ASIC

Australian Securities & Investments Commission

Monetary Authority of Singapore
Capital Markets Seminar
2–8 May 2002

E-finance: trends and regulatory responses

Malcolm Rodgers
Executive Director, Policy and Markets Regulation
Australian Securities and Investments Commission

INTRODUCTION

Financial products and many financial services consist largely of the creation, transfer and recording of pieces of information. In a typical modern securities transaction, for example, a dealer receives an electronic instruction from a client and transmits it to a market where it is executed by an electronic system, and the resulting change in ownership is recorded by electronic means. In many cases, the transaction also involves a simultaneous or near simultaneous transfer of cash balances between the buyer's account and the seller's account.

Many other typical functions in the securities and financial services industry could be described in the same way, including product sales and issues, and dealings between financial services professionals and their clients.

In short, financial products and services are information intensive and so particularly suited to remote delivery through electronic means. They are thus likely to be one of the areas of the economy most affected by information technology developments. So it is no surprise that the emergence of the internet during the 1990s has had a dramatic impact on the industry. It has been the driver for accelerated financial sector development, lower costs, increased breadth and quality of financial services, and wider access to those services.[1]

There have also been changes in consumers' and investors' relationships with the finance industry. Data mining and customer behavioural records enable providers to create and tailor products specific to users' interests, and build consumer profiles online which re-personalises the relationship between customer and provider, and makes possible "mass customization".[2]

Against this background, I want to touch on three aspects of the e-finance environment that we regulators find ourselves in:

- features of the e-finance landscape that we need to be aware of;
- issues on which the international regulatory community is focussing; and
- some issues for securities regulators, including Australian experiences that might be of some help to other regulators.

As an aside, I note I have been asked to talk about "e-finance". A few years ago, "e-commerce" was the word I used in titles of talks of this kind. It is a measure of how much has changed that different sectors of the economy now have their own "e". When I use the term "e-finance" this morning, I am referring to the provision of financial products and services - online banking, electronic trading, the delivery of financial products and services (such as insurance, mortgages and brokerage), electronic money, electronic payment and communication of financial information - over the internet or via other public networks.[3]

---

1 Claessens, Glaessner and Klingebiel (2001), p1.
2 See Walman (1996).
3 Kim (2001); Hawkins (2001) p106; Lin, Geng and Whinston, (2001), p13.

A. THE E-FINANCE LANDSCAPE: MOUNTAINS AND MIRAGES

"…the power of acquiring information and disseminating power will be doubled, and we may be justified in looking forward for the arrival of a time when the whole world will have become one great family, speaking one language, governed in unity by like laws…" .[4]
A British newspaper commenting around 1842 on the introduction of rail networks.

Recent history

Attitudes to e-commerce generally have fluctuated wildly over the last 6 or 7 years. By the late 1990s, as we approached the peak of the technology boom, there were wild predictions about the overwhelming influence of electronic-based commerce across the whole commercial landscape. New business models abounded, as did ideas for sure-fire new commercial ventures and predictions about electronic communications technology having as profound an effect on social and economic conditions as the industrial revolution in Europe at the end of the eighteenth and the beginning of the nineteenth century. Technology company stocks reached astonishing highs, and some suggested that analytical tools like price earnings ratios were swept aside forever, and that "old economy" meant doomed economy.

The wreck of technology stocks from around April 2000 onwards has certainly toned down the speculation. Since the correction in public perceptions about internet related activities generally, there have been sharp falls in the price of high-tech stocks and some disillusion with the earlier e-commerce euphoria. Some commentators claim dot.com companies have delivered nothing except cash-burn. It is now accepted that there are some relatively simple but time sensitive products where e-finance is very successful, such as broking; and others where it has been very slow to catch on, such as e-money and e-insurance.[5]

But those of us who claim – often with the benefit of hindsight – to have been sceptics all along should be careful not to underestimate the impact of developments in electronic and communications technology on commerce. This is particularly true for those who work in the financial services sector, including as regulators. The world has changed forever, and so has the way financial services and products are provided and regulated.

It is not hard to point to major changes over the last decade driven by electronic commerce. Financial markets, including clearing and settlement systems, have in some countries become fully electronic. Interestingly enough, markets that are smaller by world standards seem to have been earlier to adopt electronic trading than some of the larger markets. The largest markets, those in the US, are still predominantly physical rather than electronic, but this is beginning to change.

