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Incentives for Voluntary Disclosures of Derivative Financial Instruments by Financial
Institutions in Singapore
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BCom (Tas), MCom (Tas)

A dissertation submitted for the degree of Doctor of Philosophy within the Department of
Accounting and Finance of the Monash University
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Abstract

The broad research questions addressed in this thesis are to what extent and why key economic events are associated with Singapore banks' voluntary disclosures of information about financial instrument derivatives in their financial statements. The study distinguishes between events with firm-specific effects (Barings collapse) and regionalised effects (Asian Financial Crisis). It also distinguishes between their associations with voluntary disclosure levels in the branch and consolidated annual reports of banks operating in Singapore and their parent economic entities.

The signaling perspective leads to the prediction that, as a regionalized event, the Asian Financial Crisis is associated with increased voluntary disclosure of derivative financial information in the branch annual reports of banks operating in Singapore as banks attempt to signal their strength in a weak market. In contrast, the Barings collapse is described as firm-specific and is predicted not to be associated with any change in such disclosures. It is argued that after the Barings collapse, banks that reported increased disclosures derivative financial instruments risked being compared with Barings. Banks would avoid this signal, and would consequently not change their disclosures in the wake of the Barings collapse.

The proprietary cost perspective is applied to a cost-benefit framework concerning the effect of disclosing proprietary information upon the issuance of privilege banking licences by the Monetary Authority of Singapore (MAS). The proprietary cost perspective leads to the prediction that banks that hold or seek privilege licences increase their voluntary disclosure of derivative financial information after the announcement of the MAS Banking Liberalisation Program. The benefits of receiving a privilege licence are deemed greater than the cost of disclosing potentially proprietary information. The proprietary cost perspective leads to the prediction that these banks have higher disclosures than other banks in the period after the announcement of the MAS Banking Liberalisation Program.

The thesis also investigates whether, based on contracting theory, the voluntary derivative financial instrument disclosures in consolidated annual reports are higher than those in the branch annual reports of the banks operating in Singapore, given assumed differences in the information needs of the reporting banks' targeted annual report users.

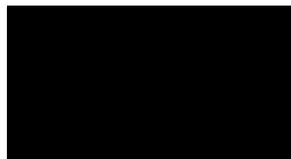
Voluntary disclosure of derivative financial information is proxied by a self-constructed, equally weighted measure that includes policy information, risk information and net market value information (FIDIS, Financial Institution Disclosure Index Score). FIDIS is based on a measure used by Chalmers (2001b). Four control variables, bank size, accounting influence from the country of origin of the parent bank, auditor specialisation and bank performance are included in models of the banks' voluntary disclosures of derivative financial information.

Results generally support the expectation that the Asian Financial Crisis affected Singapore banks' branch derivative financial instrument disclosures more than the Barings collapse. Introduction of the MAS Bank Liberalisation Plan is not associated with differences in derivative financial instrument disclosures. The regressions including consolidated and branch annual report comparisons on a yearly basis indicate that there are higher levels of voluntary disclosure in consolidated annual reports compared to branch annual reports. The results highlight that different events can provide difference incentives for voluntary disclosure. It also highlights how the same event can have different implications for the parent entity and for the components of the economic entity.

Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other institution and affirms that to the best of the candidate's knowledge, the thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

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Tong Gunn Chew

10 MARCH 2004

Date

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CHAPTER 1

INTRODUCTION

1.1 Objective

During the late 1990s, high profile bank losses due to derivative financial instruments' exposures put the banking industry under public scrutiny, especially in relation to their disclosure practices. The collapse of Barings PLC in 1995 (Barings collapse) generated worldwide interest, and questions were raised as to how a single trader could bring down a hundred year-old bank in a supposedly highly regulated industry. The Asian Financial Crisis in 1997 also saw the demise of banks in the Asia region, which affected not only corporate business but also the livelihoods of many civilians in the affected region. The lack of disclosure of information about the banks' exposures to financial derivative losses was one of the reasons attributed to the collapse of Barings PLC and as a cause of the Asian Financial Crisis (Corsetti et al., 1998; Chowdhry and Goyal, 2000 and Kawai, 2000). The Monetary Authority of Singapore (MAS) reacted to the cumulative effects of these events by announcing the MAS Banking Liberalisation Program in late 1997 and revising the MAS Notice 608 *Format of Balance Sheet and Profit & Loss*, which prescribes the reporting format and associated disclosures for financial statements of banks, in early 1998.

The broad research question addressed in this thesis is whether and to what extent do banks in Singapore disclose financial information about financial instrument derivatives in their financial statements when disclosure is not mandatory. Using

¹ Financial instrument means a contract that gives rise to both a financial asset of one entity and a financial liability or equity instrument of another equity (AASB 1032, para 10.1). According to AASB 1033, para 7.1.4, financial instruments include both primary instruments, such as receivables, payables and equity securities, and derivative instruments, such as financial options, futures and forwards, interest rate swaps and currency swaps. Para 7.1.5 further describes derivative financial instruments as "creating rights and obligations that have the effect of transferring between the parties to the instrument one or more of the financial risks inherent in an underlying primary financial instrument. Derivative financial instruments do not result in a transfer of the underlying primary financial instrument on inception of the contract and such transfer does not necessarily take place on maturity of the contract".

signaling and proprietary cost theories, the study explains some of the time series and cross-sectional variation in the levels of voluntary disclosure by banks operating in Singapore before and after the Barings collapse, the Asian Financial Crisis and the MAS Banking Liberalisation Program Announcement. It also investigates whether the banks' voluntary derivative financial instrument disclosure in consolidated annual reports differ from those in the branch annual reports of the banks operating in Singapore, given assumed differences in the information needs of users of single entity and consolidated entity annual reports.

More specifically, this study distinguishes between events with firm-specific effects (Barings collapse) and regionalised effects (Asian Financial Crisis); and examines their associations with voluntary disclosure levels in the annual reports of banks operating in Singapore (branch annual reports). Furthermore, the study examines the association between an industry wide event (the MAS Banking Liberalisation Program) and its association with the voluntary derivatives disclosure levels in holding entities' consolidated annual reports. Two sets of annual reports are of interest in assessing the voluntary disclosure determinants: the branch annual reports of the banks operating in Singapore and the consolidated annual reports of their holding entities. This study compares the two sets of annual reports to determine if differences in their voluntary disclosure levels are associated with assumed difference in the information needs of their respective user groups.

The three specific research issues addressed in this study are:

1. Do events with firm-specific and regionalised effects have different associations with the voluntary derivative financial information disclosure levels of banks operating in Singapore?
2. Are events with industry-wide effects in the Singapore context associated with changes in voluntary derivative financial information disclosure levels of the holding entities of banks operating in Singapore?

3. Are the voluntary derivative financial information disclosure levels in annual reports user-group specific in that the voluntary derivatives disclosures in the consolidated annual reports differ from those in the branch annual reports?

This study focuses on one particular aspect of voluntary disclosure: disclosure about derivative financial instruments. The reasons for focusing on these disclosures, together with the motivation for investigating the disclosures of Singapore banks are outlined in Section 1.2. Section 1.3 outlines the hypothesis development and Section 1.4 describes the methods used to test the predictions. Section 1.5 summarises the findings, Section 1.6 explains the significance of this study to the voluntary disclosure literature, and Section 1.7 outlines the structure of the remainder of the thesis.

1.2 Motivation

The motivation for this study stems from the controversy surrounding the use and disclosures of information about derivative financial instruments during the last decade. The issue of financial instruments disclosures gained worldwide prominence due to the growth in the use of derivatives, the aftermath of the Asian Financial Crisis and several high profile derivative disasters. The Barings collapse provided the initial impetus for calls for increases in the disclosure of derivative financial information by banks. Not surprising, these calls became more pronounced after the Asian Financial Crisis.

Voluntary disclosure of derivative financial information by Singapore banks is largely ignored in extant research. There are four sets of reasons for the focus, in this thesis, on voluntary disclosure of derivative financial information by the banking industry in the Singapore environment. These sets of reasons relate to (a) the recent calls for greater disclosures in financial statements; (b) the increased importance of derivatives; (c) the lack of research into the banking sector's financial disclosures; and (d) the lack of research into derivative disclosures in the banking sector in Singapore, which is an Asian region of global significance, and also a context that offers unique opportunities

to study voluntary disclosure responses to local events, regional events and regulation. The following sub-sections explain the four reasons to investigate voluntary disclosures of derivatives in the banking industry in general, and the banking industry in Singapore, particularly.

1.2.1 Voluntary Disclosure

There has been a trend on the part of regulatory bodies toward encouraging greater corporate disclosure in annual reports in recent years (this is further discussed in Sub-section 2.5.2). This is the result of recent corporate collapses and business losses such as the Barings debacle in Singapore. Various banks in Korea, Thailand and Indonesia also collapsed under the head of the Asian Financial Crisis. The bank failures and business losses have been attributed by some to the lack of disclosure in the firms' reports; and have received worldwide attention (Corsetti et al., 1998; Chowdhry and Goyal, 2000; and Kawai, 2000).

The conventional wisdom was once that regulatory structures of financial institutions were far too tight to permit such scandals from occurring (this is further discussed in Section 2.3). As such, the bank failures stunned international financial circles. These and other failures have rekindled professional and legislative interest in ensuring disclosure adequacies (see Section 2.5 for more information). Important questions emanating from the collapses and scandals, and the related calls for greater disclosures include: What drives voluntary disclosures? Do entities respond to collapses and scandals with greater disclosures? Does the likelihood of economic benefits for safe and responsible management of funds invested with them encourage entities to increase their voluntary disclosures?

1.2.2 Derivatives

The rapid growth of the use of derivative financial instrument, coupled with large corporate losses, has not been matched by corresponding developments in the financial reporting environment (Berkman, Bradbury, Hancock and Innes, 1997). Yet, the

provision of relevant and meaningful information with respect to a firm's use of derivative financial instruments affords financial report users the opportunity to make more informed assessments of the risks and rewards associated with the arrangements in place (Chalmers, 1999). Large derivative-related corporate losses have led to intense pressure on regulators to develop a comprehensive and consistent set of accounting rules to deal with derivatives. However, the accounting treatment for derivative financial instrument is a complex and controversial area. Few countries have successfully developed comprehensive accounting standards to provide guidance on the recognition, presentation, measurement and disclosure of derivative financial instruments. Accounting regulators from Australia, Canada, New Zealand, the UK, the US and the International Accounting Standards Committee (IASC, now International Accounting Standards Board) have each dealt with this issue by first releasing an accounting standard on the disclosure and presentation of financial instruments before engaging in the more complex and more controversial exercise relating to the recognition and measurement of financial instruments.²

Many countries, however, do not have regulations concerning their presentation and disclosure. In Singapore and other countries without mandatory prescriptions, voluntary disclosures of derivative financial information can be used to restore confidence and faith in firms using financial derivatives, particularly in the banking sector. Berkman, Bradbury, Hancock and Innes (1997) recognise that even in the presence of mandatory prescriptions, there is still scope for improved voluntary disclosure concerning derivative instruments. Their findings also indicate that the impact of derivative disclosures on users of financial statements and on the market value of the firm is potentially material. Hence, understanding voluntary derivative

² Sub-sections 2.5.1 and 2.5.2 discuss international and national developments (in Australia, Canada, New Zealand, Singapore, the UK and the US) of the accounting standards/guidance for financial instruments respectively. Table 2.3 outlines the accounting standards/guidance for financial instruments issued during the period 1994 to 1997.

financial instrument disclosure is an interesting research issue in the larger context of understanding firm valuation.

1.2.3 Banking Industry in Singapore

Ong (1998) is the only known study investigating Singapore bank disclosures. Ong (1998) is a descriptive study with three purposes: (1) it studies the standard of disclosures by local banks in Singapore, (2) it highlights the disclosures, or lack thereof, in the 1996 published financial reports; and (3) it assesses whether the regulatory and supervisory regime in Singapore by the Monetary Authority of Singapore (MAS) is sufficient to ensure financial strength of the banking sector in the absence of rigorous disclosure requirements. The author compares the 1996 financial report disclosures by local banks operating in Singapore to the disclosure requirements in the International Accounting Standard *IAS 30 Disclosures in the Financial Statements of Banks and Similar Financial Institutions* and the Malayan Banking Berhad, the Malaysian national bank.

Ong (1998) finds that the disclosure requirements of MAS fall far short of the requirements of *IAS 30 Disclosures in the Financial Statements of Banks and Similar Financial Institutions*. Until 1992, none of the local banks disclosed beyond the minimum required by MAS. Although the disclosure levels by the local banks have increased, Ong (1998) finds that their 1996 disclosure practices still fell far short of *IAS 30 Disclosures in the Financial Statements of Banks and Similar Financial Institutions*. Despite the sparse nature of disclosures in the local banks' annual reports, local banks' submissions to MAS are very much more frequent and detailed.

Ong (1998) is a descriptive study in relation to disclosures by local banks in Singapore. This thesis extends that research by investigating (1) the level of, and (2) incentives for, voluntary disclosures in the annual reports of local and foreign banks operating in Singapore.

Previous studies relating to derivative financial information generally exclude financial institutions from their samples (Berkman, Bradbury and Hancock, 1997; Chalmers, 2001a; Ernst and Young, 1997; Matolcsy and Petty, 2001; Roulstone, 1999; Taylor and Redpath, 2000). Furthermore, although Barth, Beaver and Landsman (1998), Venkatachalam (1996) and Schrand (1997) investigate financial institutions and their fair value disclosures of off balance sheet instruments, their research is limited to value relevance studies. Since 1995, the Basle Committee has been conducting annual surveys to determine the disclosure environment of financial institutions, which includes 67 banks and 11 securities firms in 11 countries.³ Singapore is not included in the survey.

Despite the lack of research in relation to banks and derivative financial information, the more important reason that motivates the focus of this thesis on banks relates to the far-reaching implications of a bank's survival. Evident from the Barings collapse and the Asian Financial Crisis, bank collapses or financial distress have wide-ranging implications from microeconomic to macroeconomic and international economic consequences. In turn, these economic effects affect the distribution of wealth and have far reaching social effects. Therefore, the banking sector is a highly relevant industry for academic research purposes.

³ Based on information from the website for the Basle Committee, the Basle Committee, established by the central-bank Governors of the Group of Ten countries at the end of 1974, meets regularly four times a year. It has about thirty technical working groups and task forces that also meet regularly. The Committee's members come from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, United Kingdom and United States. Countries are represented by their central bank and also by the authority with formal responsibility for the prudential supervision of banking business where this is not the central bank. The Committee does not possess any formal supranational supervisory authority, and its conclusions do not, and were never intended to, have legal force. Rather, it formulates broad supervisory standards and guidelines and recommends statements of best practice in the expectation that individual authorities will take steps to implement them through detailed arrangements - statutory or otherwise - which are best suited to their own national systems. In this way, the Committee encourages convergence towards common approaches and common standards without attempting detailed harmonisation of member countries' supervisory techniques.

1.2.4 Singapore

The previous sub-section discusses the lack of research on the banking sector, and especially the banking sector in Singapore. Both the Barings collapse and the Asian Financial Crisis are events that adversely affected banks, and other corporations in the latter event, operating in Singapore. In the wake of financial and/or corporate restructuring, both events resulted in calls to strengthen the transparency and supervision of the financial markets, locally and internationally.

Singapore has a strong banking system. The Asian Financial Crisis probably affected the Singapore financial sector less than other countries in the affected region with Thailand, the Philippines, South Korea, Indonesia and Korea being the most affected countries (Refer to discussion in Section 2.4). Despite being least affected in the Asia region, Singapore engaged in a post crisis financial restructuring exercise. As part of the MAS Banking Liberalisation Program announced in August 1997, the banking sector in Singapore is undergoing de-regulation in relation to its supervisory regime and also to the extent of foreign banks' operations. Further, the MAS engaged in an exercise to examine the reporting practices of Singapore banks relative to banks in countries deemed to have more stringent financial reporting requirements. This subsequently resulted in the revised MAS 608 *Minimum Disclosure in Financial Statements*, prescribing the reporting format and disclosure requirements relating to banks operating in Singapore.

These events and responses create a rich environment to study voluntary disclosures in Singapore. In particular, they provide a unique environment to examine the signaling and proprietary cost effects of the events on voluntary derivative disclosures. It is interesting to examine whether the three events (Barings collapse, Asian Financial Crisis and the MAS Banking Liberalisation Program) provide different types of incentives for voluntary derivatives disclosures according to the firm or region specificity of the event and according to who are the main users of the financial

statements. No other study has investigated all of these issues, yet they are important in the context of disclosures in general as well as derivative disclosures particularly.

1.3 Theoretical Background and Hypothesis Development

This study takes advantage of a unique opportunity to develop an understanding of Singaporean disclosures in the banking sector in a way that other study contexts are less able to because other countries have not had the same set of (a) regionalised, (b) localised; and (c) regulatory change events to draw from in recent years. It examines the time series and cross sectional voluntary disclosure levels of derivative financial instruments by banks in Singapore, focusing on the motivations for voluntary disclosure in financial statements.

Voluntary disclosures come in various forms including earnings disclosures, management forecasts, conference calls, press releases, interim reports, annual reports in general and specific sections of the annual reports (see Sub-section 3.2.1). Motivations for voluntary disclosure relate to capital market transactions, corporate control contests, stock compensation, litigation costs, management talent signaling and proprietary costs (this is further discussed in Sub-section 3.2.3). This thesis focuses on voluntary disclosure in annual reports based on signaling and proprietary cost motivations. The signaling perspective is applied to develop hypotheses that predict changes in Singapore banks' and their parent banks' voluntary derivative financial instrument disclosures following the Barings collapse in 1995 and the Asian Financial Crisis in 1997. The proprietary cost perspective is applied to predict differences in changes in privilege and non-privilege banks' voluntary derivative financial instrument disclosures following the 1997 MAS Banking Liberalisation Program. Privilege banks are banks with or who applied for privilege licences. Privilege licences comprise of full banks, qualified full banks, restricted banks and qualified offshore banks. Non-privilege banks are banks without or who did not apply for privilege licences, i.e. they hold offshore banking licence.

According to Skinner (1994) and Shailer (1999), managers of better-performing firms have incentives to make voluntary disclosures and provide signals to differentiate themselves from other firms that are not performing as well. Although both the Barings collapse and the Asian Financial Crisis were major shocks to the world of finance and investment, the Barings collapse is firm-specific and directly affected only one bank in Singapore. In contrast, the Asian Financial Crisis is a regionalised event with a bigger and more wide-spread impact. It is predicted that banks operating in Singapore significantly increased their level of voluntary disclosure of derivative financial information in the annual reports prepared in Singapore (branch annual reports) after the Asian Financial Crisis (H1b). This increased level of voluntary disclosure would allow banks operating in Singapore to differentiate themselves from other banks in the region (such as banks in Malaysia, Thailand and Indonesia) that were more severely affected by the Asian Financial Crisis. The same increase in voluntary disclosure is not predicted after the Barings collapse since the Barings collapse is firm-specific and has less direct implications for banking operations in Singapore (H1a).

The MAS Banking Liberalisation Program resulted in the issuance of privilege licences, allowing foreign banks to expand their operations in Singapore. The program was announced in 1997 and the MAS awarded licences in 1998. In this study, proprietary cost theory focuses on increased competition with the issuance of new licences to operate banking business in Singapore. Although competition may provide disincentives for voluntary disclosure (Verrecchia, 1983) and banks may be reluctant to communicate information to their competitors, disclosures are likely to increase the banks' chances of obtaining the new licences announced in the MAS Banking Liberalisation Program. Therefore, it is predicted in H2a that the level of voluntary disclosure in the consolidated annual reports of banks that either held or applied for privilege licences is higher in the period after the first announcement of the MAS bank liberalization program (1997) than in the period prior to the first announcement of the MAS bank liberalization program (1996). Furthermore, it is

predicted in H2b that the level of voluntary disclosure in the consolidated annual reports by banks that either applied for or held privilege licences is higher than that of banks without privilege licences and that did not apply for privilege licences immediately after the first announcement of the MAS bank liberalization program (1997). The focus is on consolidated annual reports in H2a and H2b due to the criteria outlined by the MAS for the evaluation of the application for new licences and privileges. The criteria emphasise the operation of the offshore bank as a whole, and not solely on the operations in Singapore. This information is better fulfilled by the consolidated annual reports compared to the branch annual reports which focus on local operations only.

Hypotheses 1a, 1b, 2a and 2b investigate voluntary disclosures in the branch and consolidated annual reports respectively. Foreign banks operating in Singapore prepare the branch annual reports in Singapore, while local banks and the parent banks of the foreign banks operating in Singapore prepare consolidated annual reports in their home country. Unlike local banks, there is no local shareholding involved in the Singapore branch of the offshore banks as the capital is provided solely by the banks' head offices. Different annual reports cater to different users who have different informational needs. Branch annual reports are provided for compliance purposes and the main users are the regulators. Consolidated annual reports serve a wider range of users including the shareholders, clients, creditors and regulators. It is expected that the consolidated annual reports are used to communicate more information than the branch annual reports. Therefore, the consolidated annual reports are predicted to have higher levels of disclosures than branch annual reports (H3).

The final set of hypotheses compares the increase in disclosure levels between consolidated and branch annual reports in two periods respectively, i.e. 1994 to 1995 and 1996 to 1997. It is predicted that from 1994 to 1995, the increase in the level of voluntary disclosure in the consolidated annual reports is more than the increase in the level of disclosure in the branch annual reports (H4a). On the other hand, the increase

in the level of voluntary disclosure in the consolidated annual reports between 1996 and 1997 is expected to be less than the increase in the level of disclosure in the branch annual reports (H4b). The Barings collapse is predicted to be a localised event affecting the consolidated annual reports more than the branch annual reports in 1995. Significant increase in voluntary disclosure is expected in the 1995 consolidated annual reports but not the 1995 branch annual reports. The Asian financial crisis is predicted to be a regionalised event affecting the branch annual reports more than the consolidated annual reports in 1997. Significant increase in voluntary disclosure is expected in the 1997 branch annual reports but not the 1997 consolidated annual reports, as the voluntary disclosure levels in the prior years' consolidated reports has been high due to the Barings collapse.

1.4 Overview of Research Method

The thesis examines the time series and cross sectional distribution of voluntary disclosure levels of derivative financial information by banks operating in Singapore between 1994 and 1997, inclusive. These periods include the occurrence of the three events of interest (Barings collapse in 1995, Asian Financial Crisis in 1997 and the MAS Banking Liberalisation Program also in 1997). They precede the period for mandatory disclosure of derivative disclosures by banks (effective in 1998). The sample is obtained from the *Directory of Financial Institutions* published by the MAS annually. Of the 168 banks operating in Singapore from 1994 to 1997, as listed in the directory, 149 banks fulfilled the selection criteria. Both the branch and consolidated annual reports are required for the period from 1994 to 1997. Twenty-eight branch annual reports and twenty consolidated annual reports are missing for this period. The final sample is made of 568 bank years from branch annual reports and 576 banks years from consolidated annual reports, i.e. a grand total of 1,144 annual reports.

A voluntary disclosure index (FIDIS - Financial Institution Disclosure Index) is adapted from Chalmers (2001b). The index used by Chalmers (2001b) includes disclosure requirements in the Australian Exposure Draft, ED 65 *Financial*

Instruments and Australian Society of Corporate Treasurers (ASCT) Industry Statement. This is appropriate to her study of disclosure by Australian firms. This thesis includes accounting requirements from IAS standards, AASB standards and the re-issued MAS 608 in devising the index.⁴ These accounting standards provide guidelines on the disclosures deemed important from a range of perspectives, thus addressing a comprehensive disclosure requirement.

Both parametric and non-parametric statistical tests are used to analyse the data, which are drawn from both branch and consolidated annual reports of banks operating in Singapore. Univariate analysis presents the associations between FIDIS and each of the independent variables: the timing of the Barings collapse, Asian Financial Crisis, and the introduction of the MAS bank liberalization program. Multivariate analysis presents the results for five models as follows.

1. Model 1 (branch financial reports only) includes variables for testing whether voluntary disclosure of derivative financial information is higher after the Barings collapse (H1a) or the Asian Financial Crisis (H1b).
2. Model 2 (consolidated financial reports only) analyses the voluntary disclosure of derivative financial information by banks with or who applied for privilege licences after the announcement of the MAS Bank Liberalisation Plan announcement (H2a).
3. Model 3 (consolidated financial reports only) includes variables for testing whether voluntary disclosure of derivative financial information is higher for banks with, or who applied for, privilege licences after the MAS Bank

⁴ The disclosure requirements are included in IAS 30 *Disclosures in the Financial Statements of Banks and other Financial Institutions* (issued by the International Accounting Standards Committee, IASC, in August 1990); IAS 32 *Financial Instruments: Disclosures and Presentation* (issued by the International Accounting Standards Committee, IASC, in June 1995); AASB 1032 *Specific Disclosures by Financial Institutions* (issued by the Australian Accounting Standards Board, AASB, in December 1996); AASB 1033 *Financial Instruments* (issued by the Australian Accounting Standards Board, AASB, in October 1999); and MAS 608 *Minimum Disclosure in Financial Statements* (MAS Notice 608, 1999). MAS 608 Minimum Disclosure in Financial Statements (1999) was subsequently cancelled and re-issued on 11 November 2002.

Liberalisation Plan announcement compared to banks without privilege licences and that did not apply for them (H2b).

4. Model 4 (branch and consolidated financial reports) tests whether the voluntary disclosure levels in the consolidated annual reports are significantly higher than the voluntary disclosure levels in the branch annual reports (H3).
5. Model 5 (branch and consolidated financial reports) tests whether the changes in voluntary disclosure levels from 1994 to 1995 in the branch annual reports are greater than the changes in voluntary disclosure levels from 1994 to 1995 in the consolidated annual reports (H4a); and whether the changes in voluntary disclosure levels from 1996 to 1997 in the branch annual reports are less than the changes in voluntary disclosure levels from 1996 to 1997 in the consolidated annual reports (H4b).

Control variables include the presence of national mandatory accounting standards/guidance applicable to the parent bank, bank size, specialization of the auditor of the financial statements, and bank financial performance.

1.5 Findings

Hypothesis tests indicate that there is an increased trend in voluntary disclosure of derivative financial information in Singapore and also internationally. The principal empirical finding is that there is a null relationship between Singapore banks' voluntary disclosures of derivative financial information and the firm-specific Barings collapse (H1a), while there is a direct positive relationship between those disclosures and the major regionalised event, the Asian Financial Crisis (H1b). These findings are consistent with the theory that bank managers used voluntary disclosures to signal information to financial report users.

It appears that banks did not utilise annual reports as an avenue to communicate with the MAS in regard to the MAS Banking Liberalisation Program relating to the issuance of new licences/privileges. Voluntary disclosure levels did not increase significantly after announcement of the MAS Banking Liberalisation Program (H2a),

nor are the voluntary disclosure levels of the privilege banks higher than those of the non-privilege banks (H2b). Privilege banks are banks that already held privilege licences or who applied for the new license/privilege, i.e. full banks and restricted banks. Non-privilege banks are banks not holding privilege licences, i.e. offshore banks.

As predicted, the voluntary disclosure level of derivative financial information is higher in the consolidated annual reports than in the branch annual reports (H3). The change in voluntary disclosure level for the consolidated annual reports is significantly higher than that in the branch annual reports for the period from 1994 to 1995 (H4b) but not in the period from 1996 to 1997 (H4a).

Results also suggest that voluntary derivative financial instrument disclosures are associated positively with control variables such as size, auditor specialisation and whether banks' parents are incorporated in countries with accounting guidance or accounting standards relating to derivative financial instruments. These relationships are robust across different settings and based on different proxies for the control variables.

1.6 Significance

This study contributes to the literature that examines motivations for voluntary disclosure by identifying the circumstances under which banks are likely to provide voluntary derivative disclosures. It increases our understanding of (1) voluntary disclosure trends; (2) the differing impact of firm-specific and regionalised events on voluntary disclosure within the banking industry; (3) appropriate mandatory reporting requirements to enable banks to provide information useful to different users; and (4) the importance of contextualising in research. These contributions are explained in more detail below.

1.6.1 Voluntary Disclosure Trends

The thesis provides evidence of an increased disclosure trend in both Singapore and internationally. It is likely that the increase is a response to recent calls for greater transparency in annual reports. Although the focus of this thesis is on banks operating in Singapore, the thesis is not restricted to examining only the annual reports of banks operating in Singapore. Time series and cross sectional analysis of data from 35 countries over a four-year period is used to examine consolidated annual reports of foreign banks with operations in Singapore. Thus, the study adds to earlier studies that consider disclosure in a multi-country setting.⁵

The thesis does not provide evidence on the average voluntary disclosure of derivative financial information by all banks in their respective countries. However, it provides an indication of the disclosure policies adopted by foreign banks with a presence in Singapore. This serves as a starting point for future research to study the disclosure behaviour of banks operating outside Singapore in a more comprehensive manner, particularly as financial events impact upon the banking sectors of different countries.

1.6.2 Events with Different Impacts

The thesis recognises that events such as the Barings collapse, the Asian Financial Crisis and the MAS Banking Liberalisation Program can have different effects on entities according to the events' outreach. It is crucial to consider first the nature and scope of the direct and indirect impact of an event in order to determine any consequential effect on an entity's voluntary reporting actions. Such a consideration adds to our understanding of the theories that explain voluntary disclosure.

⁵ Examples include Alford, Jones, Leftwich and Zmijewski (1993) – 30 non-US countries; Aoki (1996) – US and Japan ; Barrett (1976, 1977) – US, UK, Japan, Sweden, Netherlands, Germany and France; Craig and Dega (1998) - ASEAN countries; Frost and Pownall (1994) – US and UK; Meek et al. (1995) - US, UK and continental Europe; and Norton (1995) – Australia, and US.

1.6.3 Guidance for Mandatory Standards

According to Frost and Pownall (1994), evidence on factors that influence what, when and where firms choose to disclose should be an important input to policy decisions about mandatory disclosure. This thesis studies how events affect banks' voluntary disclosure levels in relation to financial derivatives. Besides providing evidence on the disclosure behaviour of banks operating in Singapore, the study serves as a guide to accounting regulators in the determination of mandatory disclosures. This is especially relevant in the case of Singapore where there is no mandatory disclosure of derivative financial instrument information.

One option for the Singapore regulators would be to let the market decide appropriate disclosure levels, since a certain level of disclosure is already available. That is, if there is an increased disclosure trend that remains consistently high in the years following the Asian Financial Crisis and there are no further strident calls for more disclosures to be regulated, then the market has effectively determined the equilibrium level of information required to match demand and supply of that information. Intra-industry effects will prompt others within the industry to keep up with the general industry disclosure standards. However, this approach does not acknowledge that information asymmetry may mean that financial report users do not demand information they need because they do not know they need it.

Nor does it acknowledge that a range of incentives face managers and not all will provide the level of disclosures optimal to monitoring their banks' performance. An understanding of the level of disclosures that other banks' managers consider necessary for financial statement users helps assess optimal levels to mandate.

This thesis does not address normative issues such as what information or how much should be provided. Nor does it attempt to establish an optimum level of regulation. However, its empirical findings provide input to that debate.

1.6.4 Contextualising

The thesis demonstrates the importance of tailoring hypothesis development and testing to the research context. In this case, the hypothesis development recognises the differences between disclosure incentives that can be provided by firm-specific or regional events. It also recognises the difference in reporting incentives according to the privilege license status of banks operating in Singapore during a period of bank liberalization and the different reporting incentives that may arise because of different reporting purposes (branch versus consolidated). Contextualising in this manner enables powerful tests of general questions such as: Do entities increase their financial disclosure levels in response to perceived economic advantages from doing so?

Contextualising also involves ensuring that test variables are appropriate to the context of the study. The Chalmers (2001b) disclosure index, based on Australian derivative financial information accounting pronouncements, is adapted in this study. The index is modified in relation to derivative financial information accounting pronouncements that are issued in Singapore and by the LASC. Furthermore, drawing upon the auditor specialisation literature, this study utilises alternative measures to proxy for auditor specialisation^a and listing status, and adds new variables of interest to the literature.

1.7 Organisation of Thesis

The rest of the thesis is organised as follows. Chapter 2 describes the institutional background in relation to commercial banks operating in Singapore and recent events involving the banking industry in Singapore. The three recent and relevant events are the Barings collapse in 1995; the Asian Financial Crisis in 1997; and the MAS Banking Liberalisation Program, also in 1997. Chapter 3 develops the various linkages between the three events, user groups (regulator *versus* shareholders) and the voluntary disclosure of derivative financial information. In doing so, it draws upon

^a To measure auditor specialisation, it is important to devise a proxy suitable and appropriate for the banking industry in the Singapore context when auditor concentration is limited to international accounting firms. The study uses four proxies for auditor specialization.

the academic and professional literature related to signaling and proprietary cost theories, and voluntary disclosure of financial information. Chapter 4 develops the hypotheses tested in this study. Chapter 5 describes the sample selection, explains the research methods and describes the proxies for the variables. Chapter 6 presents and analyses the empirical results of the time series and cross sectional tests of the proposed relationships. Chapter 7 provides a summary of the study and explains its significance and limitations, and suggests avenues for further research.

CHAPTER 2

INSTITUTIONAL BACKGROUND

2.1 Introduction

This chapter outlines the banking structure in Singapore in relation to both local and foreign banks whose operations are regulated and supervised by the Monetary Authority of Singapore (MAS).⁷ In doing so, it explains the regulatory backdrop against which managers of banks in Singapore made voluntary disclosure decisions during 1994 to 1997. The MAS engaged in an exercise for financial sector reform in 1997; and in 1998, it announced the MAS Banking Liberalisation Program. The reform in general, and the program specifically, are efforts by the MAS to increase the level of competitiveness in the banking sector by allowing foreign banks to increase their market share. The reform and program are discussed in detail in relation to their disclosure implications. Other than the MAS reforms, two events affecting the banking sector in Singapore are also discussed in this chapter. These events had a significant effect on firms' incentives to disclose information about their financial transactions. They are the collapse of Barings PLC (hereafter referred to as the Barings collapse) and the Asian Financial Crisis. The Barings collapse and the Asian Financial Crisis occurred in 1995 and 1997 respectively. These events, together with the environment of limited disclosure for banks in Singapore, lay the foundation for demands for increased banking disclosure in the annual reports. Eventually, increased banking disclosures applicable to banks operating in Singapore were formalised in the MAS Notice 608 *Minimum Disclosure in Financial Statements* (1999).

The following section provides a brief summary of the background to the current banking structure in Singapore (Section 2.2). Sub-section 2.2.1 provides an

⁷ Various rules, regulations and guidelines laid down by the MAS apply to banks. They include the *Banking Act (Cap 19)*, *Notices to Banks* and *Guidelines for Operations of Banks* as listed in Appendix 1.

overview of the types of commercial banks, Sub-section 2.2.2 outlines the regulation and supervision of the banking sector, and Sub-section 2.2.3 discusses the Banking Liberalisation Program announced in 1998. Section 2.3 describes several losses suffered by major banks where those losses have been attributed by some to the banks' poor disclosures (Kane and DeTrask, 1999, 204). The Asian Financial Crisis and its effect on the banking sector in Singapore are discussed in Section 2.4. Section 2.5 discusses the disclosure environment introduced by the events described in previous sections and reviews the requirements in MAS 608 *Minimum Disclosure in Financial Statements* that governs the reporting requirements in annual reports of banks. Section 2.6 summarises and concludes the chapter.

2.2 Banking Structure in Singapore

Commercial banks in Singapore include both local and foreign banks that can operate under a full, restricted or offshore license. As at 31 July 1994, there were 13 local banks and 121 foreign banks (see Table 2.1 for classification of banks). By 31 May 2003, the number of local banks had reduced to 5 and there were 112 foreign banks. This is due to the MAS's effort to consolidate the local banks and to allow more foreign banks to participate in the local banking sector (Lee, 29 June 2001). The types of banks operating in Singapore are discussed in Sub-section 2.2.1. The various rules, regulations and guidelines laid down by the MAS to regulate and supervise the operations of banks operating in Singapore include the *Banking Act (Cap 19)*, *Notices to Banks* and *Guidelines for Operations of Banks*. These are discussed in Sub-section 2.2.2. The MAS engaged in an exercise for financial sector reform in 1997, and in 1998 it announced the MAS Banking Liberalisation Program. This is discussed further in Sub-section 2.2.3.

2.2.1 Commercial Banks

To operate in Singapore, a bank must hold a license issued by the MAS. There are three types of commercial banking licences in Singapore: full, restricted and offshore banking licences. All of the local commercial banks operate under a full license. Foreign commercial banks can operate as a full license bank, restricted license bank or offshore license bank. At the start of 2002, there were 138 commercial banks in Singapore. Table 2.1 lists the number and percentage of banks operating in each category for each year from 1994 to 2002. The roles of each are discussed below. From hereon, all references to banks are references to commercial banks, unless otherwise stated and references to the number of banks operating under each bank type category are based on Table 2.1. Local and foreign banks with full bank licences engage in a full range of activities including personal banking, corporate banking and wholesale banking. Activities include the acceptance of deposits, making of loans and advances, participation in various domestic money markets, offering of financial advice and transfer of customer funds. In 1994, 13 local and 22 foreign banks had full bank licences. At 31 March 2003, there were 5 local banks and 22 foreign banks with full bank licences.⁸

Foreign banks with restricted licences engage in corporate banking and wholesale banking but not personal banking. These banks are not allowed to accept deposits of less than S\$250,000, have savings accounts or open new branches.⁹ Since December 2001, restricted bank licences have been replaced with the wholesale bank license as part of the MAS Banking Liberalisation Program (Phase 2). All

⁸ The 22 foreign banks with full bank licences include 16 with full bank licences and 6 with qualified full bank licences as listed in appendix 5 and discussed in sub-section 2.2.2.

⁹ These operational restrictions are stipulated in the *MAS Guidelines for Operations of Restricted Banks*.

Table 2.1

Classification of Banks Operating Between 1994 and 2002

	1994		1995		1996		1997		1998		1999		2000		2001		2002		2003	
	No.	%																		
LOCAL BANKS:																				
Full	13	10%	12	9%	12	8%	12	8%	12	8%	9	6%	8	6%	8	6%	6	5%	5	4%
FOREIGN BANKS^a:																				
Full ^b	22	17%	22	15%	22	15%	22	15%	22	14%	22	16%	23	16%	23	17%	22	18%	22	19%
Restricted ^c	14	11%	14	10%	14	10%	13	9%	13	8%	13	9%	16	11%	20	14%	-	-	-	-
Wholesale ^d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	28%	31	27%
Offshore ^e	83	62%	92	66%	95	67%	105	68%	107	70%	98	69%	93	63%	82	63%	59	49%	59	50%
Total	132	100%	139	100%	143	100%	151	100%	154	100%	142	100%	140	100%	133	100%	120	100%	117	100%

(source: Monetary Authority of Singapore, Annual Reports, March 1994 – March 2003)

a - foreign banks operate under one of the following categories:

- o Full banks – operate in personal banking, corporate banking and wholesale banking
- o Qualified full banks – as in full banks but with ATMs and free relocation of existing branches
- o Restricted & Wholesale banks – operation in corporate banking and wholesale banking
- o Offshore banks – operate in wholesale banking
- o Qualified offshore banks – as in offshore banks but with high S\$ lending limit and allowed to accept S\$ funds from non-bank customers through swap transactions

b: Foreign banks in the full bank classification include qualified full banks that were previously foreign banks with full bank licences.

c: Foreign banks in the restricted bank classification include banks that were previously foreign banks with offshore banking licences.

d: Banks in the new bank classification, wholesale banks, were previously restricted banks.

e: Foreign banks in the offshore bank classification include qualified offshore banks that were previously foreign banks with offshore banking licenses.

offshore banks will also be upgraded to wholesale banks over time. Wholesale banks have all the privileges currently enjoyed by the Restricted Banks (MAS, 4 December 2001). Refer to Sub-section 2.2.3 for more details on the MAS Banking Liberalisation Program. In 1994, there were 14 restricted banks and by 31 March 2003, there were 31 wholesale banks (previously known as restricted banks). The increase is due to the progressive upgrading of offshore banks to wholesale banks since December 2001.

Foreign banks with offshore bank licences engage in wholesale banking only. Their activities are limited to persons and companies that are not residents of Singapore.¹⁰ In 1994, there were 83 offshore banks and there were 59 foreign banks with offshore bank licences at 31 March 2003. The decrease is due to the progressive upgrading of offshore banks to wholesale banks since December 2001.

2.2.2 Regulation/Supervision of Banks

Traditionally, the financial sector has been amongst the most heavily regulated industries in Singapore. Until as recently as 20 years ago, most countries have had extensive controls on prices, entry to the industry, competitive practices and portfolio composition (Crockett, 30 March 2001). One of the trends in banking regulation and supervision is a move away from regulation and towards supervision (Crockett, 30 March 2001). This shift is in line with the *Core Principles for Effective Banking Supervision* issued by the Basle Committee in 1997 subsequent

¹⁰ These operational restrictions are stipulated in the *MAS Guidelines for Operations of Offshore Banks*.

to the Mexican and Barings crises in 1995.¹¹ These crises extended the increased emphasis on risk management policies and procedures. Regulation involves the prescription of operating rules for banks and supervision involves the strict monitoring of the banks' compliance with these rules. Lee (5 November 1997) provides a definition for regulation and supervision as follows.

“Regulation means establishing capital requirements as well as setting rules on prudential standards and practices that prescribe what can and cannot be done. Supervision means monitoring and inspecting individual institutions for compliance with these requirements and rules, and ensuring that internal management controls are in good shape.” (Lee, 5 November 1997)

Regulation of banks has always had a prudential component but the weight given to supervision increased following deregulation of the financial system (Wallace and Lewis, 1997, 110). The MAS has to keep a balance between the two needs for regulation and supervision (De Bonis et al., 1999, 73). On one hand, it must relax barriers and limits to banks' activities. On the other hand, an increased awareness of the riskier environment in which intermediaries operate might require

¹¹ The Core Principles for Effective Banking Supervision, history and nature of the Basle Committee is discussed further in section 2.3. Interestingly, the UK banking regulation shifted from self-regulation to legal regulation. There was little supervision that focused on primary banks. This is due to the stable banking system dominated by a small number of first class banks. There was no formal system of bank supervision. The regulatory power of the Bank of England became explicit only in 1979 under the *1979 Banking Act*. Since 1 June 1998, the responsibility for banking supervision has been passed to the Financial Services Authority (FSA). According to McTeer (1998) and Council of Foreign Relations (1997), the Mexican crisis was caused by economic and political problems within Mexico resulting in the depreciation of the Peso and a currency crisis. The depreciation of the Peso coupled with the rise in foreign interest rates affected Mexico's ability to service its short term foreign currency denominated debts. These debts were incurred as the new Mexico emerged into the modern economy with investment capital flowing in from Japan, Germany, Canada and mainly the US during the period from 1986 to 1995. A US-IMF package was announced in February 1995 to enable Mexico to refinance its short term foreign debt

supervisors to take a more active part in banks' strategic choices. Deregulation of the financial system includes the removal

of specific official controls and restrictions on banking operations, allowing the entry of new players such as foreign banks; and the introduction of a new system of regulation based on prudential guidelines and monitoring rather than direct control (Weerassoria, 1996, 11).

Banks in Singapore are supervised by the MAS. Rather than regulating the banks' operations, the MAS now adopts a supervisory approach, focusing on the high risk areas of banks' operations. Supervision involves relaxation on the part of the MAS by accepting that more risk can be undertaken by the banks and giving the industry more room to innovate (Lee, 5 November 1997). On the banks' part, they are responsible for putting in place internal policies and maintaining high standards of prudence. For example, the MAS will not stop a bank from taking on a task that is deemed risky by the MAS as long as the bank:

- (1) puts in place effective and efficient management controls,
- (2) meets the prudential requirements applicable to banks that are set by the MAS;
- and
- (3) discloses adequate information to its stakeholders.

On 8 June 1998, the chairman of the MAS, Lee Hsien Loong, announced plans to reform the Singapore financial sector as follows. The MAS would shift from "one-size fits all" regulation towards a greater emphasis on supervision, which entails monitoring and examining banks for compliance with laws and guidelines, and assessing asset quality and the adequacy of risk management systems. Mr Lee announced that the MAS would change its inspection procedures from a bottom-up micro approach, to a top-down risk focused approach as follows. Inspectors would focus on the institution's management quality and processes; and its risk management and control systems. These would be tailored to fit the size of the

until the establishment of the Australian Prudential Regulation Authority (APRA) on 1 July 1998 as a result of the Financial System Inquiry to reform the financial sector.¹² The traditional method of banking regulation was to require banks to provide standardised statistical data about banks' operations. Now, the APRA's approach is to access the information and data that the banks have developed for their own credit risk management purposes, and to examine the systems and controls in place to measure and manage the risk (Gray, 5 December 1997). The information is obtained *via* visits to banks and regular meetings, both formal and informal, with banks' senior management and staff to discuss developments within the banks.

In the US, both the state and federal agencies play a role in banking regulation and supervision. The Office of Comptroller of Currency (OCC) supervises federally chartered banks, the Federal Reserve Bank (FRB) supervises state chartered banks and the holding companies of US banks; and the Federal Deposit Insurance Corporation (FDIC) supervises non-member state chartered banks (Hall, 1993, 31). In the past, the US regulators reviewed each bank in much the same way, looking over the bank's books on site and evaluating the quality of assets and liabilities. Today, the examinations are more tailored according to the bank. The regulators and supervisors recognise that banks differ markedly in their services and products, and that a bank's own management should be held responsible for monitoring the institution's exposure to risk. Accordingly, emphasis is placed on the bank's risk management procedures and internal controls.

