhat better survival prospects than other financial institutions. In finance, just as in the wider economy, large firms are less prone to death or takeover than smaller ones. Probably the highest mortality rates have been recorded recently for new small banks in the Czech Republic: Mantousek and Taci (2000a, b) show that only two out of nineteen of these institutions, founded after the Velvet Revolution of 1989, had survived the decade to 1999.

Death rates, on broad and narrow definitions, are apt to vary across countries. They also show a very pronounced tendency to cluster in time. The early 1930s witnessed a massive rash of bank closures, especially in the United States, when both nominal bank deposits, and the number of banks, shrank by more than one-third. Severe recessions, and large falls in the prices of equity and real estate, almost invariably accompany increased risks of bank failure. Although cause and effect are hard to identify here, Richard Brealey, in his contribution to the volume (Chapter 5), cites important evidence that demonstrates that downturns in industrial production and equity prices tend to lead banking failures by about three-quarters.

The rate of bank failure also appears to be sensitive to the character of the supervision and regulatory regimes. Tighter supervision and stiffer requirements for reserves and capital should succeed in prolonging a financial institution's expectation of life (but the evidence does not testify to a robust link, as Brealey shows). More intense competition between financial institutions on the other hand—which may result from changes in the regulatory regime—is apt to have the opposite effect. Davis (1999) provides valuable evidence testifying to this, and other concomitants or precipitators of bank failure, in his analysis of macro prudential indicators of financial turbulence. Demirgüç-Kunt and Detragiache (1998a, b) provide further empirical support.[2]

1.5 Competition and safety

The simplest view of financial markets is that they are perfectly competitive. In perfectly competitive markets, all financial institutions would take the prices of their products as given, outside their control. No retail bank could influence the interest rates on its deposits or advances, for example. Profits would vary as market conditions fluctuated, around a level that gave a 'normal' rate of return on capital. Margins and spreads would be narrow, even wafer-thin. Very large numbers of banks, none of them large enough to exert any influence upon prices, should lead to such an outcome.

It would not be necessary to have a large number of banks, however, to achieve theses results. There could be intense competition between just two banks, or even, in the very special conditions of 'perfect contestability',[3] there might be just one incumbent bank, forced by a hypothetical entrant to price its products at cost. Alternatively, there could be just one bank, or more, owned by its customers, and setting its interest rates to maximise their welfare.[4]

At the opposite extreme, we could have monopoly. A single bank, immune from entry, could set its prices at will, presumably to maximise its profits. If it could price-discriminate perfectly in all its markets, and set out to maximise profit, its total volume of activity would resemble that of a perfectly