In Australia, for example, the ASX has been a fully electronic market since 1990, with fully electronic clearing and settlement (and transfer of title) since 1996; the SFE has been developing an electronic trading facility since 1989 and became fully electronic in 1999.

Back office functionality and customer interface have become increasingly, and in some cases exclusively, electronic. This is truer in some parts of the financial services industry than others, and I will use online banking and online broking as

---

4 Chancellor, (1999) p126.
5 Sato and Hawkins, (2001), p1.

examples because these are two of the best established and most developed areas of e-finance in many countries.

And for the future?

The past seems now to make some sense, but predicting the future remains problematic. One difficulty in analysing aspects of e-finance and predicting trends is that the data is hard to collect, and even harder to compare across countries and services.[6] Industry analysts acknowledge it is very hard to predict the future growth of e-finance: whether it will continue to be PC based or move towards mobile phones or interactive digital television; whether established financial institutions will account for a larger or smaller share of it; and whether it will lead to greater or less concentration.[7]

A recent report makes an attempt to predict what the immediate future might look like:

- by 2005, the share of online banking could rise from 8.5% to 50% in industrial countries, and from 1% to 10% in emerging markets;
- with better connectivity, online banking transactions could rise even further, to 20% in emerging markets by 2005;
- online transactions could account for 80% of all brokerage transactions in industrial countries by 2005, up from 28% today, and for 15% in emerging markets, up from 1.5%;
- with a better enabling environment in emerging markets, the share of online brokerage could even hit 40% by 2005.[8]

Others sound a cautionary note, saying business itself is not positioned to take advantage of e-finance opportunities. A recent Deloitte's study comments that few organisations have addressed the potential for radical operational, functional, organisational and financial transformations that could be achieved: "…for most organizations … the 'internet phenomenon' has not delivered against the promise".[9]

Of the many predictions that have failed, one of the best examples is that that traditional banks are dinosaurs that the internet will drive into extinction. The reality is very different. Studies comparing new internet-only banks with a peer group of new branch banks show that the internet-only banks have been substantially less profitable. They generate lower business volumes and any savings generated by lower physical overheads appear to be off-set by other types of non-interest expenditure, notably marketing to new customers. Whilst internet-only banking could prove to be a viable business in the future, the current wisdom is that the combination of internet delivery channel with focused bank branches ("clicks and mortar approach") will prevail, at least in the medium term.[10] There is now increasing recognition that, as public trust is so crucial to banking, an established brand name is important and many customers wish to be able to do some banking physically. It is the market incumbents that seem to have succeeded in making the most of the opportunities presented by the e-finance revolution.[11]

---

6 Claessens, Glaessner and Klingebiel, (2001), p10.
7 Sato and Hawkins, (2001), p3.
8 Claessens, Glaessner and Klingebiel, (2001), p7.
9 Deloitte Consulting Report, (2001), p3.
10 Sato and Hawkins, (2001), p5.
11 Bekier, (2000); Bekier, (2001), p13.

Retail online broking is another success story. The rapid uptake of internet-based broking facilities has reduced costs (in many cases dramatically), shortened settlement schedules, and customers can now access more information cheaply from the internet and have wider access to global markets. Online trading now accounts for over half of retail stock trades in the United States and a new category of investors – online day traders – has emerged. This has been associated with the unbundling of research, advice and transaction services by brokers.[12] Evidence suggests that internet brokers have had great success in attracting business from other trading channels, encouraging an increasing interest in share ownership, and facilitating more active trading by retail investors. A recent OECD report states that "on recent evidence, some 25 to 35 per cent of households' share trades currently takes place via online brokerages, and in the furthest developed markets the percentage is above 50 per cent".[13] A recent IOSCO study indicates that the number of online brokerage accounts has reached 19 million in the United States and 4 million in Europe.[14]

There are other developments I should note in passing. Financial portals link organisations, products and services in ways that were previously inconceivable. There is convergence of financial services participants and the methods of delivery they offer. Portals, software firms, brokers and other online entities are competing for the front-end control of the consumer. In the future, investors will likely be able to consolidate financial products from multiple vendors under one virtual roof. This blurs the distinction between traditional and new financial players and their regulatory obligations.[15]

Other e-payment products, such as e-money, have had differing results: for example, in Scandinavian countries, the use of e-money is quite high, and in these countries e-cards have complemented or replaced existing financial services.