¹² The Campbell Committee was set up in 1979 to examine the appropriateness of the levels of regulation and the government involvement in the banking sector. The recommendations include the adoption of prudential supervision by the Reserve Bank of Australia (RBA); and the granting of additional licences to domestic and foreign institutions wishing to enter the banking industry in Australia. Due to the political situation, the Martin Committee was established in 1983 to review the recommendations of the Campbell Committee. Since the submission of the Martin Commission Report in 1983, various measures have been undertaken resulting in the RBA relaxing its controls and restrictions on banks' operations. For a summary of deregulation measures in Australia since 1984, refer to Blay and Clark (1993, 53-56).

bank and risk profile of its activities. Inspectors would concentrate on the process by which a bank's management addresses its risks, instead of examining in depth, the books for control deficiencies. They would test and evaluate individual transactions selectively rather than extensively. On-site examination would be supplemented by off-site review involving continuous tracking of institutions, reviewing statistical returns and audit reports submitted by banks, and regular meetings with bank management. More frequent on-site inspections would enable the MAS to distinguish stronger banks with well-developed systems of internal control, from weaker ones. The MAS could then give more flexibility to the strong banks while maintaining stricter controls on the weaker ones.

Various rules, regulations and guidelines laid down by the MAS apply to banks. They include the *Guidelines for Operations of Banks, Banking Act (Cap 19)* and *Notices to Banks*. The Guidelines prescribe the areas of operations that can be conducted by offshore and restricted banks as outlined in Sub-section 2.2.2. The Banking Act provides for the licensing and regulation of the business of banks and related financial institutions, and matters related thereto. It covers a wide range of matters such as (Part II) Appointment Of Assistants; (Part III) Licensing Of Banks; (Part IV) Reserve Funds, Dividends, Balance-Sheets And Information; (Part V) Prohibited Business; (Part VI) Minimum Asset Requirements; (Part VII) Powers Of Control Over Banks; (Part VIII) Numbered Accounts; and Part IX Miscellaneous which includes auditing requirements and declaration of holidays. The MAS issues Notices to Banks that provide guidance to the banks on various reporting and operational issues. There are currently 43 MAS Notices to Banks. They are listed in Appendix 1. Appendices 2 and 3 list the MAS Circulars to Banks and other subsidiary legislation administered by the MAS.

The MAS is not the only bank supervisor shifting its approach. The regulatory bodies in Australia and the US have also adopted a similar approach. In Australia, the Reserve Bank of Australia (RBA) was the regulatory body of the banking sector

2.2.3 *Banking Liberalisation Program*

According to Koh (2000), "in the early 1970s, foreign banks had over two-thirds of total bank deposits. Hence, in 1970, the Monetary Authority of Singapore (MAS) adopted policies to nurture local banks so that they could grow and play a meaningful role in the domestic banking section. This was to ensure the smooth nurturing of the banking sector and the protection of the local banking institution so that they can assume a larger share of the domestic market. Foreign full banks were also not allowed to set up any more new branches or re-locate existing branches freely". Since 1970 and 1973 respectively, no new licences for full and restricted banks were granted until 1999. The MAS also placed restrictions on foreign banks' operations (MAS, 27 May 1999). This indicates a stagnant environment in the regulation of banks since the 1970s until the late 1990s.

Since 1997, the Asian region has undergone a traumatic economic crisis followed by a sharp recovery. With the onset of the crisis in February 1997, the MAS engaged in an exercise for financial sector reform (Tan and Chia, 1997). The impetus for the reform comes from Singapore's position as an international financial center that is a major income generator for the country (Ariff and Khalid, 2000, 110). The liberalisation outcome is expected to generate greater competition and more freedom in the market forces of the banking sector.

In February 1998, the MAS unveiled a series of reforms aimed at making Singapore a dominant financial center in an increasingly competitive global market. In developing the reforms, the MAS worked closely with key industry representatives and other government agencies to review the regulatory framework and formulate strategies to stimulate growth in specific industries in the financial services sector. The strategies include changing the MAS's role from a regulatory to a supervisory one and allowing more foreign competitors into the Singapore banking sector (MAS Annual Report 1998/99).

On 17 May 1999, the MAS announced a five-year program to liberalise commercial banking in Singapore. The program aims to promote a more open and competitive environment and to spur the development and upgrading of local banks (MAS, May 1999). The MAS objective has been to open up the financial sector progressively, but decisively, in two ways (Lee, 3 April 2000). First, the MAS aims to allow market forces greater free play, get investors to take full responsibility for their decisions along with the outcomes, and shift the MAS emphasis to setting the framework and upholding standards of integrity and supervision. Second, the MAS is also moving towards increasing the transparency of banks' operations further, for example through increased disclosures on remuneration and incentive structures, related party transactions, the banks' risk profiles and their risk management process. The MAS believes that greater disclosure will provide positive reinforcement of corporate governance. Although Singapore banks are ahead of most of their Asian counterparts in these two areas, i.e. regulation/supervision and disclosure, they are still some way from the best international practices (Lee, 3 April 2000).

The five-year banking liberalisation program includes a package of new banking privileges and licences for foreign banks to be granted over 3 years (1999 to 2001). On 1 June 1999, the MAS invited foreign banks in Singapore to apply for the two new categories of banking licences, Qualifying Full Bank (QFB) and Qualifying Offshore Bank (QOB) privileges, as well as for an increased number of Restricted Bank (RB) licences.¹³ The MAS will issue up to 6 QFB licences to foreign banks, increase the number of RB licences from 13 to 18 and also issue QOB privileges. The MAS did not impose a cap on the maximum number of banks with QOB privileges.

¹³ According to the First Phase of the MAS Banking Liberalisation Program (17 May 1999), applications for full bank licences with QFB privileges are open to all foreign banks, i.e. those holding full, restricted and offshore bank licences. Applications for restricted bank licences and QOB privileges are open to offshore licensed banks wishing to do more business in Singapore dollar transactions.

Under the 1999 liberalisation program, banks with QFB Privileges are allowed:

- Up to 10 locations (branches and off-premise ATMs) of which up to 5 can be branches. No more than 2 new branches and 3 off-premise ATMs are to be set up each year following the issue of the QFB privileges. QFBs that already have more than 5 branches will be capped at their present number, but will be allowed up to 5 off-premise ATMs;
- Free relocation of existing branches;
- Sharing of ATMs amongst QFBs.

Under the program announced in 1999, banks with QOB Privileges will:

- Have their Singapore dollar lending limit raised from the limit of S\$300million to S\$1billien;
- Be able to accept Singapore dollar funds from non-bank customers through swap transactions.

There is no change to the Restricted Bank license. Criteria for the evaluation of the QFB/RB/QOB applications, as outlined in MAS (1 June 1999), are:

- Prudential considerations: the MAS considers the credit and support ratings of the applicant bank by major international rating agencies, as well as its global rankings by total assets and capital. The financial condition of the bank's global operations, taking into account its asset quality, profitability and capital are also assessed. Other factors considered include the bank's reputation in the global financial arena
- Contribution and commitment to Singapore: Each applicant bank is evaluated based on the breadth and depth of its financial activities and its commitment to growing its operations in Singapore. In making its evaluation, the MAS applies the following principles:
 - The evaluation includes commercial banking, treasury activities, capital markets (debt and equity), investment banking (including corporate finance, mergers and acquisitions, project and structured finance) and asset management;
 - Both existing activities and additional future commitments are taken into account; and
 - The extent to which the bank's Singapore operations have responsibility for activities in the Asia-Pacific region and globally, the extent to which innovative activities such as new product development and research are conducted out of Singapore and the bank's commitment to upgrade human talent and develop core competencies in Singapore.

In May 1999, the first phase of the MAS Banking Liberalisation Program, the MAS received 27 applications from foreign banks.¹⁴ Appendix 4 provides the list of banks that are believed to have applied for QFB/RB/QOB licences. This list includes banks that eventually obtained QFB/RB/QOB licences and banks that indicated their interest to submit their application as reported in Monetary Authority of Singapore (27 May, 1999). There are only twenty four banks listed in Appendix 4 as several banks applied for more than one category of privilege/license. On 20 October 1999, the MAS announced the results of the 1st phase applications for the new licences. There was one known unsuccessful application (Credit Lyonnais) and four assumed unsuccessful applications (American Express Bank, Bank of China, HSBC and Maybank).¹⁵ Appendix 5 lists the banks that were awarded the QFB, RB or QOB licences.

In the second phase of the MAS Banking Liberalisation Program in June 2001, the MAS announced the expansion of the QFB privileges and the replacement of RB licences by Wholesale Bank (WB) licences that better reflect the wide range of activities that could be conducted. WBs have all the privileges currently enjoyed by RBs. The MAS announced that it would grant about 20 WB privileges over the next two years (2001-2002) and over time, all QOBs and offshore Banks would be upgraded to WB status.¹⁶ This implies a restructuring of the 3 tier banking system for foreign banks comprising of full, restricted and offshore banks to a 2 tier system comprising of full and wholesale banks. Furthermore, the MAS also expanded the

¹⁴ Monetary Authority of Singapore (20 October 1999). It is not possible to obtain a confirmed list of applicants as the MAS regards this information as confidential and does not disclose their dealings with individual banks. It is assumed that the banks who indicated an interest in applying for the new licences to the media and banks who were eventually granted new licences make up the majority of the list of applicants for the new licences.

¹⁵ Wong (30 January 2002). American Express Bank and Bank of China declared their interest to apply for the new licences as reported in Siow (18 May 1999). It was assumed that they applied based on their reported interest to apply in the media.

¹⁶ According to the Second Phase of the MAS Banking Liberalisation Program (29 June 2001), applications for WB privileges are open to all existing Offshore Banks as well as to reputable new foreign bank entrants.

QFB privileges. In addition to the privileges announced in the first phase of the MAS Banking Liberalisation program on 17 May 1999, with effect from 1 July 2002, QFBs are also allowed to:

- Provide debit services through an EFTPOS network; and
- Provide Supplementary Retirement Scheme and Central Depository Fund (CDF) Investment Scheme accounts and accept Central Provident Fund (CPF) fixed deposits.¹⁷

It was previously announced that QFBs can establish up to 10 locations, of which up to 5 can be branches as previously announced on 17 May 1999. This privilege has been expanded to 15 locations, of which up to 10 can be branches and the 15 locations can include both branches and off-site ATMs.

On 4 December 2001, the MAS announced the results of the second phase of the MAS Banking Liberalisation Program. Two additional foreign banks were named Qualifying Full Banks. They were the Hongkong and Shanghai Banking Corporation Limited and Maybank. The new awards take effect from 1 January 2002. In addition, the MAS also upgraded the existing 8 Qualifying Offshore Banks (QOBs) to Wholesale Bank (WB) status. Appendix 4 provides the list of banks that applied for the QFB, RB and WB licences, while Appendix 5 lists those banks that were awarded the QFB, RB or WB licences.

As of 1 January 2002 and as a result of the MAS Banking Liberalisation Program, all the 6 Qualified Full Banking Licences and the 8 Restricted Banking Licences that the MAS intended to issue, as part of the MAS Banking Liberalisation program, have been issued. Eight qualifying Offshore Banking Licences have also been issued, whereby the MAS did not impose a cap on the maximum number of QOB licences. The Restricted Banks have been replaced with Wholesale Banks.

¹⁷ The Supplementary Retirement Scheme and the Central Depository Fund (CDF) Investment Scheme are schemes that allow Singapore citizens and permanent residents to invest their superannuation funds with approved institutions such as banks.

The Qualified Offshore Banks have been upgraded to Wholesale Banks. Over time, all Offshore Banks will be upgraded to Wholesale Banks. Lee, Chairman of THE MAS, indicated plans to grant 20 Wholesale Banking licences in 2002-2003 and to further expand the privileges of the QFBs (Lee, 29 June 2001). There are 5 local banks and 112 foreign banks, comprising of 16 Full Banks, 6 Qualified Full Banks, 31 Wholesale Banks and 59 Offshore Banks on 31 May 2003.

2.3 Bank Collapses/Losses Associated with the Trading of Financial Instruments

Since the late 1980s, numerous financial institutions world-wide have suffered reported losses (e.g. Allied Irish Bank in 2002, Daiwa Bank in 1995, Baring PLC in 1995, Piper Jaffrey in 1994; Harris Trust and Savings Bank in 1994; and Investors Equity Life Insurance Company of Hawaii in 1994), public sector entities (such as State of Wisconsin Investment Board in 1995 and Orange County in 1994); and non-bank private sector entities (such as AWA in 1987, Sumitomo Corporation in 1996 and Proctor & Gamble in 1994). Table 2.2 provides a list of organisations that suffered significant financial instrument trading losses. Some causes are unauthorised transactions in derivatives by single traders and fluctuations in derivative positions. Losses suffered by Barings PLC, Daiwa Bank and Allied Irish Bank are the results of unauthorised transactions in derivatives by single traders. The losses were incurred by traders at the branch office and not at the head office, i.e. in Singapore for Barings PLC; and in US for both Daiwa Bank and Allied Irish Bank.

Table 2.2

Examples of Organisations That Suffered Significant Derivative Financial Instrument Trading Losses

Organisation	Year	Domicile	Loss Amount	Type of Derivative
Allied Irish Bank	2002	Ireland (losses incurred by US subsidiary)	US\$750m	Foreign currency derivatives
Pasminco	2001	Australia	A\$42m	Currency hedging
Long Term Credit Management	1998	US	US\$1 trillion	Hedge funds
Everest Capital	1998	Bermuda	US\$2.7b	Hedge funds
Sumitomo Corporation	1996	Japan	US\$3.5m	Copper Futures
National Westminster	1996	England	£50m	Interest rate options
Barings PLC	1995	England	US\$1.4b	Nikkei index futures
State of Wisconsin Investment Board	1995	US	US\$95m	Interest bearing securities
Daiwa Bank	1995	Japan (losses incurred by US office)	US\$1.1b	Bond trading
Orange County	1994	US	US\$2b	Complex Instruments such as inverse floaters and repurchase agreements
Kashima Oil	1994	Japan	US\$1.5b	Foreign currency derivatives
Showa Shell Sekiyu	1994	Japan	US\$1,580m	Foreign exchange forward contracts
Piper Jaffrey	1994	US	US\$700m	Interest rate derivatives
Kiddier, Peabody & Co	1994	US	US\$350m	Government strips
Proctor and Gamble	1994	US	US\$157m	Leveraged interest rate swap
Investors Equity Life Insurance Company of Hawaii	1994	US	US\$90m	Treasury bond futures
Harris Trust and Savings Bank	1994	US	US\$51m	Collateralised mortgage obligation derivatives
Gibson Greetings	1994	US	US\$19.7m	Leveraged swaps
Mead Corporation	1994	US	US\$7.4m	Hedging transactions including a leveraged interest rate swap
Codelco	1994	Chile	US\$207m	Copper futures
Metallgesellschaft AG	1993	Germany	US\$1,340m	Energy futures and other derivatives that were hedges of future fixed price sales commitments
AWA Ltd	1987	Australia	A\$49.8m	Forward foreign exchange contracts

Adapted from Winograd and Herz (1995); Raftery (1995); and Chalmers (2001b)

Sections 2.3.1, 2.3.2 and 2.3.3 summarise the events leading to the Barings, Daiwa Bank and Allied Irish Bank collapses/losses respectively. Events occurring before Barings PLC or involving non-bank entities are not reviewed as this thesis focuses on the period before and after the Barings event; and bank-related events as the motivations for voluntary disclosures, as discussed in Section 1.2 and chapter 4. The remainder of this section describes the events surrounding the collapses of, or losses suffered by, Barings PLC, Daiwa Bank and Allied Irish Bank. In doing so, it demonstrates that collapses or losses have been associated with lack of internal controls and inadequate disclosures to relevant parties.

2.3.1 Barings PLC

This section describes the collapse of Barings PLC based on reports in Bank of England Report (1995), Gibney (1995), Lim and Tan (1995); and Keen (1995), Kane and DeTrask (1999), Gemmill (2000) and Eaglesham (3 October 2001). In February 1995, Nick Leeson, a 28 year old trader with Barings Futures, Singapore, incurred losses amounting to US\$1.39 billion due to unauthorised trading in derivatives, i.e. futures and options, that brought down Barings PLC (hereafter known as Barings), Britain's oldest merchant bank at 232 years old. In 1994, Leeson was successful in making significant profits on risk-free arbitrage trades between the futures markets on the Nikkei 225 Index in Singapore and in Osaka. Leeson subsequently abandoned this trading strategy due to the large fund requirements to meet the payments of the initial margin to both exchanges. Leeson then engaged in long positions on the Nikkei 225 in the Singapore and Osaka markets, short positions on the Japanese bonds and short positions on the Nikkei options. The Nikkei 225 fell after the Kobe earthquake and in his bid to cover his losses and hedge his transactions, Leeson made further purchases. By February 1995, the margin calls reached alarming levels, requiring Leeson to put up large amounts of cash to cover the options. Leeson ultimately incurred losses amounting to US\$1.39 billion and caused Barings' collapse. Barings was subsequently taken

over in March 1995 by the Dutch-based ING Bank for a symbolic 1 pound and is now known as ING Barings.

Leeson hid the losses in fictitious accounts and there were insufficient internal controls in place to check on his transactions since Lesson was responsible for both the front and back offices. "88888" accounts were set up by Leeson to conceal his losses. These accounts were traditionally used to record trading errors, usually of small amounts, that were cleared quickly as adjustments were made. Leeson excluded these accounts from reports to London. The computer entries were faked, and bank statements and confirmations were falsified. As such, management failed to sense the trouble in the early stages. Although the auditors uncovered the losses, they were not identified as fraudulent transactions due to the apparent accuracy of the transactions and records that led the auditors to issue an unqualified audit report.

Both the Bank of England Report (1995) and Lim and Tan (1995) conclude in their respective inquiries that the collapse of Barings was due to fraud and management incompetence. The internal controls for settlements, risk management and internal audit did not work. In December 1995, Leeson was jailed in Singapore for 6.5 years but was released in July 1999, half way through his jail term, for good behaviour. KPMG, Barings' liquidator, sued Coopers and Lybrand, now part of PricewaterhouseCoopers (PWC), and the Singapore arm of Deloitte & Touche (DT) for their roles in auditing the merchant bank and its subsidiary Barings Futures Singapore, respectively, before the collapse of Barings. KPMG argues that both auditors failed to carry out rudimentary audit procedures that would have picked up Leeson's fraudulent activities. Both auditors strongly deny any liability and argue that the management are to be blamed for failing to stop Leeson. The hearing of the case started on 2 October 2001 at the High Court in London and decision on the case was not expected before 31 December 2002. On 9 October 2001, PWC settled out of court with KPMG on undisclosed terms but the case against DT

commenced in May 2003. On 11 June 2003, the High Court judge in UK ruled that the Singapore arm of Deloitte & Touche was negligent and thus liable in its audit work for Barings Future (Singapore) for the years 1992 and 1993. Deloitte and Touche Singapore was subsequently fined £1.5m, a fraction of the £200m claimed by the bank.

2.3.2 Daiwa Bank

This section summarises the collapse of Daiwa Bank based on reports in United States Attorney, Southern District of New York (11 February 1995), Greenwald (9 October 1995), Kane and De Frask (1999) and Grammaticas (20 September, 2000).

Over 11 years, Toshihide Iguchi, of Daiwa Bank's New York office, lost more than US\$1bn of the bank's money in fraudulent trading of government bonds. The loss, uncovered in July 1995, was the accumulation of more than 3000 transactions. At the end of 1995, Daiwa Bank was the tenth largest bank in Japan and the nineteenth largest bank in the world. Unlike the Barings case, the management at Daiwa Bank was aware of Iguchi's unauthorised trading.

Iguchi traded in US government bonds. As the office was small, he had the dual role of trading and record keeping. When he made losses in his bond trading, he would sell bonds from the bank's own accounts or those of its customers. To conceal the losses, he would forge documents to make the trades look like authorised transactions. Affiliated companies and a shelf company in the Cayman Islands absorbed some of the losses incurred by Iguchi. The transactions involving the sale of securities were not booked out of custody and these losing trades became accounting non-events. Eventually, it was Iguchi himself who "blew the whistle" in a letter to the Bank's president. High-ranking officials at Daiwa and the Japanese Ministry of Finance were aware of the fraudulent activities but failed to report the losses to US regulators even though they had the responsibility to do so.

In 1996, Mr Iguchi was convicted and jailed in the United States. In a case brought by two Daiwa Bank shareholders, a group of senior executives at Daiwa were ordered by the Japanese court to pay more than US\$775m to the bank in compensation for losses incurred during the fraudulent trading. During the case, it was found that the Daiwa Bank executives were aware of the fraudulent transactions and attempted to conceal the losses and missing securities. Daiwa Bank was also sued by the US authorities and paid fines of US\$340m. Having lost its US Charter, which allows foreign banks to operate in the US, Daiwa Bank closed its American operations in November 1995. In Japan, officials at the Japanese Ministry of Finance were prosecuted for corruption.

The events at both Barings and Daiwa resulted from a lack of internal controls and the lack of disclosures to internal and external parties of the trading of financial instruments.¹⁸

2.3.3 *Allied Irish Bank*

This section summarises the losses suffered by Allied Irish Bank based on reports in Rayner et al. (6 March 2002), Mackintosh et al. (10 March 2002), Croft (12 March 2002) and Pogatchnik (13 March 2002). John Rusnak, a foreign exchange trader at Allfirst Financial, the US subsidiary of Allied Irish Bank in Baltimore, accumulated losses of US\$750m. The losses are the result of 14 fraudulent foreign exchange transactions, since 1997, that were uncovered during a management review of the treasury division at Allfirst Financial in February 2002.

¹⁸ According to Kane and DeTrask (1999), the Daiwa event can be distinguished from the Barings collapse in four ways. First, the duration of the fraud at Daiwa was four times longer than that at Barings. Second, a conscience-stricken perpetrator revealed Daiwa's fraud while Barings' fraud surfaced when the perpetrator fled the scene of the crime. Third, Daiwa's regulators and top management in the home country admitted their involvement in the cover up. Fourth, Iguchi's fraud led to Daiwa's expulsion from operating in the United States but did not induce the bank's total demise.

Over five years, Rusnak entered into various unauthorised option trades. He falsified bank records and documents to offset the losses that he incurred in his foreign exchange trades. The unauthorised trades involved prime broker contracts that allowed Rusnak to deal beyond the scrutiny of Allfirst staff. Although his unusually high trading position aroused suspicion that led to a short investigation in May 2001, the head of treasury reported no usual transactions after the investigation. Rusnak claimed that the bank's group treasurer was aware of the high risk trades he entered into that subsequently exacerbated his losses although this claim was strongly denied by the bank. He betted unsuccessfully that the yen would rise against the US dollar and then tried to cover his losses. Eventually, he lost cash as he tried to cover his failed deals. Eugene Ludwig, an independent banker, hired to conduct an internal inquiry into the scandal, reported that Rusnak acted without collusion.

US investors sued Allied Irish Bank for failing to disclose the fraudulent acts in their 2001 annual reports. In early January 2003, Rusnak was sentenced to 7 ½ years in Federal Prison. Allfast is in the process of being sold to Buffalo-based M&T Bank Corp.

In each of the examples described in this section (Barings PLC, Daiwa Bank and Allied Irish Bank), the collapses/losses have been attributed to the lack of internal controls and many argue that the lack of disclosure has contributed to the incidence and extent of the associated financial impact.

2.4 Asian Financial Crisis

The Asian Financial Crisis started when the previously basket-pegged Thai currency was free-floated on 2 July 1997 (Ariff and Khalid, 2000, 27). The crisis tailed off by the end of 1998 with the currency and stock markets well above their lowest points (Richardson, 29 June 1998). The Asian Financial Crisis is characterised by events occurring in Asia such as significant corporate failures,

closures of major financial institutions, depreciation of stock values and Asian currencies; and assistance sought from the International Monetary Foundation. According to Miller and Luangara (1998), this crisis is significant in at least three ways. First, the crisis hit the most rapidly growing economies in the world. Second, it prompted the largest financial bail-outs by the International Monetary Fund (IMF).¹⁹ Third, it is the least anticipated financial crisis in years. This section briefly outlines the major events relating to the Asian Financial Crisis, principally, in South Korea, Japan, Thailand, Malaysia, Philippines, Taiwan, Hong Kong and Singapore. The outline is based on reports on the Washington Post website (<http://www.wp.com>), International Monetary Fund website (<http://www.imf.org>), The Economist, The Far East Review, Corsetti et al. (1998), Mathis (1998), Miller (1998), Miller and Luangara (1998), Tabb (1998), Bomhoff (1999), De Bonis et al. (1999), Lindgren et al. (1999), Ariff and Khalid (2000), Chowdhry and Goyal (2000), Hu (2000), and Kawai (2000).

Signs of the Asian economic crisis first surfaced with corporate collapses in Korea and Thailand in early 1997.²⁰ In Korea, Hanbo Steel Corporations, a large Korean conglomerate, collapsed in January 1997. This was caused by the impact of falling sales in the presence of high leverage. This was the first bankruptcy of a leading Korean conglomerate in a decade. By May 1997, there were 1,300 corporate failures in Korea. By the end of 1997, 8 of Korea's 30 largest conglomerates went bankrupt or faced financial distress. In Thailand, on 5 February 1997, Somprasong

¹⁹ The IMF is an international organization of 183 member countries, established to promote international monetary cooperation, exchange stability, and orderly exchange arrangements; to foster economic growth and high levels of employment; and to provide temporary financial assistance to countries to help ease balance of payments adjustment. Since the IMF was established in 1946, its purposes have remained unchanged but its operations — which involve surveillance, financial assistance, and technical assistance — have developed to meet the changing needs of its member countries in an evolving world economy. For further information, please refer to <http://www.imf.org>

²⁰ Refer to <http://www.stern.nyu.edu/~nroubini/asia/AsiaHomepage.html>, Lindgren et al. (1999, 2-4) and, Ariff and Khalid (2000, 34-37) for a detailed chronology of the Asian currency crisis.

Land PLC, a land developer, became the first Thai Company to miss payments on foreign debt.

In early May 1997, Japanese officials, concerned about the decline of the Yen, hinted that they might raise interest rates. The threat never materialised but it proved to be one of the first signs of the Asian crisis. Japan is Asia's largest economy and the Japanese threat shifted the confidence of global investors. Furthermore, the rise of the Japanese Yen relative to the Asian currencies also depressed the exports to the Asian countries. Investors lost confidence in the whole Asian region and immediately began to sell Southeast Asian currencies, setting off a tumble not only in the currencies but in the local stock markets as well. Since May 1997, Asian currencies especially in Thailand, the Philippines, Singapore, Malaysia, Hong Kong, Taiwan, Indonesia and Korea have been highly volatile.²¹ By 24 July 1997, the Indonesian Rupiah, Thai Baht, Malaysian Ringgit and Philippine Peso slumped to the extent of resulting in the Asian currency melt down. The Asian currencies and stock indices, which move in tandem with currency fluctuations, achieved an all time low during the Asian Financial Crisis.

During 1997, not only were there corporate failures but major financial institutions were also closed as a result of the crisis. In May 1997, Finance One Public Co., the largest Thai finance and security group, collapsed. On 27 June 1997, the Thai central bank suspended operations of 16 cash-strapped finance companies and ordered them to submit merger or consolidation plans. By August 1997, another 42 financial companies in Thailand were closed for business. Bank closures also followed in Japan. On 25 April 1997, Nissan Mutual Life Insurance Company was declared bankrupt, being the first Japanese insurance bankruptcy in five decades. In November 1997, a series of financial institutions also ran into trouble. These

²¹ Tabb (1998) believes that the devaluation of the Thai Baht in May 1997 is the equivalent of the tequila effect experience in the Mexico crisis in 1995, leading to the fallout of the other Asian currencies.

included Sanyo Securities, the first Japanese brokerage firm to go under since post war history; Hokkaido Takushoku Bank, ranked as the tenth Japanese commercial bank; Yamaichi Securities Company, Japan's oldest and fourth largest brokerage firm and largest bankruptcy collapse in November; and Tokyo City Bank. Sixteen banks and finance companies, believed to be insolvent, were also closed in Indonesia.

Of those banks that survived the Asian Financial Crisis, many incurred massive unrecoverable debts and losses in 1997. Maybank, Malaysia's largest commercial bank, increased bad debt provisions to 71% of outstanding loans in the year to 30 June 1997. Bank of Tokyo-Mitsubishi, in Japan, wrote off 1.1 trillion yen of bad loans in 1997 compared to an average of approximately 740 billion yen in the pre-crisis years from 1993 to 1995 (Bank of Tokyo-Mitsubishi Annual Report 1997). Sime Bank Bhd, Malaysia's fifth largest commercial bank, incurred RM1.57b loss in the second half of 1997, making this the biggest loss in Malaysia's banking history.²²

The impact of the Asian Financial Crisis was severe, causing the Asian economy to contract as a result of stock and currency depreciation. The most affected countries were Thailand, the Philippines, South Korea, Indonesia and South Korea. All of these countries required assistance from the International Monetary Fund (IMF) to bail them out of their economic troubles.²³ On 2 July 1997, the Bank of Thailand called on the IMF for "technical assistance". The announcement effectively devalued the baht by about 15-20 percent, to end at a record low of 28.80 to the US

²² Ariff and Khalid (2000, 43-46) provides an overview of the status of non-performing loans in Asian entities as a result of the Asian Financial Crisis.

²³ According to Bomhoff (1999, 6-7), the IMF was initially set up to assist member countries with maintaining fixed exchange rates during temporary balance of payment difficulties. As flexible exchange rates became a viable option, the role of the IMF changed from a provider of temporary support for the balance of payments to a potential lender of last resort for countries in financial crisis, in combination with a provider of advice to member governments.

dollar. After the economic events commencing in early 1997, this was the catalyst for the Asian Financial Crisis. The IMF approved a US\$3.9b rescue package on 20 August 1997. The request from the Philippines to extend and augment the current

credit facilities from the IMF followed soon after. On 14 July 1997, the IMF offered the Philippines almost US\$1.1 billion in financial support under fast-track regulations drawn up after the 1995 Mexican crisis. Indonesia's US\$10b IMF package was approved in November 1997. Korea is the world's 11th-largest economy, larger than Thailand, Indonesia and Malaysia put together. Despite its financial and economic woes, Korea was determined to save its economy without turning to the IMF for assistance. By December 1997, Korea was the only trouble spot in Asia and inevitably, on 4 December 1997, a US\$21b bail out by the IMF was agreed upon, the biggest ever granted by the IMF.

Asia's financial market appeared to be recovering in early 1998. By the end of 1998, the currency and stock markets still displayed a fair amount of volatility but the trend was no longer downward and the markets seemed to be well off their lows (Richardson, 29 June 1998). According to Ariff and Khalid (2000, 459), it is often said that the Asian Financial Crisis ended in May 1999. Although strong recoveries were observed in most of the Asian countries in 1999-2000, it is unclear whether these Asian countries will be able to restore their economic position to those existing before the crisis. Since the Asian Financial Crisis, regulators of various countries have undertaken financial and corporate restructuring.²⁴ Efforts have also been made to improve disclosures by corporations and financial institutions. Both these consequential activities are discussed in the next section.

²⁴ Kawai (2000) provides an overview of the progress in financial and corporate sector restructuring in Indonesia, Korea, Malaysia, Philippines and Thailand since the Asian Financial Crisis. Ariff and Khalid (2000) provides details on the reforms undertaken by countries such as Korea, Malaysia, Singapore, Indonesia, Taiwan and Thailand before and after the Asian Financial Crisis.

2.5 Reactions to Derivative Losses and the Asian Financial Crisis

The losses suffered as a result of both financial instruments trading and the Asian crisis have led to calls to improve banks' disclosures.²⁵ The financial crisis in East Asia highlighted the need for greater transparency and disclosure of information about the financial condition of banks for the maintenance of confidence in the banking system.²⁶ There is general consensus that lax supervision and weak regulation of the financial sector, in addition to lack of transparency in accounting systems at both the corporate and country levels, are some of the problems present in the pre-crisis Asian financial banking sectors, which contributed to the Asian Financial Crisis (Corsetti et al., 1998; Chowdhry and Goyal, 2000; and Kawai, 2000).

Furthermore, the major banking crises discussed in Section 2.3 have been attributed to the lack of regulation or guidance on disclosures of derivatives and banks' operations (Linsmeier and Pearson, 1997). The demand for regulated communication with respect to financial instruments has been stimulated and intensified by the significant losses incurred by organisations in relation to their derivative transactions.²⁷

Calls for increased disclosure of financial instruments rest on the premise that users of financial reports wishing to evaluate entities that use derivative financial

²⁵ Besides calls for increase in disclosure levels, there has been increased emphasis on the regulation of banks to adopt the approach of prudential supervision and to focus on risk management. Kane and DeTrask (1999) also noted that there were changes in monitoring and control systems in Singapore and Japan after the events at Barings and Daiwa Bank. Auditors' responsibility in relation to the detection of fraud and irregularities was also a hotly debated issue that will remain unresolved until the Barings court case has been finalised.

²⁶ This is one of the factors attributed to the Asian Financial Crisis. Other factors include a run on capital accounts, problems of capital account liberalisation, over reliance on bank-based financing and the hands-off approach to the international financial system. For more detailed discussion of these factors, refer to Lee (21 September 2000).

instruments need to be able to determine and measure the characteristics of the risks and rewards that exist as a result of arrangements in place.

Since the Barings collapse and the Asian Financial Crisis, various national and international organisations have been actively developing and initiating improvements relating to derivative disclosures. Some of these developments and initiatives are summarised in Table 2.3. The work done by international and domestic organisations is discussed in the following sub-sections. International organisations working to develop and improve derivative disclosure and disclosures by banks include the International Monetary Fund, Basle Committee, and the International Accounting Standards Committee (now the IASB). National organisations include the regulatory bodies and ministries of various countries.

2.5.1 International Organisations

In response to the Asian Financial Crisis, Finance ministers and Central Bank Governors from a number of significant economies met in Washington D. C. in April 1998 and stressed the importance of enhancing transparency in order to strengthen the international financial system.²⁷ One of the working groups formed. The Working Group on Transparency and Accountability, investigated the issue of the means and benefits of enhancing transparency and public accountability of international financial institutions. Their report was issued in October 1998. Besides granting financial aid to countries badly affected by the Asian Financial Crisis, the International Monetary Fund (IMF) also initiated the Financial Sector Assessment Program (FSAP) in May 1999 in conjunction with the World Bank,

²⁷ These and other audit failures have rekindled professional and legislative interest in auditors' responsibilities to assess and/or report on internal control adequacies. These cases not only indicate the significance of the external auditors' role in relation to the adequacy of internal control over financial instrument trading but also the importance of financial statement disclosures.

²⁸ The meeting was attended by Finance Ministers and Central Bank Governors from Argentina, Australia, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Malaysia, Mexico, Poland, Russia, Singapore, South Africa, Thailand, United Kingdom, and United States.

Table 2.3
Selection of Domestic and International Initiatives Relating to Derivatives
Disclosures and Disclosures by Banks

Date	Event
February 1995	Fraud at Barings uncovered
March 1995	Australian Accounting Standards Board - ED 63 Additional Disclosures by Financial Institutions
June 1995	Australian Accounting Standards Board - ED 65 Presentation and Disclosure of Financial Instruments
June 1995	International Accounting Standards Committee - IAS 32 Financial Instruments: Disclosure and Presentation issued (Exposure Draft E40 Financial Instruments was issued in September 1991. E40 was modified and reissued as Exposure Draft E48 Financial Instruments in January 1994. The presentation and disclosure section in E48 was adopted in IAS 32, issued in June 1995. The recognition and measurement portion was adopted in IAS 39, issued in December 1998.)
July 1995	Fraud at Daiwa Bank uncovered
1995	Basle Committee on Banking Supervision and the Technical Committee of the International Organisation of Securities Commissions - initiated annual survey of public disclosure of trading and derivatives activities of banks and securities firms
1995	US Securities and Exchange Commission - proposed "Market Risk Disclosure Rule" (finalised in January 1997)
July 1996	Japanese ministerial ordinances and circulars revised to enhance derivative disclosure of all firms
December 1996	Australia Accounting Standards Board - AASB 1032 Specific Disclosures by Financial Institutions
1996	Swiss Bankers' Association - Guidelines Concerning Risk Management in Trading and Use of Derivatives
April 1997	Ministry of Finance (Japan) - Regulation about market value accounting for trading activities
July 1997	Asian Financial Crisis
September 1997	Basle Committee - Core Principles for Effective Banking Supervision
November 1997	International Accounting Standards Committee - IASC establishes Financial Instruments Joint Working Group of Standard Setters
April 1998	Meeting of Finance Ministers and Central Bank Governors held in Washington
May 1998	Monetary Authority of Singapore - Report on Banking Disclosure
June 1998	International Accounting Standards Committee - E62 Financial Instruments: Recognition and Measurement
June 1998	US Financial Accounting Standards Board - SFAS 133 Accounting for Derivative Instruments and Hedging Activities
September 1998	UK Accounting Standards Board - Financial Reporting Standard (FRS) 13 Derivatives and other Financial Instruments: Disclosure
September 1998	Basle Committee on Banking Supervision - published "Enhancing Bank Transparency"
September 1998	Basle Committee on Banking Supervision - published "Guidelines to Banks and Bank Supervisors on Public Disclosures in Bank Financial Report"
October 1998	Report of Working Group on Transparency and Accountability
December 1998	International Accounting Standards Committee - IAS 39 Financial Instruments: Recognition and Measurement
1998	National Accounting Council in France- Advice n°98.05 and Recommendation n°98R.01
February 1999	Monetary Authority of Singapore - MAS 608 revised based on MAS Report on Banking Disclosure
March 1999	Institute of International Finance - Working Group of Transparency in Emerging Markets Finance
May 1999	International Monetary Fund and World Bank - Financial Sector Assessment Program
October 1999	Australian Accounting Standards Board - AASB 1033 Presentation and Disclosure of Financial Instruments
February 2002	Fraud at Allied Irish Bank uncovered
November 2002	Monetary Authority of Singapore - MAS 608 revised again

established as a result of the recommendation by the Working Group on Transparency and Accountability. The objective of the program is to prepare a Transparency Report summarising the extent to which an economy meets internationally recognised disclosure standards and a comprehensive "health check" of a country's financial sector. Detailed assessments of observance of relevant financial sector standards and codes, which give rise to Reports on Observance of Standards and Codes (ROSCs) as a by-product, are a key component of the FSAP. The FSAP also forms the basis of Financial System Stability Assessments (FSSAs), in which IMF staff address issues relevant to IMF surveillance, including risks to macroeconomic stability stemming from the financial sector and the capacity of the sector to absorb macroeconomic shocks.

The Basle Committee is also updating its standards and guidance. Since 1995, the Basle Committee on Banking Supervision and the Technical Committee of the International Organisation of Securities Commissions (IOSCO) have conducted an annual survey of public disclosure of trading and derivative activities of banks and securities firms (The Basle Committee on Banking Supervision and the Technical Committee of the International Organisation of Securities Commissions, November 1998). It is the intention of both committees to utilise this survey as an encouragement to banks and securities firms to provide market participants with sufficient information to understand the risks inherent in their trading and derivatives activities.

The Core Principles of Effective Banking Supervision (Basle Committee on Banking Supervision, September 1997) issued by the Basle Committee on Banking Supervision identified twenty five basic principles that need to be in place for effective supervision. The Basle Committee on Banking Supervision encourages the supervisory authorities throughout the world to endorse these Principles. The Basle Committee believes that the financial reporting regime of banks complements that supervisory structure of the banking sector. Principle 21 states that:

Banking supervisors must be satisfied that each bank maintains adequate records drawn up in accordance with consistent accounting policies and practices that enable the supervisor to obtain a true and fair view of the financial condition of the bank and the profitability of its business, and that the bank publishes on a regular basis financial statements that fairly reflect its condition.

Of significance to this thesis is the fact that the Basle Committee called for the provision of timely and accurate information to assess the risk inherent in the banking organisation.

In September 1997, the Basle Committee published "Enhancing Bank Transparency", which investigated the role of information in effective market discipline and effective banking supervision. The report provides general guidance to banking supervisors and regulators as they formulate and improve regulatory frameworks for public disclosure and supervisory reporting, and to the banking industry on core disclosures that should be provided to the public.

Also in September 1998, the Basle Committee issued "Guidance to Banks and Bank Supervisors on Public Disclosures in Bank Financial Report". The paper recommends that supervisors proactively encourage improvements in public disclosure standards. Specifically, the paper recommends that banks make meaningful disclosure in six broad areas. They are financial performance; financial position (including capital, solvency and liquidity); risk management strategies and practices; risk exposures (including credit risk, market risk, liquidity risk, and operational, legal and other risks); accounting policies; and basic business, management and corporate governance information.

The International Accounting Standards Committee (IASC), now IASB, has also been developing International Accounting Standards and joint projects as a response

to the derivative losses. In November 1997, the International Accounting Standards Committee established the Financial Instruments Joint Working Group of Standard Setters (JWG) as a partnership with national standard setters including Australia, France, Germany, Japan, New Zealand, the United Kingdom and the United States. The objectives of the JWG are first, to develop a proposed comprehensive standard on accounting for financial assets and financial liabilities, supported by a basis for conclusions, and appropriate guidance material and examples. Second, to put in place a coherent framework of principles for the recognition and fair value measurement of financial assets and liabilities, and for the presentation and disclosure of gains and losses and hedging activities. Third, the principles that are to be the bases of the standard are those set out in the IASC Discussion Paper, *Accounting for Financial Assets and Financial Liabilities*, as further developed or amended as a result of the work program and deliberations of the JWG. In June 1995, the IASC published IAS 32 *Financial Instruments: Disclosure and Presentation*. In June 1998, it published E62 *Financial Instruments: Recognition and Measurement* which was subsequently issued as an accounting standard, IAS 39 *Financial Instruments: Recognition and Measurement*, in December 1998. IAS 39 requires that all financial assets and liabilities, including derivatives and other hedge transactions, be recognised on the balance sheet. Fair value in accounting for financial instruments is used.²⁹

To improve data quality, in September 1995 the Institute of International Finance published a set of data standards for emerging market economies (*Improving*

²⁹ The accounting standards are prepared and issued by the Accounting Standards Committee of the Institute of Certified Public accountants in Singapore (ICPAS), which begins with the standards of the IASC. Each IAS is examined to determine the propriety of adopting it in the Singapore context and then issued as a Provisional Statement of Accounting Standard (Nobes and Parker; 2000, 284).

*Standards for Data Release by Emerging Market Economies.*³⁰ Furthermore, in April 1996 it issued a follow-up assessment of actual country practices in meeting these standards (*Data Release Standards for Emerging Market Economies: An Assessment of Country Practices*) and an update of this review in April 1997. The Working Group on Transparency in Emerging Markets Finance was established in 1998 by the Institute of International Finance to examine issues of transparency and data disclosure. The working group reviewed these standards and recommended several changes, which the Institute adopted. These were published in March 1999 (*Report of the Working Group on Transparency in Emerging Market Finance*).

2.5.2 National Organisations

Prescribing the manner in which derivative financial instruments are to be recognised, measured and disclosed has been on the agenda of many national accounting regulatory bodies for the past decade (Chalmers, 1999). The Asian Financial Crisis has sparked initiatives from countries as a preventive measure.

Of the countries reviewed in this section, the United States is generally agreed to have the most comprehensive system of accounting regulation in the world (Radebaugh and Gray, 1997). Even before the corporate collapses/losses and the Asian Financial Crisis described in sections 2.3 and 2.4, US regulators investigated issues in relation to financial instruments. The Financial Accounting Standards Board (FASB) in the US embarked on a three-phase project in 1986 to study disclosure, recognition and measurement issues relating to existing, newly created and possible future financial instruments (Fobes, 1998, 7). This project resulted in

³⁰ Institute of International Finance (March 1999). The Institute of International Finance was created in 1983 as a response to the international debt crisis of the early 1980s. It, then, comprised of 38 banks from the leading industrialised countries. It is now a global association of financial institutions. Its members, of more than 300 and with headquarters in more than 50 countries, include most of the world's largest commercial banks and investment banks, as well as a growing number of insurance companies, export credit agencies, multinational companies, trading companies, investment management firms, and multilateral agencies. For further information, please refer to http://www.unescap.org/drrpad/publication/survey2000/ch5_8.htm

three accounting standards to provide guidance on the disclosure of financial instruments.³¹ As observed by many authors (e.g. Kane and DeTrask, 1999), in response to the company failures due to derivative instruments, the FASB issued SFAS 133 *Accounting for Derivative Instruments and Hedging Activities* in June 1998. In general, SFAS 133 requires all derivatives to be recognised on the balance sheet and it requires them to be measured at market value. It also requires the disclosure of qualitative information about the market risk of derivative instruments, including the entity's risk management policy. The US Securities and Exchange Commission (SEC) also proposed a "Market Risk Disclosure Rules" in 1995 that was finalised in January 1997 (Unknown, April 1997). The rules require corporate disclosures about accounting policies for derivatives in the footnotes of financial statements. Also required are new disclosures of information about the risk of loss from market rate or price changes that are inherent in derivatives and other financial instruments.

Australia plays an important role in international accounting standard setting, although its regulators are heavily influenced by the United States and by the United Kingdom (Nobes and Parker, 2000, 95). The Australian Accounting Standards Board (AASB) has issued accounting standards covering the disclosure of financial instruments (ED 65 *Presentation and Disclosure of Financial Instruments* in June 1995 and AASB 1033 *Presentation and Disclosures of Financial Instruments* in October 1999) as well as financial institution disclosures (ED 63 *Additional Disclosures by Financial Institutions* in March 1995 and AASB 1032 *Specific Disclosures by Financial Institutions* in December 1996). However, unlike SFAS 133, AASB 1033 relates only to presentation and disclosure of

³¹ The three standards are SFAS 105 *Disclosure of Information about Financial Instruments with Off-Balance Sheet Risk and Financial Instruments with Concentrations of Credit Risk*, SFAS 107 *Disclosures about Fair Value of Financial Instruments*; and SFAS 119 *Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments*. The standards were issued in March 1990, December 1991 and October 1994 respectively.

financial instruments.³² It does not require mark to market accounting in the statement of financial performance and statement of financial position. Nonetheless, AASB 1033 prescribes disclosure requirements in relation to:

- (i) terms and conditions of financial instruments and the accounting policies adopted;
- (ii) objectives with regard to derivatives, the context of those objectives and the strategies for achieving them;
- (iii) interest rate risk, by class of recognised and unrecognised financial asset and financial liability;
- (iv) credit risk, by class of recognised and unrecognised financial asset;
- (v) net fair value, by class of recognised and unrecognised financial asset and financial liability; financial assets recognised at an amount exceeding net fair value; and
- (vi) hedges of anticipated future transactions.

The Reserve Bank of Australia (RBA) has also participated in multilateral forums, most notably at the Meeting of Finance Ministers and Central Bank Governors held in Washington in April 1998 and in the Working Parties that have been set up to help define and develop the new international financial architecture (RBA Report and Financial Statements 1998). This effort has focused on capital flows, external debt, information disclosure and prudential supervision.

Several other national bodies have also issued standards, proposals or rules relating to trading and derivatives disclosures (Joint Report by the Basle Committee on Banking Supervision and the Technical Committee of the International Organisation of Securities Commissions, November 1998). Japanese ministerial ordinances and circulars were revised in July 1996 to enhance firms' derivative

³² The AASB has strongly rejected SFAS 133 and is waiting for the exposure draft to be issued by the JWG. The JWG is discussed in sub-section 2.5.1. Information is extracted from CPA Australia Information Center website on http://www.cpaonline.com.au/01_information_centre/

disclosures, and in April 1997, the Ministry of Finance in Japan issued regulation about market value accounting for trading activities. The Swiss Bankers' Association issued Guidelines Concerning Risk Management in Trading and Use of Derivatives in 1996. The UK Accounting Standards Board issued Financial Reporting Standard, FRS 13 Derivatives and other Financial Instruments: Disclosure in September 1998. In the same year, the National Accounting Council in France issued Advice no. 98.05 and Recommendation no.98R.01 in relation to market risk disclosures.

The Singapore bank regulators moved in tandem with the international developments. In a move to help local banks build on their strengths amid the regional crisis, Deputy Prime Minister of Singapore, Lee Hsien Loong, outlined policies to position Singapore as the premier banking center in Asia. One of the policies is to raise the bank disclosure standards to international norms and banks are now required to publish details that were previously closely guarded secrets (Ministry of Information, Communication and the Arts, June/July 1998).

2.5.2.1 Disclosure Requirements in Singapore: Pre and Post Corporate Failures and the Asian Financial Crisis

This thesis focuses on non-mandatory accounting information that is strategically disclosed by financial institutions in Singapore. In Singapore, there were no specific disclosure requirements applicable to financial institutions before 31 December 1998. The MAS first issued MAS Notice 608 in 1973. MAS 608 then contained only the prescribed format for the Balance Sheet and Profit & Loss Statement applicable to banks operating in Singapore. There were no prescribed disclosures in MAS Notice 608.

The Barings collapse and the Asian Financial Crisis highlighted a need for greater transparency and disclosure of information (MAS, 1998). In response, a private sector led committee, the Banking Disclosure Standards Committee, was appointed

by the Monetary Authority of Singapore to make recommendations on the standards and practices of Singapore banks with a view to attaining the standard of disclosure in other developed countries. The Banking Disclosure Standards Committee examined the financial reports of three banks in each of the 8 developed countries comprising Australia, Germany, Hong Kong (SAR), Japan, Luxembourg, Switzerland, the United Kingdom and the United States. The report, *Report on Banking Disclosure*, was published in May 1998.

According to the *Report on Banking Disclosure* (May 1998):

1. Banks in the US, UK and Australia fully complied with or exceeded the requirements of IAS 30 *Disclosures in the Financial Statements of Banks and Similar Financial Institutions*;
2. In general, the disclosure standard of Singapore banks was below that of the United States, the United Kingdom and Australia;
3. There was consensus that IAS 30 *Disclosures in the Financial Statements of Banks and Similar Financial Institutions* provides a useful model for good financial reporting and that harmonisation with IAS 30 is desirable.

Furthermore, according to the *Report on Banking Disclosures* (May 1998), the major shortfalls in the disclosures by Singaporean banks relative to the IAS 30 requirements were:

- Lack of differentiation between general and specific loan provisions
- No breakdown of securities held for investment & dealing purposes
- No market value of securities and investments
- No separate disclosure of trading and dealing income
- No breakdown of components of other assets and liabilities
- No net replacement cost of financial derivatives
- No segmental analysis

The principles underlying the recommendations in the *Report on Banking Disclosure* (May 1998) are as follows:

- Provision for losses provides information in relation to the impact on results and financial position and effectiveness of managing credit risk exposure;
- Market values of investments, whether securities for dealing and investment or long term investments provide information in relation to realisable value;
- Details of where and how total profits derived allows the assessment of the quality of earnings;
- Information on concentrations of assets and liabilities allows the identification of potential risk;
- Maturity profile provides liquidity information; and
- Off-balance sheet items provide crucial information on significant bearing of risk.

Since the issuance of the *Report on Banking Disclosures*, the MAS has revised the reporting requirements of banks. These disclosure requirements are consistent with international standards, and with the global trends towards greater transparency in both the banking and corporate sectors. Indeed, the Committee's report goes beyond the disclosure requirements of some developed countries (Lee, 8 June 1998). The MAS endorsed the 1998 recommendations in the *Report on Banking Disclosures* in the form of MAS Notice 608 *Minimum Disclosure in Financial Statements* (MAS Notice 608, 1999) on 8 February 1999. MAS Notice 608 (1999) superceded and replaced MAS Notice 608 (1973). It applies to both Singapore incorporated banks referred to in Section 25(1), (2) and (5) of the *Banking Act* and the financial statements of banks incorporated outside Singapore referred to in Section 25(5) of the *Banking Act* and Section 373(5) of the *Companies Act*. MAS 608 (1999) is effective for financial years ending on or after 31 December 1998 except for the adoption of equity accounting and the financial review section, which are applicable from financial years ending on or after 31 December 1999. MAS 608 (1999) was cancelled and replaced by MAS 608 (2002) with minor changes.

Appendices 6 and 7 provide the pro forma Profit & Loss and Balance Sheet in MAS 608 (1973) respectively. Appendices 8 and 9 provide the pro forma Profit & Loss and Balance Sheet in MAS 608 (1999) respectively. Appendices 10 and 11 provide the detailed disclosure requirements outlined in MAS 608 (1999) and MAS 608 (2002) respectively.

The superceded MAS 608 prescribed only the format of balance sheet and profit & loss statements applicable to banks. There are eight components in the re-issued MAS 608, relating to the balance sheet, profit and loss statements, cash flow statements, off-balance sheet items, accounting policies, segment information, capital adequacy ratio and financial review. All locally incorporated banks examined in this study must comply with all aspects of the re-issued MAS 608. Foreign incorporated banks operating in Singapore must also comply with MAS 608 except for the provision of segment information and a financial review.

The prescriptions in the Australian and International accounting standards relating to financial institution disclosures provide guidance on the components of accounting information disclosures relating to financial institutions. The applicable accounting standards are as follows:

1. General disclosures by banks

- AASB 1032 *Specific Disclosures by Financial Institutions* (issued by the Australian Accounting Standards Board, AASB, in December 1996)
- IAS 30 *Disclosures in the Financial Statements of Banks and other Financial Institutions* (issued by the International Accounting Standards Committee, IASC, in August 1990)

2. Financial instrument disclosures

- AASB 1033 *Financial Instruments* (issued by the Australian Accounting Standards Board, AASB, in October 1999)
- IAS 32 *Financial Instruments : Disclosures and Presentation* (issued by the International Accounting Standards Committee, IASC, in June 1995)

However, the impact of the issuance of both the AASB and IAS standards on the banking/corporate disclosure requirements in Singapore is not immediate. There is a five to nine year gap between the issuance of these accounting standards and the re-issue of MAS 608 in February 1999. This is a significant gap given that it has been said of Singapore (particularly with respect to its regulation of the financial-services sector) that anything not expressly permitted was forbidden (Velten, June 2000). The disclosure requirements in AASB and IAS standards were formally adopted by the MAS in MAS 608 (February 1999) for financial years ended in December 1998. Therefore, it is not expected that banks in Singapore were significantly influenced by the AASB and IAS standards until the MAS publicised its intention to change MAS Notice 608 (1973) requirements in 1998.

Furthermore, given that the time period between the recommendations in the Report for Banking Disclosures (May 1998) and the MAS 608 (1999) formalisation is short, i.e. 6 months, the lead up is unlikely to have affected practice. MAS 608 (1999) was issued in February 1999 but applied to banks' financial years ended 31 December 1998. Given that there is no transitional period and most banks adopt a 31 December financial year end (refer to Table 2.4), there was no opportunity for many banks to adopt the disclosure requirements before the requirements become mandatory.³³ This is important in the context of this thesis because the study investigates the level of voluntary disclosures before and after three events, i.e. the Barings collapse in 1995, the Asian Financial Crisis in 1997 and the MAS Banking Liberalisation Program, also in 1997. For the internal validity of tests reported later in this thesis, it is crucial that there are no other systematic external influences on the level of voluntary disclosures by banks operating in Singapore other than these

³³ According to Table 2.4, the majority of the banks (at least 59%) adopted the December year end, with March being the next most commonly adopted year end (at least 18%). 1% to 6% of banks adopted other months, such as January, June, September or October, as the financial year end.

Table 2.4

Financial Year Ends for Banks between 1994 and 1997

Branch Annual Reports

	1994		1995		1996		1997	
	No.	%	No.	%	No.	%	No.	%
January	1	1	1	1	1	1	0	0
March	26	19	28	20	25	18	25	18
June	4	3	5	4	7	5	8	6
September	5	4	5	4	5	4	5	4
October	6	4	5	4	6	4	6	4
December	79	59	82	58	90	63	88	62
Missing	14	10	15	9	10	5	10	6
Total	135	100	141	100	144	100	142	100

Consolidated Annual Reports

	1994		1995		1996		1997	
	No.	%	No.	%	No.	%	No.	%
January	1	1	1	1	1	1	0	0
March	25	19	26	18	26	18	26	18
June	4	3	5	4	7	5	8	6
September	4	3	4	3	5	3	5	4
October	6	4	6	4	6	4	6	4
December	83	62	84	60	94	66	91	64
Missing	12	8	15	10	5	3	6	4
Total	135	100	141	100	144	100	142	100

Source: 1994 to 1997 branch and consolidated annual reports of banks listed in Appendix 11

events. It is unlikely that there are early adopters prior to the issuance of MAS 608 (1999).

2.6 Summary and Conclusions

This chapter outlines the banking structure in Singapore, specifically focusing on the operations of commercial banks, the regulation/supervision of the commercial banks by the MAS; and the liberalisation of the commercial banks' operations as seen in the MAS Banking Liberalisation Program. The description of the bank losses/collapses and the Asian Financial Crisis highlights the importance of information disclosure by banks and corporations. Various international and national organisations have responded to the high levels of interest and demand for derivative disclosure and disclosures by banks after the Barings collapse and the Asian Financial Crisis. This environment of heightened attention to disclosures in financial reports provides the motivation and incentive for banks in Singapore to engage in voluntary disclosure. As explained in Chapter 3, the incentives for Singapore bank disclosures of information about financial instrument derivatives are likely to vary during the relatively unregulated period of 1994 to 1999. Furthermore, variations are likely to relate systematically to whether the triggers for increased disclosures are specific to firms or regions, and according to the nature of the information needs of users of the financial statements.

CHAPTER 3

LITERATURE REVIEW

3.1 Introduction

The previous chapter provides the institutional background of the commercial banking sector in Singapore. The chapter outlines the Singapore banking structure, various events that affected the banking sector in Singapore in the last decade and the disclosure environment of banks internationally and in Singapore. This chapter provides an overview of the literature on the motivations for voluntary disclosure.

First, the chapter provides an overview of the empirical and analytical research literature on the motivations for voluntary disclosures. Section 3.2 discusses the various voluntary disclosure measures used in prior studies and examines the motivations for voluntary disclosures. Section 3.2 overviews the literature on voluntary disclosures while section 3.3 reviews the literature on selective motivations for voluntary disclosures. Section 3.4 concludes the chapter.

3.2 Overview of Research Investigating the Frequency and Nature of Voluntary Disclosures

Over the past two decades, disclosure research in accounting has burgeoned from a handful of papers on the topic to a substantial, and well-recognised, body of work (Verrecchia, 2001). Various recent papers provide a review on the disclosure literature. In two major review papers, Healy and Palepu (2001) focuses on empirical research on disclosure while Verrecchia (2001) covers the analytical

aspects of disclosure research in an attempt towards a comprehensive theory of disclosure.³⁴

Financial reporting discretion exists in the form of accounting and disclosure decisions. Financial reporting is a potentially important means for management to communicate firm performance and governance to outside investors (Healy and Palepu 2001, 415), and positive accounting literature provides significant evidence that managers make accounting choices that maximise their welfare and at times, the firm's wealth. Research in this area has focused primarily on accounting accruals and accounting policy choices.³⁵ However, a significant body of research has also developed to explain voluntary disclosure. Studies of the consequences of accounting policy choices have demonstrated the effects of accounting standards on stock prices (Leftwich et al., 1981) and the effects of accounting method changes on stock prices (Holthausen, 1981). For a comprehensive review of the literature in relation to earnings management and the value relevance of accounting accruals and accounting policy choice, refer to Healy and Palepu (2001) and Fields et al. (2001).

Disclosures about firms come in the form of mandatory disclosures such as regulated financial reports prepared by the firms and voluntary disclosures by the firms, such as management discussion and analysis, analyst presentations and conference calls, press releases, internet sites and other corporate reports. Similar to research in the area of accounting policy choice research, research on voluntary

³⁴ Core (2001) and Dye (2001) provide critical reviews of Healy and Palepu (2001) and Verrecchin (2001) respectively. Dye (2001, 184) believes that there is no conclusive theory on mandatory disclosures in accounting but there is a theory of voluntary disclosures. The theory of voluntary disclosures is a special case of game theory with the following central premise: any entity contemplating making a disclosure will disclose information that is favourable to the entity, and will not disclose information that is unfavourable to the entity.

³⁵ Choices as to accounting methods, changes in methods and accrual strategies for earnings management have been examined by Zmikevski and Hagerman, 1981; Healy, 1985; DeAngelo, 1983; Dechow and Sloan, 1991; Lewellen et al., 1996; Jones, 1991; Watts and Zimmerman, 1986, amongst others. See Healy and Palepu (2001) and Fields et al. (2001) for a review of the literature in positive accounting theory focusing on management financial reporting choices.

disclosure examines the motivations and the consequences of management disclosure decisions. Several studies relevant to this thesis have investigated the motivations for voluntary disclosure in a regulated environment that eventually results in mandatory disclosure.³⁶

Sub-section 3.2.1 reviews the different proxies for voluntary disclosure and Sub-section 3.2.2 reviews a sample of the literature relating to the different types of disclosure decisions that are the focus of the current study. It explains why, in the context of prior research, this study's focus on Singapore banks' voluntary financial derivative disclosures is appropriate and timely. The overview explains much of the theoretical underpinning of the hypothesis development in chapter 4. The main motivations relate to signaling, disclosure costs, the usefulness perspective, and capital market consequences. The thesis focuses only on the motivations for voluntary disclosures. For reviews of the consequences of voluntary disclosure, refer to Healy and Palepu (2001); and Verrecchia (2001).

3.2.1 Types of Voluntary Disclosures

Firms provide mandatory disclosure through regulated financial reports, including the financial statements, footnotes, management discussion and analysis, and other regulatory filings. In addition, firms have many avenues for providing additional disclosures if they wish to convey information to various parties. Prior research finds that firms' voluntary disclosures include the following:

³⁶ The interaction between voluntary and mandated disclosure can result in increase in the incentives for more of the former, i.e. costly disclosures; or less of the latter, i.e. costless disclosures. (see Dye, 1986 and Verrecchia, 2001, 141). Gigler and Hemmer (1999) also suggests that mandatory disclosure has a confirmatory role as it creates an environment in which managers can credibly communicate their more value-relevant voluntary disclosure.

- earnings disclosures (Bradbury, 1991; Price, 2000;)
- management forecasts (Frankel et al., 1995)
- conference calls (Tasker, 1998; Frankel et al., 1999)
- press releases (Waterhous et al., 1993; Frost, 1997; Chen et al., 2002; Lang and Lundholm, 2000)
- interim reports (Leftwich et al., 1981)
- annual reports in general (Barrett, 1976; Barrett, 1977; McNally et al., 1982; Chow and Wong-Boren, 1987; Cooke, 1989; Cooke, 1991; Frost and Pownall, 1994; Hossain and Adams, 1995; Hossain et al., 1995; Meek et al., 1995; Roberts et al., 1996; Botosan, 1997; Craig and Diga, 1998; Brown and Deegan, 1999; Cormier and Magnan, 1999; Bhojraj et al., 2000)
- specific sections of the annual reports such as:
 - corporate governance (Carson, 1996)
 - corporate social reporting (Tsang, 1998; Williams, 1999)
 - derivative financial instruments (Chalmers, 2000; Chalmers, 2001b)
 - inventory (Bernard and Noei, 1999)
 - receivables (Stober, 1993)
 - reserves (Craswell and Taylor, 1992)
 - segment information (Bradbury, 1992; Aitken et al., 1997; Wysocki, 1998)
 - defined benefit pension plans (Scott, 1994)
 - unconsolidated subsidiaries (Wiedman and Wier, 1999)
- other corporate reports/submissions (brochures in Klumpes, 1995; stock exchange submissions in Frost and Kinney, 1996; Lewellen et al., 1996; Byrd et al., 1998; Brown et al., 1999; Seppanen, 2000)

Voluntary disclosures can also come in the forms of analysts' presentations, company newsletters, letters to shareholders, analysts' personal contact with managers and internet sites. The reasons for one form of disclosure in one context may be relevant to other types of disclosures in other contexts. The thesis evaluates

the motivations for voluntary disclosure of derivative activities by all banks operating in Singapore from 1994 to 1997.³⁷ There are two reasons for focusing on annual reports. First, the thesis investigates motivations for voluntary disclosure of derivative financial information. Such financial disclosures are publicly available in annual reports. Second, annual reports are the main forms of communication by banks, or other entities, to users such as investors and regulators.

3.2.2 Assumptions Underpinning the Voluntary Disclosure Literature

As with any research, certain key assumptions underpin the voluntary disclosure literature. The assumptions applied in the voluntary disclosure literature typically include:

- information asymmetry: managers have more information than stakeholders (e.g. Dye, 1985; Jung and Kwon, 1988; Frost, 1997; and Healy and Palepu, 2001);
- truthful reporting: disclosures made for the intended recipients are credible (e.g. Waymire, 1983; Ajinkya and Gift, 1983; Pownall and Waymire, 1989; and Feltham and Xie, 1992);
- disclosure is costly (e.g. Darrough and Stoughton, 1990; Darrough, 1993; Verrecchia, 1983; and Wagenhofer, 1990); and
- the benefits of disclosure exceed the costs of disclosure (e.g. Dye, 1986; Bartov and Bodnar, 1996; Byrd et al., 1998; and Healy et al., 1999).

Information asymmetry between the managers and owners/stakeholders is assumed whereby managers have superior information about the activities of the firm and its expected future performance. This is based on the fact that the manager is involved in the daily operations of the business while the owners and other stakeholders are distant from the operations and owners have delegated their managerial authority to the managers. Furthermore, information held by the manager is assumed to be

³⁷ The reason for this focus is discussed in Section 1.2.

credible to make it worthwhile for the managers to provide disclosure and to achieve the desired objectives. Adverse selection and moral hazard may result from information asymmetry. Adverse selection is the situation in which one party of the contract knows information that at least one other party does not and benefits by not communicating that information to the other party (parties) before the signing of the contract. Moral hazard arises when the party does not communicate the information after the contract is signed. Regulation and disclosures by management, whether mandatory or voluntary, are measures aimed to prevent market failure resulting from information asymmetry. Beaver (1998) provides a review of the information asymmetry literature. Truthful reporting is typically justified by appealing to the potential litigation and human capital erosion costs (Verrecchia, 2001, 143).

Disclosure results in direct disclosure costs, which are the costs of preparing and disseminating information for traders' inspection (Verrecchia, 1983). A broader definition of disclosure costs is adopted in this review. Under this definition, the costs of disclosure are both direct and indirect. They include:

- proprietary costs (Verrecchia, 1983; Darrough and Stoughton, 1990; Wagenhofer, 1990; Edwards and Smith, 1996; Gray, 1981; Meek et al., 1995). These costs are the loss of profits as a result of increased competition when a firm discloses highly competitive information (Wagenhofer, 1990);
- litigation costs such as the costs of stakeholders taking action against a firm for not disclosing information relevant to the value of their investment in the firm (Skinner, 1994; Meek et al., 1995);
- information processing costs (Gray, 1981; Verrecchia, 1983; Meek et al., 1995);
- dysfunctional consequences of information overload (Gray, 1981); and
- political costs such as a reduction in profits due to regulation, union demands, or adverse media reports based on information disclosed in annual reports (Wagenhofer, 1990).

Disclosure costs prevent firms from making full disclosures but firms will disclose information if the benefits of disclosure outweigh the costs of disclosure.

3.2.3 *Motivations for Voluntary Disclosure*

Studies investigating voluntary disclosures consistently find associations between voluntary disclosures and firm's economic attributes. Examples of firms' economic attributes associated with disclosure policies include:

- auditor type (Craswell and Taylor, 1992);
- foreign listing status (Cooke, 1989; Meek and Gray, 1989; Cooke, 1991; Hossain et al., 1993; Hossain et al., 1995; and Meek et al., 1995);
- industry (McKinnon and Dalimunthe, 1993);
- level of minority interest (McKinnon and Dalimunthe, 1993; Aitken et al., 1997);
- leverage (Leftwich et al., 1981; Bradbury, 1992; Hossain et al., 1995; Leftwich et al. 1981);
- ownership diffusion (Aitken et al., 1997);
- size (Leftwich et al., 1981; McNally et al., 1982; Cowen et al., 1987; Cooke, 1989; Cooke, 1991; Bradbury, 1992; Hossain et al., 1995; and Meek et al., 1995; and Aitken et al., 1997).

Section 4.6 further discusses firms' economic attributes that are investigated as control variables in this thesis.

In their review of the voluntary disclosure research, Healy and Palepu (2001) outline six motives for voluntary disclosure as follows: capital markets transactions; corporate control contest; stock compensation; litigation cost; management talent signaling; and proprietary cost. Each of these motives is associated with one or more of the firms' economic attributes already found to be associated with the firms' disclosures. Healy and Palepu (2001) describe the motives as follows. The capital markets transactions hypothesis predicts that managers can reduce their cost of capital by reducing information risk through

increased voluntary disclosure. Studies such as Lang and Lundholm (1993), Lang and Lundholm (1997) and Healy et al. (1999) document positive associations between corporate disclosures, measured by analysts' ratings and the issuance of new capital.

The corporate control contest hypothesis is motivated by evidence that the board of directors and investors hold managers accountable for current stock performance. As such, managers use corporate disclosures to reduce the likelihood of undervaluation, to justify poor earnings and during hostile takeovers. Brennan (1999) finds that target firms are more likely to make management earnings forecasts during contested takeover bids.

According to the stock compensation hypothesis, compensation schemes provide incentives for managers to engage in voluntary disclosures for reasons such as to meet restrictions imposed by insider trading rules, to increase the liquidity of the firm's stock and to reduce contracting costs. Noe (1999), Aboody and Kasznik (2000); and Miller and Piotroski (2000) find that disclosure decisions increase with stock compensation.

According to the litigation cost hypothesis, legal actions can encourage firms to increase voluntary disclosure to reduce litigation costs (Skinner, 1994) or reduce managers' incentives to provide disclosure, especially forward-looking information, if managers believe that the legal system penalises forecasts. Skinner (1994) finds that litigation cost is lower for disclosing firms while Francis et al. (1994) find that disclosure is not a deterrent to litigation.

Trueman (1986) argues that management releases earnings forecasts to signal their planning ability, rather than to convey good news. However, there is no known evidence to support or refute this human capital signaling hypothesis. Although not specifically identified in Healy and Palepu (2001), a significant amount of research

has been conducted in the area of information signaling (Frantz, 1997; Gaeremynck and Veugelers, 1999; Karpoff and Rankine, 1994; Ross, 1979; Shailer, 1999; Standish and Ung, 1982). This line of research finds that managers have incentives to reveal information about the firm through financial or accounting signals to achieve objectives such as moving the firm's share price and thus, improving a stock's liquidity (Rankine and Stice, 1997, Standish and Ung, 1982); increasing the probability of raising funds (Gaeremynck and Veugelers, 1999); and the pricing of banks loans (Shailer, 1999).

The proprietary cost hypothesis examines the economic forces, such as competition, that influence disclosure. Proprietary costs can influence disclosure levels either in a positive or negative direction. A positive impact resulting from proprietary costs could be due to recognition of the market potential for increased competition (Dontoh, 1989; Darrough and Stoughton, 1990). In this case, managers disclose more information to demonstrate their superiority over competitors. On the other hand, increased competition can mean smaller market share with the entry of new market players (Verrecchia, 1983; Edwards and Smith, 1996; and Price, 2000). This can lead firms to either disclose more "bad news" to defer new market entrants, or to disclose less "good news".

This thesis focuses on the information signaling and proprietary cost motivations in Sections 3.3 and 3.4. The motivations derived from capital markets transactions, corporate control contest and stock compensation are either irrelevant to the banking sector in Singapore during the study period or they require share price information, board composition and/or compensation plan information that is beyond the scope of the annual reports.

3.3 Theory Application to Specific Events

This section reviews the literature investigating the changes in the level of voluntary disclosure of derivative financial information after the Barings collapse in

1995, the Asian Financial Crisis in 1997 and the MAS Banking Liberalisation Program Announcement in 1997. The predicted change in the level of voluntary disclosures is based on the signaling and proprietary cost motivations outlined in Gaeremynck and Veugelers (1999), Healy and Palepu (2001), and Verrecchia (2001).

3.3.1 Signaling Perspective

Signals are observed actions or choices by managers that may be interpreted as indicators of the relative qualities of their firms (Shailer, 1999). According to Ross (1979); Akerlof (1970) and Arrows (1972) first studied the concept of signaling in the context of job and product markets (job signaling model). Ross (1979) later examined the financial signaling model. The signaling literature assumes that sellers of information (managers) have more information about the value of the corporation than do buyers (outside investors). Given the presence of information asymmetry,

“...buyers cannot distinguish among products with different quality
... sellers may refrain from trading and the market may collapse...
One mechanism that corrects such a market failure is the signaling
framework, where sellers signal their product quality to the
uninformed buyer. (Bar-Yosef and Livnat, 1984, 301).”

Disclosure can come in the form of full disclosure, non-disclosure or partial disclosures (Wagenhofer, 1990). The early disclosure literature argues that parties possessing superior information or insight will signal their knowledge either directly or through their actions to achieve some economic benefit (Verrecchia, 1983). Spence (1973), in a seminal study, suggests that more talented workers attempt to signal their talent to potential employers by acquiring more education. Grossman (1981) and Milgrom (1981) both conclude that the possessor of superior information would be obligated to follow a policy of full disclosure. This is

because in a buyer-seller situation and similarly in a manager-stakeholder situation, if "sellers" of information withhold information, buyers will be suspicious of the quality of the product and discount its quality to the point that sales person or manager will always reveal all that he or she knows. Furthermore, optimal contracts between manager and fund provider, regulation and the presence of information intermediaries such as financial analysts and rating agencies provide incentives for full disclosure by managers (Healy and Palepu, 2001, 408).

In the absence of proprietary costs, all relevant news is disclosed; but as proprietary costs increase, only more favourable news is disclosed (Scott, 1994). As explained in Scott (1994, 28), the more favourable the news, the more positive the influence on the share price and the greater the incentive to disclose. Conversely, the larger the proprietary costs, the greater the decrease in firm value upon disclosure of bad news and the greater the incentive not to disclose. However, non-disclosure creates uncertainty among stakeholders and is viewed by stakeholders as either the withholding of bad news or the absence of good news about the firm (Verrecchia 1983; Dye, 1985). Hence, withholding information will bid down the value of the firm to the point where the firm will signal the superior information that it holds. Therefore, Wagenhofer (1990) argues that there is always a full-disclosure equilibrium but never a non-disclosure equilibrium unless the disclosure costs are very high.

From the above discussion, disclosures can be distinguished between good and bad news information and managers are motivated to disclose good news. According to Skinner (1994), managers can also be motivated to disclose bad news to discourage entry and to reduce competition (Verrecchia, 1983; Dought, 1989; and Darrough and Stoughton, 1990). Skinner (1994) argues that legal liability and reputational effects also motivate bad news disclosure. The results in Skinner (1994) support the argument and indicate that bad news disclosures generate larger stock price

reactions than good news disclosures. These studies are discussed in more detail in Sub-section 3.3.2.

In this study, partial-disclosure of favourable information is investigated for three reasons. First, disclosure policies take into account proprietary costs of disclosure and full disclosure is not supported by empirical evidence of considerable managerial discretion in determining disclosure policies (Craswell and Taylor, 1992). Second, non-disclosure of derivative financial information should be unlikely for financial institutions given that derivative instruments are part of the daily operations of financial institutions and there is increased use of derivative instruments by financial institutions. Third, assuming that financial institutions will make some disclosure in relation to derivatives, it will be difficult to assess whether the disclosure is favourable or unfavourable unless the bank discloses a financial risk management strategy contrary to the use of derivatives or the bank subsequently fails. When a bank fails, as in the case of Barings, Daiwa Bank and Allied Irish Bank discussed in Section 2.3, evidence sometimes indicates that there was insufficient disclosure of information. Any distinction of such a nature is subjective and depends on the nature of the operations and circumstances of failure and reporting. There are no bank failures in Singapore during the period of this study.

According to Gaeremynck and Veugelers (1999), managers can credibly signal private information by using financial signals and/or accounting signals. Examples of financial signals include:

- declaration of stock splits and stock dividends to influence corporate financing policy (Rankine and Stice, 1997);
- increase in the level of debt to increase the market's perception of firm value (Ross, 1979).

Examples of accounting signals include:

- choice of auditor, i.e. the use of high quality international accounting firm auditor to signal to the market that the disclosures of the firm are high quality (Baz-Yosef and Livnat, 1984; Datar et al., 1991; and Craswell and Taylor, 1992);
- asset revaluation (Lin and Peasnell, 1994; Gaeremynck and Veugelers, 1999);
- choice of foreign stock markets with more stringent disclosure requirements for listing to convey to investors management's confidence in its future earnings (Cheung and Lee, 1995);
- merger announcement to indicate more growth opportunities within the industry (Ekbo, 1985; and Akhigbe and Madura, 1999);
- name change that conveys information to investors, particularly about the firm's business lines or its future performance (Karpoff and Rankine, 1994); and
- voluntary disclosure of information in financial statements (Trueman, 1986; Ross, 1979) including:
 - loan loss provision signals of financial strength or market value (Wahlen, 1994; Beaver and Engel 1996; Ahmed et al., 1999);
 - provisioning policy indications of favourable conditions to come through (Strong and Meyer, 1987; Elliot and Shaw, 1988; Zucca and Campbell, 1992; Frantz, 1999); and
 - private information about firm valuation, provided through stock dividends (Rankine and Stice, 1997).

This study focuses on voluntary disclosure *via* accounting signals in the financial statements, i.e. voluntary disclosure of derivative financial information. Alternative signals may be used but accounting signals are presumably more cost effective than alternatives; and also most flexible in terms of the amount and content of what is reported. In the case of derivative financial information, voluntary disclosure is the only signaling option that can be adopted.

A manager's personal motivation to disclose information comes, not with a desire to disclose news *per se*, but to provide a certain signal. Each type of signal possesses different information content. According to Verrecchia (1983), the act of disclosure to achieve some economic benefit has been studied by economists in a variety of institutional settings, and the evidence overwhelmingly supports managers' intention to signal.

3.3.2 *Proprietary Cost Perspective*

The costs of disclosure hinder full disclosure. Proprietary costs were invoked by Verrecchia (1983) to explain why firms would not engage in full disclosure of good news (Marshall and Weetman, 2002, 33). Verrecchia (1983) refers to proprietary costs broadly as the cost of collecting, processing, auditing and disseminating information. This encompasses a narrower definition which is that proprietary cost arise when information is revealed that potentially damages the firm because it can lead to increased competition or government regulation (Choi and Levich, 1990) or any possible reduction in future cash flows attributable to disclosure (Scott, 1994, 27). The latter definition is the more usual understanding of proprietary costs. An example would be the competitive disadvantage to a bank that discloses its hedging/speculative strategies to other banks that are developing their own strategies in competition. This study adopts the latter definition for application to a context of increased competition with the issuance of new licences to operate banking business in Singapore as a result of the MAS Banking Liberalisation Program. The proprietary cost hypothesis is discussed in more detail in Verrecchia (2001) and Dye (2001).

Several recent analytical and empirical studies examine managers' incentives to use disclosures to affect the behaviour of product-market competitors.³⁸ It should be

³⁸ Studies that investigate higher level of disclosure with competition include Verrecchia (1983), Dontoh (1989), Darrough and Stoughton (1990), and Newman and Sansing (1993), Edwards and Smith (1996); Clinch and Verrecchia (1997); and Price (2000).

noted that there are two competing arguments about the level of disclosure as a result of competition, one arguing for increased disclosure and the other for decreased disclosure. The Verrecchia (1983) model states that managers exercise discretion by choosing the point, or the degree of information quality, above which the manager discloses what he/she observes and below which he/she withholds information. This is known as the threshold level of disclosure. Verrecchia argues that the manager's decision to disclose information to investors is influenced by concern that such disclosures can damage the firm's competitive position in product markets (Verrecchia, 1983; Darrough and Stoughton, 1990; Wagenhofer, 1990; Feltham and Xie, 1992; Newman and Sansing, 1993; Darrough, 1993; and Gigler, 1994). Verrecchia (1983) concludes that market competition may provide disincentives for voluntary disclosure because of the associated increased proprietary costs. Disclosure of information that is potentially useful to competitors is a sensitive issue.

Edwards and Smith (1996) provide evidence as to the potential impact of perceptions about costs, particularly competitive disadvantage costs, on the supply of mandatory and voluntary segmental information. Results from a postal questionnaire supported by three in-depth interviews show that levels of voluntary segmental disclosure after the introduction of *Statement of Standard Accounting Practice 25 (SSAP 25) Segmental Reporting* in the UK were low. Furthermore, firms were concerned about competitive disadvantage related to segmental reporting.

Price (2000) examines earnings disclosures in the market for new franchises where financial disclosures that align with the investment unit are voluntary and unstandardised, and regulatory oversight of filings is inconsistent or absent. The author purports that public disclosure of earnings-related data can impose economic loss on the franchisor by making proprietary information available to competitors. Results support this prediction in that franchisors are less likely to disclose

earnings-relevant information as the probable cost of releasing proprietary information increases, e.g. more populated industries. Furthermore, larger franchisers with more outlets or more information, are more likely to withhold information.

In summary, results in Verrecchia (1983), Edwards and Smith (1996), and Price (2000) indicate that concerns about competitive disadvantage generally reduces disclosure levels. On the other hand, studies such as Dantoh (1989) and Darrough and Stoughton (1990) suggest that increased disclosure comes with competition. Dantoh (1989) compares firms that maximise current market value and firms that maximise terminal value. Firms of the former type will disclose favourable information to boost market price. They will also disclose unfavourable information to discourage competition. The Darrough and Stoughton (1990) model predicts that competition encourages voluntary disclosure through the threat of product market entry. It extends Verrecchia's (1983) model to endogenise proprietary costs and identify three players (the incumbent firm, the potential entrant and the financial market) in their study of incentives to disclose. Darrough and Stoughton (1990) show that managers of the incumbent firm may disclose bad news to discourage entry. They show that a firm's disclosure policy depends on not only the financial market valuation but also the potential entrant's prior belief about its private information and the cost of entry. The disclosure of favourable proprietary information can raise financial market valuation as well as cause the potential entrants to review their beliefs upward about whether entry may occur. Conversely, the release of unfavourable proprietary information has the effect of lowering financial market valuation and revising the entrant's beliefs downward such that entry may be deterred.

3.4 Conclusion

Based on the preceding discussion, this study focuses on partial voluntary disclosures of derivative financial information, an accounting signal, to reveal

favourable information about the bank. This focus provides the basis for a model explaining how managers of banks operating in Singapore are motivated to engage in higher levels of voluntary disclosures. The disclosures are partial because full disclosure is unlikely, given that there are incentives for banks to provide less than full disclosure for competitive reasons. The 1998 MAS increase in its mandatory disclosure requirements applicable to banks indicates that the disclosure environment prior to the revision is less than complete. An insufficiency of disclosure by banks is acknowledged in the 1998 MAS *Report on Banking Disclosure*.

Voluntary disclosure in annual reports can be used to communicate management information to employees (Bartlett and Jones, 1997), shareholders (Steinherr and Huvencers, 1994; Bartlett and Jones, 1997; Nager, 1999) and other outsiders (Ahmed et al., 1999) and as a marketing communication strategy (Kessler, 1998). Management can use voluntary disclosures to indicate that it understands the firm's competitive strengths and weaknesses and is proactively weeding out marginal lines of business or inappropriate risk management practices.

A firm's disclosure policy is a strategic tool that provides economic benefits if managed properly (Cornier and Magnan, 1999). Ultimately, voluntary financial statement disclosures allow stakeholders such as investors, lenders and clients to see that the organisation as a whole supports the strategy by which management seeks to achieve a high level of performance. Banks investigated in this study can use voluntary disclosure to reveal their managerial capability of monitoring the financial environment, especially in adverse situations. In particular, hypotheses developed in the following chapter predict that banks will engage in a higher level of voluntary disclosure after an event affecting the banking industry and providing incentives for voluntary disclosures. The managers of banks disclosing more information in the financial statements are attempting to signal to financial statement users that the banks are capable of monitoring their environment and

managing the impact of events that might otherwise detrimentally affect the banks. The banking environment varies according to financial sector trends, and according to events specific to the banking sector. Similarly, the disclosure incentives vary according to the firm or regional specificity of the events, and according to the information needs of different financial statement users. These variations in incentives are described in the following chapters, which expand on the theory summarized in this literature review.

CHAPTER 4

HYPOTHESIS DEVELOPMENT

4.1 Introduction

This chapter extends the analysis in Chapter 3 by investigating the incentives for Singapore banks' derivative financial instrument disclosures from the signaling and proprietary costs perspectives. It draws from the previous chapter's description of the events affecting the Singapore banking sector to develop hypotheses concerning banks' levels of voluntary disclosure of derivative financial information subsequent to the Barings collapse, the Asian Financial Crisis and the announcement of the MAS Banking Liberalisation Program. The signaling perspective distinguishes between firm-specific and regionalised events that are expected to have differing impacts on banks' levels of voluntary disclosures.

Based on the signaling perspective, it is possible to identify two specific events that increased the intensity of the debate on disclosure issues in Singapore. These events are the Barings collapse in 1995 and the Asian Financial Crisis in 1997. These events are discussed in Sub-sections 2.3 and 2.4 respectively. Both events occurred in Singapore and received international attention. It is likely that after each event, banks increased their voluntary disclosure of derivative financial information as a signaling tool if the event provided sufficient incentives for disclosures and if the impact of the event extends beyond a single reporting entity. Firm-specific events have effects that are restricted to a single reporting entity while regionalised events have a more wide-spread impact for other firms in the industry or geographic region. In this study, the Barings collapse is a firm-specific event while the Asian Financial Crisis is a regionalised event. The direct effects of the Barings collapse are restricted to one bank, while the effects of the Asia financial crisis extend to all banks in the Asia region.

The proprietary cost perspective is applied to the cost-benefit framework concerning the effect of disclosing proprietary information upon the issuance of privilege banking licences. The proprietary cost perspective leads to the prediction that banks that hold or seek privilege licences increase their voluntary disclosure of derivative financial information after the announcement of the MAS Banking Liberalisation Program. It also leads to the prediction that these banks have higher disclosures than other banks in the period after the announcement.

Disclosure motivations based on the contracting theory literature are also investigated. Section 4.4 discusses the differences in voluntary disclosure levels of consolidated and branch annual reports of banks operating in Singapore. It gives rise to the prediction that consolidated annual reports have higher voluntary disclosures than branch annual reports. The differences are predicted on the basis of an assumption that consolidated and branch annual reports cater to different user groups with different information needs.

Drawing from the literature reviewed in the previous chapter, this chapter develops hypotheses to predict:

- significant increase in voluntary disclosure levels in the branch annual reports after the Asian Financial Crisis (H1b) but not after the Barings collapse (H1a);
- significant increase in voluntary disclosure levels in the consolidated annual report after the MAS Banking Liberalisation Program announcement (H2a and H2b); and
- significant differences between the consolidated and branch annual reports (H3, H4a and H4b).

Section 4.2 develops H1a and H1b based on the signaling perspective, while Section 4.3 develops H2a and H2b based on the proprietary cost perspective. Section 4.4 develops H3, H4a and H4b based on the usefulness perspective. Section 4.4 concludes the chapter.

4.2 Signaling Perspective: Impact of the Barings Collapse and the Asian Financial Crisis

According to Kanagaretnam et al. (2000), managers will have an incentive to communicate their superior information about the bank's favourable future prospects to alleviate an undervaluation problem. Such communication allows a bank manager to distinguish his/her strong bank from other "weak" banks. Skinner (1994) and Shailer (1999) also argue that managers of better-performing firms have incentives to make voluntary disclosures and provide signals to differentiate themselves from other firms that are not performing as well. Applying this line of argument, in general, managers of non-troubled banks have incentives to differentiate and distinguish their banks from the other, troubled, banks. In this study, the troubled banks are Barings PLC, and banks outside Singapore in the Asia region in relation to the Barings collapse and the Asian Financial Crisis respectively.³⁹

Both the Barings collapse and the Asian Financial Crisis were major shocks to the world of finance and investment. However, the events are unlikely to have identical effects on banks' disclosure. Although both events attracted international attention, the Barings collapse is a firm-specific event with a localised impact in the sense that the Barings collapse directly affected only one bank in Singapore, although its effects were sufficient to bring about the collapse of Barings PLC and to send warnings to other banks to ensure they monitored and managed their dealers better. Although there were also calls for increased disclosures by national and international organisations after the Barings collapse, it is unlikely that they gave rise to strong incentives for disclosures to increase, across the board for all banks.

³⁹ It is recognised that managers also release information to the market through a number of sources including annual and quarterly reports, press releases and financial analysts. However, these provide noisy signal about the firm's current and future economic performance unless supported by confirmatory disclosures within the financial statements.

Banks, other than Barings, are unlikely to voluntarily increase their disclosure since doing so could be seen as an admission of guilt in such an environment. From a signaling perspective, it could be perceived that suddenly increased disclosures are a belated report of information that should already have been provided in previous financial statements. As such, they could expose banks to litigation by stakeholders, or at least adverse publicity, for failing to inform the market about relevant dealings in derivatives.⁴⁰

From a proprietary cost perspective, Singapore bank managers are likely to have perceived that there were strong disincentives to disclose information concerning derivatives. While publicity focused upon Barings and their derivative losses, banks that reported details of extensive derivatives transactions risked being compared to Barings rather than distinguished from that bank. Their prior proprietary cost incentives to not reveal information about their use of derivatives for risk management remained after the Barings collapse.

Since the Barings collapse has no direct implications for banks operating in Singapore, hypothesis 1a predicts that banks operating in Singapore did not increase their disclosure levels after the Barings collapse.

Hypothesis 1a:

The level of voluntary disclosure of derivative financial information in the branch annual reports of banks operating in Singapore is no higher after the Barings collapse (1995) than before the Barings collapse (1994).

In contrast, the Asian Financial Crisis directly affected all banks within the Asia region. It affected banks in the Asia region: Hong Kong, Indonesia, Japan, Korea,

⁴⁰ The wait-and-see attitude is justifiable as the MAS re-issued the MAS 608 in 1998, applicable to financial year ending 31 December 1997. This is three years after the Barings collapse and almost immediately after the Asian Financial Crisis.

Malaysia, Philippines, Singapore, Taiwan and Thailand. Indonesia, Thailand and Korea were the worst hit countries, requiring assistance from the International Monetary Fund. Applying signaling theory arguments, managers of banks operating in Singapore would be motivated to significantly increase their level of voluntary disclosure of derivative financial information in the annual reports prepared for Singapore operations (branch annual reports) after the Asian Financial Crisis. This increased level of voluntary disclosure would allow banks operating in Singapore to differentiate themselves from other banks in the region that were more severely affected by the Asian Financial Crisis. It would differentiate them by not only demonstrating that they were prepared to provide more information, but also by demonstrative their use of derivatives, where appropriate to hedge against the financial risks, especially currency, interest rate and liquidity risks, that threatened banks in other Asian countries.

Hypothesis 1b:

The level of voluntary disclosure of derivative financial information in the branch annual reports by banks operating in Singapore is higher after the Asian Financial Crisis (1997) than before the Asian Financial Crisis (1996).

The reference documents for H1a and H1b are branch annual reports. All banks operating in Singapore, regardless of whether they are local or foreign, lodged branch annual reports. Their lodgment with the Registry of Companies and Businesses (RCB) is a mandatory requirement for all companies and business registered with the RCB. The annual reports are accessible by the public but the main users are regulators: Monetary Authority of Singapore and the Registry of Companies and Businesses (RCB) use the report for monitoring purposes.

4.3 Proprietary Costs Perspective on the MAS Banking Liberalisation Program

Models of voluntary disclosure in a situation of information asymmetry, as discussed in sub-section 3.3.2, are almost universal in agreeing that some information will be given but some will be withheld (Marshall and Weetman, 2002). This study adopts the Darrough and Stoughton (1990) line of argument in that competition encourages voluntary disclosure by the new entrant as the environment under study creates more incentives than disincentives to disclose based on the reasons outlined in the remainder of this section.