Finally, let me mention e-finance's contribution to the emerging global securities market. It is true that many large institutions now involved in e-finance were active via subsidiaries in foreign markets long before the developments in e-finance[16]. But the internet has now made the notion of a single global securities market possible. Locations no longer dictate an investor's ability to trade financial products, and there are emerging signs that the trend may be towards universal exchanges with a relatively few operators.

There are now many electronic financial exchanges (e-exchanges[17]). Older securities exchanges have updated their underlying infrastructure, their fundamental

---

12 Sato and Hawkins, (2001), p3.

13 Christiansen, (2001), p10.

14 IOSCO, (2001).

15 Deloitte & Touche, (2001a), pp3-9 suggest that the current e-finance trends include:

- account aggregation services; providing consolidated online account information on a single pages and exploring possible transactional capabilities;
- targeting mass affluent market; offering a wider range of investment products and exchanges, increased sophistication of investment and analytical tools, portfolio management tools and online trading functionality; and
- strategic e-finance alliances with non-financial services providers such as ISPs, mobile network providers, software houses and general retailers; this allows increased exposure to different markets and channels.

16 Christiansen, (2001), p14.

17 An "e-exchange" is an electronic or internet based exchange system that provide a market place for financial products or an electronic or internet based exchange systems being developed by "bricks and mortar" stock or derivative exchanges.

operating models, and in many cases their ownership and governance arrangements. One industry analyst has predicted that "of the e-exchanges already developed or in development, many will be out of business in the next 2 to 3 years [because] increased global reach and multi-product range will be the key characteristics of surviving e-exchanges".[18] We can also expect increased linkage arrangements between markets in different countries. This is likely to be especially true in countries whose national markets may not be large enough to compete with global markets without such links. This is the strategy being pursued by the ASX in Australia.[19]

What are the lessons we might draw from this Cook's tour of current developments? I suggest a number of points:

1. There are many opportunities still to be taken up in adapting information technology to the financial sector, but it remains hard to sort the potential winners from the losers.

2. There will be increased competition in the market for financial products and services, from new entrants outside today's financial sector, between existing incumbents, and across national borders.

3. Incumbent players with already large customer bases have large advantages in rolling out new products and services, but this may blur as different business combinations emerge.

4. There are potentially a variety of benefits from increased e-finance activity:

    - lower costs and greater competition in financial services, including lower intermediation fees and commissions;[20]
    - opportunities for countries with less developed financial systems to catch up, even if their basic financial infrastructure is weak;[21]
    - instant messaging can enable users to receive fast, consolidated, and direct information about broker research in a way previously unavailable;[22]

5. The main factors driving the future development of e-finance are likely to be:

    - evolving client attitudes (and thereby increasing demand);
    - new technologies; and
    - cross border market arrangements (although we need to recognise that in many cases this will be inhibited by domestic concerns about maintaining national markets especially for domestic capital raising purposes[23]).

---

18 Deloitte Consulting Report (2001) p3.

19 Segal (2002).

20 See Claessens, Glaessner and Klingebiel, (2001), p7.

21 E-finance can allow countries to establish a financial system without first building a fully functional financial infrastructure. For example, in many African countries, electronic cash and multipurpose cards offer savings and payment services to customers who do not even have formal bank accounts: see Claessens, Glaessner and Klingebiel, (2001), p8

22 Kite S, (2002).

23 Christiansen, (2001), p25.

B. INTERNATIONAL REGULATORY COMMUNITY'S RESPONSES

"…many observers are concerned about the short-run challenges that those rapid advances in technology pose for financial institutions and markets and for policymakers.. securities markets in general, and equity markets in particular, have undergone dramatic changes in the way market participants obtain information, communicate with one another, and execute and settle deals."
US Federal Reserve Chairman Alan Greenspan.[24]

Most inter-government financial sector bodies and international regulatory organisations have been paying close attention to e-finance developments over the last 5 years or so. Let us look briefly at some of that work.

International institutions

The IMF

Recent IMF work has centred on the global effects of information technology developments. A 2001 report looked at the changes that have occurred in the financial services industry as a result of advances in technology, deregulation and globalisation.[25] The report notes that these changes have reduced margins in traditional banking activities, led to increased mergers between banks and between banks and non-banking financial institutions, both domestically and internationally.