One factor influencing incentives to disclose is the fact that there have been calls, at both international and national levels, for higher levels of disclosure since the Barings collapse and the Asian Financial Crisis. A further reason for increased incentives to disclose is that the MAS liberalisation outcome is expected to generate greater competition and more freedom in the market forces of the banking sector. In admitting banks to operate with the new licences, the MAS considered the banks' financial condition, reputation and future operations. Disclosure in annual reports is an avenue whereby new entrant banks can reveal information for the MAS's evaluation. The third reason relates to the similarity of the scenarios presented by Darrough and Stoughton (1990), and featured in this study. Darrough and Stoughton (1990) identified three players (the incumbent firm, the potential entrant and the financial market) in their study of incentives to disclose. Verrecchia (1983) and other related studies such as Clarkson et al. (1994); Clinch and Verrecchia (1997); Edwards and Smith (1996); and Price (2000), investigate the levels of voluntary disclosure by incumbent firms only. This study investigates the level of voluntary disclosure by both incumbent firms (banks with privilege licences) and new entrants in a setting with the regulator influencing incentives. In this study and in line with Darrough and Stoughton (1990), banks with privilege licences are considered the incumbent firms while banks who are applying for privilege licences are the potential entrants.

Privilege licences are the new licences announced in the MAS Banking Liberalisation Program in 1997 (see Sub-section 2.2.3 for more detail). The financial market is affected by the regulator, in this case, the regulator of banks, i.e. the MAS. Competition may provide disincentives for voluntary disclosure (Verrecchia, 1983). However, the threshold of disclosure depends upon the net proprietary cost of making such disclosures. On one hand, banks may be reluctant to communicate information to their competitors. On the other hand, disclosures about the banks' financial risk management strategies including financial derivative policies and holdings are likely to increase their chances of obtaining the new licences. They are likely to increase those chances because they enhance the banks' reputation for good financial reporting.

As long as the benefits of disclosure outweigh the costs of disclosure, resulting in a favourable net proprietary cost, banks will be inclined to increase their level of disclosure. Benefits of disclosure are expected to outweigh the costs of disclosure due to the wider operational scope banks are allowed under the new licences and privileges. As such, there are likely to be higher levels of disclosure by new entrants despite the presence of increased competition and proprietary costs.

According to Darrough and Stoughton (1990), almost any information voluntarily revealed through formal or informal channels such as financial statements, press conferences or discussions with reporters can have strategic implications. From the regulatory trends in the US, it can be seen that there has been a major consolidation of local banks and an expansion in the operations of foreign banks.⁴¹ The MAS's

⁴¹ See Mishkin and Eakins (2000) and Raj (15-16 November 1997). According to Mishkin (1999, 377), "the growth of international trade has not only encouraged US banks to open offices overseas but also encouraged foreign banks to establish offices in US ... Over the past 20 years, foreign banks have more than doubled their market share in the US ... Currently, they hold more than 20% of the total US bank assets and do almost as much commercial lending as US owned banks with nearly a 50% share of the market lending to US corporations."

working strategies have been in line with the US trends and in 1997, there was general industry-wide expectation that similar steps in the consolidation of local banks and expansion of foreign banking activities were likely to be adopted in Singapore by the MAS.⁴² With an understanding of the MAS's working philosophy and objective, the banks operating in Singapore would expect the MAS to allow an increased presence of foreign banks although the MAS did not specifically state this plan until late 1998.⁴³

Furthermore, according to the criteria applied to assess the application of new privileges and licences, the MAS takes into account banks' past performance. Criterion 1 includes assessment of the bank's financial position, its credit ratings, capital and global asset size, reputation and track record (refer to Sub-section 2.2.3 for more detail). The MAS also takes into account the bank's current scope of activities and future plans in Singapore. The MAS utilises financial statements as a source of information to identify the past performance, current scope of activities and future plans of the banks.

From the above discussion, banks operating in Singapore expected an increased presence of foreign banks in Singapore and were aware of the criteria for evaluation of the application for new licences. Managers of foreign banks operating in Singapore and intending to expand their activities possessed inside information about their future projects and plans, i.e. proprietary information (Sengupta, 1998).

⁴² In Tan and Chia (6 November 1997), members of the finance sector such as top bankers, fund managers and industry watchers, echo similar sentiments in their expectations of the financial sector reforms. Furthermore, according to Raj (15-16 November 1997), the Singapore Deputy Prime Minister Lee Hsien Loong, who is also the chairman of the MAS, indicated that Singapore's financial sector review is likely to model the reforms after the changes in American and Europe. As analysed in the Oxford Analytica Asia Pacific Daily Brief (10 November 1997), there are three possible areas that could be included in the liberalisation of the financial sector. First, the MAS could abolish regulations that prohibit foreign banks from owning more than 40% of local banks' capital. Second, the MAS could allow foreign banks to expand their distribution networks, either through setting up more branches or automated teller machines. Third, the MAS could give foreign banks unlimited access to local deposits.

⁴³ Mishkin and Eakins (2000); Raj (15-16 November 1997).

The receiving party is the MAS, uninformed as to those potential plans. In an environment of asymmetric information, the manager can signal proprietary information about the achievements and success of the bank by using strategically higher levels of voluntary disclosures. Since the disclosure requirements for banks are not onerous, banks intending to apply for new privileges and licences had an incentive to increase their level of voluntary disclosures in order to fulfill the criteria set down by the MAS and increase the probability of application approval. This would allow them to further expand their activities in Singapore *via* the new banking licences or privileges. Therefore, the banks applying for new privileges and licences would strategically disclose more information in their financial statements to increase their success in the application for new licences and privileges.

Based on foreign banks' expectations of the MAS's likely new policy and evaluation criteria, proprietary cost arguments lead to the expectation that the level of voluntary disclosures by financial institutions who applied for privilege licences is higher in the period after the first announcement of the MAS Banking Liberalisation Program (1997) than in the period prior to the first announcement of the program (1996). It is also expected that the level of voluntary disclosure by financial institutions who applied for privilege licences is higher than that of financial institutions who did not apply for privilege licences immediately after the first announcement of the MAS Banking Liberalisation Program in 1997.

Similar conclusions can be drawn by applying proprietary cost and signaling arguments to banks that already held privilege licences when the MAS Banking Liberalisation Program was announced. Akhigbe and Madura (1999) documents how news about a bank merger can signal valuable information about the probability that other rival banks will be acquired and can signal prospects for the banking industry. The objectives of Akhigbe and Madura (1999) are (1) to determine whether the announcement of a bank acquisition transmits intra-industry

signals; (2) explain why the intra-industry effects vary across acquisition announcements; and (3) explain why the valuation effects of individual rival banks vary. Prior studies find that a bank acquisition announcement is relevant to, at least, the bank being acquired (Cornett and De, 1991). Akhigbe and Madura (1999) investigate banks other than the acquiring bank and the acquired bank. They suggest that a merger announcement can signal increased probability that corresponding rivals will be acquired and more growth opportunities within that industry. The intra-industry effects are measured by the abnormal returns of banks in response to acquisition announcements over the 1983-1996 period. Results confirm favorable intra-industry effects in response to announcements of bank acquisitions.

In line with Akhigbe and Madura (1999), the announcement of the MAS Banking Liberalisation Program is a signal of more growth opportunities in the banking sector. It is expected that banks that already hold privilege licences as at August 1997 will increase their level of voluntary disclosures after the first announcement of the MAS Banking Liberalisation Program (1997). These banks know that there will be increased competition within the industry. Assuming they expect superior performance relative to other financial institutions and seek to deter new entrants, managers of banks already holding full or restricted licences will attempt to signal their superiority by engaging in a higher level of disclosure after the first financial reform announcement made by the MAS in August 1997.

The arguments in Darrough and Stoughton (1990) and; Akhigbe and Madura (1999) apply to banks that applied for privilege licences and banks that already held privilege licences, respectively. Combining the expectations for banks already holding privilege banking licences at August 1997 and for banks who applied for privilege licences, it is hypothesised that:

Hypothesis 2a :

The level of voluntary disclosure of derivative financial information in the annual reports of banks operating in Singapore that either held or applied for privilege licences is higher in the period after the first announcement of the MAS Banking Liberalisation Program (1997) than in the period prior to the first announcement of the MAS Banking Liberalisation Program (1996).

Hypothesis 2b :

After the first announcement of the MAS Banking Liberalisation Program (1997), the level of voluntary disclosure of derivative financial information in the annual reports of banks operating in Singapore that either held or applied for privilege licences is higher than the level of voluntary disclosure of derivative financial information in the annual reports of banks operating in Singapore that did not hold and did not apply for privilege licences.

The consolidated annual report is the reference document. The criteria outlined by the MAS for the evaluation of the application for new licences and privileges (refer to Sub-section 2.2.2) emphasise on the operation of the offshore bank as a whole and not solely on the operations in Singapore. The local operations only give the MAS a snapshot of a limited range of products and services currently offered in Singapore. On the other hand, the consolidated annual reports provides a more complete picture of the full range of products and services that the offshore bank is capable of offering. As such, the consolidated annual report is the source for investigating the level of voluntary disclosure.

It is possible that the first MAS announcement did not provide a strong incentive for the banks to act. The first announcement of the MAS Banking Liberalisation Program was made in August 1997 and the specific announcement of the package comprising of new banking privileges and licences for foreign banks was not made until May 1999. The identified event period, i.e. 1996 vs 1997, could be too early

for banks to have reacted to the potential to signal their worthiness of a licence. Also, the likely strategies adopted by the MAS may not have been clear when the first announcement was made. As such, the expected incentive and the eventual level of disclosure investigated may not be as high as predicted. Furthermore, the level of disclosure is related to the level of industry competition.⁴⁴ The highly competitive financial market of the time may have provided strong incentives for disclosure by all banks, since the Asian Financial Crisis impact in 1996 was so widespread. According to Baginski et al. (2002), and Kasnik and Lev (1995), regulatory bodies require regulated firms to produce large amounts of information, and thus, voluntary disclosure are likely to be less beneficial. Information targeted for the regulatory body, as in the case of H2a and H2b, may be provided through other avenues that are not publicly available. However, even if other information sources are used, it is likely that banks provided the same information in their financial statements since the consistency of the information adds credibility to it.

If the tests do not support hypotheses 2a and 2b, possible explanations are that:

- (1) the specific announcement of the liberalisation package by the MAS was a greater motivation for voluntary disclosure by all banks operating in Singapore than expected;
- (2) the over-riding motivation for voluntary disclosure by all banks operating in Singapore as a result of the Asian Financial Crisis outweighed any effect attributable to the MAS Banking Liberalisation Program; and/or
- (3) disclosure of information used by the MAS *via* avenues other than the annual report.

⁴⁴ As discussed earlier in this chapter, there are two competing arguments. Verrecchia (1983) concludes that market competition may provide disincentives for voluntary disclosure. The Darrough and Stoughton (1990) model predicts that competition encourages voluntary disclosure. According to Darrough and Stoughton (1990), the different predictions can be traced to the ways in which competition affects the respective cost definition. This study adopts the Darrough and Stoughton (1990) argument in that competition encourages voluntary disclosure. This is also in line with Akhigbe and Madura (1999), as explained in this chapter.

4.4 Usefulness Perspective on the Comparison between Consolidated and Branch Annual Reports

According to Healy and Palepu (2001), research on corporate disclosures concentrates on those disclosures directed at investors and relatively little research has been conducted in relation to signaling directed at other stakeholders. There are many groups who use financial statements provided by firms, and this is acknowledged by accounting standard setting bodies internationally.⁴⁵ Firth (1978) provides empirical evidence that there are substantial differences in the usefulness ratings provided by different types of users in relation to UK corporate annual reports (preparers, auditors, users of accounts such as financial analysts and bank loan officers). Furthermore, Benjamin and Stanga (1977) compare the perceived informational needs of two groups who are primary users of external accounting information. The groups considered in their study are commercial bank loan officers and professional financial analysts. They conclude that there are significant differences between the needs of bankers and the analysts. Ely and Stanny (1997) find that disclosure policies differ according to the composition of financial statement users. McNally et al. (1982) conclude that two groups of external users, stockbrokers and financial editors, perceive as important the voluntary disclosure of a wide variety of information.

In this study, a distinction can be drawn between the types of annual report and their respective user groups. That is primarily because the consolidated and branch annual reports serve different purposes. The branch annual reports of foreign banks operating in Singapore are filed in Singapore to fulfill an accountability role. They are required largely for compliance reasons and the main users are the regulators, i.e. the MAS and RCB who use the reports for monitoring purposes. There is no local shareholding involved in the Singapore branch of the offshore banks as the

⁴⁵ For example, in Australia, reference to multiple users of financial statements can be found in the *Statements of Accounting Concepts, SAC 2 Objective of General Purpose Financial Reporting*, para. 16.

banks' head offices, alone, provide the capital. The main users are parties performing a review or oversight function.

A bank's consolidated reports serve a far wider range of users, including the shareholders, creditors and regulators. Consolidated report users include three categories of users, i.e. resource providers, recipients of banking services, and parties performing a review or oversight function. Furthermore, there is a higher level of activity, whether operational or hedging, at the parent and overall economic entity level than at the branch level. With more activities to report on, the consolidated reports provide a more complete picture of the operations of the bank as a whole, which is necessary to understand the risks faced, and strategies formulated by, the bank. It is expected that the consolidated annual reports are used to communicate information more than the branch annual reports. Therefore, the consolidated annual reports will have greater disclosures than branch annual reports.

As such, it is hypothesised that banks' disclosures will be higher for consolidated accounts than for their Singapore branch accounts.

Hypothesis 3:

The level of voluntary disclosure of derivative financial information in the consolidated annual reports of banks is higher than the level of voluntary disclosure of derivative financial information in their branch annual reports.

Chapter 2 explains that both the Asian Financial Crisis and the Barings collapse generated high levels of public interest and international attention to voluntary disclosure of derivative financial information. Disclosure could appear in branch and/or consolidated annual reports. Banks operating in Singapore submit their branch annual reports to the RCB; and as previously discussed, the regulatory bodies, such as the RCB and the MAS, use them for monitoring purposes. Holding

companies of banks operating in Singapore produce the consolidated annual reports and are used by a wider group of users, such as shareholders, creditors and regulators. The content of the consolidated annual reports is likely to be influenced by banks' reactions to events such as the Barings collapse and the Asian Financial Crisis. In contrast, the Barings collapse is not expected to impact on the level of disclosure in the branch annual reports due to its firm-specific nature. However, it is expected to impact on the level of disclosure in the consolidated annual reports. This is because the Barings collapse focused world attention on the relationship between branch and head office activities of financial institutions. This focus of attention follows since the Barings collapse resulted from non-monitored activities of a branch that eventually affected the entire economic entity.

At the consolidated level, there were no controls in place to prevent the Barings branch losses and their effects right through the consolidated global activities. Shareholders, lenders and creditors were put on notice that the same thing could happen to their global bank. Accordingly, a decision-usefulness approach implies that managers would signal, *via* consolidated accounts, their control and use of financial instruments, particularly derivatives. As such, the level of disclosure in the consolidated annual reports is expected to be consistently high from the years of the Barings collapse as financial institutions deem it necessary to signal the safety and soundness of their hedging and other financial derivative policies. From the above discussion, the disclosure level in the 1995 consolidated annual reports is expected to be significantly greater than the disclosure level in the 1994 consolidated annual reports. Furthermore, the disclosure level in the 1997

consolidated annual reports is expected to be significantly greater than the disclosure level in the 1996 consolidated annual reports.⁴⁶

These observations lead to the following hypotheses:

H4a :

From 1994 to 1995, the increase in voluntary disclosures of derivative financial information in the consolidated annual reports of banks with branches operating in Singapore is higher than the increase in voluntary disclosures of derivative financial information in the Singapore branch annual reports.

H4b :

From 1996 to 1997, the increase in voluntary disclosure of derivative financial information in the consolidated annual reports of banks with branches operating in Singapore is less than the increase in voluntary disclosures of derivative financial information in the Singapore branch annual reports.

⁴⁶ It is noted the H2b predicted a higher disclosure in the 1997 consolidated annual reports, i.e. after the MAS Bank Liberalisation announcement, compared to 1996 consolidated annual reports. However, H2b relates to the annual reports of privilege banks while H4a relates to consolidated annual reports of all commercial banks operating in Singapore. H4a is still predicting an increase in disclosure levels in the consolidated annual reports but to a smaller extent compared to the period from 1994 to 1995.

4.5 Summary and Conclusions

This chapter outlines various incentives for voluntary disclosure. It also develops the theoretical model and hypotheses tested in this study. The hypotheses in this chapter are developed largely from a signaling perspective. They assume that banks have incentives to disclose their use of derivative financial instruments to indicate their understanding and control of the instruments at times when financial instrument management and controls are important to signal because of events such as corporate failures attributed to poor derivative controls, the Asian Financial Crisis, or the MAS Banking Liberalisation Program. They also assume that there are costs and benefits to disclosure, especially proprietary costs when there are potential new entrants to the financial banking sector. Hypotheses developed in this chapter predict the following in relation to voluntary disclosures of derivative financial information:

- (1) the voluntary disclosure levels in Singapore bank branch annual reports increase after the Asian Financial Crisis (H1a) but not after the Barings collapse (H1b);
- (2) the voluntary disclosure levels in the consolidated annual reports of privilege banks increase after the MAS Banking Liberalisation Program (H2a);
- (3) the voluntary disclosure levels in the consolidated annual reports of privilege banks are higher than those of non-privilege banks after the MAS Banking Liberalisation Program (H2b);
- (4) the voluntary disclosure levels in the consolidated annual reports are higher than those of the branch annual reports (H3);
- (5) the increase in voluntary disclosure levels for consolidated annual reports from 1994 to 1995 is higher than that of the branch annual reports (H4a); and
- (6) the increase in voluntary disclosure levels for consolidated annual reports from 1996 to 1997 is lower than that of the branch annual reports (H4b).

Table 4.1 summarises the hypotheses. Chapter 5 describes the research method used to test these hypotheses.

Table 4.1

Summary of Hypotheses

H1a : FIDIS of post-Barings branch annual reports = FIDIS of pre-Barings branch annual reports (FIDIS-B₉₅ = FIDIS-B₉₄)

H1b : FIDIS of post-Crisis branch annual reports > FIDIS of pre-Crisis branch annual reports (FIDIS-B₉₇ > FIDIS-B₉₆)

H2a : FIDIS of privilege banks in 1997 consolidated annual reports > FIDIS of privilege banks in 1996 consolidated annual reports (FIDIS-C_{PB-97} > FIDIS-C_{PB-96})

H2b : FIDIS of privilege banks in 1997 consolidated annual reports > FIDIS of non-privilege banks in 1997 consolidated annual reports (FIDIS-C_{PB-97} > FIDIS-C_{NPB-97})

H3 : FIDIS of consolidated annual reports > FIDIS of branch annual reports (FIDIS-C > FIDIS-B)

H4a : Change in FIDIS of consolidated annual reports between 1994 and 1995 > Change in FIDIS of branch annual reports between 1994 and 1995
[FIDIS-C₉₅ - FIDIS-C₉₄] > [FIDIS-B₉₅ - FIDIS-B₉₄]

H4b : Change in FIDIS of consolidated annual reports between 1996 and 1997 < Change in FIDIS of branch annual reports between 1996 and 1997
[FIDIS-C₉₇ - FIDIS-C₉₆] < [FIDIS-B₉₇ - FIDIS-B₉₆]

Legend:

FIDIS = Financial Institution Disclosure Index Score (see Chapter 5)

B - branch annual reports

C - consolidated annual reports

PB - privilege banks

NPB - non-privilege banks

CHAPTER 5 RESEARCH METHODS

5.1 Introduction

Chapter 3 describes the various events that affected the banking sector in Singapore in the last decade and the disclosure environment of banks in Singapore. It also provides an overview of the literature on the motivations for voluntary disclosure. Chapter 4 then draws from this literature to develop hypotheses predicting which Singapore banks have higher voluntary disclosure for derivative financial instruments than others, in which annual reports, and when. This chapter discusses the research methods applicable to testing the hypotheses.

Section 5.2 discusses, for each hypothesis, the applicable years of annual reports and the types of annual report, whether branch or consolidated, that are examined to test the hypotheses. The sample selection criteria and the final sample size are explained in Section 5.3. The nature and measurement of the dependent variables and independent variables are discussed in sections 5.4 and 5.5 respectively. Section 5.6 outlines the control variables investigated in this study. Section 5.7 concludes the chapter.

5.2 Test Period and Data Requirements

The data required for the study span several years and different types of annual reports depending on the hypothesis in question, as illustrated in Table 5.1. The reasons for the choice of annual report (branch or consolidated) are discussed in the previous chapter. H1a and H1b investigate disclosure levels in branch annual reports while H2a and H2b investigate disclosure levels in consolidated annual reports. H3, H4a and H4b compare the disclosure levels and change in disclosure levels in branch and consolidated annual reports.

The test period spans from 1994 to 1997, inclusive, which requires data for the investigation of the banks' disclosure levels before and after the Barings collapse in 1995, the Asian Financial Crisis in 1997 and the MAS Bank Liberalisation Plan, also in 1997.⁴⁷ Given that the Barings collapse occurred in February 1995, 1994 forms the pre-Barings collapse year and 1995 the post-Barings collapse year and H1a tests investigate banks' voluntary disclosure levels in the 1994 and 1995 annual reports. All banks in the sample, except for one, have post-February reporting year-ends (See Table 2.4). Hence the fact that Barings collapsed early in 1995 does not compromise the integrity of allocating data to pre- and post-event periods.

The first signs of the Asian Financial Crisis emerged in early 1997. As such, 1996 and 1997 form the pre-Crisis and post-Crisis years for H1b.

The first MAS Bank Liberalisation Plan announcement was made in August 1997. In February 1998, the MAS unveiled its intention to liberalise the Banking Sector and in May 1999, the MAS released a five-year plan to liberalise the commercial banking sector and upgrade local banks. This includes the issuance of new banking licences and privileges. The application for new privileges and licences opened in June 1999 and the results of applications were announced in October 1999. 1996 and 1997 are selected as the pre-Liberalisation and post-Liberalisation years. This timing assumes that the 1997 announcement is the trigger for increased disclosures. 1998 is more likely to capture the potential effects for financial institutions that respond with a delay. However, mandatory disclosures applicable to banks in Singapore came into effect in 1998, thus rendering 1997 the last year for banks to make voluntary disclosures in relation to derivative instruments. Therefore,

⁴⁷ Chapter 2 outlines the dates applicable to each of the events investigated in this study.

Table 5.1

Test Period and Data Requirements

Hypotheses	Test Period	Type of Annual Report
H1a: The level of voluntary disclosure of derivative financial information in the branch annual reports of banks operating in Singapore is no higher after the Barings collapse (1995) than before the Barings collapse (1994).	1994 and 1995	Branch
H1b: The level of voluntary disclosure of derivative financial information in the branch annual reports by banks operating in Singapore is higher after the Asian Financial Crisis (1997) than before the Asian Financial Crisis (1996).	1996 and 1997	Branch
H2a: The level of voluntary disclosure of derivative financial information in the consolidated annual reports of banks with branches operating in Singapore that either held or applied for privilege licences is higher in the period after the first announcement of the MAS Banking Liberalisation Program (1997) than in the period prior to the first announcement of the MAS Banking Liberalisation Program (1996).	1996 and 1997	Consolidated
H2b: After the first announcement of the MAS Banking Liberalisation Program (1997), the level of voluntary disclosure of derivative financial information in the consolidated annual reports of banks with branches operating in Singapore that either held or applied for privilege licences is higher than the level of voluntary disclosure of derivative financial information in the consolidated annual reports of banks with branches operating in Singapore that did not hold and did not apply for privilege licences.	1997	Consolidated
H3: The level of voluntary disclosure of derivative financial information in the consolidated annual reports of banks with branches operating in Singapore is higher than the level of voluntary disclosure of derivative financial information in their branch annual reports.	1994 to 1997	Branch & Consolidated
H4a: From 1994 to 1995, the increase in voluntary disclosures of derivative financial information in the consolidated annual reports of banks with branches operating in Singapore is higher than the increase in voluntary disclosures of derivative financial information in the Singapore branch annual reports.	1994 and 1995	Branch & Consolidated
H4b: From 1996 to 1997, the increase in voluntary disclosure of derivative financial information in the consolidated annual reports of banks with branches operating in Singapore is less than the increase in voluntary disclosures of derivative financial information in the Singapore branch annual reports.	1996 and 1997	Branch & Consolidated

hypothesis 2a is tested using 1996 and 1997 data; while hypothesis 2b is tested using 1997 data. H1a and H1b examine data from 1994 and 1995 branch annual reports. H2a and H1b examine data from 1996 and 1997 consolidated annual reports. H3 investigates the differences in voluntary disclosures of derivative financial information in consolidated and branch annual reports. Given that H1a to H2b tests examine 1994 to 1997 branch and consolidated annual reports, H3 utilises and compares the branch and consolidated annual reports for 1994 to 1997 as well. In addition, H4a testing compares the change in voluntary disclosure levels from 1996 to 1997 of consolidated and branch annual reports while H4b testing compares the change in voluntary disclosure levels from 1994 to 1995 of consolidated and branch annual reports.⁴⁸

5.3 Sample Selection

Included for hypothesis testing are banks that:

1. held a full, restricted or offshore banking license in the periods from 1994 to 1997 as listed in the *MAS Directory of Financial Institutions 1994, 1995, 1996 and 1997*;
2. operated for at least two years either from 1994 to 1995 or 1996 to 1997 as listed in the *MAS Directory of Financial Institutions 1994, 1995, 1996 and 1997*; and
3. did not undergo organisational changes, such as mergers, during the comparison period from 1994 to 1995 or 1996 to 1997 as indicated in their respective annual reports.

⁴⁸ It is acknowledged that the events are not widely spread, i.e. Barings collapse in 1995, Asian Financial Crisis in 1997 and the MAS Banking Liberalisation Program also in 1997. It is likely that the effects of one event may confound the tests of hypotheses relating to other events. Sensitivity analysis is conducted in Chapter 5, whereby longer windows are examined. For example, for H1a, comparison of the voluntary disclosure level in the branch annual report is compared between 1994 and 1996 data; 1994 and 1997 data.

The MAS publishes the *Directory of Financial Institutions* annually. It lists the financial institutions operating in Singapore, classified according to the licence held.

As discussed in Section 2.2, foreign banks can also operate as commercial banks or merchant banks in Singapore but for the purpose of this study, the focus is on commercial banks with full, restricted or offshore licences. The hypotheses investigated in this study use a specified event as a reference point for the comparison of disclosure levels. As illustrated in Table 5.1, two years of data are required from branch and/or consolidated annual reports for H1a (1994 and 1995), H1b (1996 and 1997), H2a (1996 and 1997), H4a (1996 and 1997) and H4b (1994 and 1995). Therefore, the sample bank must operate for at least two years from 1994 to 1995 or 1996 to 1997 to provide data for a meaningful comparison. Furthermore, banks may be influenced by factors arising from organisational changes in their voluntary disclosure decision and use financial disclosure policies to combat or assist take-over or merger activity (Ekbo, 1985; Akhigbe and Madura, 1999). As such, banks undergoing merger activity are eliminated from the sample.

Hypotheses 1 and 2 investigate voluntary disclosures before and after the Barings collapse, the Asian Financial Crisis and the MAS Bank Liberalisation Plan. For the purpose of hypotheses 1 and 2, it is necessary to include only banks with a financial reporting year-end of 31 December in order to capture the potential effects of the events. The elimination of non-31 December year-end is not necessary for hypotheses 3 and 4 as the comparison is between consolidated and branch annual reports, and while the hypothesis developed is timing-dependent, precision is less important.

Table 5.2 outlines the sample selection process. Based on the selection criteria above,

1. 168 banks operating in Singapore from 1994 to 1997 are listed in the MAS Directory of Financial Institutions, all of which held either a Full, Restricted or Offshore banking license;
2. 15 banks existed for less than two years during the period from 1994 to 1997 and thus were eliminated from the sample; and
3. 4 banks underwent organisational changes, such as mergers, during the comparison period from 1994 to 1995 or 1996 to 1997.

This results in a sample of 149 banks. Both the branch annual reports and consolidated annual reports are required for the period from 1994 to 1997. Twenty eight branch annual reports and 20 consolidated annual reports are missing for this period. The final sample is made of 568 bank years from branch annual reports and 576 bank years from consolidated annual reports, i.e. a grand total of 1,144 annual reports.

All entities operating in Singapore, including banks, must be registered with the Registry of Companies and Businesses (RCB) and must submit their branch annual reports to the RCB. The 1994 to 1997 branch annual reports of all the banks are obtained from the RCB while the 1994 to 1997 consolidated annual reports are obtained from the MAS library collection.

Table 5.2

Sample Selection for Hypotheses Testing

Selection Criteria	Number of Banks	Bank Years – Branch annual reports	Bank Years – Consolidated annual reports
Banks listed in MAS Directory of Financial Institutions 1994, 1995, 1996 or 1997 ^a	168		
Less:			
Banks that did not operate between 1994 to 1995 or 1996 to 1997 ^b	(15)		
Banks that underwent a merger during 1994 to 1997 ^c	(4)		
TOTAL	149	596	596
Missing annual reports for 1994 to 1997 ^d		(28)	(20)
TOTAL		568	576

Sources:

a – MAS Directory of Financial Institutions 1994 to 1997

b – MAS Directory of Financial Institutions 1994 to 1997

c – MAS Directory of Financial Institutions 1994 to 1997

d – Banks' individual annual reports obtained from the Registry of Companies and Businesses or the MAS library collection

5.4 Dependent Variable - Financial Institution Disclosure Index Score (FIDIS)

In measuring the extent of voluntary disclosure, researchers have used several proxies such as:

- self-constructed measures that review the annual report in full or for specific disclosure items such as corporate governance (Carson, 1996); corporate social reporting (Tsang, 1998; Williams, 1999); derivative financial instruments (Chalmers, 2001b); inventory (Bernard and Noel, 1999); receivables (Stober, 1993); reserves (Craswell and Taylor, 1992); segment information (Bradbury, 1992; Aitken et al., 1997; Wysocki, 1998); self-defined benefit plans (Scott, 1994); unconsolidated subsidiaries (Wiedman and Wier, 1999);
- management earnings forecasts (Noe, 1999);
- analysts' metrics such as the Association for Investment Management and Research (AIMR) database (Bushee and Noe, 2000); and
- dichotomous measures to represent a substantial increase in a firm's commitment to greater disclosure such as the adoption of a more stringent set of GAAP (Leuz and Verrecchia, 1999)

The dependent variable in this study needs to measure banks' levels of voluntary disclosure of derivative financial instrument policy and practice. The measure used is a self-constructed index score, the Financial Institution Disclosure Index Score (FIDIS), based on Chalmers (2001b). The measure includes fifteen (15) disclosure items relating to three classifications of derivative financial information. They are policy information, risk information and net market value information. FIDIS is calculated by adding the relevant disclosure items made for each year. The following paragraphs provide a brief review and justification of the proxy used in the current study, i.e. self-constructed measure; and the features of the other proxies used in prior literature.

Researchers' bias and generalisation issues apply to self-constructed metrics. Typically, researchers construct the metrics based on disclosures in annual reports or other public documents. Some research reviews the annual reports in full while other research focuses on specific disclosures in the annual reports such as segment data, defined benefit plans, reserves and corporate governance. Metrics could also be derived from other public documents such as forms submitted to the stock exchange and brochures for promoting the firm's operations. Marston and Shrives (1991) provides a review and critique of the disclosure measurement methods as follows. First, the construction of the index is a difficult matter that generally involves subjective judgement on the part of the researchers. The reliability and validity of the index scores must be taken into account.⁴⁹ Second, awarding scores to companies also involve subjective judgement in many cases. For example, Wiseman (1982) rates disclosure according to the degree of specificity of each of the information items. Another problem that arises is the fact that certain items of disclosure may not be applicable to a particular company. This study overcomes the above problems by tailoring the index to cover only disclosures required by accounting standards and pronouncements. The Klumpes (1995) and Chalmers (2001b) self-constructed measures are based on accounting standards and pronouncements that form an authoritative and objective source for selecting the information. Furthermore, according to Marston and Shrives (1991, pp 198) and Chalmers (2001b), it is important to create an index that is valid in the particular research environment being investigated. Evolution of the appropriateness of any disclosure proxy, however, must be contextual (Healy and Palepu, 2001). Furthermore, the appropriateness of a measure is mostly a function of the research question and secondarily a function of data availability and reliability. The above criteria can be fulfilled only if a self-constructed measure tailored to the Singapore reporting environment for derivative financial instruments is used in this study.

⁴⁹ According to Marston and Shrives (1991, 197), the index scores awarded to companies is considered to be reliable if the results can be replicated by another researcher. The index scores can be considered to be valid if they mean what the researchers intended.

Additional reasons justify the use of a self-constructed measure. First, the self-constructed measure allows an investigation of the level of voluntary disclosure on derivative activities by banks in Singapore that cannot be performed using management forecasts and analysts' metrics, due to unavailability of the information. Second, the self-constructed measure provides a richer data set for analysis purposes than alternative dichotomous measures such as whether banks adopt more stringent GAAP. The constructed measure includes the disclosure of a series of disclosure items in relation to derivative activities and integrates the information disclosed into a single comparable figure (Cormier and Magnan, 1999). Third, based on a review of the prior literature, self-constructed measures are the most commonly used proxies for voluntary disclosure. According to Marston and Shrives (1991), a test of the usefulness of a research tool is the extent to which it is used. Given that self-constructed disclosure indices have been used from the 1960s to the present, this tool will continue to be used. Finally, the self-constructed measure used provides a common benchmark for all companies in the sample (Meek et al., 1995).

The three other less commonly used proxies of voluntary disclosure measure are (1) management earnings forecasts, (2) analysts' metrics such as the AIMR database; and (3) a dichotomous measure to represent a substantial increase in a firm's commitment to greater disclosure such as the adoption of a more stringent set of GAAP. Healy and Palepu (2001) outlines the features as well as the advantages and disadvantages of these proxies and they are summarised as follows. The provision of management earnings forecasts is an act of voluntary disclosure. Advantages of using management forecasts include measurement precision and knowledge of the actual timing of disclosure. The disadvantage is the problem of generalising the findings to studies using other proxies of voluntary disclosure.

The AIMR ratings of firms' disclosure practice is an example of analysts' metrics. The AIMR ratings are undertaken on an annual basis by industry-specific sub-committees (Zhang, 2001). The sub-committees rank firms' disclosure practices on three dimensions: annual report/10-K disclosures, interim report/10-Q disclosures; and investor relation activities. The reported final scores reflect the consensus of the sub-committee. No individual analyst rankings are disclosed. This policy reduces some of the potential for analysts to bias their assessment of a firm's disclosure practices in order to strengthen individual relations with management (Healy et al., 1993). Nevertheless, analysts' bias is not eliminated completely. Although the analysts' bias poses as a disadvantage for using the voluntary disclosure proxy, there are several advantages of using the AIMR data. The advantage lies in the general measure of voluntary disclosure as it covers all disclosures, including analyst meetings and conference calls. According to Lang and Lundholm (1993), analysts are good judges of the adequacy of firm's disclosure for the following reasons:

- they are the primary user of financial information,
- they have access to all of a firm's public disclosures,
- they are able to assess the information needs in the industry,
- they have used the disclosed data during the year,
- the information is assessed by more than one analyst; and
- the analyst must have taken care in producing the assessment.

Analysts' metrics are not available for voluntary disclosures by banks in Singapore. Further, the cost of employing analysts to provide these metrics for the number of bank annual reports necessary over the study period is prohibitive. As such, even though they appear to be a good unbiased measure in many cases, analysts' metrics cannot be used for this study.

Studies such as Hail (2001) examine the switch from local GAAP to either IAS or US GAAP as a measure of voluntary disclosure whereby the local GAAP is less

stringent than the US GAAP. This method does not examine the content of the disclosure. Companies that adopt a more stringent set of GAAPs are opting for a high disclosure environment. This is deemed as an act of voluntary disclosure, but is not relevant to this study for two reasons. First, banks operating in Singapore do not adopt GAAP other than that in Singapore for their branch accounts. Second, although banks adopt GAAP other than that from their own country in their consolidated accounts, the adoption is relatively rare.

Disclosures can be measured in terms of the reporting frequency or the level of disclosure provided by the entity in question (Marston and Shrikes, 1991). The latter is the method used in this thesis. Given that the derivative financial information is provided by a majority banks in their annual reports, it is not appropriate to use reporting frequency as a disclosure measure.⁵⁰ Disclosure levels can also be measured by an independent body such as the Association for Investment and Management Research (Bushee and Noe, 1999) or more commonly, by the researcher. Given that there are no independent rankings of disclosures available, a disclosure index is used which is similar to indices used in other disclosure studies such as Chalmers (2001b), Meek et al. (1995) and Scott (1994). Chalmers' study of Australian voluntary disclosures of derivative financial instruments is tailored to assess voluntary disclosures of matters similar to those examined in this thesis. Hence, her original measure forms an appropriate basis for FIDIS.

Disclosures in annual reports applicable to banks operating in Singapore are prescribed in MAS 608. However, the mandatory disclosure requirements in MAS

⁵⁰ Foreign banks in Singapore obtain capital from their respective head office while local banks in Singapore are listed on the Singapore Stock Exchange (SGX). Foreign banks generally release their operating results annually through newspapers and submission of annual reports. On the other hand, local banks issue more frequent media releases. Given that the local banks account for 8%-10% of the total number of commercial banks in Singapore during the period investigated, it is not feasible to investigate the frequency of disclosures made by commercial banks in Singapore.

608 do not contain any disclosure requirements relating to derivative financial instruments. The Chalmers (2001b) measure incorporates derivative financial instrument disclosures that have been prescribed in Australian pronouncements: the Australian Society of Corporate Treasurers (ASCT) Industry Statement and ED 65 *Financial Instruments*. This study further incorporates relevant disclosures from IAS standards, AASB standards and the re-issued MAS 608 as outlined in Table 5.3. The requirements contained in IAS and AASB pronouncements are relevant to Singapore banks due to three reasons. First, these pronouncements offer guidance to banks operating in Singapore. Second, the accounting standards in Singapore are generally adapted/replicated from the IAS standards. Third, the IAS and AASB pronouncements were used as a reference point in the development of the revised MAS 608.⁵¹

General disclosures relating to financial institutions are prescribed in IAS 30 *Disclosures in the Financial Statements of Banks and Similar Financial Institutions* and AASB 1032 *Specific Disclosures by Financial Institutions* in the International and Australian context respectively. Specific disclosures relating to financial instruments are prescribed in IAS 32 *Financial Instruments: Disclosure and Presentation* and AASB 1033 *Presentation and Disclosure of Financial Instruments*. All of the above, except AASB 1033, were issued prior to 1997. AASB 1033 was issued in 1999 but it was debated in depth prior to 1996 (e.g. ED 59 *Financial Instruments* and ED 65 *Presentation and Disclosure of Financial Instruments*, its forerunners, were issued in 1993 and 1995 respectively). In this study, the level of voluntary disclosure is measured in relation to AASB 1033 and IAS 32, i.e. financial instruments, rather than AASB 1032 and IAS 30, i.e. general disclosures because this study focuses on specific derivative financial information, addressed in AASB 1033 and IAS 32, and not general disclosure by banks, addressed in AASB 1032 and IAS 30.

⁵¹ Refer to sub-section 2.5.2.1

MAS 608 was re-issued in February 1999 and applicable to the financial year ended 31 December 1998. Besides MAS 608, AASB 1032, IAS 32, and the ASCT Industry Statement together provide disclosure requirements that form the basic construct of the Financial Institution Disclosure Index Score (FIDIS), which is outlined in Table 5.3.

In this study, the Financial Institution Disclosure Index Score (FIDIS) is additive and unweighted. Unweighted indices are used because of reasons cited in numerous criticisms of weighted disclosure indices can be found in the accounting literature (Hossain and Adams, 1995). First, considerable subjectivity often exists in the assignment of weights by user groups (Chang et al., 1983; Gray et al., 1992; Meek et al. 1995). Second, Spero (1979) suggests that companies better at disclosing "important" items are also better at disclosing "less important" items. Thus, companies would be scored the same way regardless of whether items are ranked or unranked. Third, Chow and Wong-Boren (1987) find that statistical results do not alter when weighted and unweighted indices are used to derive disclosure scores, hence, there is nothing to be gained from using a more complex measure. According to Cooke (1991), unweighted disclosure indices are preferred when the focus of the study is directed not at a single user group but rather at all prospective users of annual reports.

The annual reports of each financial institution are reviewed for the voluntary disclosure items listed in Table 5.3. A score of "1" is allocated to each disclosed item and "0" for each undisclosed item, yielding a maximum possible score of 15, the total number of voluntary disclosure items. The score obtained by each bank is summed, giving the FIDIS for each year.

In Marston and Shriver (1991), one of the problems identified is the penalty for non-disclosure imposed on companies when certain items of disclosure may not be

Table 5.3

Components of Financial Institution Disclosure Index Score

	Reference in ED 65 ⁱ	Reference in Industry Statement ⁱ	Reference in AASB 1033 ⁱⁱ	Reference in IAS 32 "	Reference in MAS 608 ⁱⁱ	Score
Policy Information Disclosures						
Does the firm specify its hedging policy?	-	-	-	-	-	1
Does the firm specify the objectives for holding or issuing derivative financial instruments?	52	A	5.3	-	-	1
Does the firm specify the accounting policies and methods adopted for derivative instruments (other than foreign currency hedge)?	43a	A	5.2a	47b	5	1
Does the firm specify the extent and nature of the underlying financial instruments?	-	-	5.2b	47a	-	1
Does the firm specify their policy in giving (or obtaining) collateral, security and credit arrangements?	66b	A	-	-	-	1
Does the firm generally specify how they monitor and control the risk associated with derivatives?	-	A	-	-	8	1
Does the firm specify financial controls in place to monitor the risks?	-	A	-	-	8	1
Risk Information						
Does the firm segregate information by risk categories (i.e. interest rate risk, credit risk)?	-	B	implied	implied	-	1
Does the firm provide the following information for its derivative instruments?						
- principal, stated value, face value, notional value or other similar amount	43b(i)	B	-	-	-	1
- contractual repricing or maturity dates	43b(iii)	B	5.4a	56a	-	1
- weighted average or effective interest rate	43b(ii) / 55b	-	5.4b	56b	-	1
Does the firm specify to whom they have credit risk exposure?	66c(i)	B	5.5b	66b	-	1
Does the firm comment on their estimated credit risk exposure at reporting date?	66a	B	5.5a	66a	-	1
Net Market Value Information						
Does the firm provide net market value information of derivative instruments?	78a	B	5.6a	77	-	1
Does the firm specify the methods adopted in determining net market value?	78b & c	B(only for trading activities)	5.6b	-	-	1
TOTAL POSSIBLE SCORE						15

Note i - Reference to specific section/paragraphs of reporting requirements for development of voluntary derivative financial instruments index (VRDI) in Chalmers (2001b)

Note ii - Reference to specific section/paragraphs of reporting requirements provided to update and contextualise the Chalmers (2001b) voluntary derivative financial instruments index (VRDI).

applicable. In Hossain and Adams (1995), companies were not penalised for not disclosing items that were considered not germane to their business activities. Cooke (1991) analysed the report of each company to establish the relevance of each disclosure item to the firm. In this study, their problem is not an issue as the focus is on the voluntary disclosure of derivative financial information. Derivative instruments are generally used by banks for hedging and/or trading purposes. It is highly unlikely that derivative instruments are not relevant to the operations of banks in Singapore during the test periods.

Chow and Wong-Boren (1987) control for subjectivity in interpreting the annual reports by using two independent raters to determine which items were disclosed. To control for subjectivity in this study, a professional with extensive banking experience was contracted to measure a sample of banks' FIDIS. The ratings conducted by the author and the experienced professional did not differ in any significant manner.

5.5 Independent Variables

Chapter 3 and 4, respectively, outline the theoretical constructs and hypotheses investigated in this study. The independent variables are represented by:

- the timings of the Barings collapse and the Asian Financial Crisis (H1a and H1b);
- the type of banking license (H2a and H2b); and
- the type of annual report for the comparison of consolidated and branch annual reports (H3, H4a and H4b).

It is predicted that the level of voluntary disclosure in branch annual reports is not significantly higher after the Barings collapse (H1a) but is significantly higher after the Asian Financial Crisis (H1b). A dummy variable classifies sample banks' annual reports as pre-event (code = 0) or post-event (code = 1). 1994 and 1996 are coded as "0" for years prior to the Barings collapse and the Asian Financial Crisis

respectively while 1995 and 1997 are coded as "1" for years subsequent to the Barings collapse and the Asian Financial Crisis respectively.

According to the proprietary cost perspective, the level of voluntary disclosure in the consolidated annual reports of privilege banks and banks seeking privilege licences will be higher after the MAS Bank Liberalisation Plan announcement (H2a) and compared to non-privilege banks (H2b). The banking licences held by the sample banks are listed in the *Directory of Financial Institutions*. Privilege banks include banks that applied for the new banking licences as well as banks already with Full Banking licences and Restricted Banking licences before the announcement. Privilege banks and banks seeking privilege licences are coded "1" and non-privilege banks are coded "0".

Hypotheses 3 and 4 compare the disclosure level and the change in disclosure level of consolidated and branch annual reports respectively. Consolidated annual reports are coded "1" and branch annual reports are coded "0".

5.6 Control Variables

Firm-specific characteristics affecting disclosures that are investigated in prior research include:

- assets-in-place (Leftwich et al., 1981);
- auditor type (Craswell and Taylor, 1992);
- foreign listing status (Cooke, 1989; Cooke, 1991; Hossain et al., 1993; Hossain et al., 1995; Meek and Gray, 1989; and Meek et al., 1995);
- industry (Craig and Diga, 1998);
- level of minority interest (Aitken et al., 1997);
- leverage (Bradbury, 1992; Craig and Diga, 1998; Hossain et al., 1995; Leftwich et al., 1981);
- ownership diffusion (Craig and Diga, 1998; Aitken et al., 1997); and

- size (Bradbury, 1992; Cooke, 1989; Cooke, 1991; Cowen et al., 1987; Craig and Diga, 1998; Hossain et al., 1995; Leftwich et al., 1981; McNally et al., 1982; and Meek et al., 1995; and Aitken et al., 1997).

Due to variable applicability and data availability reasons⁵², only (1) firm size, (2) listing status, (3) auditor type and (4) performance are controlled for in this study. Hence, the study employs these as control variables and the measurements for each control variable are as follows.

5.6.1 Firm Size

Size is the most common variable in disclosure studies and a size effect has been identified by many authors investigating voluntary disclosures (Singhvi and Desai, 1971; McNally et al., 1982; Cowen et al., 1987; Cooke, 1989; Cooke, 1991; Bradbury, 1992; Lang and Lundholm, 1993; Frost and Pownall, 1994; Hossain et al., 1995; Meek et al., 1995; and Frost and Kinney, 1997). There are various reasons that motivate larger firms to engage in higher levels of disclosure. According to Buzby (1975), the accumulation and dissemination of information is costly, and smaller firms may not possess the necessary resources for collecting and presenting an extensive array of information. Also, larger firms are more likely to be scrutinised by financial analysts (Lang and Lundholm, 1993) or listed (Firth, 1979), and thus, will disclose more information to reduce information asymmetry. McKinnon and Dalimunthe (1993) also contend that smaller firms incur high proprietary costs due to competitive disadvantage and will disclose less information. These arguments all imply a lower level of voluntary disclosure by smaller firms.

⁵² Variables such as assets-in-place and leverage are available but not highly applicable to the banking industry due to the specific nature and composition of its assets and liabilities. As for ownership, the respective head offices provide funding for foreign banks operating in Singapore. With less than 10 local banks with external shareholdings, it is not meaningful to investigate the "ownership diffusion" variable. Data availability reasons for not investigating other variables include the need for variation in the variables. For example, because all of the subjects of the thesis are banks, it is meaningless to use "industry" as a variable.

Firm size is a comprehensive variable that can proxy for several corporate characteristics such as industry, political costs, exchange listing, competitive advantage and information production costs (see Buzby, 1975; Firth, 1979; Leftwich et al., 1981; Ball and Foster, 1982). In this study, it does not proxy for industry since all banks belong to the same industry. While several factors related to size could discourage disclosure, the costs of non-disclosure are generally high for large firms which have relatively more to lose than small firms if, for example, they were to be delisted or experience a major public disapproval.

Measures of size used in prior research include:

- natural log of market capital (Hossain and Adams, 1995; Hossain et al., 1995; Lewellyn et al., 1996; Baginski et al., 2002; Chen et al., 2002;);
- sales turnover (Firth, 1979; Cooke, 1989; Cooke, 1991; Craig and Diga, 1998);
- capital employed (Firth, 1979);
- total assets (Cooke, 1989; Cooke, 1991; Craig and Diga, 1998; Frankel, Johnson and Skinner, 1999);
- log of total assets (Frankel et al., 1999);
- number of shareholders (Cooke, 1989; Cooke, 1991); and
- market value of equity plus book value of debt (Chow and Wong-Boren, 1987; Bradbury, 1992).

Foreign banks in Singapore obtain funds from the respective head office rather than from the public, thus rendering an equity measure of size inappropriate. Instead, the log of total assets for the bank is used in this study and the SIZE variable is

coded as a continuous variable.⁵³ A logarithmic transformation is used to normalise the size measure.

5.6.2 Listing Status

The listing of a company's stock on a foreign stock market as a way to bring about international financial market integration has been quite extensively examined in the finance literature (Cheung and Lee, 1995). Recent studies suggest that there is a complementary (positive) association between foreign listing status and the extent of voluntary disclosure. Meek and Gray (1989) find that continental European multinational corporations listed on the London Stock Exchange voluntarily disclose more information in their annual reports than companies listed only on the Kuala Lumpur Stock Exchange. Swedish and Japanese companies have multiple listing effects (Cooke 1989, 1991) and the same goes for US, UK and Continental European Multi National Corporations (Gray et al., 1993). Those companies that are listed on more than one stock exchange, i.e. multi-listed, disclosed more information than companies that are listed in their home country, i.e. domicile listed. Multiple listing effects on the level of disclosure can be attributed to reasons such as:

- international differences in agency costs, especially monitoring costs due to differing reporting requirements (Cooke, 1991),
- greater press coverage resulting in demand for more information (Firth, 1979),
or
- the selection of an intensive monitoring package by choosing to be listed in a more stringent environment (Leftwich et al., 1981).

⁵³ Cooke (1991) contends that size can be measured in a number of different ways and there is no overriding theoretical reason to select one rather than another. However, one size variable may be applicable to a particular country but may not be relevant to another country. It is for this reason that three distinct size variables are used in Cooke (1991), namely number of shareholders, total assets and turnover. In Cooke (1991), three models are used with one size variable in each model to overcome the problem of multicollinearity between the three size variables. Meek et al. (1995) used sales turnover as it is less affected by variations in GAAP than are other common measures of size such as total assets.

Results in Frost and Pownall (1994) confirm that there can be an association between disclosure frequency and listing location.⁵⁴

However, it is not feasible to investigate the listing effect of voluntary disclosure on banks in Singapore. This is because local banks operating in Singapore are only listed in Singapore while foreign banks are listed in the respective country of origin and not in Singapore, i.e. local and foreign banks operating in Singapore are not listed on a common exchange. Nevertheless, analogy can be drawn from listing effects and applied to investigate the differences in disclosure by banks incorporated in different countries with reference to the country of origin of each bank. As Table 2.4 indicates, several countries had mandatory accounting standards or guidelines on issue during the period investigated in this study from 1994 to 1997. Mandatory standards and regulation were in force in countries such as the US (Market Risk Disclosure Rule in 1995, SFAS 133 in June 1998), Japan (ordinances and circulars in July 1996), UK (FRS 13 in September 1998) and Canada (Accounting Section 3860 in 1996). Guidelines were produced in Switzerland (Guidelines from Swiss Bankers' Association in 1996) and France (Advice from National Accounting Council in France in 1998) during this period. Accounting standards were being developed in Australia in the form of *ED 65 Presentation and Disclosure of Financial Instruments* in 1995 which was issued as

⁵⁴ Studies have also investigated the disclosure characteristics of foreign equity issuers in a domestic environment, i.e. a cross jurisdiction disclosure environment. Frost and Pownall (1994) examine the frequency and timing of accounting disclosures made by domestic and foreign firms listing securities in either the United States, the United Kingdom or both. They examine foreign issuers' cross jurisdiction disclosure rules but do not compare the disclosure rules for foreign and domestic issuers. They find that both mandatory and voluntary accounting disclosures are substantially more frequent in the US than in the UK. Frost and Kinney (1996) provide descriptive evidence on the nature and timing of disclosures of foreign registrants (issuers) in filings with the US Securities and Exchange Commission. They argue that foreign issuers may be reluctant to provide disclosures that could reveal an aggressive revenue recognition approach, "hidden reserves", or a substantially under-funded pension plan. Results indicate that foreign issuers file fewer interim reports; file annual and interim reports significantly later than US issuers; and do not comply with written GAAP reconciliation rules (for certain foreign issuers).

an accounting standard *AASB 1033 Presentation and Disclosure of Financial Instruments* in 1999.

This study classifies foreign banks operating in Singapore into those banks that are incorporated in countries with mandatory accounting standards or regulations or guidelines relating to derivative financial information; and those without such accounting influences. It is expected that voluntary disclosure levels will be higher for foreign banks originating from countries with mandatory accounting standards or regulations or guidelines relating to derivative financial information. The standards, regulations and guidelines can influence the bank operating in Singapore to disclose the information since the information is readily available as required information in the home country. Two variables are used to control for this influence on voluntary disclosure of derivative financial information: CTYSTD and CTYGUIDE. CTYSTD refers to countries with accounting standards or regulation in relation to derivative financial information during the period from 1994 to 1997. They include Australia, USA, Japan, UK, Canada and New Zealand. These countries are coded as "1" and other countries are coded as "0".⁵⁵ CTYGUIDE refers to countries with guidance in relation to derivative financial information during the period from 1994 to 1997 but with no mandatory prescriptions. Banks from Switzerland and France and are coded as "1" and other banks are coded "0".

5.6.3 Auditor Specialisation

Schipper (1981) and Watts and Zimmerman (1986) put forward the view that the choice of an external auditor is a mechanism that helps to alleviate conflicts of interest between principals and agents. DeAngelo (1981) and Chow and Wong-Boren (1986) consider that Big 6 audit firms, compared to non-big 6 accounting

⁵⁵ Table 2.4 lists the mandatory standards and regulations coming into force between 1994 and 1997. Although New Zealand is not listed in Table 2.4, FRS 31 *Disclosure of information About Financial Instruments* was issued in 1993 and in existence during the period from 1994 to 1997. FRS 31 was previously issued in 1993 and thus, is not listed in Table 2.4. Furthermore, FRS 33 *Disclosure of Information by Financial Institutions* was issued in 1997.

firms, have incentives to maintain independence from clients' pressure for limited disclosure because of the economic consequences associated with potential damage to their brand name. Therefore, they encourage their clients to disclose a greater amount of information in published annual reports. As such the level of voluntary disclosure is likely to be higher for banks audited by Big-6 auditors than for banks not audited by Big 6 auditors. Firth (1979) argues that larger, more well-known accounting firms may be able to exercise greater influence and hence, they may be associated with higher disclosure levels. However, the author did not find significant results. Craswell and Taylor (1992) and Hossain and Adams (1995) do find a significant association between big six accounting firms and voluntary disclosure levels.

It is not feasible to investigate the auditor effect for banks in Singapore as the then Big 5 and now Big 4 (top tier) accounting firms audit all the banks in Singapore. However, it is interesting to investigate the effect of industry specialisation by the top tier accounting firms on voluntary disclosure levels. Banks operate in a highly regulated environment and Hogan and Jeter (1999) find that auditor specialisation levels are higher in regulated industries. Therefore, a high level of specialisation is expected in the banking industry. Dunn et al. (2000) also document a positive association between auditor industry specialisation and analysts' rankings of disclosure quality in unregulated industries. Consistent with the prior research, accounting firm specialisation in the audit of banks is used as a control variable in this study. Given the positive association between top tier accounting firms and voluntary disclosure, it is logical to also expect a positive association between specialist top tier accounting firms and voluntary disclosure, relative to non-specialist top tier accounting firms.

Industry specialisation can be measured in terms of number of clients (Craswell et al., 1995); share of total industry audit fees (Craswell et al., 1995); client revenue (Wolk et al., 2001); and total assets of client firm in industry (Hogan and Jeter,

1999). Whether the cutoff for an industry specialist can be determined by applying a threshold of the top 3 accounting firms in the industry (Hogan and Jeter, 1999) or a 10% threshold (Craswell et al., 1995) or some other level is arbitrary. However, in this study, if either of these thresholds is applied, half of the big 6 accounting firms will be eliminated as discussed in Chapter 6. For this study, industry specialisation classification is based on the biggest market share held by a big 6 accounting firm. Three measures are used to determine market share: AUDSP#, AUDSPS25 and AUDSPS20. AUDSP# measures industry specialisation with reference to the number of bank clients operating in Singapore that the auditor audited between 1994 and 1997, inclusive. It is coded "1" for the accounting firm with the most bank clients in the sample for the test period and "0" otherwise. Both AUDSPS25 and AUDSPS20 measure industry specialisation with reference to the total amount of audit fees from the audit of bank clients operating in Singapore between 1994 to 1997, inclusive. An accounting firm is deemed a banking industry audit specialist if it holds at least 25% of the market share for AUDSPS25 and at least 20% for AUDSPS20. A dummy variable taking value of "1" is coded for banks audited by accounting firms with a specialisation in the audit of banks and "0" for others.

5.6.4 Performance

Meek et al. (1995) suggest that profitable, well run firms have incentives to distinguish themselves from less profitable firms in order to raise capital on the best available terms. This is in line with signaling theory. However, McNally et al. (1982) do not find profitability measure to be significant in explaining voluntary disclosure of a set of financial and non-financial information by New Zealand firms. In general, firms' performances have been used to explain variation in voluntary disclosure but the results have been mixed.

Skinner (1994) predicts that firms with negative earnings surprises (bad news) are more likely to provide earnings forecasts than are firms with good news.

Addressing a similar issue, Chen et al. (2002) argue that in the presence of losses, investors are more likely to find that current earnings fail in their traditional role as an indicator of future earnings. As such, they predict that market participants find balance sheet information relatively more value relevant for firms reporting losses when compared to firms reporting positive earnings. Therefore, managers of firms reporting losses are more likely to include balance sheet information in quarterly earnings announcements. Results support this expectation in the Chen et al. (2002) study.

This study uses banks' performance (PERF) as a control variable. Return on assets, a common performance evaluation variable (Cole and Gunther, 1998; Reserve Bank of Australia, 1998; Lee, 1998; KPMG, 1998), measures PERF in this study and is coded as a continuous variable. Return on assets is calculated as earnings before tax divided by total assets. It is unclear from the prior literature whether it is likely to have a positive or negative association with FIDIS.

5.6.5 *Multivariate Model*

Regression analysis is used to predict the values of continuous, interval-scaled dependent variables from the specific values of the independent variable (Zikmund, 1994, p. 556). According to Tabachnick and Fidell (1989), a major issue in selecting the regression approach is the possibility of collinearity arising from the inclusion of highly correlated explanatory variables in the regression. While this can be most easily avoided by excluding one of the correlates from the regression, the choice of which variable to exclude is particularly contentious in the absence of strong *a priori* reasoning. The use of stepwise regression reduces the likelihood of collinearity problems due to the opportunity to specify tolerance levels for the inclusion of variables at each step. For this reason, Cooke (1989, 117) recommends the testing of multiple regression routines using stepwise regression that allows researchers to see at what stage independent variables are incorporated into the regression equation, and to assess their importance.

However, stepwise regression has been criticised. The procedure's controversy lies primarily in capitalisation on chance and overfitting of data (Tabachnick and Fidel, 1989, 147). Therefore, in this study, a correlation matrix is first used to identify any major multicollinearity problems as variables with correlation of 0.7, a rule suggested in Anderson et al. (1991). Both full scale OLS and stepwise regressions are run and results are compared.

For Hypotheses 1 to 3, the voluntary disclosure model testing the voluntary disclosure levels includes combinations of some of the variables in the following model:

$$\begin{aligned}
 \text{FIDIS}_t = & \alpha + \beta_1 \text{BAR_B} + \beta_2 \text{CRISIS_B} + \beta_3 \text{PBLIB_C} + \beta_4 \text{LICLIB_C} + \beta_5 \text{AR_C} \\
 & \quad \text{(H1a)} \quad \quad \quad \text{(H1b)} \quad \quad \quad \text{(H2a)} \quad \quad \quad \text{(H2b)} \quad \quad \quad \text{(H3)} \\
 & \quad (+; \text{ns}) \quad \quad \quad (+) \quad \quad \quad (+) \quad \quad \quad (+) \quad \quad \quad (+) \\
 & + \beta_6 \text{SIZE} + \beta_7 \text{CTYSTD / CTYGUIDE / CTYGS / CTYSTD+CTYGUIDE} \\
 & \quad \text{Control 1} \quad \quad \quad \text{Control 2} \\
 & \quad (+) \quad \quad \quad (+) \\
 & + \beta_8 \text{AUDSP\# / AUDSPS / AUDSPS25 / AUDSPS20} + \beta_9 \text{PERF} \\
 & \quad \text{Control 3} \quad \quad \quad \text{Control 4} \\
 & \quad (+) \quad \quad \quad (?)
 \end{aligned}$$

Variable descriptions:

FIDIS _t	Financial Institutions Voluntary Disclosure Index Score
BAR_B	Year of Barings Collapse and Branch Annual Report (1 = 1995, otherwise = 0)
CRISIS_B	Year of Asian Financial Crisis and Branch annual report (1 = 1997, otherwise = 0)
PBLIB_C*	Privilege banks and year of the MAS Bank Liberalisation Plan Announcement (1 = Privilege bank in 1997, otherwise = 0)
LICLIB_C*	Privilege bank in 1997 (1 = yes, otherwise = 0)
AR_C	Consolidated annual report (1 = yes, otherwise = 0)
CTYSTD	Banks with parent entities incorporated in countries with accounting standards influencing financial instrument reporting (1 = yes, otherwise = 0)
CTYGUIDE	Banks with parent entities incorporated in countries with accounting guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
CTYGS	Banks with parent entities incorporated in countries with accounting standards or guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
SIZE	Natural log of total assets
AUDSP#*	Audit specialist in banking sector based on top market share of bank clients (1 = yes, otherwise = 0)

Variable descriptions (cont'd):

AUDSPS*	Audit specialist in banking sector based on top market share of audit fees (1 = yes, otherwise = 0)
AUDSPS25*	Audit specialist in banking sector based on 25% market share of audit fees (1 = yes, otherwise = 0)
AUDSPS20*	Audit specialist in banking sector based on 20% market share of audit fees (1 = yes, otherwise = 0)
PERF	Return on assets (net profit / total assets)
#	- not used in the same regression
*	- not used in the same regression

Correlation analysis measures the strength or degree of linear association between two variables. Table 5.4 presents the Spearman correlation coefficients and their significance. The correlation matrix in panel A consists of independent variables related to the voluntary disclosure level while the correlation matrix in panel B consists of independent variables related to the change in voluntary disclosure level between annual reports. There is only one pair of independent variables with correlation coefficients more than 0.7. PBLIB_C and L1CLIB_C are perfectly positively correlated. They are the independent variables in H2a and H2b respectively. These two variables are not included in the same model for testing. There are six (6) pairs of control variables with correlation coefficients more than 0.7 but this is not problematic given that the high correlation is (a) between the proxy measures for auditor specialization and these measures are not used in the same models; or (b) does not affect the main variable being investigated.⁵⁶ Modeling banks' FIDIS levels using different combinations of independent variables of interest and control variables, where multi collinearity poses no problems, results in five regression models, as outlined in Table 5.5, for testing the hypotheses to examine the relationship between the different independent variables and the banks'

⁵⁶ Firm size is positively correlated with whether the reports are for the consolidated entity. The two measures are not used in the same model. CTYSTD and CTYGS are also not used in the same regression model.

Table 5.4

Spearman's Rank-Order Correlation Matrix of the Independent Variables

Panel A: Independent Variables Related to Voluntary Disclosure Level Within Annual Reports

	BAR_B	CRISIS_B	PBLIB_C	LICLIB_C	AR_C	SIZE	CTYSTD	CTYGUIDE	CTYGS	AUDSP#_B	AUDSP\$	SPAUD\$25	SPAUD\$20
CRISIS_B	-.143**												
PBLIB_C	-.089**	-.089**											
LICLIB_C	-.089**	-.089**	1.000**										
AC	-.378**	-.378**	.237**	.237**									
SIZE	-.281**	-.255**	.189**	.189**	.732**								
CTYSTD	.000	.000	-.020	-.020	.000	.136**							
CTYGUIDE	.000	.000	.012	.012	.000	.072**	-.210**						
CTYGS	.000	.000	-.013	-.013	.000	.171**	.844**	.347**					
SPAUD#_B	.004	-.022	-.046	-.046	.000	-.028	.125**	-.117**	.056**				
SPAUD\$_B	.039	-.128	-.034	-.034	.000	-.006	.106**	-.047	.077**	.730**			
SPAUD\$25	.016	.016	.023	.023	.000	.005	.108**	.013	.112**	.774**	.701**		
SPAUD\$20	-.024	-.028	-.005	-.005	.000	.026	.149**	.035	.164**	.690**	.624**	.867**	
PERF	-.064*	-.202**	.072**	.072*	.242**	.089**	-.092**	-.146**	-.170**	-.057*	-.008	-.035	-.017

Panel B: Independent Variables Related to Change in Voluntary Disclosure Level Between Annual Reports

	AR94-95	AR96-97	SIZE_AV	CTYGUIDE
AR96-97	-.200**			
SIZE_AV	.271**	.320**		
CTYGUIDE	-.005	.005	.043	
PERF_AV	.017	.014	-.162	-.030

Variable descriptions:

BAR_B	Year of Barings Collapse & Branch Annual Report (1 = yes, otherwise = 0)
CRISIS_B	Year of Asian Financial Crisis & Branch annual report (1 = yes, otherwise = 0)
PBLIB_C	Privilege banks and year of the MAS Bank Liberalisation Program Announcement (1 = yes, otherwise = 0)
LICLIB_C	Privilege bank in 1997 (1 = yes, otherwise = 0)
AR_C	Consolidated annual report (1 = yes, otherwise = 0)
CTYSTD	Banks with parent entities incorporated in countries with accounting standards influencing financial instrument report (1 = yes, otherwise = 0)
CTYGUIDE	Banks with parent entities incorporated in countries with accounting guidance influencing financial instrument report (1 = yes, otherwise = 0)
CTYGS	Banks with parent entities incorporated in countries with accounting standards or guidance influencing financial instrument report (1 = yes, otherwise = 0)
SIZE	Natural log of total assets
AUDSP#	Audit specialist in banking sector based on top market share of bank clients (1 = yes, otherwise = 0)
AUDSP\$	Audit specialist in banking sector based on top market share of audit fees (1 = yes, otherwise = 0)
AUDSP\$25	Audit specialist in banking sector based on 25% market share of audit fees (1 = yes, otherwise = 0)
AUDSP\$20	Audit specialist in banking sector based on 20% market share of audit fees (1 = yes, otherwise = 0)
PERF	Return on assets (net profit / total assets)
AR94-95	Annual Reports for Year of 1994 and 1995 (1 = yes, otherwise = 0)
AR96-97	Annual Reports for Year of 1996 and 1997 (1 = yes, otherwise = 0)
SIZE_AV	Natural log of average total assets
PERF_AV	Average Return on assets (Average net profit / average total assets)

* Significant at the 5% level of significance (1-tailed test) & ** Significant at the 1% level of significance (1-tailed test)

Table 5.5
Regression Models with FIDIS as Dependent Variable

	Model 1	Model 2	Model 3	Model 4	Model 5
	H1a & 1b	H2a	H2b	H3	H4a & 4b
Consolidated / Branch Samples	Branch	Consolidated	Consolidated	Consolidated & branch	Consolidated & branch
Years	1994 - 1997	1996 - 1997	1997 only	1994 - 1997	1994 - 1997
Dependent Variables:					
FIDIS	✓	✓	✓	✓	
ΔFIDIS					✓
Independent Variables:					
BAR_B	✓				
CRISIS_B	✓				
PBLIB_C		✓			
LICLIB_C			✓		
AR_C				✓	
Control Variables:					
SIZE	✓	✓	✓		
Banks with Accounting Requirements and/or Guidelines Applicable to Parent Banks:					
• CTYSTD ¹	✓				
• CTYGUIDE ¹	✓	✓	✓	✓	✓
• CTYGS ¹	✓				
Auditor Specialisation:					
• AUDSP# ²	✓				
• AUDSPS ²	✓				
• AUDSPS25 ²	✓				
• AUDSPS20 ²	✓				
PERF	✓	✓	✓	✓	✓

Note:

- 1) CTYSTD and CTYGUIDE are not used together in the same model as CTYGS comprises of these two variables.
- 2) AUDSP#, AUDSPS, AUDSPS25 and AUDSPS20 are not used in the same model as all the variables proxy for auditor specialisation.

Variable descriptions:

FIDIS	Financial Institutions Voluntary Disclosure Index Score
ΔFIDIS	Change in Financial Institutions Voluntary Disclosure Index Score
BAR_B	Year of Barings Collapse & Branch Annual Report (1 = yes, otherwise = 0)
CRISIS_B	Year of Asian Financial Crisis & Branch annual report (1 = yes, otherwise = 0)
PBLIB_C	Privilege banks, year of the MAS Bank Liberalisation Plan Announcement and consolidated annual report (1 = yes, otherwise = 0)
LICLIB_C	Privilege bank in 1997 (1 = yes, otherwise = 0)
AR_C	Consolidated annual report (1 = yes, otherwise = 0)
CTYSTD	Banks with parent entities incorporated in countries with accounting standards influencing financial instrument reporting (1 = yes, otherwise = 0)
CTYGUIDE	Banks with parent entities incorporated in countries with accounting guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
CTYGS	Banks with parent entities incorporated in countries with accounting standards or guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
SIZE	Natural log of total assets
AUDSP#	Audit specialist in banking sector based on top market share of bank clients (1 = yes, otherwise = 0)
AUDSPS	Audit specialist in banking sector based on top market share of audit fees (1 = yes, otherwise = 0)
AUDSPS25	Audit specialist in banking sector based on 25% market share of audit fees (1 = yes, otherwise = 0)
AUDSPS20	Audit specialist in banking sector based on 20% market share of audit fees (1 = yes, otherwise = 0)
PERF	Return on assets (net profit / total assets)
Branch	Branch annual reports
Consolidated	Consolidated annual reports

derivative financial instruments voluntary disclosure levels (Chalmers, 2001b, 1991, footnote 140). The models include combinations of the following dependent and control variables:

1. Model 1 (branch only) includes variables for the testing of H1a (Barings collapse) & H1b (Asian Financial Crisis). Only one of CTYSTD, CTYGUIDE and CTYGS is included in any regression fitted around model 1. Similarly, only one auditor specialization variable is included in any individual regression test.
2. Model 2 (consolidated only) analyses the association between the MAS Bank Liberalisation Plan Announcement and the level of voluntary derivative financial disclosure of privilege banks (H2a).
3. Model 3 (consolidated only) includes variables for testing the association between voluntary derivative financial disclosure levels for banks with different banking licences after the MAS Bank Liberalisation Plan Announcement (H2b).
4. Model 4 (branch and consolidated) tests whether the voluntary disclosure levels in branch and consolidated annual reports are significantly different by examining the level of voluntary disclosure of banks in consolidated and branch annual reports on a pooled basis (H3).
5. Model 5 (branch and consolidated) tests whether the change in voluntary disclosure levels in branch and consolidated annual reports are significantly different by examining the change in the level of voluntary disclosure of banks in consolidated and branch annual reports on a pooled basis (H4a & 4b).

The control variables, SIZE and PERF, apply to both the branch and consolidated annual reports as they are bank-specific and not country-specific. SIZE and PERF are included in models 1 to 3 while PERF but not SIZE is included in models 4 and 5 as SIZE is highly correlated with whether the annual reports are consolidated.

The accounting influence variables, CTYSTD, CTYGUIDE and CTYGS, relate to banks whose parents are incorporated in countries with accounting rules or guidance influencing financial instrument reporting. These accounting standards or guidance from the parent's country of incorporation provide a source of accounting influence in the branch annual reports. Accounting standards can determine the nature and content of the consolidated annual reports and may influence the nature and content of the branch annual reports, also. Banks originating from countries with mandatory accounting standards relating to derivative financial information are eliminated when examining consolidated annual reports as these disclosure items used to calculate the voluntary disclosure index are no longer voluntary disclosure items, but mandatory disclosure items. However, CTYGUIDE is still used as a control variable for consolidated annual reports. Therefore, CTYSTD and CTYGUIDE or CTYGS are used as control variables when examining branch annual reports, i.e. model 1. Models 2, 3 and 4 include only CTYGUIDE as a control variable and eliminate all banks originating from countries with mandatory accounting standards relating to derivative financial instrument disclosures.

As mentioned earlier, to identify the audit specialist for each country of origin is beyond the scope of the thesis. Therefore, the auditor specialisation control variables apply only to branch annual reports and not to consolidated annual reports, i.e. model 1 only.

5.7 Summary and Conclusion

This chapter identifies the study's test period as 1994 to 1997 inclusive. The data required to test the hypotheses developed in Chapter 4 are:

- 1994 and 1995 branch annual reports of banks operating in Singapore (H1a)
- 1996 and 1997 branch annual reports of banks operating in Singapore (H1b)
- 1996 and 1997 consolidated annual reports of banks operating in Singapore (H2a)
- 1997 consolidated annual reports of banks operating in Singapore (H2b)
- 1994 to 1997 branch and consolidated annual reports banks operating in Singapore (H3)
- 1994 and 1995 branch and consolidated annual reports banks operating in Singapore (H4a)
- 1996 and 1997 branch and consolidated annual reports banks operating in Singapore (H4b)

The thesis investigates the associations between voluntary disclosures of derivative financial information by banks operating in Singapore and three events – the Barings collapse, the Asian Financial Crisis and the MAS Banking Liberalisation Program. Voluntary disclosure of derivative financial information is proxied by a self-constructed, equally weighted measure that includes policy information, risk information and net market value information (FIDIS, Financial Institution Disclosure Index Score). FIDIS is based on a measure used by Chalmers (2001b). Each of the events is treated as a dummy variable, measured as “1” in the year of the event. Four control variables, bank size (SIZE), accounting influence from country of origin (CYTSTD and CTYGUIDE), auditor specialisation (AUDSP#, AUDSP\$20, AUD\$25) and performance (PERF) are included in models of the banks voluntary disclosures of derivative financial information. The next chapter discusses and analyses the results relating to the hypotheses.

CHAPTER 6: DATA ANALYSIS AND RESULTS

6.1 Introduction

This chapter reports and analyses the tests of the hypotheses developed in Chapter 4. Both parametric and non-parametric statistical tests are used. For each bank, a mean Financial Institution Disclosure Index Score (FIDIS) is calculated for the relevant set of annual reports and the indices for the groups of reports are then compared using the non-parametric Mann Whitney U test, since the data are not distributed normally. The Mann-Whitney U test allows group differences to be tested when the populations are not normally distributed or when it cannot be assumed that the samples are from populations that are equal in variability (Zikmund, 1994, 539). It is an alternative to the student t-test for two independent samples. Voluntary disclosure of derivative financial information is compared for the following sets of annual report groups: branch annual reports for pre and post-Barings collapse (H1a); branch annual reports for pre and post-Asian Financial Crisis (H1b); consolidated annual reports for pre and post-MAS Banking Liberalisation Program (H2a); consolidated annual reports for privilege and non-privilege banks (H2b); and 1994 to 1997 consolidated and branch annual reports (H3). The changes in disclosure levels for the two periods, i.e. 1994 to 1995 and 1996 to 1997, are also compared between the consolidated and branch annual reports (H4a & 4b).

Regression analysis examines the association between the dependent variable (FIDIS or change in FIDIS), the independent variables (the timing of the Barings collapse, Asian Financial Crisis, the MAS Banking Liberalisation Program; and the type of annual report), and also the four control factors: size, whether the bank's parent faces mandatory accounting standards/regulations or guidelines relating to derivative financial information accounting influence; auditor specialisation and financial performance. Five basic models are developed, based on whether the hypothesis tests require information from branch or consolidated annual reports or from both. Multiple regressions are

also used to examine the incremental explanatory power of the variables (Lang and Lundholm, 1993).

The results suggest that the Barings collapse effect is firm specific and is not associated with a more wide-spread increase in the voluntary disclosure of derivative financial information. In contrast, branch voluntary disclosures of derivative financial information are significantly greater after the Asian financial crisis commenced than before. The 1996-announced MAS Banking Liberalisation Program is not followed by higher levels of voluntary disclosure of derivative financial information in the consolidated annual reports of privilege banks and it is not possible to test for a delayed reaction to the event because of the introduction of mandatory MAS 608 disclosure requirements applicable to banks in 1998. Nevertheless, results highlight a significant difference between the consolidated and branch annual reports, generated mainly by increased levels of voluntary disclosure of derivative financial information in 1996 and 1997. The difference between the change in voluntary disclosure levels of derivative financial information in consolidated and branch annual reports is not significant from 1996 to 1997 but is significant from 1994 to 1995. The voluntary disclosure levels increase relatively more in the consolidated annual reports during the earlier years studied while the voluntary disclosure levels increase more in the branch annual reports during the later years. This effectively closes the gap in voluntary disclosure levels between consolidated and branch annual reports in the later years so the difference between them is insignificant in 1997. Finally, bank size, accounting influence and auditor specialisation are positively associated with the voluntary disclosure levels in the annual reports.

The descriptive statistics and the results from non-parametric statistical tests are discussed in sections 6.2 and 6.3 respectively. Sections 6.4 and 6.5 outline the results from the regression analysis relating to the voluntary disclosure level and changes in the voluntary disclosure level. Section 6.6 outlines the results for the

sensitivity analysis based on parametric multivariate statistical tests. Section 6.7 summarises and concludes the chapter.

6.2 Descriptive Statistics

Appendix 12 lists the banks operating in Singapore from 1994 to 1997, the study's test period. The frequencies, central tendencies and dispersion of the disclosure levels of banks for each reporting period from 1994 to 1997 are reported in Table 6.1 and Table 6.2. The "missing" frequencies in Table 6.1 are due to unavailability of data or a non-operational year for the respective bank. The percentage of banks known to be making at least some voluntary disclosures in the Singapore branch and consolidated annual reports increases from 69% to 83% and 56% to 83% respectively during 1994 to 1997. The mean FIDIS in the 1994 Branch annual reports is 1.38 and the median is 1.00 in 1994. By 1997, Branch annual reports had a mean FIDIS of 2.29 and a median of 2.00. Similarly, consolidated annual reports' FIDIS increased from an average of 3.22 to 5.70 over the same period and the median increased from 3 to 6. During all years, the FIDIS is higher in the consolidated annual reports than in the branch annual reports. Also, the maximum FIDIS for consolidated annual reports is much higher each year (maximum FIDIS = 14 each year) than for branch annual reports (maximum FIDIS = 3 in 1994 to 1996; and 5 in 1997). The minimum FIDIS for both the branch and consolidated annual reports is 0 but as mentioned above, the number of banks with zero FIDIS fell in each case. Mann Whitney U tests and Student t-tests of the differences between consolidated and branch FIDIS are significant at $p < 0.05$ in each year of the study as outlined in Table 6.1, panel E and Table 6.2, panel C.

Among the banks operating in Singapore are banks with head offices located in countries with accounting standards or guidance on the accounting for derivative financial information. As discussed in Sub-section 5.6.2, mandatory accounting standards relating to derivative financial information existed or were issued during the period from 1994 to 1997 in Australia, US, Japan, UK, Canada and New Zealand. Countries with guidance in relation to the accounting

Table 6.1

Level of Disclosure by Banks – Descriptive Statistics

Panel A: Branch Annual Reports									
FIDIS – Frequency:	1994		1995		1996		1997		
	No.	%	No.	%	No.	%	No.	%	
FIDIS = 0	20	13%	17	11%	22	15%	7	5%	
FIDIS > 0	104	69%	107	71%	114	75%	126	83%	
Missing	27	18%	27	18%	15	10%	18	12%	
Total	151	100%	151	100%	151	100%	151	100%	

Panel B: Consolidated Annual Reports									
FIDIS Frequency	1994		1995		1996		1997		
	No.	%	No.	%	No.	%	No.	%	
FIDIS = 0	45	30%	28	19%	26	17%	12	8%	
FIDIS > 0	85	56%	104	69%	114	75%	125	83%	
Missing	21	14%	19	12%	11	8%	14	9%	
Total	151	100%	151	100%	151	100%	151	100%	

Panel C: Branch Annual Reports				
	1994	1995	1996	1997
FIDIS Mean	1.38	1.45	1.45	2.29
FIDIS Median	1.00	2.00	2.00	2.00
Std Dev	0.81	0.81	0.84	1.26
Max	3	3	3	5
Min	0	0	0	0
N	124	124	126	133

Panel D: Consolidated Annual Reports				
	1994	1995	1996	1997
FIDIS Mean	3.22	3.99	5.01	5.70
FIDIS Median	3.00	3.00	4.00	6.00
Std Dev	3.49	3.59	3.96	3.90
Max	14	14	14	14
Min	0	0	0	0
n	130	132	140	137

Panel E: Comparison between Branch and Consolidated Annual Reports				
	1994	1995	1996	1997
Mann Whitney U	6204	4820	4406	4470
1-tailed p	0.00**	0.00**	0.00**	0.00**
Student t	-5.719	-7.693	-10.249	-9.619
1-tailed p	0.00**	0.00**	0.00**	0.00**

Note:

FIDIS = Financial Institution Disclosure Index Score for each bank sample

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

Table 6.2

Disclosure Levels of Banks between 1994 and 1997 Classified According to Financial Derivative Accounting Guidelines and Requirements Applicable to their Parent Banks

	Column A: Banks without Parents in Australia, Canada, Japan, NZ, France, Switzerland, the UK and the US				Column B: Banks with Parents in Australia, Canada, Japan, NZ, France, Switzerland, the UK and the US				Column C: Tests of Differences
Panel A: FIDIS – Branch	1994	1995	1996	1997	1994	1995	1996	1997	Tests of Differences Between Columns A and B Branch cumulative FIDIS for 1994 to 1997
Mean	1.16	1.26	1.22	2.24	1.63	1.68	1.75	2.34	Student t (1-tailed <i>p</i>)
Median	1.00	1.00	1.00	4.00	2.00	2.00	2.00	2.00	4.148 .000**
Std dev	0.77	0.77	0.79	1.34	0.79	0.79	0.82	1.18	
Max	3	3	3	5	3	3	3	5	Mann-Whitney U (1-tailed <i>p</i>)
min	0	0	0	0	0	0	0	0	24159 .000**
N	67	68	77	74	57	56	59	59	
Panel B: FIDIS – Consolidated	1994	1995	1996	1997	1994	1995	1996	1997	Tests of Differences Between Columns A and B Consolidated cumulative FIDIS for 1994 to 1997
Mean	2.21	2.55	3.21	4.05	4.47	5.78	7.40	7.95	Student t (1-tailed <i>p</i>)
Median	2.00	2.00	3.00	4.00	3.50	6.00	7.00	8.00	11.168 .000**
Std dev	2.43	2.54	2.97	3.166	4.16	3.91	3.87	3.70	
Max	9	9	11	12	14	14	14	14	Mann-Whitney U (1-tailed <i>p</i>)
Min	0	0	0	0	0	0	0	0	18875 .000**
N	72	73	80	79	58	59	60	58	
Panel C: Significance of Differences Between Branch FIDIS and Consolidated FIDIS:									
Mann-Whitney U	2068	1962	2081	2051	1049	526	238	325	
1-tailed <i>p</i>	.000*	.000**	.000**	.000**	.000**	.000**	.000**	.000**	
	*								
Student t	-3.36	-4.001	-5.692	-4.552	-5.058	-7.694	-10.976	-11.080	
1-tailed <i>p</i>	.000*	.000**	.000**	.000**	.000**	.000**	.000**	.000**	
	*								

Note

FIDIS = Financial Institution Disclosure Index Score for each bank sample

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

for derivative financial information during the period from 1994 to 1997 include Switzerland and France. Given that the accounting practices in the parent banks' country of incorporation can influence the disclosure levels of banks operating in Singapore, Table 6.2, Column A outlines the disclosure levels of banks that do not have parents in the countries with derivative financial instruments disclosure requirements or guidelines.⁵⁷ Table 6.2, Column B outlines the disclosure levels of banks that have parents in countries with derivative financial instruments disclosure requirements or guidelines. As expected, the disclosure levels are lower across the board from 1994 to 1997 for both the branch and consolidated annual reports of banks whose parents are incorporated in countries without financial derivative accounting requirements or guidelines than the levels reported in Table 6.2, Column B, for banks operating in Singapore whose parents are incorporated in countries with derivative accounting requirements and guidelines. As reported in Table 6.2, Column C, the voluntary disclosures levels are significantly different between banks with accounting influence from parent banks and banks without accounting influence from parent banks at $p < 0.00$.

The changes in voluntary derivative financial disclosure levels in the branch and consolidated annual reports for all banks in the periods from 1994 to 1995, 1995 to 1996 and 1996 to 1997 are illustrated in Table 6.3, Column A. The difference in the change in FIDIS for the consolidated annual reports in the 1994 to 1995 period (0.80) compared to the 1996 to 1997 period (0.69) and the differences in the change

⁵⁷ The offshore banks operating in Singapore originate from thirty-four (34) countries. Of these 34 countries, Japan had 23 banks operating between 1994 and 1997, US had 13, and the remainder had less than 10 each. Only the information on country of incorporation is collected to derive the existence of accounting standard or guidance influence on the financial reporting.

Table 6.3

Changes in Disclosure Levels of Banks between 1994 and 1997 Classified According to Accounting Guidelines and Requirements Applicable to their Parent Banks

Panel A: ΔFIDIS – Branch	Column A: All Banks			Column B: Banks without Parents in Australia, Canada, Japan, NZ, France, Switzerland, the UK and the US		
	1994-95 (a)	1995-96 (b)	1996-97 (c)	1994-95 (d)	1995-96 (e)	1996-97 (f)
Mean	0.01	0.00	0.82	0.11	0.00	1.04
Median	0.00	0.00	0.00	0.00	0.00	0.50
Std dev	0.44	0.26	1.09	0.44	0.30	1.18
Max	2	1	4	2	1	4
Min	-1	-1	-1	-1	-1	-1
N	117	122	129	65	68	74
<i>Tests of Differences:</i>	<i>(a) vs (b)</i>	<i>(b) vs (c)</i>	<i>(a) vs (c)</i>	<i>(d) vs (e)</i>	<i>(e) vs (f)</i>	<i>(d) vs (f)</i>
Mann Whitney U	6659	4713	4919	1984	1259	1369
<i>1-tailed p</i>	.000**	.000**	.000**	.024*	.000**	.000**
Student t	2.043	8.145	-6.772	2.121	7.292	-6.039
<i>1-tailed p</i>	.021*	.000**	.000**	.018*	.000**	.000**
Panel B:						
ΔFIDIS – Consolidated	1994-95	1995-96	1996-97	1994-95	1995-96	1996-97
Mean	0.80	0.95	0.69	0.42	0.65	0.82
Median	0.00	0.00	0.00	0.00	0.00	0.00
Std dev	1.54	1.79	1.74	1.31	1.37	1.45
Max	5	11	8	5	6	6
Min	-3	-3	-7	-3	-1	-3
N	126	131	138	69	74	80
<i>Tests of Differences:</i>	<i>(a) vs (b)</i>	<i>(b) vs (c)</i>	<i>(a) vs (c)</i>	<i>(d) vs (e)</i>	<i>(e) vs (f)</i>	<i>(d) vs (f)</i>
Mann Whitney U	8198	8707	8409	2413	2660	2313
<i>1-tailed p</i>	.460	.286	.308	.260	.117	.029*
Student t	-0.732	-1.235	0.557	-1.017	0.775	-1.777
<i>1-tailed p</i>	.232	.159	.289	.155	.219	.039*
Panel C:						
Significance of Differences Between Branch FIDIS and Consolidated FIDIS Changes in Voluntary Derivative Financial Disclosure Levels:						
Mann Whitney U	5262	5437	8310	1969	1889	2632
<i>1-tailed p</i>	.000**	.000**	.149	.050*	.001**	.101
Student t	-4.798	-5.837	0.744	-1.829	-3.997	1.009
<i>1-tailed p</i>	.000**	.000**	.228	.035*	.000**	.157

Note:

FIDIS = Financial Institution Disclosure Index Score for each bank sample

ΔFIDIS for 1994 to 1995 = (FIDIS in 1995) – (FIDIS in 1994)

ΔFIDIS for 1995 to 1996 = (FIDIS in 1996) – (FIDIS in 1995)

ΔFIDIS for 1996 to 1997 = (FIDIS in 1997) – (FIDIS in 1996)

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

Table 6.3 (cont'd)

Changes in Disclosure Levels of Banks between 1994 and 1997 Classified According to Accounting Guidelines and Requirements Applicable to their Parent Banks

	Column C: Banks with Parents in Australia, Canada, Japan, NZ, France, Switzerland, the UK and the US		
Panel A:	1994-95	1995-96	1996-97
Δ FIDIS - Branch	(g)	(h)	(i)
Mean	0.00 ⁻	0.00 ⁻	0.53
Median	0.00	0.00	0.00
Std dev	0.44	0.19	0.88
Max	2	1	3
Min	-1	0	0
N	52	54	55
<i>Tests of Differences:</i>	<i>(g) vs (h)</i>	<i>(h) vs (i)</i>	<i>(g) vs (i)</i>
Mann Whitney U	1372	1096	1090
<i>1-tailed p</i>	.338	.000**	.001*
Student t	0.614	4.007	-3.328
<i>1-tailed p</i>	.270	.000**	.000**
Panel B:	1994-95	1995-96	1996-97
Δ FIDIS - Consolidated			
Mean	1.26	1.35	0.50
Median	1.00	1.00	0.00
Std dev	1.67	2.17	2.08
Max	5	11	8
Min	-3	-3	-7
N	57	57	58
<i>Tests of Differences:</i>	<i>(g) vs (h)</i>	<i>(h) vs (i)</i>	<i>(g) vs (i)</i>
Mann Whitney U	1566	1304	1215
<i>1-tailed p</i>	.365	.018*	.004**
Student t	-.242	-2.149	2165
<i>1-tailed p</i>	.404	.017*	.016*
Panel C:			
Significance of Differences Between Branch FIDIS and Consolidated FIDIS Changes in Voluntary Derivative Financial Disclosure Levels			
Mann Whitney U	767	893	1569
<i>1-tailed p</i>	.000**	.000**	.430
Student t	-4.955	-4.438	0.090
<i>1-tailed p</i>	.000**	.000**	.464

Note:

FIDIS = Financial Institution Disclosure Index Score for each bank sample

Δ FIDIS for 1994 to 1995 = (FIDIS in 1995) - (FIDIS in 1994)

Δ FIDIS for 1995 to 1996 = (FIDIS in 1996) - (FIDIS in 1995)

Δ FIDIS for 1996 to 1997 = (FIDIS in 1997) - (FIDIS in 1996)

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

of FIDIS in each comparative period are insignificant at $p < 0.05$ [refer to test of differences between (a) and (c) in Column A, Panel B]. On the other hand, there is a lower mean change in the FIDIS for the branch annual reports in the 1994 to 1995 period (0.01) compared to the 1996 to 1997 period (0.82) and the difference in the change in FIDIS is significant at $p < 0.05$ [refer to test of differences between (a) and (c) in Column A, Panel A]. The same pattern holds true for the mean and median changes in the voluntary disclosure levels for all banks in 1995-1996 and 1996-1997. In each case, there is significant change in the branch disclosure; however, the branch disclosures increase more in 1996-1997 than in 1995-1996 [refer to test of differences between (b) and (c) in Column A, Panel A] and more in 1994-1995 than in 1995-1996 [refer to test of differences between (a) and (b) in Column A, Panel A]. Non-parametric Mann-Whitney U test and parametric student t test are consistent.