The IMF report also notes:

- the forces of consolidation are also having a profound impact on the operation of securities exchanges, as well as brokerages and other financial services industries;
- the automation of trading systems combined with the growth of online trading has lead to declines in trading costs, increases in turnover, internationalisation of trading and settlement systems' operations, and major reform in the structure and governance of securities exchanges;
- online trading, in both mature and emerging markets, brings with it lower transaction costs, faster execution and an expanded investor base;
- it also brings the potential for increased volatility and speculation in some markets, as well as possible harm to liquidity, market makers and advisory services.[26]

The IMF identifies the following main regulatory issues:

- the key challenge is to protect local financial service providers while allowing domestic markets to benefit from technological advances:
- the main e-finance risks include:
  - those that affect individual institutions (business risk, operational risk, legal and regulatory risk);
  - those that can have systemic consequences for local markets (where participants rely on commonly used technologies such as payment systems and clearing and settlement platforms, and

---

24 Greenspan, (2000).
25 IMF (2001), p120.
26 IMF (2001), pp131-135.

- those that have cross-border implications (in particular jurisdictional concerns).[27]

The World Bank

The World Bank Financial Sector has published a number of discussion papers on e-finance. The focus of much of this work is the banking industry, and discussion focuses on issues that are also being addressed by BIS (see below).

International Organisation Of Securities Commissions (IOSCO)

Securities regulators globally have also been interested in the take-up of e-finance and its effect on the securities markets. IOSCO is the leading international grouping of securities market regulators. In 2002, IOSCO's Executive Committee published a new version of the IOSCO *Objectives and Principles of Securities Regulation.*[28] This document sets out 30 Principles of securities regulation relating to the protection of investors; ensuring that markets are fair, efficient and transparent; and the reduction of systemic risk. The Principles recognise that market practices change as technology changes, and that regulators should be prepared to address the significant challenges posed by the increasing importance of technology and particularly developments in the area of e-finance.[29]

The main theme of IOSCO's 2001 annual conference was "Securities Markets in the Information Age". The organisation issued a Report on *Securities Activity on the Internet* ,[30] which was developed by the IOSCO Internet Taskforce. It addresses the current use of the internet by investors, the securities industry, and regulators. The report explores:

- the technological capacity, resilience and security of online brokerage firms;
- liability for hyperlinks to third party information and for maintaining websites during offerings;
- day trading;
- internet discussion sites;
- internet service providers and enforcement of securities laws.

The individual standing committees of the Technical Committee of IOSCO have also considered technological developments and internet-related issues. In October 2000, Standing Committee 2 of the Technical Committee published *Principles for the Oversight of Screen-Based Trading Systems for Derivative Products – Review and Additions.* This paper affirmed the continuing appropriateness of the 10 *Principles for Oversight of Screen-Based Trading Systems for Derivative Products* of 1990. It also added four additional principles for the supervision of exchange-operated, screen-based, trading systems for derivatives that operate with "direct access" participants from multiple jurisdictions.[31]

In response to technological advances that have contributed to growing cross border activities of financial intermediaries, Standing Committee 3 is considering cross

27 IMF (2001), pp169-170.

28 IOSCO (2002).

29 IOSCO, (2002), Part I.

30 IOSCO, (2001), 'Securities Activity on the internet', IOSCO Technical Committee (internet Task Force), 27 June 2001, *http://www.iosco.org/docs-public*.
[This report was a follow up to IOSCO's earlier 1998 report on Securities Activity on the internet]

31 IOSCO, (1990), 'Principles for Oversight of Screen-Based Trading Systems for Derivative Products, 1990', IOSCO Technical Committee, *http://www.iosco.org/docs-public*

border activities of market intermediaries in light of technological advances, as an adjunct to the IOSCO Principles on Market Intermediaries. The Committee recognises that the changing nature of cross border activity may complicate a national regulator's ability to apply the IOSCO Principles, particularly where the intermediary is not physically present in the same jurisdiction as its customers. A survey is now being developed to explore how national regulators have responded to the growth of cross border activities, and how those responses are reflected in how regulators apply the IOSCO Principles about market intermediaries.

I should also mention in passing other IOSCO work such as the 1998 report on international disclosure standards for cross-border offerings and initial listings by foreign issuers.

Bank for International Settlements/Basle Committee on Banking Supervision

The Electronic Banking Group (EBG) of the Basle Committee on Banking Supervision (which is itself part of the Bank for International Settlements) has been working on e-finance issues.[32] The EBG is a sub-group of the main Basle Committee comprising 17 central banks and bank supervisory agencies that comprise the Basle membership. It first met in November 1999 and has focused on developing and sharing sound supervisory guidance and risk management principles and enhancing cross-border co-ordination among bank supervisors for e-banking activities.

Important risks that have been identified by the Group are operational risks related to the increased use of technology and systems, including the greater reliance on outside vendors, legal and reputation risks, and conflicts that may be introduced by the electronic delivery of financial services. The EBG has published two reports, the first *"Risk Management Issues and Cross-Border Supervisory Considerations arising from E-Banking Developments"*, and the second *"Risk Management principles for Electronic Banking"* [33].

The Basle Committee is generally optimistic that the risks associated with the unprecedented rate of change driven by technological and customer service innovation, the ubiquitous and global nature of open electronic networks, the integration of e-banking applications with computer systems, and the increasing dependence of banks on third parties, will be managed appropriately by banking institutions.[34] It recognises that whilst these risks may not be new, existing risk management principles must be tailored, adapted and sometimes expanded to address the specific risk management challenges created by e-banking. The Committee therefore identified 14 *Risk Management Principles for Electronic Banking* to help banking institutions expand their existing risk oversight policies and processes to cover their e-banking activities.[35] The Principles fall into 3 broad categories: board and management oversight; security controls; and legal and reputational risk management.

The Basle Committee has also issued a number of papers addressing cross border banking issues, including sound supervisory practices for "home" and "host" country

---

32 Claessens, Glaessner and Klingebiel (2001), p29.

33 *http://www.bis.org*.

34 Basle Committee on Banking Supervision (2001), p1.

35 These Principles are put forward by way of supervisory expectations and guidance rather than absolute expectations. It is expected that national supervisors will use them and implemented with adaptations to reflect specific national requirements and individual risk profiles where necessary.

banking supervisors. It has explored the cross border supervisory issues and challenges related to e-banking, and it highlights the need for international cooperation among supervisors to address these issues.[36]

In February this year, the BIS Working Group of the Committee on the Global Financial System published a paper looking at the way in which innovations in information technology have changed the way economic activity is carried out and organised, which has implications for the financial system.[37]

The International Association of Insurance Supervisors

In October 2000, the IAIS recommended a set of 3 principles on the supervision of insurance over the internet dealing with consistency of approach; transparency and disclosure; and international regulatory cooperation.[38] The Report, *Principles on the Supervision of Insurance Activities on the Internet*,[39] proposed an environment for the supervision of insurance activities on the internet. The principles mention that supervision of such practices should be consistent with that of insurance activities through other media. They also emphasise the importance of international cooperation between supervisors. Ultimately the protection of the policyholder remains one of the most important tasks of the supervisor, regardless of the medium through which insurance is sold.

The Joint Forum

The Joint Forum has not done any work specific to e-finance, although the e-finance environment has no doubt influenced some of the work it has done, especially on risk management and related issues.

European Union

The EU is considering the Distance Marketing of Financial Services Directive, the Electronic Commerce Directive, the Electronic Signatures Directive, and the Data Protection Directive. The European Commission has also put forward a Financial Services Action Plan that intends to create an integrated European market in financial services by 2005. The key provisions of this ambitious plan will seek to address a program of convergence covering contractual and non-contractual rules including rules on the marketing of financial services, targeted measures to encourage cross border redress and online payment mechanisms, and the facilitation and enhancement of supervisory cooperation.[40]

C. ISSUES FOR REGULATORS

Two different forces act on national regulators seeking to respond to e-finance developments: the need to facilitate industry e-finance because of the benefits that

---

36 Electronic Banking Group (2000), Cross-Border Electronic Banking Issues for Bank Supervisors', Electronic Banking Group White Paper, September 2000; Electronic Banking Group (2000), 'Electronic Banking Risk Management Issues for Bank Supervisors', Electronic Banking Group White Paper, October 2000.