Table 6.3, Column B, outlines the changes in FIDIS for banks whose parents are not incorporated in countries with accounting rules and guidance influencing financial instrument reporting. Unlike column A, there is a lower mean level of change in the FIDIS for the consolidated annual reports in the 1994 to 1995 period (0.42) compared to the 1996 to 1997 period (0.82) and the difference in the mean change of FIDIS in the two periods is significant at $p < 0.05$ [refer to test of differences between (d) and (f) in Column B, Panel B]. However, the differences in mean and median changes in disclosure for other years are insignificant. In the branch annual reports, there is a lower mean change in the FIDIS in the 1994 to 1995 period (0.11) compared to the 1996 to 1997 period (1.04) and the difference in the mean and median change in FIDIS for the two periods is significant at $p < 0.05$ [refer to test of differences between (d) and (f) in Column B, Panel A]. The same pattern holds true for the changes in the voluntary disclosure levels in 1995-1996 and 1996-1997 for banks whose parents are not incorporated in countries with accounting rules and guidance influencing financial instrument reporting. In each case, there is significant change in the branch disclosure; however, the branch

disclosures increase more in 1996-1997 than in 1995-1996 [refer to test of differences between (e) and (f) in Column B, Panel A] and more in 1994-1995 than in 1995-1996 [refer to test of differences between (d) and (e) in Column B, Panel A]. Again, parametric and non-parametric tests yield consistent results.

Column C reports the changes in FIDIS for banks whose parents are incorporated in countries with accounting rules and guidance influencing financial instrument reporting. Like results in column A, there is a greater mean change in the FIDIS for the consolidated annual reports in the 1994 to 1995 period (1.26) compared to the 1996 to 1997 period (0.50). The difference in the change in FIDIS for the two periods is significant at $p < 0.05$. Similar to results in columns A and B, there is a smaller change in the FIDIS for the branch annual reports in the 1994 to 1995 period (0.00) compared to the 1996 to 1997 period (0.53) and the difference in the change in FIDIS for the two periods is significant at $p < 0.05$.

Interestingly, in Table 6.3, Panel C, the differences between branch FIDIS and consolidated FIDIS changes in voluntary derivative financial disclosure level are significant for 1994 to 1995 and 1995 to 1996 but not 1996 to 1997. This is true regardless of whether the Singapore branch has a parent in a country with financial derivative disclosure standards or guidance.

The descriptive statistics for the control variables are outlined in Table 6.4. Table 6.4, Panel A, provides the descriptive statistics for bank size (SIZE) and bank performance (PERF). The medians and means for SIZE and PERF are generally higher for the consolidated annual reports (medians: 11.000 and 0.005; means: 10.905 and 0.047) than the branch annual reports (medians: 9.000 and 0.000; means: 9.381 and 0.018) ($p < 0.05$ for both SIZE and PERF). This is to be expected since the consolidated annual reports show the financial position and financial performance of the entire entity. SIZE is significantly and positively skewed for

Table 6.4

Descriptive Statistics and Univariate Tests: Control Variables

Panel A:			
Size and Performance			
	SIZE	PERF	
BRANCH ANNUAL REPORTS:			
Mean	9.381	0.018	
Median	9.000	0.000	
Std dev	0.695	0.221	
Max	11	3.594	
Min	7	-0.132	
N	527	526	
Skewness	13.888	-0.132	
Std dev of skewness	0.106	0.106	
CONSOLIDATED ANNAUL REPORTS:			
Mean	10.905	0.047	
Median	11.000	0.005	
Std dev	1.006	0.570	
Max	13	8.292	
Min	4	-2.245	
N	547	548	
Skewness	11.949	-2.318	
Std dev of skewness	0.104	0.104	
Panel B:			
Accounting Requirements and Guidelines Applicable to Parent Bank			
FREQUENCY	CTYGUIDE	CTYSTD	CTYGS
BRANCH ANNUAL REPORTS:			
Guidance	12		
No Guidance	139		
		51	
Standard		100	
No Standard			
			63
Guidance or Standard			88
No Guidance or Standard			
Total	151	151	151

Table 6.4 (cont'd)

Descriptive Statistics and Univariate Tests: Control Variables

Panel C: Accounting Requirements and Guidelines Applicable to Parent Bank						
	CTYGUIDE		CTYSTD		CTYGS	
	Yes	No	Yes	No	Yes	No
1994 to 1997 Branch Annual Reports FIDIS:						
Mean	2.12	1.61	1.79	1.56	1.85	1.48
Median	2.00	2.00	2.00	1.00	2.00	1.00
Std dev	1.01	1.09	0.91	1.08	0.95	1.05
Max	5	5	5	5	5	5
Min	0	0	0	0	0	0
N	475	42	189	328	231	286
Tests of Differences:						
Mann Whitney U		7234		24864		24159
<i>1-tailed p</i>		.000**		.000**		.000**
Student t		-3.134		-2.466		-4.148
<i>1-tailed p</i>		.001*		.007**		.000**
1994 to 1997 Consolidated Annual Reports FIDIS:						
Mean	5.49	4.41	6.63	3.36	6.40	3.03
Median	6.00	4.00	7.00	3.00	6.00	3.00
Std dev	3.96	2.23	4.45	2.92	4.12	2.88
Max	14	10	14	12	14	12
Min	0	1	0	0	0	0
N	492	47	188	357	235	304
Tests of Differences:						
Mann Whitney U		8639		19073		18875
<i>1-tailed p</i>		.002**		.000**		.000**
Student t		-1.841		-10.260		-11.168
<i>1-tailed p</i>		.033*		.000**		.000**

Table 6.4 (cont'd)

Descriptive Statistics and Univariate Tests: Control Variables

Panel D:
Frequency of Auditor Specialisation – 1994 to 1997 Branch Accounts

	AUDSP#		AUDSP S		AUDSP\$25		AUDSP\$20	
Non-Specialist	334	55%	357	59%	270	45%	240	40%
Specialist	184	30%	161	27%	248	41%	278	46%
Missing	86	14%	86	14%	86	14%	86	14%
Total	604	100%	604	100%	604	100%	604	100%

Panel E:
FIDIS for 1994 to 1997 Branch Annual Reports Based on Whether Accounts are Audited by a Banking Sector Audit Specialisation

	AUDSP#		AUDSP\$		AUDSP\$25		AUDSP\$20	
	Yes	No	Yes	No	Yes	No	Yes	No
Mean	1.85	1.54	1.86	1.55	1.85	1.46	1.81	1.46
Median	2.00	1.00	2.00	2.00	2.00	1.00	2.00	1.00
Std dev	0.79	1.12	0.89	1.07	0.95	1.05	0.95	1.08
Max	4	5	5	5	5	5	5	5
Min	0	0	0	0	0	0	0	0
N	184	334	161	357	248	270	278	240
Tests of Differences:								
Mann	23981		22992		25788		26130	
Whitney U	.000**		.000**		.000**		.000**	
1-tailed p								
Student t	-3.399		-3.223		-4.461		-3.976	
1-tailed p	.000**		.000**		.000**		.000**	

Variable descriptions:

- FIDIS** Financial Institution Disclosure Index Score for each bank sample
- CTYSTD** Banks with parent entities incorporated in countries with accounting standards influencing financial instrument reporting (1 = yes, otherwise = 0)
- CTYGUIDE** Banks with parent entities incorporated in countries with accounting guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
- CTYGS** Banks with parent entities incorporated in countries with accounting standards or guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
- SIZE** Natural log of total assets
- PERF** Return on Assets (net profit / total assets)
- AUDSP#** Audit specialist in banking sector based on top market share of bank clients (1 = yes, otherwise = 0)
- AUDSP\$** Audit specialist in banking sector based on top market share of audit fees (1 = yes, otherwise = 0)
- AUDSP\$25** Audit specialist in banking sector based on 25% market share of audit fees (1 = yes, otherwise = 0)
- AUDSP\$20** Audit specialist in banking sector based on 20% market share of audit fees (1 = yes, otherwise = 0)

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

both the branch and consolidated annual reports, while PERF is significantly and negatively skewed for both the branch and consolidated annual reports.

Table 6.4, Panel B, provides frequencies in relation to the number of banks whose parents are incorporated in countries with accounting guidance (CTYGUIDE), accounting standards (CTYSTD) or either guidance or standards respectively (CTYGS). There are 12 banks likely to be influenced by accounting guidance only and 51 banks likely to be influenced by accounting standards in their parents' country of incorporation. In combination, there are 63 banks likely to be influenced by either accounting guidance or standards in their parents' regulatory environment.

Results in Table 6.4, panel C, indicate that all three proxies for accounting influence are significantly associated with the Singapore banks' voluntary disclosure levels.⁵⁸ Banks whose parents are incorporated in countries with accounting rules or guidance influencing financial instrument reporting disclose more derivative financial information than banks whose parents are not incorporated in countries with accounting rules and guidance influencing financial instrument reporting.

The disclosure frequencies for the banks audited by specialists or non-specialists where auditor specialist classification is based on client numbers (AUDSP#) or audit fee (AUDSP\$, AUDSP\$25 and AUDSP\$20) are in Table 6.4, Panel D. As previously explained, auditor specialization applies only to the branch annual reports since it is not within the scope of this thesis to collect the data to measure specialization for each country where there is a parent entity incorporated. Results

⁵⁸ When the association between financial reporting influence from parents who are incorporated in countries with financial derivative accounting rules and/or guidance is analysed by year, significant associations are present only in selective years. For CTYGUIDE, significant association is present for the 1997 branch annual reports; 1994 consolidated annual reports and 1995 consolidated annual reports. For CTYSTD and CTYGS, significant association is found in all years and annual reports except for 1997 branch annual reports.

in Table 6.4, panel E, indicate that all four proxies for auditor specialization are significantly and positively associated with the voluntary disclosure level in the branch annual reports and disclosure levels are higher where the branch auditor is a specialist ($p < 0.01$). Table 6.5 outlines auditors' market shares of the Singapore banking sector. This market share depends upon on how audit specialization is measured. As discussed in Chapter 4, the auditor specialization measure is determined in four ways: AUDSP#, AUSSP\$, AUDSP\$25 and AUDSP\$20. AUDSP# and AUDSP\$ identify an auditor specialist as the audit firm with the most bank clients with reference to the number of bank clients and the audit fee respectively. AUDSP\$25 and AUDSP\$20 identify the auditor specialist as the audit firm with at least 25% and 20% shares of sample banks' audit fees respectively. Based on the number of bank clients, KPMG emerges as the bank audit specialist during the periods from 1994 to 1997, with a market share of at least approximately 30% each year (refer to Table 6.5, Panel A). No other audit firm audits more than 16% of the sample banks in any of the years under consideration.

Table 6.5, Panel B, outlines the market share of audit fees for 1994 to 1997. The market share is highest for KPMG in 1994 to 1996, and then for Pricewaterhouse in 1997. If audit specialisation is established at 25% market share, audit specialists are KPMG (29%) and Coopers and Lybrand (26%) in 1994; KPMG (28%) and

Table 6.5

Auditor Specialisation in the Singapore Banking Industry from 1994 to 1997

Panel A:

Auditors' Market Share of Bank Clients Based on Number of Bank Clients for 1994 to 1997

Auditor	1994		1995		1996		1997	
	No.	%	No.	%	No.	%	No.	%
Arthur Andersen	4	3	5	4	6	4	6	4
Coopers & Lybrand	17	13	18	13	20	14	22	16
Ernst & Young	16	12	19	13	19	13	20	14
Deloitte Touche	19	14	20	14	20	14	20	14
KPMG	45	33	43	31	50	35	43	30
Price Waterhouse	19	14	18	13	18	13	20	14
Other	15	11	18	12	11	7	11	8
Total	135	100%	141	100%	144	100%	142	100%
Not operating during year	16		10		7		9	
Grand Total	151		151		151		151	

Panel B:

Auditors' Market Share of Bank Clients Based on Audit Fees of Bank Clients for 1994 to 1997

Auditor	1994		1995		1996		1997	
	\$	%	\$	%	\$	%	\$	%
Arthur Andersen	224,000	2	290,000	3	343,000	3	528,000	4
Coopers & Lybrand	2,746,738	26	1,865,617	18	2,210,090	18	2,434,766	17
Ernst & Young	1,219,760	12	1,362,000	13	1,688,996	14	1,899,996	13
Deloitte Touche	865,253	8	905,378	9	901,900	7	959,850	7
KPMG	3,036,250	29	2,854,087	28	3,899,627	31	3,980,101	28
Price Waterhouse	2,255,548	22	2,558,479	25	2,975,497	24	4,526,761	31
Other	134,000	1	392,000	4	420,000	3	0	0
Total Audit Fees for Sample Banks	10,481,549	100	10,227,561	100	12,439,110	100	14,329,474	100

Panel C:

FIDIS Based on Auditor Classification

Auditor	1994		1995		1996		1997	
	Mean FIDIS	Median FIDIS						
Arthur Andersen	1.75	2.00	2.20	2.00	2.00	2.00	3.30	4.00
Coopers & Lybrand	1.31	1.00	1.41	1.00	1.30	1.00	2.58	2.00
Ernst & Young	1.00	1.00	1.10	1.00	1.05	1.00	2.06	2.00
Deloitte Touche	1.55	2.00	1.64	2.00	1.88	2.00	2.33	2.00
KPMG	1.72	2.00	1.61	2.00	1.50	2.00	2.17	2.00
Price Waterhouse	1.18	1.00	1.17	1.00	1.15	1.00	2.36	2.00
Other	1.47	2.00	1.53	2.00	1.58	2.00	1.94	2.00

(Note: FIDIS = Financial Institution Disclosure Index Score for each bank sample)

Price Waterhouse (25%) in 1995; KPMG (31%) and Price Waterhouse (24%) in 1996; and Price Waterhouse (31%) and KPMG (28%) in 1997. Price Waterhouse is added to the list of audit specialists in 1994 if audit specialisation is determined at 20% market share. Table 6.5, Panel C, outlines the mean and median FIDIS of the sample banks classified according to their auditors. It is interesting to note that Arthur Andersen consistently exhibited the highest level of voluntary derivative financial disclosures and not KPMG or Price Waterhouse, who were identified as audit specialists of the banking sector. Furthermore, for most auditors, there appears to be a dip in voluntary derivative financial disclosure levels in 1996 that picked up in 1997. For all audit firms, client FIDIS means are higher in 1997 than in 1994, 1995 or 1996, and the FIDIS medians are at least as high in 1997 as in the prior years. Chapter 5 discusses the thresholds for auditor specialist classification that are proposed by various studies. Applying the Hogan and Jeter (1999) industry specialist list of the top 3 accounting firms in the industry, the audit specialist classification in this study takes up about 70% of the market share of audit fees. Applying the 10% threshold in Craswell, Francis and Taylor (1995), audit specialists will take up approximately 90% of the market share. Only the international accounting firms provide audit services to all banks operating in Singapore, so it is not feasible to utilise the thresholds proposed in these studies in view of the small number of bank auditors.

6.3 Univariate Analysis

6.3.1 *Non-parametric Statistical Tests*

This section presents the results for hypothesis testing using non-parametric statistical tests since the data are not distributed normally (Marston and Shrives, 1991). The Mann-Whitney U test is appropriate to test group differences when the populations are not normally distributed or when it cannot be assumed that the samples are from populations that are equal in variability (Zikmund, 1994, 539). The data relating to the Barings collapse, Asian Financial Crisis and the MAS

Banking Liberalisation Program are non-normal as indicated by Kolmogorov-Smirnov tests.⁵⁹ Student t-test results are also reported.

Results in Table 6.6, Column A, support hypotheses 1a and 1b. Hypothesis 1a predicts no significant change in the level of voluntary derivative financial disclosure in the Singapore branch annual reports after the Barings collapse. H1b predicts a higher level of voluntary derivative financial disclosure in the Singapore branch annual reports after the Asian Financial Crisis. The voluntary derivative financial disclosure level in the banks' branch annual reports is not significantly higher ($p > 0.05$) after the Barings Collapse (FIDIS-B₉₅ : median = 2.00, mean = 1.45) than before (FIDIS-B₉₄ : median 1.00, mean = 1.38). However, the mean voluntary derivative financial instrument disclosure level in banks' branch annual reports is significantly higher after the Asian Financial Crisis (FIDIS-B₉₇ : median = 2.00, mean = 2.29,) than before (FIDIS-B₉₆ : mean = 1.45, median = 2.00) ($p < 0.01$). Columns B and C outline the results for banks according to whether they have parents in countries with accounting standards or guidance that may influence financial reporting. The results are discussed in Section 6.3.2.

Table 6.6, Panel B reports the results for H1a and H1b based on matched samples for the respective comparative years. The conclusions remain the same as Panel A whereby H1a and H1b are supported.

H2a predicts a higher level of voluntary derivative financial information disclosure in the consolidated annual reports of banks who either held or applied for privilege licences after the announcement of the MAS bank liberalization program (1997) than in the period prior to the first announcement of the MAS bank liberalization program (1996). H2b predicts a higher level of voluntary derivative financial

⁵⁹ The Kolmogorov-Smirnov test tests for normality when means and variances are not known, but must be estimated from the data.

instrument disclosure in the consolidated annual reports of banks who either held or applied for privilege licences than banks who did not apply for privilege licences

Table 6.6

Association Between Firm-Specific/Regionalised Events and the level of Singapore Banks' Voluntary Derivative Financial Disclosure

Hypotheses	Groups	Column A All Banks			Column B Banks without Parents in Australia, Canada, Japan, NZ, France, Switzerland, the UK and the US		
		N	Mean FIDIS-B	Median FIDIS-B	N	Mean FIDIS-B	Median FIDIS-B
Panel A: Analysis Based on All Data							
H _{1a}	FIDIS-B ₉₅ = FIDIS-B ₉₄						
	- after Barings Collapse in 1995	124	1.45	2.00	68	1.26	1.00
	- before Barings Collapse in 1994	125	1.38	1.00	67	1.16	1.00
	Mann-Whitney U			7432			2126
	1-tailed <i>p</i>			0.273			0.234
	Student <i>t</i>		-0.71			-5.73	
	1-tailed <i>p</i>		.239		.000*		
H _{1b}	FIDIS-B ₉₇ > FIDIS-B ₉₆						
	- after Asian Financial Crisis in 1997	133	2.29	2.00	74	2.24	4.00
	- before Asian Financial Crisis in 1996	136	1.45	2.00	77	1.22	1.00
	Mann-Whitney U			5870			1661.5
	1-tailed <i>p</i>			0.000**			0.000**
	Student <i>t</i>		-6.384			-5.733	
	1-tailed <i>p</i>		.000**		.000**		
Panel B: Analysis Based on Matching Data Available for Comparison							
H _{1a}	FIDIS-B ₉₅ = FIDIS-B ₉₄						
	- after Barings Collapse in 1995	102	1.40	2.00	54	1.22	1.00
	- before Barings Collapse in 1994	102	1.33	1.00	54	1.13	1.00
	Mann-Whitney U			4899			1368
	1-tailed <i>p</i>			0.29			0.271
	Student <i>t</i>		-0.655			-0.705	
	1-tailed <i>p</i>		0.256		0.241		
H _{1b}	FIDIS-B ₉₇ > FIDIS-B ₉₆						
	- after Asian Financial Crisis in 1997	115	2.21	2.00	65	2.20	2.00
	- before Asian Financial Crisis in 1996	115	1.42	2.00	65	1.17	1.00
	Mann-Whitney U			4331			1201.5
	1-tailed <i>p</i>			0.000**			0.000**
	Student <i>t</i>		-5.861			-5.628	
	1-tailed <i>p</i>		0.000**		0.000**		

Note:

FIDIS-B = Financial Institution Disclosure Index Score for each bank sample from the branch annual report

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

Table 6.6 (cont'd)

Association Between Firm-Specific/Regionalised Events and the level of Singapore Banks' Voluntary Derivative Financial Disclosure

Hypotheses	Groups	Column C Banks with Parents in Australia, Canada, Japan, NZ, France, Switzerland, the UK and the US		
		N	Mean FIDIS-B	Median FIDIS-B
Panel A: Analysis Based on All Data				
H _{1a}	FIDIS-B ₉₅ = FIDIS-B ₉₆			
	- after Barings Collapse in 1995	56	1.68	2.00
	- before Barings Collapse in 1994	57	1.63	2.00
	Mann-Whitney U			1534
	1-tailed <i>p</i>			0.339
	Student <i>t</i>		-0.316	
H _{1b}	FIDIS-B ₉₇ > FIDIS-B ₉₆			
	- after Asian Financial Crisis in 1997	59	7.95	8.00
	- before Asian Financial Crisis in 1996	59	7.40	7.00
	Mann-Whitney U			1332
	1-tailed <i>p</i>			0.006**
	Student <i>t</i>		-3.163	
Panel B: Analysis Based on Matching Data Available for Comparison				
H _{1a}	FIDIS-B ₉₅ = FIDIS-B ₉₆			
	- after Barings Collapse in 1995	48	1.60	2.00
	- before Barings Collapse in 1994	48	1.56	2.00
	Mann-Whitney U			1103
	1-tailed <i>p</i>			0.335
	Student <i>t</i>		-0.266	
H _{1b}	FIDIS-B ₉₇ > FIDIS-B ₉₆			
	- after Asian Financial Crisis in 1997	30	2.22	2.00
	- before Asian Financial Crisis in 1996	50	1.74	2.00
	Mann-Whitney U			1001.5
	1-tailed <i>p</i>			0.022**
	Student <i>t</i>		-2.502	
1-tailed <i>p</i>		0.007**		

Note:

FIDIS-B = Financial Institution Disclosure Index Score for each bank sample from the branch annual report

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

Table 6.7

Association Between the MAS Banking Liberalisation Program and Singapore Banks' Level of Voluntary Derivative Financial Disclosure

Hypotheses	Groups	Column A All Banks			Column B Banks without Parents in Australia, Canada, Japan, NZ, France, Switzerland, the UK and the US		
		N	Mean FIDIS-C	Median FIDIS-C	N	Mean FIDIS-C	Median FIDIS-C
Panel A: Analysis Based on All Data							
H _{2a}	FIDIS-C _{PB97} > FIDIS-C _{PB96}						
	- privilege banks in 1997	54	5.04	4.00	37	3.14	2.50
	- privilege banks in 1996	52	4.37	4.00	36	2.41	1.00
	Student t		-0.835			-1.105	
	1-tailed p		.203			.136	
	Mann-Whitney U			1223			534
	1-tailed p			.124			.069
H _{2b}	FIDIS-C _{PB97} > FIDIS-C _{NPB97}						
	- privilege banks in 1997	59	5.49	5.00	36	3.33	3.00
	- non-privilege banks in 1997	78	5.86	6.00	43	4.65	4.00
	Student t		0.545			1.877	
	1-tailed p		.293			.032*	
	Mann-Whitney U			2147			592
	1-tailed p			.251			.035*
Panel B: Analysis Based on Matching Data for Same Firms Available for Comparison							
H _{2a}	FIDIS-C _{PB97} > FIDIS-C _{PB96}						
	- privilege banks in 1997	57	5.49	5.00	35	3.4	3.00
	- privilege banks in 1996	57	4.81	5.00	35	2.6	1.00
	Student t		-0.872			-1.153	
	1-tailed p		0.197			0.126	
	Mann-Whitney U			1423			4845
	1-tailed p			0.125			0.063

Note:

FIDIS-C = Financial Institution Disclosure Index Score for each bank sample from the consolidated annual report

PB = privilege banks

NPB = non-privilege banks

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

Table 6.7 (cont'd)

Association Between the MAS Banking Liberalisation Program and Singapore Banks' Level of Voluntary Derivative Financial Disclosure

Hypotheses	Groups	Column C Banks with Parents in Australia, Canada, Japan, NZ, France, Switzerland, the UK and the US		
		N	Mean FIDIS-C	Median FIDIS-C
Panel A: Analysis Based on All Data				
H_{2a}	FIDIS-C _{PB97} > FIDIS-C _{PB96}			
	- privilege banks in 1997	16	9.31	9
	- privilege banks in 1996	17	8.65	8
	Student t		-0.597	
	1-tailed p		.277	
	Mann-Whitney U			115
	1-tailed p			.222
H_{2b}	FIDIS-C _{PB97} > FIDIS-C _{NPB97}			
	- privilege banks in 1997	23	8.87	9.00
	- non-privilege banks in 1997	35	7.34	7.00
	Student t		-1.556	
	1-tailed p		.062	
	Mann-Whitney U			309
	1-tailed p			.068
Panel B: Analysis Based on Matching Data for Same Firms Available for Comparison				
H_{2a}	FIDIS-C _{PB97} > FIDIS-C _{PB96}			
	- privilege banks in 1997	22	8.82	9.00
	- privilege banks in 1996	22	8.32	7.50
	Student t		-0.457	
	1-tailed p		0.375	
	Mann-Whitney U			220.5
	1-tailed p			0.305

Note:

FIDIS-C = Financial Institution Disclosure Index Score for each bank sample from the consolidated annual report

PB = privilege banks

NPB = non-privilege banks

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

after the announcement of the MAS bank liberalization program (1997). Results in Table 6.7, Column A provide no support for H2a and H2b. For H2a, the voluntary derivative financial disclosure level of privilege banks in the consolidated annual reports is not significantly higher ($p > 0.05$) after the MAS Bank Liberalisation Plan announcement ($FIDIS-C_{PB97}$: median = 4.00, mean = 5.04) than before ($FIDIS-C_{PB96}$: median = 4.00, mean = 4.37). Furthermore, for H2b, the voluntary derivative financial disclosure level of privilege banks in the consolidated annual reports after the MAS Bank Liberalisation Plan announcement ($FIDIS-C_{PB97}$: median = 5.00, mean = 5.49) is not significantly higher than that of non-privilege banks ($FIDIS-C_{NPB97}$: median = 6.00, mean = 5.86) ($p > .05$). As explained in Section 4.3, 31 December 1997 may be too close to the MAS Bank Liberalisation Plan announcement in August 1997 for banks to have fully identified the purpose of the plan and reacted to the announcement. Since mandatory financial statement disclosures applicable to banks in the revised MAS 608 were implemented with effect from 1998, it is impossible to test whether the insignificant results occur because banks' reactions were delayed or the theory does not hold. Table 6.7, Columns B and C outline the results for banks according to whether they had parents in countries with accounting standards or guidance that may influence financial reporting respectively. Interestingly, Column B reports that in 1997, privilege banks whose parents were not incorporated in countries with accounting rules or guidance influencing financial instrument reporting had significantly lower FIDIS (median = 3.00, mean = 3.33) than their non-privilege banks whose parents were not incorporated in countries with accounting rules or guidance influencing financial instrument reporting (median = 4.00, mean = 4.65) (Mann Whitney U = 592, $p < 0.05$; Student t = 1.877, $p < 0.05$).

H3 predicts that there are higher levels of voluntary disclosures in consolidated than branch annual reports. Results in Table 6.8, Panel A, support hypothesis 3. Levels of voluntary disclosures are significantly higher ($p < 0.01$) in the consolidated annual reports ($FIDIS-C$: median = 4.00, mean = 4.50) than in the

Table 6.8

Association Between the Annual Report type and the Level of Voluntary Derivative Financial Disclosure

		Panel A All Banks		
Hypotheses	Groups	N	Mean FIDIS	Median FIDIS
H ₃	FIDIS-C > FIDIS-B			
	- consolidated annual reports	539	4.50	4.00
	- branch annual reports	517	1.65	2.00
	Student t		-16.297	
	1-tailed <i>p</i>		.000**	
	Mann-Whitney U			81172
	1-tailed <i>p</i>			.000**
		Panel B Banks without Parents in Australia, Canada, Japan, NZ, France, Switzerland, the UK and the US		
Hypotheses	Groups	N	Mean FIDIS	Median FIDIS
H ₃	FIDIS-C > FIDIS-B			
	- consolidated annual reports	304	3.03	3.00
	- branch annual reports	286	1.48	1.00
	Student t		-8.586	
	1-tailed <i>p</i>		.000**	
	Mann-Whitney U			32842
	1-tailed <i>p</i>			.000**
		Panel C Banks with Parents in Australia, Canada, Japan, NZ, France, Switzerland, the UK and the US		
Hypotheses	Groups	N	Mean FIDIS	Median FIDIS
H ₃	FIDIS-C > FIDIS-B			
	- consolidated annual reports	235	6.40	6.00
	- branch annual reports	231	1.85	2.00
	Student t		-16.356	
	1-tailed <i>p</i>		.000**	
	Mann-Whitney U			8942
	1-tailed <i>p</i>			.000**

Note:

FIDIS-B = Financial Institution Disclosure Index Score for each bank sample from the branch annual report
 FIDIS-C = Financial Institution Disclosure Index Score for each bank sample from the consolidated annual report

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

branch annual reports (FIDIS-B : median = 2.00, mean = 1.65). This observation holds regardless of whether banks' parents are incorporated in countries with accounting rules or guidance (Panels B and C). Hypothesis 4a predicts a greater change in disclosure levels in the consolidated annual reports of Singapore banks than in the branch annual reports of Singapore banks for the period from 1994 to 1995. Hypothesis 4b predicts a smaller change in disclosure levels in the consolidated annual reports of Singapore banks than in the branch annual reports of Singapore banks for the period from 1996 to 1997. Results in Table 6.9 support H4a but not H4b. Hypothesis 4a is supported since the change in the levels of voluntary disclosure is significantly higher for the 1994 to 1995 period for consolidated annual reports (Δ FIDIS-C₉₄₅ : median 0.00, mean = 0.80) than for the branch annual reports (Δ FIDIS-B₉₄₅ : median and mean = 0.00) ($p < 0.001$). In Table 6.9, Column A, the change in the levels of voluntary disclosure is not significantly higher ($p > 0.05$) for the 1996 to 1997 period for consolidated annual reports (Δ FIDIS-C₉₆₇ : median = 0.00, mean = 0.69) than for the branch annual reports (Δ FIDIS-B₉₆₇ : median = 0.00, mean = 0.82). Columns B and C outline the results for banks according to whether their parents are incorporated in countries with accounting standards or guidance that may influence financial reporting respectively. The results are discussed in Section 6.3.2 Sensitivity Analysis.

Results in Tables 6.6, 6.7 and 6.8 indicate that the disclosure level and change patterns for the annual reports of single entities and of consolidated entities differ. Presumably, this is because the two types of reports are tailored to different users, and information needs vary with users. Information needs for shareholders are additional to regulatory requirements. Shareholders appear to demand that annual reports supply information of a higher level than regulatory needs as indicated in the higher disclosure levels in consolidated annual reports compared to the branch annual reports. However, in addition to annual reports, banks operating in Singapore are required to submit monthly returns to the MAS as outlined in MAS 610 *Submission of Statistics and Returns* such as:

Table 6.9

Association Between the Annual Report Type and the Increase in Voluntary Derivative Financial Disclosure Levels of Singapore Banks

Hypotheses	Groups	Column A All Banks			Column B Banks without Parents in Australia, Canada, Japan, NZ, France, Switzerland, the UK and the US		
		N	Mean FIDIS	Median FIDIS	N	Mean FIDIS	Median FIDIS
H4a	$\Delta FIDIS_{94-95} > \Delta FIDIS_{96-97}$						
	- consolidated accounts of banks 1994-95	126	0.80	0.00	74	0.42	0.00
	- branch accounts of banks 1994-95	117	0.00	0.00	68	0.11	0.00
	Mann-Whitney U			5262			1968.5
	1-tailed p			0.000**			0.050*
	Student t		-4.798			-1.829	
	1-tailed p		.000**		.035*		
H4b	$\Delta FIDIS_{96-97} < \Delta FIDIS_{94-95}$						
	- consolidated accounts of banks 1996-97	138	0.69	0.00	80	0.82	0.00
	- branch accounts of banks 1996-97	129	0.82	0.00	74	1.04	0.50
	Mann-Whitney U			8310			2632
	1-tailed p			0.149			0.101
	Student t		0.744			1.009	
	1-tailed p		.228		.257		

Note:

FIDIS-B = Financial Institution Disclosure Index Score for each bank sample in branch annual reports

FIDIS-C = Financial Institution Disclosure Index Score for each bank sample in consolidated annual reports

 $\Delta FIDIS_{94-95}$ = (FIDIS in 1995) - (FIDIS in 1994) $\Delta FIDIS_{96-97}$ = (FIDIS in 1997) - (FIDIS in 1996)

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

Table 6.9 (cont'd)

Association Between the Annual Report Type on the Increase in Voluntary
Derivative Financial Disclosure Levels of Singapore Banks

Hypotheses	Groups	Column C Banks with Parents in Australia, Canada, Japan, NZ, France, Switzerland, the UK and the US		
		N	Mean FIDIS	Median FIDIS
H _{4a}	$\Delta\text{FIDIS-C}_{94,95} > \Delta\text{FIDIS-B}_{94,95}$			
	- consolidated accounts of banks 1994-95	57	1.26	1.00
	- branch accounts of banks 1994-95	52	0.00	0.00
	Mann-Whitney U			767
	1-tailed <i>p</i>			.000**
	Student <i>t</i>		-4.955	
	1-tailed <i>p</i>		.000**	
H _{4b}	$\Delta\text{FIDIS-C}_{96,97} < \Delta\text{FIDIS-B}_{96,97}$			
	- consolidated accounts of banks 1996-97	58	0.50	0.00
	- branch accounts of banks 1996-97	55	0.53	0.00
	Mann-Whitney U			1569
	1-tailed <i>p</i>			.430
	Student <i>t</i>		0.09	
	1-tailed <i>p</i>		.464	

Note:

FIDIS-B = Financial Institution Disclosure Index Score for each bank sample in branch annual reports

FIDIS-C = Financial Institution Disclosure Index Score for each bank sample in consolidated annual reports

$\Delta\text{FIDIS}_{94,95}$ = (FIDIS in 1995) - (FIDIS in 1994)

$\Delta\text{FIDIS}_{96,97}$ = (FIDIS in 1997) - (FIDIS in 1996)

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

- Statement of Assets and Liabilities, in respect of operations in the Domestic Banking Unit,
- Statement of Assets and Liabilities in respect of operations in the Asian Currency Unit,
- Return on Total Foreign Exchange Business Transacted,
- Return on Syndicated Loans Lead-managed, and
- Transactions in US Dollar Negotiable Certificates of Deposit.

As such, the results should not be interpreted as indicating that regulatory information needs are less than shareholders. It is possible that the difference in disclosures is related to the fact that the regulator (MAS) can access other information sources at relatively low costs.

6.3.2 Sensitivity Analysis – Non-parametric Univariate Statistical Tests

Columns B in Tables 6.6 to 6.9 present the results of tests similar to those reported in Columns A of Tables 6.6 to 6.9 but restricting the samples to banks whose parents are incorporated in countries with no accounting rules or guidance influencing financial instrument reporting. This is to eliminate any influence that accounting standard or guidance from the home country may have on the voluntary disclosure levels in both the branch and consolidated annual reports. The conclusions derived from the restricted samples are the same as the all bank comparisons, except for H2b, as is explained below. The results for the hypotheses based on the restricted samples are outlined as follows:

- Voluntary disclosure levels in the branch annual reports are not significantly higher after the Barings collapse (Table 6.6, Column B, $p > 0.01$ and H1a supported by the Mann Whitney U test)⁶⁰

⁶⁰ It is interesting to observe that the student t-test yields significant results. The non-parametric result is relied upon in this case because of the data's non-normal distribution.

- Voluntary disclosure levels in the branch annual reports are significantly higher after the Asian Financial Crisis (Table 6.6, Column B, $p < 0.01$ and H1b supported)
- Voluntary disclosure levels in the consolidated annual reports are not significantly higher after the MAS Banking Liberalisation Program announcement (Table 6.7, Column B, $p > 0.05$ and H2a not supported)
- Voluntary disclosure levels in the consolidated annual reports of the privilege banks are not significantly higher than the non-privilege banks' consolidated reports after the MAS Banking Liberalisation Program announcement (in Table 6.7, Column B, $p < 0.01$ and H2b not supported). Sensitivity analysis based on the above described restricted sample reveals a significant relationship in the opposite direction whereby the voluntary disclosure levels of non-privilege banks (FIDIS_C_{NPB97} : median = 4.00, mean = 4.65) are significantly higher than the privilege banks (FIDIS_C_{PB97} : median = 3.00, mean = 3.33). This result could suggest that banks, especially non-privilege banks, were more affected by the international events, i.e. Barings crisis and Asian Financial Crisis, and attempted to raise their transparency levels. They could do so because they would be viewed as being less prestigious and less secure than banks with privilege licences. To combat the higher risk profile and demonstrate their soundness, the banks would benefit from a high level of voluntary disclosure to signal their equivalent status despite the potential loss in competitive edge. The effect of the international events may have overpowered the local event, i.e. the MAS Banking Liberalisation Program. Alternatively, the privilege banks may have communicated their standing and commitment to the MAS through avenues other than the annual report as part of their application submission.
- Voluntary disclosure levels in the consolidated annual reports are significantly higher than in the branch annual reports. (Table 6.8, Column B, $p = 0.00$ and H3 supported)

- Changes in the voluntary disclosure levels in the consolidated annual reports from 1994 to 1995 are significantly higher than those in the branch annual reports. (Table 6.9, Column B, $p < 0.05$ and H4a supported)
- Changes in the voluntary disclosure levels in the branch annual reports from 1996 to 1997 are not significantly higher than those in the consolidated annual reports. (Table 6.9, Column B, $p > 0.05$ and H4b not supported)

Analysis of the results for banks with parents in countries with relevant standards or guidance (Columns C of Tables 6.6 to 6.9) produces results consistent with the analysis involving all banks (Columns A of Tables 6.6 to 6.9) and the restrictive sample of only banks without parents in countries with relevant standards or guidance (Columns B in Tables 6.6 to 6.9), except in relation to H2b. This means that the results in column A are generally not driven by banks whose parents are in countries with relevant standards or guidance.

Panels B in Tables 6.6 and 6.7 also present the results for H1a and H1b using matched data. Only banks with data available for both the years required for comparison are included. For example, for H1a that compares the FIDIS for 1994 and 1995, banks with data available for both 1994 and 1995 are included while banks with only one year of data are excluded. Conclusions in Panels B remain generally consistent with results in Panels A in Tables 6.6 and 6.7.

6.4 Regression Analysis

Table 6.10 outlines the results of the OLS and stepwise regression analysis for models 1 to 4. Results for model 1 in Table 6.10 support H1a and H1b. BAR_B is insignificant while CRISIS_B is significant in the predicted positive direction ($p < 0.01$), suggesting that voluntary disclosure levels in banks' branch accounts increased after the Asian Financial Crisis but not after the Barings collapse. Models 2 and 3 produce statistically insignificant coefficients for PBLIB and LILIB, thus H2a and H2b are not supported. The announcement of the MAS

Table 6.10

Associations of Barings Collapse, Asian Financial Crisis, MAS Bank Liberalisation Plan and Annual Report Type with FIDIS

Variable (Predicted sign)	Model 1		Model 2	
	β (S.E.)	t - value	β (S.E.)	t - value
Data	Branch, YE 12		Consolidated, YE 12, STD	
Years	1994 - 1997		1996 - 1997	
Regression	OLS	SW	OLS	SW
Constant	-.68 (.723)	-.354 (.693)	-2.563 (2.704)	-1.781 (2.552)
(?)	-.940	-.510	.948	-.698
H1a BAR_B	.072 (.129)			
(ns)	.552			
H1b CRISIS_B	1.220 (.126)	1.191 (.119)		
(+)	9.684**	10.011**		
H2a PBLIB_C			.264 (.625)	
(+)			.422	
H2b LICLIB_C				
(+)				
H3 AR_C				
(+)				
SIZE	.200 (.078)	.168 (.075)	.576 (.249)	.511 (.236)
(+)	2.581*	2.255*	2.316*	2.166*
CTYGUIDE	.505 (.160)	.507 (.160)	2.422 (.764)	2.450 (.760)
(+)	3.156**	3.168**	3.173**	3.225**
AUDSP#	.321 (.111)	.340 (.110)		
(+)	2.898**	3.081**		
PERF	.301 (.199)		.289 (.335)	
(?)	1.509		.862	
F Statistics	21.954	32.236	5.039	9.715
Significance	.000*	.000**	.001**	.000**
Adj. R ²	.269	.268	.100	.107
n	342	342	146	146

Table 6.10 (cont'd)

Associations of Barings Collapse, Asian Financial Crisis, the MAS Bank Liberalisation Plan and Annual Report Type with FIDIS

Variable (Predicted sign)	Model 3		Model 4	
	β (S.E.)	t-value	β (S.E.)	t-value
Data	Consolidated, YE_12, STD		Branch & Consol., STD	
Years	1997		1994 - 1997	
Regression	OLS	SW	OLS	SW
Constant	-1.438 (3.897)	4.051 (.351)	1.347 (.124)	1.351 (.124)
H1a (?) BAR_B	-.369	11.554**	10.858**	10.910**
(ns)				
H1b (+) CRISIS_B				
H2a (+) PBLIB_C				
H2b (+) LICLIB_C	-.545 (.759)			
(+)	-.719			
H3 (+) AR_C			1.791 (.167)	1.792 (.167)
(+)			10.742**	10.790**
SIZE	.545 (.357)			
(+)	1.527			
CTYGUIDE	2.540 (1.112)	2.495 (1.003)	1.608 (.247)	1.599 (.246)
(+)	2.284*	2.488*	6.521**	6.491**
AUDSP#				
(+)				
PERF	.151 (.047)		.124 (.155)	
(?)	.338		.800	
F Statistics	2.520	6.189	53.444	79.888
Significance	.049	.015*	.000**	.000**
Adj. R ²	.079	.055	.189	.189
n	72	72	676	676

Variable descriptions:

BAR_B	Year of Barings Collapse & Branch Annual Report (1 = yes, otherwise = 0)
CRISIS_B	Year of Asian Financial Crisis & Branch annual report (1 = yes, otherwise = 0)
PBLIB_C	Privilege banks and year of the MAS Bank Liberalisation Plan Announcement (1 = yes, otherwise = 0)
LICLIB_C	Privilege bank in 1997 (1 = yes, otherwise = 0)
AR_C	Consolidated annual report (1 = yes, otherwise = 0)
CTYGUIDE	Banks with parent entities incorporated in countries with accounting guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
SIZE	Natural log of total assets
AUDSP#	Audit specialist in banking sector based on top market share of bank clients (1 = yes, otherwise = 0)
PERF	Return on assets (net profit / total assets)

Data:

Branch	Include only Branch annual reports
Consolidated	Include only Consolidated annual reports
YE_12	Include only annual reports with December year ends
STD	Exclude annual reports of banks whose head office in country with mandatory accounting standards applicable to financial institutions
GS	Exclude annual reports of banks whose head office is in country with mandatory accounting standards or guidance applicable to financial institutions

Regression:

OLS	Ordinary Least Squared Regression
SW	Stepwise Regression
*	Significant at the 5% level of significance (1-tailed test)
**	Significant at the 1% level of significance (1-tailed test)

Banking Liberalisation Program does not seem to have induced banks to increase their voluntary disclosure level. Results in model 4 demonstrate a higher level of voluntary disclosure occurs for consolidated annual reports than branch annual reports. Given the relatively small base of bank clients in Singapore and a small pool of international accounting firms, this measure voluntary disclosure in the consolidated annual reports compared to the branch annual reports (H3) ($p < 0.05$). This indicates that the banks voluntarily report more information at the consolidated level than at the branch level.

Prior voluntary disclosure literature, as reviewed in Chapter 3, achieved adjusted R^2 's ranging from around 0.06% to 53%. In this study, the adjusted R^2 's range from approximately 6% to 27%.⁶¹ It is highest for Models 1 and 4, which support H1a, H1b and H3.

The control variables, SIZE and CTYGUIDE are significant in the predicted direction for all the regression models ($p < 0.05$), except SIZE is insignificant in model 3. The accounting influence variable, CTYSTD, and auditor specialisation variable, AUDSPS, that are applicable to model 1 are significant ($p < .05$) in the predicted positive direction.

⁶¹ The R-squared is the proportion of variance in the dependent variable that can be predicted from the independent variables. This is an overall measure of strength of association, and does not reflect the extent to which any particular independent variable is associated with the dependent variable. The adjusted R-squared adjusts for the number of variables in the model. The unadjusted R-square measure tends to overestimate the strength of the association, especially if the model has more than one independent variable. In this study where numerous variables are included in the model, the adjusted R-squared is a more suitable measure for variance explanation.

In Table 6.11, Panels A to C, results for model 1 are robust when alternative proxy measures of the control variables CTYGUIDE and AUDS are used. Each of these models produces explanatory power of around 25% to 29%. The results in Table 6.11 also suggest that accounting guidance issued internationally could have an influence in the Singapore branch accounts financial derivative disclosures. The auditor specialisation variable, determined by the top market share based on audit fee, is significantly associated with voluntary disclosure levels. Given the relatively small base of bank clients in Singapore and a small pool of international accounting firms, this measure logically captures auditor specialisation more accurately than the 25% or 20% threshold in AUDSP\$25 and AUDSP\$20.