37 Bank for International Settlements (2001).

38 *http://www.iaisweb.org.*

39 IAIS, (2000), 'Principles on the Supervision of Insurance Activities on the internet', *http://www.iaisweb.org/content/02pas/02internet.pdf.*

40 Deloitte & Touche, (2001a), p14.

can flow from its adoption; and the need to identify and manage risks that it brings with it. Of course these do not necessarily conflict because in the long term e-finance business will succeed only if it wins the confidence of its customers, and that confidence depends in large part on its being perceived as a safe way to do business.

Managing risks

If we look at the work that the international regulatory community has been doing on e-finance issues, we can see a number of themes. I want to concentrate on the risks, but I would not want this to mean that we should not recognise the benefits and do what we can to make sure they are realised.

Most of these risks associated with e-finance are not new, but e-finance intensifies them.[41] It might help to group them under three main headings:

1. Systemic stability risks

This area of risks stems largely from the fact that e-finance facilitates interconnections – between institutions, different sectors of the finance sector, between the finance sector and the non-finance sector, and across national borders. For example, the use of electronic technology means that risk can flow across borders very quickly and one country's problems can easily become another's.

The current focus internationally on clearing and settlement in financial markets is a good example of this area of risk. It has meant in many countries that those institutions responsible for overall systemic stability – normally central banks – are taking a much greater interest in clearing and settlement of securities and futures markets, although in many cases this has been the traditional responsibility of securities regulators. That is certainly the case in Australia, where the central bank now has a formal role in the regulation of clearing and settlement facilities.

Some of the work of the international regulatory community has been driven in part by this set of issues. A taskforce between members of the Committee on Payment and Settlement Systems of the central banks of the G10 and the Technical Committee of IOSCO recently published *Core Principles for Systematically Important Payment Systems* and recommendations for securities settlement systems.[42] These recommendations identify minimum standards that securities settlement systems should meet, and are designed to cover all types of securities, whether issued in industrialised or developing economies, or for domestic or cross border issues.

Further work in this area is progressing and the national authorities responsible for the oversight of securities settlement systems are expected to assess whether markets in their jurisdiction have implemented the recommendations and to develop action plans for implementation, where necessary.

2. Institutional stability risks

This area of risk focuses on the impact that e-finance has on individual institutions, most notably those subject to prudential regulation. Banks have, of course, been the main subject of attention.

---

41 Claessens, Glaessner and Klingebiel, (2001), p29.
42 BIS and IOSCO (2001).

Some of the issues I have described in relation to systemic risk are also involved under this heading. There has been some concern about how "e-only banks" would fit within existing prudential frameworks. But perhaps the most notable feature of the work that has been done here is the increasing focus on traditional risk management and how it needs to be adapted to the e-banking environment. For example, banks are now very heavily dependent on information technology systems and this means that the role and extent of outsourcing of functions is much more of an issue. This raises the question not only of how well that outsourcing is managed, but whether banking supervisors should prohibit outsourcing of some "core" functions.

3. Conduct risks

There are a large variety of conduct issues associated with e-finance, some new and some variations of risks that have always been part of the regulation of conduct in the financial services sector. Generally, most misconduct that has emerged in the e-environment has a counterpart in the non-electronic world, but the emergence of e-finance has in many cases made abusive conduct cheaper, more efficient, and better able to access large numbers of victims.

Areas of conduct risk might include:

- money laundering;
- the potential for increased personal information being mined in contravention of privacy and other public policies;
- identity fraud – the misuse of some else's identity;
- the ease with which misleading information about listed corporations or financial products, can be rapidly and widely disseminated, for example through "pump and dump" schemes;
- the potential for hacking into information transmitted through the internet or held electronically;
- straight through processing and other mechanisms that allow market users to interact more directly with central markets, which may threaten the ability of market operators and regulators to supervise market activity effectively;
- the risk to the operation of national regulatory regimes in an environment that much more often involves cross border flows of product, services and markets;
- difficult liability and responsibility questions for regulatory authorities, industry and consumers to consider in the future, for example through investors use of intelligent agents belonging to financial services providers.[43]

Regulatory responses

As a general principle, technologies that support the rapid, inexpensive and widespread dissemination of information should be welcome for regulators for whom disclosure is a tool. There are clearly opportunities as well as risks in e-finance developments.

National regulators in many countries have approached these risks I have mentioned and the opportunity of new information technology in a variety of ways. I will try to suggest the lessons to be learnt from some of these responses and point to how we have handled at least some of them in Australia.