In summary, results indicate that banks operating in Singapore increased their voluntary disclosure levels after the Asian Financial Crisis (H1b) but not after the Barings collapse (H1a). The Asian Financial Crisis created a regionalised impact prompting these banks to signal their ability to manage the crisis *via* voluntary disclosures in the annual report. On the other hand, the Barings collapse was more confined in its financial damage and does not appear to have provided the impetus for banks to increase voluntary disclosure levels. The MAS Bank Liberalisation Plan Announcement did not seem to have an impact on the disclosure level in the consolidated annual reports of banks with, or who applied for, privilege licences (H2a & H2b). This could be because the tests allow insufficient reaction time given that MAS made the announcement in August 1997 and the reporting date examined is December 1997. However, disclosures should be possible in the period to report preparation. Furthermore, it is not possible to utilise data in 1998 as the reporting requirements in MAS 608 applicable to banks were revised upwards and became mandatory in 1998. Finally, there are significantly higher levels of disclosures in the consolidated annual reports than in the branch annual reports. These conclusions are in line with the conclusions derived from the Mann Whitney U Tests.

Table 6.11

Associations of Barings Collapse and Asian Financial Crisis with FIDIS
(Alternative Measures for (a) Financial Reporting Influence from Accounting Rules or Guidance Originating from the Parent Banks' Country of Incorporation and (b) Auditor Specialisation)

		PANEL A (CTYGUIDE + alternative measures for Auditor Specialisation)			
		Base Model = Model 1			
Data		Branch, YE_12	Branch, YE_12	Branch, YE_12	Branch, YE_12
Years		1994 - 1997	1994 - 1997	1994 - 1997	1994 - 1997
Regression		OLS	OLS	OLS	OLS
	Variable				
	(Predicted sign)	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)
		t - value	t - value	t - value	t - value
	Constant	-.068 (.723)	-.549 (.713)	-.521 (.724)	-.429 (.725)
	(?)	-.94	-.770	-.720	-.592
H1a	BAR_B	.07115 (.129)	.07236 (.127)	.0596 (.129)	.09121 (.130)
	(ns)	.552	.568	.461	.704
H1b	CRISIS_B	1.220 (.126)	1.291 (.126)	1.202 (.126)	1.236 (.127)
	(+)	9.684**	10.257**	9.513**	9.759**
	SIZE	.202 (.078)	.181 (.077)	.183 (.078)	.169 (.079)
	(+)	2.581**	2.358*	2.341*	2.153*
	CTYGUIDE	.505 (.160)	.48 (.157)	.441 (.159)	.433 (.159)
	(+)	3.156**	3.061**	2.775**	2.720**
	CTYGS				
	(+)				
	AUDSP#	.321 (.111)			
	(+)	2.898**			
	AUDSPS		.470 (.114)		
	(+)		4.137**		
	AUDSPS25			.267 (.105)	
	(+)			2.551**	
	AUDSPS20				.271 (.106)
	(+)				2.558**
	PERF	.301 (.199)	.25 (.198)	.306 (.200)	.303 (.200)
	(?)	1.509	1.265	1.531	1.516
	F Statistics	21.954	23.928	21.526	21.535
	Significance	.000**	.000**	.000**	.000**
	Adj. R ²	.269	.287	.265	.265
	n	343	343	343	343

Table 6.11 (cont'd)

Associations of Barings Collapse and Asian Financial Crisis with FDIS
(Alternative Measures for (a) Financial Reporting Influence from Accounting Rules
or Guidance Originating from the Parent Banks' Country of Incorporation and (b)
Auditor Specialisation)

PANEL B (CTYGS + alternative measures for Auditor Specialisation)				
Based Model = Model 1				
Data	Branch, YE_12	Branch, YE_12	Branch, YE_12	Branch, YE_12
Years	1994 - 1997	1994 - 1997	1994 - 1997	1994 - 1997
Regression	OLS	OLS	OLS	OLS
Variable	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)
(Predicted sign)	t - value	t - value	t - value	t - value
Constant	-.693 (.724)	-.566 (.714)	-.533 (.724)	-.451 (.726)
(?)	-.957	-.793	-.736	-.621
H1a	BAR_B	.0696 (.129)	.07091 (.128)	.058 (.129)
(ns)	.539	.556	.449	.688
H1b	CRISIS_B	1.217 (.126)	1.287 (.126)	1.200 (.126)
(+)	9.646**	10.213**	9.488**	9.719**
	SIZE	.198 (.078)	.179 (.077)	.180 (.078)
(+)	2.539**	2.324*	2.296*	2.138*
	CTYGUIDE			
(+)	CTYGS	.338 (.114)	.321 (.112)	.305 (.114)
(+)	2.963**	2.869**	2.683**	2.505**
	AUDSP#	.311 (.111)		
(+)	2.805**			
	AUDSPS		.463 (.114)	
(+)			4.076**	
	AUDSPS25			.270 (.105)
(+)				2.578**
	AUDSPS20			.262 (.106)
(+)				2.463*
	PERF	.314 (.200)	.262 (.198)	.316 (.200)
(?)	1.573	1.325	1.577	1.570
	F Statistics	21.688	23.664	21.412
	Significance	.000**	.000**	.000**
	Adj. R ²	.266	.284	.264
	n	343	343	343

Table 6.11 (cont'd)

Associations of Barings Collapse and Asian Financial Crisis with FIDIS
(Alternative Measures for (a) Financial Reporting Influence from Accounting Rules
or Guidance Originating from the Parent Banks' Country of Incorporation and (b)
Auditor Specialisation)

PANEL C (CTYSTD + alternative measures for auditor specialization)				
Base Model = Model 1				
Data Years	Branch, YE_12 1994 - 1997			
Regression	OLS	OLS	OLS	OLS
Variable	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)
(Predicted sign)	t - value	t - value	t - value	t - value
Constant	-813 (.732)	-696 (.72)	-655 (.729)	-562 (.730)
(?)	-1.111	-.966	-.899	-.769
H1a BAR_B	.07059 (.131)	.0719 (.129)	.05912 (.131)	.09124 (.131)
(ns)	.540	.558	.453	.0697
H1b CRISIS_B	1.214 (.128)	1.283 (.127)	1.198 (.128)	1.232 (.128)
(+)	9.509**	10.067**	9.383**	9.631**
SIZE	.221 (.078)	.202 (.077)	.2011 (.079)	.187 (.079)
(+)	2.817**	2.607**	2.554**	2.367*
CTYSTD	.114 (.136)	.108 (.134)	.112 (.136)	.008966 (.136)
(+)	.839	.807	.824	.661
AUDSP#	.277 (.111)			
(+)	2.482*			
AUDSPS		.450 (.115)		
(+)		3.92**		
AUDSPS25			.269 (.106)	
(+)			2.549**	
AUDSPS20				.275 (.107)
(+)				2.567**
PERF	.311 (.202)	.256 (.200)	.307 (.202)	.303 (.202)
(?)	1.537	1.276	1.518	1.497
F Statistics	19.868	21.910	19.942	19.963
Significance	.000**	.000**	.000**	.000**
Adj. R ²	.249	.268	.249	.250
n	343	343	343	343

Variable descriptions:

BAR_B	Year of Barings Collapse & Branch Annual Report (1 = yes, otherwise = 0)
CRISIS_B	Year of Asian Financial Crisis & Branch annual report (1 = yes, otherwise = 0)
CTYSTD	Banks with parent entities incorporated in countries with accounting rules influencing financial instrument reporting (1 = yes, otherwise = 0)
CTYGUIDE	Banks with parent entities incorporated in countries with accounting guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
SIZE	Natural log of total assets
AUDSP#	Audit specialist in banking sector based on top market share of bank clients (1 = yes, otherwise = 0)
AUDSPS	Audit specialist in banking sector based on top market share of audit fees (1 = yes, otherwise = 0)
AUDSPS25	Audit specialist in banking sector based on 25% market share of audit fees (1 = yes, otherwise = 0)
AUDSPS20	Audit specialist in banking sector based on 20% market share of audit fees (1 = yes, otherwise = 0)
PERF	Return on assets (net profit / total assets)

Data:

Branch	Include only Branch annual reports
Consolidated	Include only Consolidated annual reports
YE_12	Include only annual reports with December year-ends

Regression:

OLS	Ordinary Least Squared Regression
SW	Stepwise Regression
*	Significant at the 5% level of significance (1-tailed test)
**	Significant at the 1% level of significance (1-tailed test)

Variable descriptions:

Δ FIDIS _t	Change of FIDIS in Consolidated Annual Report less change of FIDIS in Branch Annual Report (FIDIS = Financial Instruments Disclosure Index Score)
AR ₉₆₋₉₇	Consolidated annual report for year of change from 1996 to 1997 (1 = from 1996 to 1997, otherwise = 0) ⁶²
AR ₉₄₋₉₅	Consolidated annual report for year of change from 1994 to 1995 (1 = from 1994 to 1995, otherwise = 0) ⁶³
CTYGUIDE	Banks with parent entities in countries with accounting guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
SIZE_AV	Natural log of total average assets
PERF_AV	Average return of assets

This model examines the difference in the change of voluntary disclosure levels in consolidated and branch annual reports. The control variables relevant to this model are CTYGUIDE, PERF and SIZE. Sample banks whose parents are incorporated in countries with accounting rules influencing financial instrument reporting are eliminated from the testing of this model as the disclosures are prescribed by the accounting rules and would not be voluntary in nature. This regression model investigates changes in voluntary disclosure across a two-year time frame. The SIZE and PERF measures for the two years have been averaged to generate SIZE_AV and PERF_AV.

Results in Table 6.12 show that the various versions of Model 5 (models 5, 5a and 5b) are all significant but have low explanatory power. In each case, the explanatory power is less than ten percent. The results for model 5 indicate that the coefficient is statistically significant for AR₉₆₋₉₇ but not for AR₉₄₋₉₅. In Table 6.12, Model 5a

⁶² AR₉₆₋₉₇ is a dummy variable for annual reports between 1996 and 1997. For example, a sample bank has FIDIS from consolidated annual reports for 4 years from 1994 to 1997. If the FIDIS for the bank's consolidated annual report is 8 and 10 in 1996 and 1997 respectively, Δ FIDIS is coded as 2, i.e. 10 less 8 = 2, and AR₉₆₋₉₇ is coded as 1. If Δ FIDIS relates to 1994 and 1995 or 1995 and 1996, AR₉₆₋₉₇ is coded as 0.

⁶³ AR₉₄₋₉₅ is a dummy variable for annual reports between 1994 and 1995. For example, a sample bank has FIDIS for 4 years from 1994 to 1997. If the FIDIS for a sample bank is 8 and 10 in 1994 and 1995 respectively, Δ FIDIS is coded as 2, i.e. 10 less 8 = 2, and AR₉₄₋₉₅ is coded as 1. If Δ FIDIS relates to 1995 and 1996 or 1996 and 1997, AR₉₄₋₉₅ is coded as 0.

Table 6.12

Association of Year with Differences Between Consolidated and Branch Annual Report Changes in FIDIS

Model 5:

$$\Delta FIDIS_t = \beta_1 AR_{94-95} + \beta_2 AR_{96-97} + \beta_3 SIZE_AV + \beta_4 CTYGUIDE + \beta_5 PERF_AV$$

$$\alpha$$

(H4a) (+) (H4b) (-) Control 1 (+) Control 2 (+) Control 3 (?)

Data	Model	Model 5		Model 5a		Model 5b	
		Branch & Consolidated, STD		Branch & Consolidated, STD		Branch & Consolidated, STD	
Years		1994 - 1997		1994 - 1997		1994 - 1997	
Regression	Variable (Predicted sign)	OLS	SW	OLS	OLS	SW	SW
		β (S.E.) t - value					
	Constant	.452 (.070)	.487 (.060)	.294 (.093)	.328 (.066)	-.507 (.132)	-.026 (.132)
	(?)	6.455**	8.102**	3.148**	4.987**	-.383	-.200
H4a	AR ₉₄₋₉₅	.062 (.151)		.413 (.188)			
	(+)	.408		2.198*			
H4b	AR ₉₆₋₉₇	.337 (.144)	.320 (.140)	-.287 (.178)		-.286 (.176)	
	(-)	2.349**	2.275**	-1.613		-1.624*	
	AR ₉₅₋₉₆					.658 (.181)	.657 (.182)
	(?)					3.636**	3.621**
	BAR			-.197 (.163)		.362 (.161)	.364 (.161)
	(?)			-1.210		2.249*	2.258*
	CRISIS			.778 (.157)	.619 (.111)	1.123 (.183)	.973 (.158)
	(?)			4.945**	5.582**	6.153**	6.145**
	CTYGUIDE	.252 (.174)		.267 (.168)		.265 (.167)	
	(+)	1.451		1.586		1.587	
	PERF_AV	-.095 (.100)		-.0746 (.097)		-.081 (.096)	
	(?)	-.950		-.770		-.847	
	F Statistics	2.215	5.177	7.064	31.163	8.572	15.007
	Significance	.038*	.011*	.000**	.000**	.000**	.000**
	Adj. R ²	.009	.009	.071	.059	.087	.081
	N	480	480	480	480	480	480

Table 6.12 (cont'd)
Association of Year with Differences Between Consolidated and Branch Annual Report Changes in FIDIS

Variable descriptions:

Δ FIDIS _t	Change of FIDIS in Consolidated Annual Report less change of FIDIS in Branch Annual Report (FIDIS = Financial Instruments Disclosure Index Score)
AR ₉₆₋₉₇	Year of change from 1996 to 1997 (1 = from 1996 to 1997, otherwise = 0) ⁶⁴
AR ₉₄₋₉₅	Year of change from 1994 to 1995 (1 = from 1994 to 1995, otherwise = 0) ⁶⁵
BAR	Year of and preceding Barings collapse (1=yes, otherwise=0)
CRISIS	Year of and preceding Asian Financial Crisis (1=yes, otherwise=0)
CTYGUIDE	Banks with parent entities incorporated in countries with accounting guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
SIZE_AV	Natural log of average total assets
PERF_AV	Average return on assets (average net profit / average total assets)

Data:

Branch	Include only Branch annual reports
Consolidated	Include only Consolidated annual reports
STD	Exclude annual reports of banks whose head office is located in a country with mandatory accounting standards applicable to financial institutions

Regression:

OLS	Ordinary Least Squared Regression
SW	Stepwise Regression
+	Significant at the 10% level of significance (1-tailed test)
*	Significant at the 5% level of significance (1-tailed test)
**	Significant at the 1% level of significance (1-tailed test)

⁶⁴ AR₉₆₋₉₇ is a dummy variable for annual reports between 1996 and 1997. For example, a sample bank has FIDIS for 4 years from 1994 to 1997. If the FIDIS for the bank is 8 and 10 in 1996 and 1997 respectively, Δ FIDIS is be coded as 2, i.e. 10 less 8 = 2, and AR₉₆₋₉₇ is coded as 1. If Δ FIDIS relates to 1994 and 1995 or 1995 and 1996, AR₉₆₋₉₇ is coded as 0.

⁶⁵ AR₉₄₋₉₅ is a dummy variable for annual reports between 1994 and 1995. For example, a sample bank has FIDIS for 4 years from 1994 to 1997. If the FIDIS for a sample bank is 8 and 10 in 1994 and 1995 respectively, Δ FIDIS is be coded as 2, i.e. 10 less 8 = 2, and AR₉₄₋₉₅ is coded as 1. If Δ FIDIS relates to 1995 and 1996 or 1996 and 1997, AR₉₄₋₉₅ is coded as 0.

adds to model 5 the BARINGS and CRISIS variables. BARINGS and CRISIS control for the effects of the Barings collapse and the Asian Financial Crisis on voluntary disclosure levels in the branch and consolidated annual reports. Model 5a provides support for H4b but this implies that the level of voluntary disclosure in the consolidated annual reports increased during the period of the Barings collapse and even though the Asian Financial Crisis is of international significance, there is little room for disclosure increases in 1996-1997.

In Table 6.12, model 5b substitutes variable AR_{94-95} in model 5a with AR_{95-96} . AR_{95-96} is a dummy variable for annual reports between 1995 and 1996. For example, if FIDIS for a sample bank is 8 and 10 in 1995 and 1996 respectively, $\Delta FIDIS$ is coded as 2 and AR_{95-96} is coded as 1. If $\Delta FIDIS$ does not relate to 1995 and 1996, AR_{95-96} is coded as 0. Model 5b yields significant coefficients for variables AR_{95-96} and AR_{96-97} . The combined results in models 5, 5a and 5b indicate that there could be a delayed response by banks in the consolidated annual reports after the Barings collapse. There is an increase in disclosure levels in 1996 rather than 1995. The two-year time gap between 1994 and 1996 provides sufficient time for banks to react, possibly resulting in a delayed statistically higher level of change in voluntary disclosure in the consolidated annual reports. Furthermore, it is possible that banks' information systems were such that they could not quickly and adequately obtain, verify and report the new disclosures prompted by the Barings case.

The results of this analysis also provide support for H1a that predicts the Barings collapse as a firm specific event that affects consolidated annual reports more than branch annual reports. Possibly, banks deferred their signaling intention from 1995 to 1996 where the voluntary disclosure environment resulting from the Barings collapse is clearer, and the banks' increased disclosure may be seen as less reactionary to the Barings collapse. This may reduce the likelihood that their use of derivatives was perceived in the same manner as Barings'.

6.6 Sensitivity Analysis – Multivariate Statistical Tests

6.6.1 *Alternative Year Ends*

The previous chapter explains the necessity to exclude non 31 December year-end banks from tests of Hypotheses 1 and 2. The exclusion is not necessary for Hypotheses 3 and 4 and the tests reported from hypotheses 3 and 4 use expanded samples. Referring to Table 2.4, requiring a 31 December year-end reduces the sample size for testing Hypotheses 1 and 2 from 121, 126, 134 and 132 to 79, 82, 90 and 88 banks for 1994, 1995, 1996 and 1997 branch annual reports respectively. Consolidated reports for sample firms are reduced from 123, 126, 139 and 136 to 83, 84, 94 and 91 accordingly.

The events of interest to this study occurred in February 1995, July 1997 and August 1997 for the Barings collapse, the Asian Financial Crisis and the MAS Banking Liberalisation Program respectively. The financial year ends for the banks are generally in December but some are in January, March, June, September or October. Models 1, 2 and 3 are further analysed in this section according to the banks' year-ends.

Model 1 in Table 6.10 includes branch annual reports with December year-ends only. In Table 6.13, samples with different year-ends generate analysis for the following:

- Model 1 with September year-end or later ($n = 385$)
- Model 1 with June year-end or later ($n = 405$)
- Model 1 with March year-end or later ($n = 509$)

Table 6.13

Associations of Barings Collapse and Asian Financial Crisis with FIDIS

		Base Model = Model 1		
Variable (Predicted sign)	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value	
Data Sample Year-End Years	Consolidated YE_9, STD September - December 1994 - 1997	Consolidated YE_6, STD June - December 1994 - 1997	Consolidated YE_3, STD March - December 1994 - 1997	
Regression	OLS	OLS	OLS	
Constant	-.917 (.690) -1.329	-.822 (.696) -1.181	-1.49 (.558) -2.669**	
H1a BAR_B (ns)	.078 (.121) .643	.054 (.121) .453	.0250 (.100) .251	
H1b CRISIS_B (+)	1.084 (.118) 9.165**	1.025 (.117) 8.740**	.831 (.098) 8.489**	
SIZE (+)	.232 (.074) 3.132**	.218 (.075) 2.917**	.294 (.059) 4.938**	
CTYGUIDE (+)	.489 (.158) 3.084**	.538 (.160) 3.353**	.539 (.147) 3.656**	
AUDSP# (+)	.233 (.103) 2.268*	.285 (.103) 2.761**	.332 (.085) 3.190**	
PERF (?)	.328 (.198) 1.660*	.307 (.201) 1.525	.337 (.186) 1.812	
F Statistics	20.357	19.296	22.834	
Significance	.000**	.000**	.000**	
Adj. R ²	.232	.213	.205	
n	385	405	509	

Variable descriptions:

BAR_B	Year of Barings Collapse & Branch Annual Report (1 = yes, otherwise = 0)
CRISIS_B	Year of Asian Financial Crisis & Branch annual report (1 = yes, otherwise = 0)
CTYGUIDE	Banks with parent entities incorporated in countries with accounting guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
SIZE	Natural log of total assets
AUDSP#	Audit specialist in banking sector based on top market share of bank clients (1 = yes, otherwise = 0)
PERF	Return on assets (net profit / total assets)

Data:

Branch	Include only Branch annual reports
Consolidated	Include only Consolidated annual reports
YE_12	Include only annual reports with December year ends (YE_9 = September year-end or later; YE_6 = June year-end or later; YE_3 = March year-end or later)
STD	Exclude annual reports of banks whose head office in country with mandatory accounting standards applicable to financial institutions

Regression:

OLS	Ordinary Least Squared Regression
SW	Stepwise Regression
*	Significant at the 5% level of significance (1-tailed test)
**	Significant at the 1% level of significance (1-tailed test)

Model 1 investigates the association between the Barings collapse and the Asian Financial Crisis and the voluntary disclosure levels in the Singapore banks' branch annual reports. The conclusions derived from Table 6.13 remain consistent with the conclusions from the Mann Whitney U Test Univariate Regressions and the earlier Multivariate regressions in that the Asian Financial Crisis is significantly and positively associated with the voluntary disclosure level of the branch annual reports while the Barings collapse is not. In unreported tests, these sub-models are further analysed with the inclusion of alternative auditor specialization variables (AUDSPS, AUDSP\$25 or AUDSP\$20) and accounting influence variable (CTYSTD or CTYGS or CTYSTD & CTYGUIDE). Results remain robust and the four auditor specialisation proxies all yield significant results, indicating that they are independent measures of the same underlying influence. However, in relation to the accounting influence from accounting standards and guidance, accounting guidance has a significant association with the voluntary disclosure practices in the branch annual reports while the presence of accounting standards in the home countries does not. This implies that in the Singapore environment, the regulations in the country of operation prevail over the regulations in the country of origin although non-mandated reporting requirements are taken into account for reporting purposes in the country of operation. Highly significant models and high R^2 levels are reported in Table 6.13. All models achieve $p < 0.00$ and adjusted R^2 of at least 20%.

Table 6.14 and Table 6.15 report the results of regressions based on models 2 and 3 with samples of alternative year-ends (YE_9 = September year-end or later, YE_6 = June year-end or later, or YE_3 = March year-end or later). Model 2 compares the voluntary derivative financial disclosure levels of privilege banks before and after the MAS Bank Liberalisation Plan Announcement in 1996 and 1997 respectively. Model 3 compares the voluntary derivative financial disclosure levels of privilege and non-privilege banks after the MAS Bank Liberalisation Plan Announcement in 1997. Like the results from the earlier sections, the coefficients

for PBLIB and LICLIB are not significant in the predicted direction for any of the models in Tables 6.16 and 6.17 respectively. The conclusion for the lack of effect from the MAS Banking Liberalisation Program on both privilege and non-privilege banks still stands. Results are consistent with those reported in previous sections. In Table 6.14, Panel A excludes sample banks whose parents are incorporated in countries with accounting rules affecting financial reporting (CTYSTD) while Panel B excludes sample banks whose parents are incorporated in countries with both accounting rules and guidance affecting financial reporting (CTYGS). Comparing the results in Panels A and B, there is a marked decrease in the adjusted R^2 and the model significance for the two sample sets. It appears that accounting guidance affecting financial reporting (CTYGUIDE) is a highly significant variable in explaining the variability in the voluntary derivative financial disclosure levels in privilege banks before and after the MAS Bank Liberalisation Announcement in 1996 and 1997 respectively. This comment also applies to Table 6.15.

6.6.2 Single Year Samples and Control for Events in Comparison Between Branch and Consolidated Annual Reports

Table 6.16 presents the statistics for models investigating the difference in the voluntary disclosure levels between consolidated and branch annual reports (AR_C) on a yearly basis for the four individual years from 1994 to 1997. Panel A reports the base model using data pooled from 1994 to 1997. There is a decrease in the adjusted R^2 moving from Panel B to C with the models explaining between 7% and 25% of the variation in voluntary disclosure of derivative information. The difference between Panels B and C is the inclusion of a variable (CTYGUIDE) reflecting whether the parent bank of the Singapore operated bank has accounting guidance influencing financial instrument reporting. It appears that accounting guidance affecting financial reporting (CTYGUIDE) is a significant variable in explaining the variability in the voluntary derivative financial disclosure levels in the branch and consolidated annual reports.

Table 6.14

Associations of the MAS Bank Liberalisation Plan with FIDIS (Alternative Year-End Samples)

Variable (Predicted sign)	Panel A (Samples without parents incorporated in countries with accounting rules influencing financial instrument reporting & with alternative year-end measures)			Panel B (Samples without parents incorporated in countries with accounting rules influencing financial instrument reporting & with alternative year-end measures)		
	Base Model = Model 2			Base Model = Model 2		
	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value
Data	Consolidated YE_9, STD	Consolidated YE_6, STD	Consolidated YE_3, STD	Consolidated YE_9, GS	Consolidated YE_6, GS	Consolidated YE_3, GS
Years	1996 - 1997	1996 - 1997	1996 - 1997	1996 - 1997	1996 - 1997	1996 - 1997
Regression	OLS-R	OLS-R	OLS-R	OLS-R	OLS-R	OLS-R
Constant	-2.563 (2.704) (?)	-2.597 (2.598) -1.000	-1.821 (.2516) -.724	-2.255 (2.904) -.777	-2.255 (2.775) -.813	-1.439 (2.669) -.539
H2a	PBLIB_C (+)	.143 (.570) .252	.0881 (.553) .159	-.148 (.707) -.209	-.231 (.635) -.364	-.468 (.610) -.767
SIZE	.576 (.249) (+)	.578 (.239) 2.418*	.498 (.232) 2.148*	.556 (.267) 2.082*	.555 (.255) 2.173*	.470 (.245) 1.917*
CTYGUIDE	2.422 (.764) (+)	2.460 (.738) 3.332**	2.669 (.740) 3.605**			
PERF	.289 (.335) (?)	.291 (.325) .895	.274 (.327) .838	.268 (.350) .767	.270 (.338) .798	.251 (.338) .742
F Statistics	5.039	5.509	5.572	1.483	1.669	1.493
Significance	.001**	.000**	.000**	.222	.177	.219
Adj. R ²	.100	.104	.098	.011	.015	.010
n	146	157	169	126	137	149

Variable descriptions:

PBLIB_C	Privilege banks and year of the MAS Bank Liberalisation Plan Announcement (1 = yes, otherwise = 0)
CTYGUIDE	Banks with parent entities incorporated in countries with accounting guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
SIZE	Natural log of total assets
PERF	Return on assets (net profit / total assets)

Data:

Consolidated	Include only Consolidated annual reports
YE_12	Include only annual reports with December year ends (YE_9 = September year-end or later; YE_6 = June year-end or later; YE_3 = March year-end or later)
STD	Exclude annual reports of banks whose head office in country with mandatory accounting standards applicable to financial institutions
GS	Exclude annual reports of banks whose head office is in country with mandatory accounting standards or guidance applicable to financial institutions

Regression:

OLS	Ordinary Least Squared Regression
SW	Stepwise Regression

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

Table 6.15

Associations of Annual Report Type with FIDIS (Alternative Year-End Samples)

Variable (Predicted sign)	Panel A (Samples without accounting standards & with alternative year-end measures)			Panel B (Samples without accounting standards/guidance & with alternative year-end measures)		
	Base Model = Model 3			Base Model = Model 3		
	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value
Data	Consolidated. YE_9, STD	Consolidated. YE_6, STD	Consolidated. YE_3, STD	Consolidated. YE_9, GS	Consolidated. YE_6, GS	Consolidated. YE_3, GS
Years	1997	1997	1997	1997	1997	1997
Regression	OLS-R	OLS-R	OLS-R	OLS-R	OLS-R	OLS-R
Constant	-1.438 (3.897) -.369	-1.459 (3.723) -.392	-.676 (3.615) -.187	-1.182 (4.157) -.284	-1.103 (3.946) -.279	-.249 (3.796) -.066
H2b	LICLIB_C (+) -.545 (.759) -.719	-.680 (.700) -.972	-1.007 (.682) -1.476	-1.085 (.846) -1.283	-1.196 (.770) -1.541	1.522 (.741) -2.053*
SIZE	.545 (.357) (-) 1.527	.547 (.341) 1.604	.475 (.332) 1.433	.543 (.379) 1.431	.536 (.360) 1.489	.458 (.347) 1.320
CTYGUIDE	2.540 (1.112) (-) 2.284*	2.603 (1.068) 2.437*	.815 (1.073) 2.623**			
PERF	.151 (.047) (?) .338	.152 (.432) .351	.123 (.435) .283	.120 (.463) .260	.117 (.443) .264	.08558 (.444) .193
F Statistics	2.520	2.994	3.341	1.329	1.701	2.142
Significance	.049*	.024*	.014*	.274	.176	.103
Adj. R ²	.079	.094	.101	.016	.030	.045
n	72	78	84	62	68	74

Variable descriptions:

LICLIB_C	Privilege bank in 1997 (1 = yes, otherwise = 0)
CTYGUIDE	Banks with parent entities incorporated in countries with accounting guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
SIZE	Natural log of total assets
PERF	Return on assets (net profit / total assets)

Data:

Consolidated	Include only Consolidated annual reports
YE_12	Include only annual reports with year ended December (YE_9 = September year-end or later; YE_6 = June year-end or later; YE_3 = March year-end or later)
STD	Exclude annual reports of banks whose head office in country with mandatory accounting standards applicable to financial institutions
GS	Exclude annual reports of banks whose head office is in country with mandatory accounting standards or guidance applicable to financial institutions

Regression:

OLS	Ordinary Least Squared Regression
SW	Stepwise Regression

- * Significant at the 5% level of significance (1-tailed test)
- ** Significant at the 1% level of significance (1-tailed test)

Table 6.16

Associations of Annual Report Types with FIDIS (Single Year Samples)

Base model = model 4						
	Panel A	Panel B (Single year samples excluding banks whose parents are incorporated in countries with accounting rules influencing financial instrument reporting)				
Variable (Predicted sign)	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value
Data	Branch & Consol., GS	Branch & Consol., STD	Branch & Consol., STD	Branch & Consol., STD	Branch & Consol., STD	Branch & Consol., STD
Year	1994 - 1997	1994	1995	1996	1997	1997
Regression	OLS	OLS	OLS	OLS	OLS	OLS
Constant	1.469 (.130)	1.036 (.212)	1.100 (.221)	1.081 (.241)	2.214 (.275)	
(?)	11.297**	4.889**	4.976**	4.493**	7.723**	
H3 AR_C	1.550 (.181)	1.274 (.282)	1.567 (.297)	2.247 (.325)	2.015 (.370)	
(+)	8.555**	4.509**	5.285**	6.904**	5.444**	
CTYGUIDE		1.261 (.406)	1.772 (.433)	1.739 (.496)	1.777 (.555)	
(+)		3.107**	4.092**	3.509**	3.202**	
PERF	.153 (.158)	.091 (.448)	.206 (.221)	.151 (.306)	-.0148 (.325)	
(?)	.972	.202	.934	.493	-.045	
F Statistics	37.588	10.038	15.608	20.497	13.206	
Significance	.000**	.000**	.000**	.000**	.000**	
Adj. R ²	.111	.145	.213	.247	.175	
n	588	161	163	179	174	

Variable descriptions:

AR_C	Consolidated annual report (1 = yes, otherwise = 0)
CTYGUIDE	Banks with parent entities incorporated in countries with accounting guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
CTYGS	Banks with parent entities incorporated in countries with accounting rules or guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
SIZE	Natural log of total assets
PERF	Return on assets (net profit / total assets)

Data:

Branch	Include only Branch annual reports
Consolidated	Include only Consolidated annual reports
YE_12	Include only annual reports with year ended December (YE_9 = September; YE_6 = June; YE_3 = March)
STD	Exclude annual reports of banks whose head office in country with mandatory accounting standards applicable to financial institutions
GS	Exclude annual reports of banks whose head office is in country with mandatory accounting standards or guidance applicable to financial institutions

Regression:

OLS Ordinary Least Squared Regression

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

Table 6.16 (cont'd)
Associations of Annual Report Types with FIDIS (Single Year Samples)

Base model = model 4				
Panel C (Single year samples excluding banks whose parents are incorporated in countries with accounting rules and guidance influencing financial instrument reporting)				
Variable (Predicted sign)	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value	β (S.E.) t-value
Data	Branch & Consol.,GS	Branch & Consol.,GS	Branch & Consol., GS	Branch & Consol.,GS
Year	1994	1995	1996	1997
Regression	OLS	OLS	OLS	OLS
Constant	1.142 (.226)	1.257 (.231)	1.213 (.251)	2.219 (.289)
(?)	5.063**	5.442**	4.835**	7.688**
H3 AR_C	1.036 (.313)	1.261 (.321)	1.987 (.351)	1.832 (.402)
(+)	3.312**	3.923**	5.662**	4.557**
CTYGUIDE				
(+)				
PERF	.464 (.493)	.221 (.223)	.158 (.309)	-.002 (.330)
(?)	.940	.991	.512	-.006
F Statistics	5.594	8.495	16.253	10.461
Significance	.002**	.000**	.000**	.000**
Adj. R ²	.067	.097	.164	.111
n	138	141	157	152

Variable descriptions:

AR_C	Consolidated annual report (1 = yes, otherwise = 0)
CTYGUIDE	Banks with parent entities incorporated in countries with accounting guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
CTYGS	Banks with parent entities incorporated in countries with accounting rules or guidance influencing financial instrument reporting (1 = yes, otherwise = 0)
SIZE	Natural log of total assets
PERF	Return on assets (net profit / total assets)

Data:

Branch	Include only Branch annual reports
Consolidated	Include only Consolidated annual reports
YE_12	Include only annual reports with year ended December (YE_9 = September; YE_6 = June; YE_3 = March)
STD	Exclude annual reports of banks whose head office in country with mandatory accounting standards applicable to financial institutions
GS	Exclude annual reports of banks whose head office is in country with mandatory accounting standards or guidance applicable to financial institutions

Regression:

OLS Ordinary Least Squared Regression

* Significant at the 5% level of significance (1-tailed test)

** Significant at the 1% level of significance (1-tailed test)

6.6.3 Components of FIDIS

The voluntary derivative financial disclosures comprise of disclosure in relation to policy, risk and market value (refer to Table 4.3). Results to date examine FIDIS on an aggregate basis and provide support for H1a, H1b, H3, H4a and H4b. In order to identify the perceived importance of the specific information type, the 5 regression models in Section 6.4 are further analysed according to each of the FIDIS components. Each of these hypotheses is tested against the three sub-classification of voluntary derivative financial disclosure. In the interest of parsimony, the results are not tabled.

No significant results are found to support H1a. In Mann Whitney U tests for H1b, all information types are significant ($p < 0.05$). In regression analysis of H1b, the significant difference between the 1996 FIDIS and 1997 FIDIS in the branch annual report is associated with the risk disclosures only ($p < 0.01$) and not with policy disclosures ($p > 0.05$) or market value disclosure ($p > 0.05$). In tests of H2a, there is no significant association between the MAS Banking Liberalisation Program announcement and banks' (a) financial derivative policy disclosures ($p > 0.05$); (b) risk disclosures ($p > 0.05$); or (c) market value disclosure ($p > 0.05$). For H2b, the only significant difference between the FIDIS of privilege and non-privilege banks in the 1997 consolidated annual reports is in relation to policy disclosures but the association is in the opposite direction to that predicted ($p < 0.00$). The risk disclosures ($p > 0.05$) and market value disclosures ($p > 0.05$) are not significantly associated with the type of license held by the bank.

Hypothesis 3 predicts the FIDIS in consolidated annual reports to be significantly different from the FIDIS in the branch annual report. For H3, all aspects of the FIDIS are significantly associated with whether the annual report is a branch or consolidated annual report ($p < 0.00$). Hypothesis 4a predicts the change in FIDIS from 1994 to 1995 in the consolidated annual reports to be higher than that in the branch annual reports. Hypothesis 4b predicts the change in FIDIS from 1996 to

1997 in the consolidated annual reports to be lower than that in the branch annual reports. For H4a, market value information is significant for the Mann Whitney U test while policy information is significant ($p < 0.01$) for the regression analysis to predict the association of Δ FIDIS from 1994 to 1995 and the type of annual report, i.e. consolidated and branch annual. Although the tests report only weak support for H4b in the difference in the Δ FIDIS from 1996 to 1997 between consolidated and branch annual reports, more detailed Mann Whitney U test and regression analysis indicates that there are significant differences for the risk and valuation disclosures ($p < 0.01$) but not for the policy disclosures ($p > 0.05$).

The above discussion highlights the variance in emphasis placed on information voluntarily disclosed by banks. Evidence supports the inference that banks make voluntary disclosures in line with the perceived needs of the surrounding events.

6.7 Summary and Conclusions

This chapter discusses and analyses the results of univariate and multivariate hypothesis testing. Results generally indicate that the level of voluntary disclosure in the branch annual reports of banks operating in Singapore remained relatively constant after Barings collapsed (H1a) but increased after the Asian Financial Crisis (H1b). This supports the expectation that the Asian Financial Crisis affected the Singapore branches more than the Barings collapse. Presumably, the Barings collapse had more implications for head offices as it related to the lack of control and disclosure of derivative transactions which are usually consolidated and monitored at the head office rather than at the branch level. As such, the banks operating as branches in Singapore were not reactive to this event. On the other hand, the Asian Financial Crisis would have affected the Singapore branches directly and the reaction is seen at the branch level. It follows that events can be distinguished in terms of the extent of their impact to determine potential firm reaction. More specifically, events in this study are segregated into firm-specific events with top level impact (Barings collapse affecting the head office) and

regionalised events that affect the banks within that region (Asian Financial Crisis affect the Singapore branches).

In relation to the MAS Bank Liberalisation Plan, results do not support Hypotheses 2a and 2b. Hypothesis 2a predicts that privilege banks increased their voluntary derivative financial disclosure levels after the MAS Bank Liberalisation Plan Announcement in 1997 and H2b predicts that privilege banks have higher levels of voluntary derivative financial disclosure than non-privilege banks after the MAS Bank Liberalisation Plan Announcement in 1997. One reason for the insignificant results could be due to the relative short reaction period examined, which is four months after the announcement. As noted in the previous section, the announcement was made in August 1997 and the data are obtained from the December 1997 consolidated annual reports. *Ceteris paribus*, the 1998 consolidated annual reports would provide an ideal data set but a revised version of MAS 608 took effect on 1 January 1998. The revised MAS 608 increased the required levels of disclosure in many areas including derivative transactions that are included in the voluntary disclosure index in this study. As such, 1998 became a mandatory disclosure regime for derivative transactions and cannot be included for investigation in this voluntary disclosure study.

The regressions including consolidated and branch annual report comparisons on a yearly basis indicate that there are higher levels of voluntary disclosure in consolidated annual reports compared to branch annual reports.

Hypothesis 4a predicts the change in voluntary derivative financial disclosure level in the consolidated annual reports between 1994 and 1995 to be higher than the change in voluntary derivative financial disclosures in the branch annual reports. Hypothesis 4b predicts the change in voluntary derivative financial disclosure levels in the consolidated annual reports between 1996 and 1997 to be lower than the change in voluntary derivative financial disclosures in the branch annual

reports. Tests of the hypotheses compare the increase in voluntary disclosure levels in consolidated and branch annual reports for periods 1996 to 1997 and 1994 to 1995 respectively. Results provide weak support for both hypotheses.

The above discussion highlights the different incentives for voluntary disclosure levels provided by different events. It highlights how the same event can have different implications for the parent entity and for the components of the economic entity. Results also indicate that different types of information are provided to achieve different reporting objectives as evident in the results demonstrating that different information provides significant support for different hypotheses.

The following chapter provides an overview of the thesis. First, it outlines the broad research question and the three specific research issues addressed in this study. Second, the hypotheses are explained and discussed. The chapter concludes with a discussion of the significance of the findings reported in this chapter, research limitations and suggestions for future research avenues.

CHAPTER 7 CONCLUSIONS

7.1 Introduction

The purpose of this thesis is to investigate the association between major firm-specific and regionalised economic events and the voluntary disclosures of financial derivatives information by banks operating in Singapore.

Previous chapters contribute to addressing these issues by first describing, in Chapter 2, the banking sector in Singapore and recent events involving it: the Barings collapse in 1995; the Asian Financial Crisis in 1997; and the MAS Banking Liberalisation Program in 1997. Chapter 3 reviews the literature relating to the signaling and proprietary cost perspectives motivating voluntary disclosures. Chapter 4 develops the hypotheses associating the three events with voluntary disclosure by banks operating in Singapore and by the banks' parent entities in their consolidated annual reports. Chapter 5 describes the research method while Chapter 6 presents the results of the proposed hypotheses.

This chapter presents an overview of the thesis. It also comments on the limitations of the study and suggests future research directions. Section 7.2 provides an outline of the thesis and its findings. Section 7.3 explains the significance of the findings, and the limitations of the study are addressed in Section 7.4. Section 7.5 suggests future research directions and Section 7.6 concludes the study.

7.2 Review of Study

The broad research question addressed in this thesis is to what extent and why banks in Singapore disclose derivative financial information when such disclosure is not mandatory. The thesis uses signaling and proprietary cost theories to explain the expected time series and cross-sectional variation among the levels of voluntary

disclosure by banks operating in Singapore in response to three events. The three events are the Barings collapse, the Asian Financial Crisis and the MAS Banking Liberalisation Program announcement. The thesis also analyses differences in the information needs of different users of financial reports to predict differences between the voluntary disclosure levels in the branch annual reports of banks operating in Singapore and in the consolidated annual reports of their parent entities.

The three specific research issues addressed in this study all relate to voluntary disclosures of derivative financial instruments. They are:

1. Do events with firm-specific and regionalised effects have different associations with the voluntary derivative financial information disclosure levels of banks operating in Singapore?
2. Are events with industry wide effects in the Singapore context associated with changes in voluntary derivative financial information disclosure levels of the holding entities of the banks operating in Singapore?
3. Are the voluntary derivative financial information disclosure levels in annual reports user-group specific in that the voluntary derivatives disclosures in the consolidated annual reports differ from those in the branch annual reports?

The following sub-section summarises the theories and the resulting hypotheses addressing the three research issues outlined above.

7.2.1 Hypotheses

Research Issue 1: Do events with firm specific and regionalised effects have different impacts on the voluntary disclosure levels of banks operating in Singapore?

This study distinguishes between events with firm specific effects (Barings collapse) and regionalised effects (Asian Financial Crisis). It also distinguishes between their association with the voluntary disclosure levels in the annual reports of banks operating in Singapore (branch annual reports). The Barings collapse in

1995 directly affected only one bank in Singapore, although its effects were sufficient to bring about the collapse of Barings PLC and were highly publicised world-wide. Because the financial effects are localised in nature and restricted to one branch, the Barings collapse is classified as an event with firm-specific effects at the branch level. In contrast, the Asian Financial Crisis affected all banks in the Asia region. Although Indonesia, Thailand and Korea were the worst affected countries, with numerous bank and corporate collapses and also requiring financial assistance from the International Monetary Fund, countries such as Hong Kong, Japan, Malaysia, Philippines, Singapore and Taiwan did not escape from the impact. Relative to the Barings collapse, the Asian Financial Crisis has a bigger and more widespread impact in the region. Thus, the Asian Financial Crisis is classified as an event with regionalised effects.

It is generally accepted that firms are motivated to voluntarily disclose information as a signaling tool.⁶⁶ This thesis argues that events with different scopes of impact provide different disclosure motivations for the banks' operations in Singapore. In general, events with regionalised or wider effects provide greater incentives for voluntary disclosure as a signaling device relative to firm-specific events. Both the Barings collapse and the Asian Financial Crisis adversely affected the banking industry. Subsequent to the Asian Financial Crisis that affected banks in Singapore and the rest of Asia, banks in Singapore were motivated to voluntarily disclose information to differentiate themselves from other troubled banks in the region that were more affected by the Asian Financial Crisis. On the other hand, the Barings collapse does not provide such incentives for voluntary disclosure as its financial impact is limited to one bank in Singapore. The annual reports of banks operating in Singapore are branch annual reports. This leads to the following hypotheses.

⁶⁶ Akerlof (1970) and Arrows (1972) first studied the concept of signaling in the context of job and product markets.

Hypothesis 1a:

The level of voluntary disclosure of derivative financial information in the branch annual reports of banks operating in Singapore is no higher after the Barings collapse (1995) than before the Barings collapse (1994).

Hypothesis 1b:

The level of voluntary disclosure of derivative financial information in the branch annual reports of banks operating in Singapore is higher after the Asian Financial Crisis (1997) than before the Asian Financial Crisis (1996).

Research Issue 2: Do events with industry-wide effects in the Singapore context affect the voluntary disclosure levels of the holding entities of the banks operating in Singapore?

This study also examines the association between an event with industry-wide effects (the MAS Banking Liberalisation Program) and the voluntary disclosure levels in the holding entity's consolidated annual reports. The MAS Banking Liberalisation Program liberalised the banking sector in Singapore by allowing a greater presence of foreign banks. It involved the issuance of new banking licences to operate as a Qualified Full Bank, or Qualified Offshore Bank; and an increased number of Restricted Bank licences, which are replaced by Wholesale Bank licences in the second phases of the MAS Banking Liberalisation Program. These banks, together with Full Banks currently in operation, are classified as privilege banks, while the remaining category of Offshore Banks is classified as non-privilege banks in this study.

It is argued that in an environment of increased competition, voluntary disclosure results in added proprietary costs. However, when the benefits of disclosure exceed the costs of disclosure, voluntary disclosure will occur. In the case of the MAS Banking Liberalisation Program, the issuance of new licences and the increased

number of Restricted Banks brought about more intense competition in the banking sector in Singapore. Disclosure of information that is potentially useful to competitors is sensitive. However, disclosures about a bank's financial risk management strategies including financial derivative policies and holdings are likely to increase that bank's chance of obtaining the new licences.

Financial derivative disclosures are of interest to regulators and are also encouraged by the criteria applied to assess the application of new privileges and licences. Banks holding privilege licences are aware of the increased competition to come and their incentives to disclose information to signal growth opportunities. The disclosure originates from the consolidated annual reports as foreign banks operating in Singapore operate as branches of the head office and it is the head office that obtains the privilege license, not the branch operating in Singapore. Directives associated with the MAS Banking Liberalisation Program would also originate from the holding entity. Thus, voluntary disclosure is expected from the holding entity in the consolidated annual reports. Hypotheses 2a and 2b predict the disclosure behaviour of banks applying for new privileges/licences and banks already with privilege licences:

Hypothesis 2a:

The level of voluntary disclosure of derivative financial information in the consolidated annual reports of banks with branches operating in Singapore that either held or applied for privilege licences is higher in the period after the first announcement of the MAS Banking Liberalisation Program (1997) than in the period prior to the first announcement of the MAS Banking Liberalisation Program (1996).

Hypothesis 2b:

After the first announcement of the MAS Banking Liberalisation Program (1997), the level of voluntary disclosure of derivative financial information in the

consolidated annual reports of banks with branches operating in Singapore that either held or applied for privilege licences is higher than the level of voluntary disclosure of derivative financial information in the consolidated annual reports of banks operating in Singapore that did not hold or apply for privilege licences.

Research Issue 3: Are the voluntary disclosure levels in annual reports user-group specific in that the consolidated annual reports differ from the branch annual reports?

This thesis compares the branch annual reports of the banks operating in Singapore and the consolidated annual reports of their holding entities to determine if differences in their voluntary disclosure levels are consistent with different information requirements of the different users of branch and consolidated annual reports. Consolidated annual reports generally cater to the investing community and also other external users of annual reports. Foreign banks operating in Singapore are funded by the holding entity and there are no local shareholdings involved. Thus, the branch annual reports are prepared principally for the regulators. In general, the consolidated annual reports attract a larger user group. The different information needs of the principal user groups for the consolidated and branch annual reports lead to the following hypothesis.

Hypothesis 3:

The level of voluntary disclosure of derivative financial information in the consolidated annual reports of banks with branches operating in Singapore is higher than the level of voluntary disclosure of derivative financial information in their branch annual reports.

Drawing from the arguments leading to H1a, H1b, H2a and H2b, it is possible to develop further predictions in relation to two periods, one from 1994 to 1995 and the other from 1996 to 1997. The Barings collapse is not expected to affect the

branch annual reports due to the firm-specific nature of the event. However, Barings provided strong lessons to offshore banks about monitoring their operations elsewhere. Given the increased attention to derivative losses resulting from not only Barings but also other collapses/losses, banks are expected to react on an international basis in a manner that is reflected in the consolidated annual reports. The Barings collapse concerned a Singapore branch of an English Bank and raised questions about disclosures of derivative financial instruments by branches to their overseas parent banks. Following the Barings collapse, it is expected that the voluntary disclosure response will be more intense in the consolidated annual reports than in the branch annual reports. This results in the following hypothesis.

H4a:

From 1994 to 1995, the increase in voluntary disclosures of derivative financial information in the consolidated annual reports of banks with branches operating in Singapore is higher than the increase in voluntary disclosures of derivative financial information in the Singapore branch annual reports.

The Asian Financial Crisis is expected to affect branch annual reports due to the regionalised effect of the event. However, there has generally been an increasing trend in voluntary disclosure in the consolidated annual reports since the Barings collapse, and the level of voluntary disclosure is expected to remain consistently high in 1996 and 1997. From 1996 to 1997, the increase in voluntary disclosure levels in the branch annual reports combines with the consistently high level of voluntary disclosure in the consolidated annual reports flowing from 1995 to generate the following prediction.

H4b:

From 1996 to 1997, the increase in voluntary disclosures of derivative financial information in the consolidated annual reports of banks with branches operating in

Singapore is less than the increase in voluntary disclosures of derivative financial information in the Singapore branch annual reports.

7.2.2 Findings

Results show that the voluntary disclosure levels in Singapore banks' branch annual reports increased in the period immediately following the Asian Financial Crisis, but not after the Barings collapse. This suggests that an event with a regionalised impact provides the banks with an incentive to position themselves advantageously by differentiating themselves from other banks in the affected region. It also suggests that branch-specific events do not have "contagion effects" for other bank branches.

The voluntary disclosure levels of consolidated annual reports for the privilege banks and non-privilege banks do not differ significantly. Several reasons could explain the results. It is possible that the first MAS Banking Liberalisation Program announcement did not provide a strong incentive for the banks to act. The first announcement was made in August 1997 but the licences were not issued until May 1999. Alternatively, the announcement could have provided a greater motivation for voluntary disclosure by all banks operating in Singapore. A further explanation for the non-result could be that the motivation provided by the announcement is overshadowed by the Asian Financial Crisis. Analysis of the consolidated annual reports reveals higher levels of voluntary disclosure than in the Singapore operations' branch annual reports.

Examination of the association between control variables and financial derivatives voluntary disclosures confirms the predictions from prior studies that there are positive associations between voluntary disclosure and firm characteristics such as size, auditor specialisation and influence of international reporting regulation. Interestingly, national accounting guidance is more associated with voluntary disclosure levels in the branch annual reports than are national mandatory

accounting standards, both originating from the parent bank's country of incorporation. The results are not sensitive to differences in the financial year-ends of the banks.

7.3 Significance of Findings

Cross sectional and time series analysis of data from 35 countries over a four-year period provides evidence of an increased disclosure trend internationally and in Singapore. Furthermore, voluntary disclosure in branch and consolidated annual reports differs in a manner consistent with attempts to satisfy different information needs of different users of the annual reports. This perceptual importance and differentiation placed by both users and preparers of annual reports provides default justification for standard setters to mandate the disclosure requirements in relation to banks and derivative financial information, and to mandate different disclosures in different sets of annual reports.

7.4 Research Limitations

The focus of this study is on voluntary disclosure of derivative financial information in the annual reports of banks operating in Singapore. The conclusions of this study are limited in their empirical generalisability because the study uses only one country as a reference point, i.e., Singapore; one industry, i.e., the banking industry; and one aspect of disclosure in annual reports, i.e., derivative financial information. Although the consolidated annual reports of the foreign banks operating in Singapore are examined, they do not provide a comprehensive indication of the disclosure practices in the other respective countries. This is because only a small number of banks represent each individual country (see appendix 12). Thirteen banks are from the US, eleven from Singapore, 10 from Germany while the remaining countries have less than 10-bank representation in Singapore.

This study utilises the Chalmers (2001b) equally-weighted measure of voluntary disclosure. The nature of items included in the index and their weighting can be challenged. However, any alternative measure is likely to be highly positively correlated with the index used, as Chalmers (2001b) finds in her own evaluation of the measure.

From a management perspective, various organisational factors can influence an entity's disclosure policies. Internal organisational factors include the firm's history, personality and preferences of the CEO, and management strategy. This management perspective could possibly explain the change in disclosure policies over the years studied but its examination is beyond the scope of this study.

The data are obtained from the annual reports of banks operating in Singapore from 1994 to 1997. Although chapter 2 suggests delayed reactions to events, it is not possible to investigate voluntary disclosure levels after 1997. This is principally due to the re-issue of MAS 608 in a form that prescribes a more comprehensive format for annual reporting purposes. The reissue limits the examination of the possible effects of the events on voluntary disclosure since the mandatory reporting requirements took effect from financial year 31 December 1998.

Various control variables are included in the study. Variables include bank size, international regulatory accounting influence, auditor specialisation and firm performance. Although the size, international regulatory accounting influence and performance variables are included in the examination of both branch and consolidated annual reports, the information required for the auditor specialisation factor is not available in the consolidated annual reports. Furthermore, the data collected do not include all banks in the country, which prevents computation of the auditor specialisation variable at a parent entity level. As such, the auditor specialisation variable is included only in the examination of the branch annual reports and conclusions regarding its role are necessarily limited.

7.5 Future Research

Drawing from the limitations discussed in the previous section, several future research avenues emerge. They include:

- 1) voluntary disclosures of financial derivatives by banks in other countries, or in other industries, and in response to different events;
- 2) other voluntary disclosures, whether financial or non-financial;
- 3) content analysis of voluntary disclosures;
- 4) factors influencing voluntary disclosures other than signaling and proprietary cost incentives (e.g. legitimacy concerns); and
- 5) determination of auditor specialisation of bank audits in countries other than Singapore.

This study examines the motivations for voluntary disclosure provided by three events: the Barings collapse, the Asian Financial Crisis and the MAS Banking Liberalisation Program. Other historical events have shaped the regulatory environment of established financial centers such as the UK, the US and Hong Kong. Recent events such as the Enron collapse and the WorldCom debacle also resulted in similar calls for transparency in annual reports. These events provide context for future research studies in the area of voluntary financial disclosures.

Davis-Friday et al. (1998) examines whether the users of financial statement data treat information differently if it is disclosed instead of recognised in the body of the financial statements. As mentioned, MAS 608 was reissued in 1999 and applicable to the financial year ended 31 December 1998. An interesting extension of this thesis would be to examine the market reaction to pre-mandatory accounting treatment and post mandatory accounting treatment in line with the Davis-Friday et al. (1998) approach.

Chapter 2 mentions numerous local bank mergers in Singapore since 1998. The mergers include Keppel Bank and Tat Lee Bank in 1998, United Overseas Bank and Overseas Union Bank in 2001; and Oversea-Chinese Banking Corporation and KeppelTatLee Bank in 2001. The number of local banks halved as a result of the merger exercise initiated by the Singapore government with the aim of promoting a stronger presence of the local banks both in Singapore and overseas. It would be interesting to examine the effects of these mergers from a variety of perspectives, including the disclosure incentives, cost structures and operational behaviour. For example, would merged banks' disclosures differ from non-merged banks based on the signaling and proprietary cost perspectives? Would takeover banks have different disclosure incentives from banks being taken over?

This study emphasises the provision of signals rather than the content of the signal. While this approach necessarily restricts the analysis, it facilitates a clearer focus on the signaling choices. Future research can emphasise the content of the signal but it should be noted that the subjectivity related to the content assessment becomes a criticism of such an approach. For example,

During the course of data collection, it was noted that:

- 1) European banks have more detail and pages in their consolidated annual reports⁶⁷;
- 2) various Japanese banks choose to have the US Form 20K in their consolidated annual reports⁶⁸; and

⁶⁷ FIDIS of European banks in the consolidated annual report is significantly different from the FIDIS of non-European banks in the consolidated annual report after excluding parent banks incorporated in countries with derivative financial accounting rules and guidance.

⁶⁸ FIDIS of Japanese banks in the consolidated annual report is significantly different from the FIDIS of non-Japanese banks in the consolidated annual report after excluding parent banks incorporated in countries with derivative financial accounting rules and guidance.

- 3) certain parent banks have two 2 auditors while the majority of banks are audited by one auditor⁶⁹.

Studies that address the reasons for these observations would provide further insight into financial reporting research and may have a bearing on disclosure issues.

There are also many studies such as Jagtiani and Khanthavit (1996); Stapeldon (1996); Collins, Geisler and Shackelford (1997); Botosan and Frost (1998); Kim and Kross (1998); Leonard and Biswas (1998); Berger, Demsetz and Stahan (1999); and, Faff and Howard (1999) that investigate the effects of changes in regulatory structure on voluntary disclosure levels but there are no known studies of this nature in the Singapore context. This provides another interesting avenue for research, especially in an environment of regulatory changes in Singapore and regulatory restructuring suggestions by the Basle Committee.

7.6 Conclusions

The research findings in this study support some aspects of prior research modeling of explanations for signaling motivations for voluntary disclosure. It appears that banks do not utilise annual reports as an avenue to communicate with the MAS to obtain favour under the MAS Banking Liberalisation Program, possibly due to proprietary costs outweighing the benefits. Finally, there is evidence supporting the view that annual report disclosures differ, depending on the targeted users.

In relation to signaling theory, the findings in this thesis lead to the conclusion that in troubled times, managers of banks in Singapore perceive the need to communicate information affecting the industry and relevant to their risk

⁶⁹ Of the 149 banks, ten banks were audited by 2 auditors while 4 banks were audited by 3 auditors. Certain countries, e.g. France, have regulations requiring firms to use more than one auditor. The consolidated annual report FIDIS of banks with more than one auditor is significantly different from the FIDIS of banks with one auditor after eliminating parent banks incorporated in countries with derivative financial accounting rules and guidance.

management strategies but not when the problem is restricted to one other bank. This is a contribution to signaling theory that postulates entities provide indicators to reveal their own relative qualities. The findings have important implications from academic and practical perspectives. Academic research rarely considers the differing impact of high profile events and their consequential motivations for actions. Based on proprietary cost arguments, regulators may accept a position of less than full disclosure in the annual reports when there are other channels of information for private disclosure that ensures the market does not adversely value the disclosing bank and the competitor banks do not obtain sensitive, proprietary information relating to the disclosing bank.

The user perspective variable differentiates shareholder needs from regulators' information needs. The results suggest an important role for annual report voluntary disclosures in resolving the information asymmetry problem between managers and outside shareholders, but perhaps less so for regulators who are in a better position to command special private reports.

Overall, this study highlights the importance of (1) identifying the different entities within the economic entity; and (1) understanding the extent of the impact of events on each of these entities before evaluating the signaling incentives provided by the events. Furthermore, the study demonstrates the proprietary nature of information in the banking industry. This is recognised by regulators in requiring proprietary information to be provided by the banks in a private format rather than in publicly accessible annual reports. Appreciating the environment, sensitivity of the industry and information needs of user types assists in analyzing accounting reporting activities of entities, especially in an uncertain environment. It also assists in prescribing accounting reporting requirements to meet users' needs.

Appendix 1

MAS Notices to Banks

Notices providing guidance on reporting issues include:

- 605 - Revaluation of Assets, 11 Nov 2002
- 606 - Provision For and Writing Off of Bad Debts, 11 Nov 2002
- 607 - Publication of Financial Statements, 14 Feb 2003 (*MAS Notice 607 dated 11 Nov 2002 is cancelled*)
- 608 - Minimum Disclosure in Financial Statements, 11 Nov 2002
- 609 - Auditors' Reports and Additional Information to be Submitted With Annual Accounts, 11 Nov 2002
- 610 - Submission of Statistics and Returns, 11 Nov 2002

Notices providing guidance on operational issues include:

- 601 - Capital Funds and Net Head Office Funds, 18 Jul 2001
- 602 - Licence Fees, 20 Jan 1984
- (MAS 602 dated 20 January 1984 is cancelled with effect from 18 July 2001. It is superseded by the Banking (License Fees) Notification 2001 which came into effect on 1 April 2001.)
- 603 - Branches and Automated Teller Machines, 11 Nov 2002
- 604 - MAS 604 (Mergers or Take-overs) dated 1 Nov 1973 is cancelled with effect from 11 Nov 2002
- 611 - Credit Facilities to Bank Directors, Staff and Related Concerns, 11 Nov 2002
- 612 - Credit Files and Classification of Loans, 11 Nov 2002
- 613 - Minimum Cash Balances and Liquid Assets, 10 Jul 2002
- 614 - MAS 614 (Banking Secrecy) dated 1 Nov 1983 is cancelled with effect from 11 Nov 2002
- 615 - Appointment of Auditors, 27 Mar 2002
- 616 - Sales of Coins or Medals, 11 Nov 2002
- 617 - MAS 617 (Immovable Properties) dated 1 Nov 1983 is cancelled with effect from 11 Nov 2002
- 618 - Authorised Depositories, 11 Nov 2002
- 619 - S\$ Negotiable Certificates of Deposit, 22 Apr 2002
- 622 - Nominating Committees and Appointment of Directors and Chief Executives of Singapore-Incorporated Banks, 17 July 1999
- 622A - Appointment of Chief Executives of Branches of Banks Incorporated Outside Singapore, 17 July 1999
- 623 - Credit Facilities to a Single Borrower or Group of Borrowers, 11 Nov 2002
- 624 - MAS 624 (Banks' Acquisition of Shares in Companies) dated 9 Mar 1984 is cancelled with effect from 11 Nov 2002
- 625 - Power of the Authority to Secure Compliance with Sections 10, 23, 29, 31, 32, 33, 35 and 42, 11 Nov 2002
- 626 - Prevention of Money Laundering, 11 Nov 2002
- 627 - Capital Treatment For Credit Derivatives, 06 Sep 2000
- 628 - Asset Securitisation by Banks, 6 Sep 2000; Last update: 20 Aug 2002
- 629 - Approved Transactions Under Section 29(2)(E) - Corporate Credit Card Facilities, 18 Apr 2001
- 630 - Private Equity and Venture Capital Investments, 18 Jul 2001
- 631 - Meaning of Customer Under Section 40A, 18 Jul 2001
- 632 - Housing Loans, 07 Mar 2003

Notices providing guidance on operational issues include (cont'd):

- 633 - Bridging Loans for the Purchase of Immovable Properties, 29 Jan 2003
- 634 - Banking Secrecy - Conditions for Outsourcing, 19 Feb 2003
- 635 - Unsecured Credit Facilities to Individuals, 3 Apr 2003
- 704 - Minimum Cash Balance - Liabilities Base, 16 Nov 2001
- 705 - Mandate for Clearing Settlement, 13 Jul 1998
- 707 - Direct Crediting of Interest on Singapore Government Registered Stocks, 02 Sep 1985
- 710 - MAS Electronic Payment System (MEPS) - Authorisation, Manual Back-up System and Encashment Procedures, 20 Dec 1999
- 712 - Government Securities Book-Entry System - Terms and Conditions on the Operation of the Securities and Cash Statement Accounts and Manual Back-up System, 20 Dec 1999
- 713 - Government Securities Book Entry System - Letter of Undertaking for Disclosure of Interest and Discount Earned, 15 Sep 1992
- 714 - Tender for the Book-Entry Government Securities, 22 Apr 2002
- 715 - Withholding Tax Form, 20 Dec 1999
- 750 - Standardisation of Commercial Bills of Exchange, 16 Apr 1982
- 752 - With holding Tax on USSNCDs, 22 Jul 1978
- 753 - Appointment of Country Treasurer/Head of Treasury and Register of Dealers, 02 Oct 2000
- 754 - Exchange Control Liberalisation, 25 May 1978
- 755 - Daily Report on Singapore Dollar Transactions, 16 Oct 1998
- 756 - Deposit and Lending Rates, 16 Oct 1998
- 757 - Internationalisation of the Singapore Dollar (S\$), 19 Mar 2002

Appendix 2 MAS Circulars to Banks

- 01 Feb 2002 FSG 19/2002 : New Risk Measures for MAS MEPS Front-end
- 12 Nov 2001 FSG 61/2001: Responsibility For Internet Banking Security
- 15 Oct 2001 FSG 50/2001: Directive on Housing Loans
- 27 Jul 2001 FSG 39/2001: MAS Notice 613 - Minimum Cash Balances and Liquid Assets
- 05 Jun 2001 FSG 30/2001: Directive On Housing Loans - 80% Financing Limit
- 18 Apr 2001 FSG 20/2001: MAS Notice 629: Approved Transactions Under Section 29(2)(E) - Corporate Credit Card Facilities
- 29 Mar 2001 FSG 13/2001: Internet Banking Technology Risk Management Guidelines
- 09 Mar 2001 FSG 9/2001: Singapore Dollar Swap Transactions
- 08 Mar 2001 FSG 8/2001: MAS Notice 613 - Minimum Cash Balances And Liquid Assets
- 06 Dec 2000 MID 60/00: MAS Notice 757 - Internationalisation of the Singapore Dollar (S\$)
- 04 Dec 2000 FSG 43/2000: MAS Notice 628 - Asset Securitisation By Banks
- 30 Nov 2000 FSG 42/2000: MAS Notice 627 - Capital Treatment For Credit Derivatives
- 09 May 2000 FSG 15/2000: MAS Notice 613 and MAS Guidelines for Banks whose Business Includes Dealing in Government Securities
- 20 Jan 2000 FSG 02/2000: Posting of Financial Product Information On Third Party Internet Websites
- 17 Dec 1999 FSG 48/99: Payment Of Interest On Current Accounts
- 17 Dec 1999 FSG 49/99: Payment Of Interest On Current Accounts
- 25 Oct 1999 FSG 42/99: Singapore Dollar Lending Limit and Receiving Singapore Dollar Funds From Swaps
- 07 Oct 1999 FSG 41/99: MAS Notice 613 - Minimum Cash Balances and Liquid Assets
- 17 July 1999 FSG 32/99: MAS Notice 622 and MAS Notice 622A
- 26 Apr 1999 FPD 02/1999: Tax Incentives To Promote The Bond Market
- 20 Mar 1999 FPD 01/1999: Tax Exemption Scheme for Syndicated Facilities
- 16 Oct 1998 FSG Circular: MAS Notice 613 - Minimum Cash Balances and Liquid Assets
- 30 Jun 1998 FPD 01/1998: Tax Incentives Announced in 1998 Budget
- 20 Jun 1998 FSG Circular: MAS Notice 613 - Maintenance of Minimum Cash Balances and Minimum Liquid Assets
- 15 May 1996 BFIG 13/96: Directive on Housing Loans
- 28 Aug 1995 ID 39/95: Appointment of Key Treasury Personnel and Register of Dealers

Appendix 3

Subsidiary Legislation Administered by the MAS

- Banking Regulations 2001, Last Update: 18 Jul 2001
- Banking (Qualifying Subsidiary)(Transitional Provision) Order 2001, Last Update: 18 Jul 2001
- Banking (Clearing House) Regulations, Cap. 19, Regulation 1, Last Update: 12 May 1999
- Banking (Licence Fees) Notification 2001 s(217/2001), Cap. 19, Notification 1, Last Update: 11 Apr 2001
- Banking (Professional Relationship) Notification (s 74/85), Cap. 19, Notification 2, Last Update: 12 May 1999
- Banking (Publication of Accounts) Regulations, Cap. 19, Regulation 2, Last Update: 12 May 1999
- Banking (Unsolicited Credit and Charge Cards) Regulations, Cap. 19, Regulation 3, Last Update: 12 May 1999

Appendix 4 Banks That Applied for New Privileges or Licences under the MAS Banking Liberalisation Program

First Phase Application (announced on 17 May 1999)	Second Phase Application (announced on 29 June 2001)
1. ABN-Amro	1. Australia & New Zealand Banking Group Limited
2. American Express Bank *	2. BNP Paribas Private Bank
3. Bank of China *	3. Credit Suisse
4. Banque Nationale de Paris	4. The Hongkong and Shanghai Banking Corporation Limited
5. Barclays Banks Plc	5. ING Bank NV
6. Citibank	6. Malayan Banking Berhad
7. Commerzbank Aktiengesellschaft	7. The Northern Trust Company
8. Credit Lyonnais	8. Sanpalo IMI SPA
9. HSBC*	9. Unicredito Italiano SPA
10. KBC Bank NV	10. Westdeutsche Landesbank Girozentrale
11. Maybank*	
12. Morgan Guaranty Trust Company of New York	
13. National Australia Bank Limited	
14. Nordeutsche Landesbank Girozentrale	
15. Rabobank (Cooperatieve Centrale Raiffeisen-Boerenleenbank BA)	
16. Societe Generale	
17. Standard Chartered	
18. The Bank of Nova Scotia	
19. The Dai-Ichi Kangyo Bank, Limited	
20. The Fuji Bank Limited	
21. The Industrial Bank of Japan, Limited	
22. The Sanwa Bank	
23. The Tokai Bank	
24. UBS AG	

* These banks indicated interest in applying for the new privileges and licences as reported in the media (Business Times, May 1999). It is assumed that they applied for the banking licences.

Appendix 5 Banks Granted New Privileges or Licences under the Banking Liberalisation Program announced on 17 May 1999

First Phase Results (Announced on 20 October 1999) ⁷⁰	Second Phase Results (Announced on 4 December 2001) ⁷¹
Banks granted Qualified Full Bank privileges: 1. ABN-Amro (w.e.f. 20 October 1999) 2. Banque Nationale de Paris (w.e.f. 20 October 1999) 3. Citibank (w.e.f. 20 October 1999) 4. Standard Chartered (w.e.f. 20 October 1999)	Banks granted Qualified Full Bank privileges: 1. Hongkong and Shanghai Banking Corporation Limited (w.e.f. 1 January 2002) 2. Malayan Banking Berhad (w.e.f. 1 January 2002)
Banks granted Restricted Bank licences (20): • w.e.f. 20 October 1999 1. Commerzbank Aktiengesellschaft 2. Morgan Guaranty Trust Company of New York 3. Societe Generale 4. UBS AG • With effect from 1 October 2000 1. Barclays Banks Plc 2. The Fuji Bank Limited 3. Rabobank (Cooperatieve Centrale Raiffeisen-Boerenleenbank BA) 4. The Sanwa Bank	Qualified Offshore Bank privileges upgraded to Wholesale Bank privileges w.e.f. 4 December 2001: 1. The Bank of Nova Scotia 2. Credit Lyonnais 3. The Dai-Ichi Kangyo Bank, Limited 4. The Industrial Bank of Japan, Limited 5. KBC Bank NV 6. National Australia Bank Limited 7. Norddeutsche Landesbank Girozentrale 8. The Tokai Bank
Banks granted Qualified Offshore Bank privileges w.e.f. 20 October 1999 1. The Bank of Nova Scotia 2. Credit Lyonnais 3. The Dai-Ichi Kangyo Bank, Limited 4. The Industrial Bank of Japan, Limited 5. KBC Bank NV 6. National Australia Bank Limited 7. Norddeutsche Landesbank Girozentrale 8. The Tokai Bank	Banks granted Wholesale Bank privileges w.e.f. 4 December 2001 1. Australia & New Zealand Banking Group Limited 2. BNP Paribas Private Bank 3. Credit Suisse 4. ING Bank NV 5. The Northern Trust Company 6. Sanpaolo IMI SPA 7. Univerdito Italisano SPA 8. Westdeutsche Landesbank Girozentrale

(Note: w.e.f. - with effect from)

⁷⁰ MAS Press Release, 20 October 1999, <http://www.mas.gov.sg>

⁷¹ MAS Press Release, 20 October 1999, <http://www.mas.gov.sg>

Appendix 6

Pro forma Profit & Loss Statement prescribed in MAS 608 Format of Balance Sheet and Profit & Loss Statement, 1 November 1973

	\$	S		\$	S
SHARE CAPITAL			CURRENT ASSETS		
Authorised			1. Cash & balances with Bankers & agents		X
xx shares of \$x each	X		2. Money at call and short notice		X
Issued and fully paid		X	3. Bills receivable less provision		X
xx shares of \$x each			4. Singapore Government Securities including Singapore Treasury Bills (state method of valuation)		X
GENERAL RESERVE		X	Other Government Securities including Treasury Bills (state method of valuation)	X	X
REVENUE RESERVE			5. Other Investments (state method of valuation)		—
1. Profit unappropriated		X	Quoted shares in corporations	X	
			Unquoted shares in corporations	X	X
TOTAL OF CAPITAL & RESERVES		<u>X</u>	6. Loans & Advances Less Provision for Bad & Doubtful Debts		X
			7. Other accounts		X
CURRENT LIABILITIES & PROVISIONS			SUBSIDIARY COMPANIES		
1. Current, fixed, savings accounts and other deposits of customers		X	1. Shares (state method of valuation)		X
2. Deposits and balances of Bankers & Agents		X	2. Amount owing by subsidiary companies	X	X
3. Bills and drafts payable		X			—
4. Other liabilities including provisions and other reserves		X	FIXED ASSETS		
5. Proposed dividend (Net)		X	1. Land, building, office equip, furniture & fittings		
			Less amounts written off (state method of valuation)		X
AMOUNTS OWING TO SUBSIDIARY COMPANIES		<u>X</u>			X
			CUSTOMERS' LIABILITY FOR ACCEPTANCES, GUARANTEES AND EXCHANGE CONTRACTS PER CONTRA		
ACCEPTANCES, GUARANTEES AND EXCHANGE CONTRACTS ON BEHALF OF CUSTOMERS PER CONTRA		<u>X</u>			<u>X</u>

Appendix 7

Pro forma Balance Sheet prescribed in MAS 608 Format of Balance Sheet and Profit & Loss Statement, 1 November 1973

Net profit for the year after providing for taxation, diminution in value of assets, contingencies and after making transfers from/to reserves

X

AFTER CREDITING

Gross income from investments in Subsidiaries

X

AND AFTER CHARGING

1. Depreciation of fixed assets

X

2. Directors' remuneration

X

3. Auditors' remuneration

X

ADD:

Balance brought forward from previous year

X

X

DEDUCT:

1. Transfer to Reserve Fund

X

2. Interim Dividend of xxx less Income Tax of xxx% paid on xxx

X

3. Proposed final dividend of xxx less Income Tax @ xxx %

X

X

UNAPPROPRIATED PROFIT CARRIED FORWARD

X

Appendix 8
Pro forma Profit & Loss Statement prescribed in MAS 608
Minimum Disclosure in Financial Statements (1999)

PROFORMA PROFIT AND LOSS STATEMENT	S	S
Interest income	X	
Interest expense	X	
Net interest income		X
Other operating income	X	
Gains (losses) from trading/dealing activities (to analyse into income from trading in foreign exchange, securities and other financial instruments separately)	X	
Fees and commissions	X	
Dividends (to analyse into dividend income from subsidiaries, associated companies and other investments separately)	X	
Rental	X	
Gains (losses) on disposal of investment securities	X	
Others	X	X
Other operating expenses		
Staff costs	X	
Directors' fees and remuneration	X	
Auditors' remuneration	X	
Depreciation	X	
Amortisation	X	
Maintenance and hire of fixed assets	X	
Premises expenses	X	
Others	X	X
Operating profit		X
Provisions for possible loan losses and diminution in value of other assets	X	
specific provisions for loan losses	X	
specific provisions for diminution in value of investments and other assets	X	
general provisions including provisions for possible loan losses and other banking risks	X	
Share of profits (less losses) of associated companies	X	X
Taxation		X
Minority Interest		X
Extraordinary items		X
Unappropriated profit brought forward from previous year		X
Dividend		
• interim	X	
• proposed final dividend	X	X
Transfer to general reserves		X
Unappropriated profit carried forward		X

Appendix 9

Pro forma Balance Sheet prescribed in MAS 608 Minimum Disclosure in Financial Statements (1999)

PROFORMA BALANCE SHEET	S	S
Capital & Reserves		
Share capital* (authorised and issued and fully paid)		X
Reserves (types of reserves including statutory reserves)		X
Minority interest		X
*applicable to Singapore incorporated banks		
TOTAL CAPITAL & RESERVES		<u>X</u>
Liabilities		
Deposits and balances of banks		X
Deposits of non-bank customers		X
Debt securities issued		X
Provision for taxation		X
Bills payable		X
Other liabilities (to provide a breakdown of major items)		X
Proposed dividend		X
Due to holding company		X
Due to subsidiary companies		X
		<u>X</u>
Assets		
Cash and balances with central banks		X
Singapore Government treasury bills and securities		X
Other government treasury bills and securities		X
Dealing securities held		
Equity	X	
Debt	X	
Quoted	X	
Unquoted	X	X
Balances and placements with, and loans to, banks		X
Bills receivable		X
Loans and Advances to customers		X
Provisions for Bad and Doubtful Debts	X	
- Specific	X	
- General	X	X
Investment securities held		
Equity	X	
Debt	X	
quoted	X	
unquoted	X	X
Other assets (to provide a breakdown of major items)		X
Due from holding company		X
Due from subsidiary companies		
Equity	X	
Debt	X	
quoted	X	
unquoted	X	X
Investments in associated companies		
Equity	X	
Debt	X	
quoted	X	
unquoted	X	X
Fixed Assets (in accordance with the requirements of the Companies Act)		<u>X</u>
		X

Appendix 10 Detailed Disclosure Requirements prescribed in MAS 608 Minimum Disclosure in Financial Statements (11 November 2002)

(MAS 608 dated 8 February 1999 is cancelled)

1. BALANCE SHEET

1.1 Banks should disclose the following minimum information in the balance sheet or in the notes to the financial statements:

Capital & Reserves

Share capital* (authorised and issued and fully paid)
Reserves (to analyse into the various types of reserves including statutory reserves)
Minority interest
*applicable to Singapore incorporated banks

Liabilities

Deposits and balances of banks
Deposits of non-bank customers
Debt securities issued
Provision for taxation
Bills payable
Other liabilities (to provide a breakdown of major items)
Proposed dividend
Due to holding company
Due to subsidiary companies

Assets

Cash and balances with central banks
Singapore Government treasury bills and securities
Other government treasury bills and securities
Dealing securities held (to analyse into equity or debt and quoted or unquoted)
Balances and placements with, and loans to, banks
Bills receivable
Loans and Advances to customers
• Provisions for Bad and Doubtful Debts
- Specific
- General
Investment securities held (to analyse into equity or debt and quoted or unquoted)
Other assets (to provide a breakdown of major items)
Due from holding company
Due from subsidiary companies (to analyse into equity or debt and quoted or unquoted)
Investments in associated companies (to analyse into equity or debt securities and quoted or unquoted)
Fixed Assets (in accordance with the requirements of the Companies Act)

1.2 Banks should disclose the amount of each type of reserves at the beginning and end of the financial year, and the amount of any transfers to or from each type of reserves during the year.

- 1.3 For debt securities issued by the bank with an original maturity of more than one year, banks should disclose the interest rate (for fixed rate securities) or interest fixing method (for floating-rate securities) and repayment date.
- 1.4 Banks should disclose the market value of quoted investments and investment properties.
- 1.5 Banks should disclose the gross aggregate amount of non-performing loans, which is defined as loans classified as sub-standard, doubtful and loss in accordance with MAS loan grading guidelines under MAS 612.
- 1.6 Banks should provide a movement schedule showing the balance of provisions at the beginning of the year, the amount charged/released to profit and loss account during the year, the amount utilised to write off bad loans during the year and the balance at the end of the year in respect of:-
- specific provisions for loan losses
 - specific provisions for diminution in value of investments and other assets, and
 - general provisions for possible loan losses and other banking risks.
- A similar movement schedule for interest-in-suspense should also be provided.
- 1.7 Assets pledged to third parties as security for liabilities, together with the aggregate amount of the related secured liabilities, should be disclosed.

2. PROFIT AND LOSS STATEMENT

Banks should disclose the following minimum information in the profit and loss statement or in the notes to the financial statements:

Interest income

Interest expense

Net interest income

Other operating income

- Gains (losses) from trading/dealing activities (to analyse into income from trading in foreign exchange, securities and other financial instruments separately)
- Fees and commissions
- Dividends (to analyse into dividend income from subsidiaries, associated companies and other investments separately)
- Rental
- Gains (losses) on disposal of investment securities
- Others

Other operating expenses

- Staff costs
- Directors' fees and remuneration
- Auditors' remuneration
- Depreciation
- Amortisation
- Maintenance and hire of fixed assets
- Premises expenses
- Others

Operating profit

- Provisions for possible loan losses and diminution in value of other assets
- specific provisions for loan losses
 - specific provisions for diminution in value of investments and other assets
 - general provisions including provisions for possible loan losses and other banking risks

Share of profits (less losses) of associated companies

Taxation

Minority Interest

Extraordinary items

Unappropriated profit brought forward from previous year

Dividend

- interim
- proposed final dividend

Transfer to general reserves

Unappropriated profit carried forward

3. CASH FLOW STATEMENT

Banks should prepare a cash flow statement.

4. OFF-BALANCE SHEET ITEMS

Banks should disclose the following off-balance sheet items under three categories:

- **Contingent liabilities.** Disclose the contract amount for each of the items below or for each of the items under similar classification:
 - Direct credit substitutes
 - Transaction-related contingencies
 - Trade-related contingencies
 - Other contingent liabilities
- **Commitments.** Disclose the committed amount for each of the items below:
 - Undrawn credit lines and other commitments to extend credit
 - Undrawn note issuance facilities and revolving underwriting facilities
 - Forward asset purchase/sale and forward deposits placed
 - Other commitments
- **Financial derivatives covering foreign exchange, interest rates, equity and equity indices, bullion and other commodities, and other related contracts.** They include forward sales and purchases of currencies and securities, interest rate and currency swaps, forward rate agreements, and futures and options. Where material, banks should disclose the contract amount, the gross positive and negative mark-to-market value and the effect of legally enforceable netting arrangements for each of the items. Where material, the same information should be provided for commodity and credit derivatives.

5. ACCOUNTING POLICIES

Banks should disclose significant accounting policies which have been adopted in the preparation of and presentation of the financial statements.

Disclosure of accounting policies should include, but are not limited to the following:-

- Basis of recognition of each principal source of income
- Basis for specific provisions for loan losses and general provisions for credit or other banking risks
- Valuation methods of investment securities, dealing securities and financial derivatives
- Depreciation of fixed assets
- Basis of consolidation
- Translation of foreign currency assets and liabilities.

6. SEGMENTAL INFORMATION (APPLICABLE TO SINGAPORE INCORPORATED BANKS ONLY)

6.1 Singapore incorporated banks should disclose the following information as part of the financial statements.

6.2 Singapore incorporated banks should analyse total assets and total income or profit before/after tax by the following geographical areas:

- Singapore
- Other ASEAN
- Other Asia Pacific
- Rest of the world

Geographical analysis should be based on the location of the bank, branch or office booking the assets or reporting the results.

6.3 Singapore incorporated banks should analyse loans and advances by the following industry groups:

- Manufacturing
- Building and construction
- Housing
- General commerce
- Transport, storage and communication
- Financial institutions
- Professional and private individuals (except housing loans)
- Others

6.4 Singapore incorporated banks should provide a maturity analysis for loans (bank and non-bank) and deposits (bank and non-bank) using the following maturity bands:-

- Maturing within one year
- Over one year but within three years
- Over three years but within five years
- Over five years

The analysis into the relevant maturity groupings should be based on the remaining period to the contractual maturity date on the balance sheet date.

7. CAPITAL ADEQUACY RATIO

Singapore incorporated banks should disclose the following information on the capital adequacy ratio and components as defined by the Bank for International Settlements as supplementary information to the financial statements in the annual report:

- Tier I capital
- Tier II capital
- Capital ratios
- Risk-weighted assets

In the case of a bank incorporated outside Singapore, information on capital adequacy ratio with respect to the head office should be disclosed as supplementary information to the Singapore branch's financial statements filed with the Registry of Companies and Businesses and included in the publication of head office accounts in the newspapers.

8. FINANCIAL REVIEW (APPLICABLE TO SINGAPORE INCORPORATED BANKS ONLY)

Singapore incorporated banks should provide a financial review section covering subjects such as business description, analyses of results, risk management and any other pertinent information as supplementary information to the financial statements in the annual report.

Appendix 11

List of Banks Operating Between 1994 and 1997

4 Years of Operation from 1994 to 1997	
1	Abn Amro Bank N.V. (Algemene)
2	Allied Irish Banks, Public Limited Company
3	American Express Bank Ltd
4	Arab Bank Plc
5	Arab Banking Corporation (B.S.C.)
6	Asahi Bank, Ltd.(Kyowa)
7	Australia And New Zealand Banking Group Limited
8	Ban Hin Lee Bank Berhad
9	Banca Commerciale Italiana
10	Banca Nazionale Del Lavoro Spa
11	Banco Do Brasil Sa
12	Bangkok Bank Public Company Limited
13	Bank Brussels Lambert
14	Bank Bumiputra Malaysia Berhad
15	Bank Of America,National Association
16	Bank Of China
17	Bank Of East Asia Limited
18	Bank Of Hawaii
19	Bank Of India
20	Bank Of Montreal
21	Bank Of New York(Irving Trust Company)
22	Bank Of New Zealand
23	Bank Of Nova Scotia
24	Bank Of Singapore Limited
25	Bank Of Yokohama Ltd.
26	Bankers Trust Company
27	Banque Francaise Du Commerce Extérieur
28	Banque Indosuez
29	Banque Internationale A Luxembourg Sa
30	Banque Nationale De Paris
31	Banque Paribas
32	Banque Worms
33	Barclays Bank Plc
34	Bayerische Landesbank Girozentrale
35	Canadian Imperial Bank Of Commerce
36	Chase Manhattan Bank(Wrong-Chemical)
37	Chiao Tung Bank Co., Ltd (Wrong-Bank Of Communication)
38	Cho Hung Bank, Singapore Branch
39	Christiania Bank
40	Chung Khiaw Bank Limited
41	Citibank
42	Commercial Bank Of Korea, Limited
43	Commerzbank Aktiengesellschaft
44	Commonwealth Bank Of Australia
45	Compagnie Financiere De Cic Et De L'union Europeenne (Union Europeenne De Cic)
46	Credit Lyonnais
47	Credito Italiano Spa
48	Dai-ichi Kangyo Bank Ltd
49	Daiwa Bank, Limited
50	Den Danske Bank Aktieselskab
51	Den Norske Bank Asa
52	Deutsche Bank Aktiengesellschaft
53	Development Bank Of Singapore Limited
54	Dresdner Bank Aktiengesellschaft
55	Far Eastern Bank Limited
56	First Commercial Bank
57	First National Bank Of Boston
58	Four Seas Bank Limited
59	Fuji Bank Limited
60	Habib Bank Limited
61	Hanil Bank
62	HI Bank (Wrong-Kwong Lee)
63	Hokkaido Takushoku Bank, Limited
64	Hongkong And Shanghai Banking Corporation Limited
65	Indian Bank
66	Indian Overseas Bank
67	Industrial & Commercial Bank Limited
68	Industrial And Commercial Bank Of China
69	Industrial Bank Of Japan Limited
70	Industrial Bank Of Korea
71	Istituto Bancario San Paolo Di Torino Spa
72	International Bank Of Singapore Limited
73	Keppel Bank Of Singapore Limited
74	Korea Exchange Bank
75	Korea First Bank
76	Kredietbank N.V.
77	Kwangtung Provincial Bank
78	Long-Term Credit Bank Of Japan Limited
79	Malayan Banking Berhad
80	Meespierson Nv
81	Mitsubishi Trus. And Banking Corporation
82	Mitsui Trust And Banking Company Limited
83	Morgan Guaranty Trust Company Of New York
84	Moscow Narodny Bank Limited
85	National Australia Bank Limited
86	National Bank Of Canada
87	National Bank Of Kuwait S.A.K
88	National Westminster Bank Public Limited Company
89	Nippon Credit Bank, Ltd
90	Norinchukin Bank
91	Oversea-Chinese Banking Corporation Limited
92	Overseas Union Bank Limited
93	P.T. Bank Negara Indonesia (Persero) Tbk
94	Philippine National Bank
95	Postipankki Limited
96	Pt Bank Ekspor Impor Indonesia (Persero)
97	Republic National Bank Of New York
98	Royal Bank Of Canada
99	Royal Bank Of Scotland Plc
100	Sakura Bank, Limited(Mitsui Bank)
101	Sanwa Bank Limited
102	Skandinaviska Enskilda Banken Ab
103	Societe Generale
104	Standard Chartered Bank
105	State Bank Of India
106	Sumitomo Bank, Limited
107	Sumitomo Trust And Banking Company, Ltd
108	Svenska Handelsbanken Ab.
109	Swiss Bank Corporation
110	Tat Lee Bank Limited
111	Tokai Bank Limited
112	Toyo Trust And Banking Company, Limited
113	Uco Bank
114	Unibank Of Denmark A/S (Unibank A/S)
115	Union Bank Of Switzerland
116	Union De Banques Arabes Et Francaises - Uba
117	United Overseas Bank Limited
118	Westdeutsche Landesbank Girozentrale
119	Westpac Banking Corporation
120	Yasuda Trust And Banking Company, Limited

2 Years Of Operation From 1994 To 1995		2 Years Of Operation From 1994 To 1996	
1	Bank Of Tokyo, Ltd	1	Credit Suisse
2	Berliner Handels-Und Frankfurter Bank (Bhf-Bank)	2	United Malayan Banking Berhad
3	Chemical Bank		
4	Internationale Norderlander Bank Nv		
5	Kansallis Osake Pankki		
6	Mitsubishi Bank, Limited(Merge Bank Of Tokyo-Mit)		
7	Monte Dei Paschi Di Siena (Mps-Bank)		
8	Morgan Grenfell & Co Ltd		
9	Union Bank Of Finland		
2 Years Of Operation From 1996 To 1997		3 Years Of Operation From 1995 To 1997	
1	Agricultural Bank Of China	1	Absa Bank Limited
2	Banca Monte Dei Paschi Di Siena Spa	2	Banco Santander, Sa
3	Bank Of Communications	3	Hill Samuel Bank Limited
4	Bank Of Taiwan	4	Krung Thai Bank Public Company Limited
5	Bank Of Tokyo-Mitsubishi, Ltd.	5	Nationsbank, N.A.
6	Bayerische Vereinsbank Aktiengesellschaft	6	Norddeutsche Landesbank Girozentrale
7	Bhf-Dank Aktiengesellschaft	7	Rabobank
8	Hua Nan Commercial Bank, Ltd.	8	Siam Commercial Bank Public Company Limited, Singapore Branch
9	Ing Bank N.V.	9	Thai Farmers Bank Public Company Limited
10	Merita Bank Plc (Union Bank Of Finland)		
11	Sime Bank Berhad (Bf United Malayan Bank)		
12	Sudwestdeutsche Landesbank Girozentrale		
13	Toronto-Dominion Bank		
1 Year Of Operation During The Period From 1994 To 1997:			
1	Bank Austria Aktiengesellschaft		
2	Cariplo-Cassa Di Risparmio Delle Provincie Lombarde		
3	Cooperative Centrale		
4	Credit Suisse First Boston		
5	Creditanstalt		
6	First National Bank Of Chicago		
7	Hang Seng Bank		
8	International Commercial Bank Of China		
9	Korea Development Bank		
10	Korea Long Term Credit Bank		
11	Lee Wah Bank		
12	Nationbank Of North Carolina		
13	Northern Trust Co		
14	Norwest Bank Minnesota		
15	Union Bank Of Finland		

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