43 Schulze C and Baumgartner J, (2001) p65.

I want to make the point at the outset, however, that a crucial element in dealing successfully with e-finance issues as a regulator is to adopt a systematic, whole-of-organisation, approach. There is a risk that regulatory and supervisory adjustments to address e-finance may be piecemeal.[44]

Our experience in Australia – and I do not pretend that we have always got it right – suggests that co-ordinating approaches to e-finance issues is essential. It enables all parts of the organisation to understand the context in which emerging e-finance issues are being dealt with and maximises individual and organisational learning.

In ASIC, for example, we established an e-commerce co-ordination committee around five years ago. The committee is chaired by a Commission member and has representatives from all parts of the organisation – enforcement, regulation, policy, infrastructure, IT and so on.

Understanding the e-environment

If regulatory systems and regimes are to respond effectively to e-finance, it is critical for regulators – and often lawmakers – to monitor developments closely and ensure they understand what is happening and what trends and developments might affect what happens in the future.

In Australia, since the mid 1990s we have tried systematically to maintain contact on e-finance issues not only with the regulated community and consumers, but also the developers of new technology and with industry experts who themselves closely watch this environment (such as consulting firms). We have published discussion papers and think pieces,[45] held public conferences, industry roundtables and regular one-on-one meetings with industry participants.

Making the regime medium neutral

Legislative regimes and regulators' published rules, policies and guidance do not always reflect that they now have to apply in an e-finance environment. They often act as an impediment because they presuppose that business is done in a particular, usually paper-based, way. To take a simple example, many regimes require signatures on documents without envisaging that there are now other forms of authentication.

Facilitating e-finance from a legal and policy perspective can be difficult. If legislation or policy is too prescriptive, it risks being quickly out of date and may hamper rather than assist the uptake of e-finance. However, if legislation is too general, it may not give sufficient certainty and predictability.

There are other challenges in framing a regime that works effectively in an e-finance environment. E-finance has been a major factor in breaking down traditional categories on which regulatory regimes rely: between defined types of regulated activity (such as advising and dealing; or between broking and operating a market). It also helps in breaking down barriers between different sectors in the financial industry, such as that between risk management and investment activity.

---

44 Claessens, Glaessner and Klingebiel, (2001), p32 suggest that this piecemeal approach has occurred in many countries with otherwise sophisticated financial systems.

45 See for example ASIC and Boros (1999).

In Australia, a systematic effort has been made to ensure corporations laws and financial service laws are medium neutral, and fully reflect that things are increasingly done electronically as well as by traditional paper methods.[46]

ASIC's own policy work has developed as the e-finance landscape has developed. It began as a way of facilitating what the law otherwise made difficult or impossible (such as the use of electronic prospectuses). But it now deals much more explicitly with some of the areas of risk in e-finance activity, like chat rooms or online advice.[47]

Adapting regulatory and enforcement practices to the e-environment

Increased e-finance activity means regulators must have an effective presence in that environment. This requires us to be able to conduct surveillance activities electronically as well as by more traditional methods. It also means regulators need to have the skill to gather electronic evidence, and present it in administrative or judicial processes that are not always receptive to new forms of evidence.

This will often involve regulators in developing new surveillance tools that enable them to find, among the huge amount of data available on the internet, misconduct in which they take an interest.

In Australia, we have developed some of our own technologies – for example to search the web for non-compliance with Australian law; or to be able to monitor in real time interactive chat sites. We have also participated in international efforts to detect internet-based misconduct such as internet "surf days" to undertake surveillance of the internet on a global scale.

ASIC has also been active in making sure the evidence we collect in electronic form meets the standards that law courts and administrative bodies require. We have, I think, found our courts more and more receptive to admitting electronic evidence, and hearings are themselves becoming more and more dependent on computer technologies.

Transacting electronically

Most regulators interact with the regulated community and the general public, and with one another, in a variety of ways. It is important that regulators seek to take up the opportunities to do their "business" better by being active adopters of the technology that drives e-finance activity. This can include using the internet and other technologies as a key channel for communicating with firms; for lodgment of corporate or registration information; and for regulatory messages.

For example, ASIC can now via the internet or other publicly accessible electronic technologies:

---

46 Electronic commerce reforms were contemplated in 1996 when the Australian Treasurer referred to the need for Australia to keep pace with technological innovation and acknowledged that Australian law at that time, failed to take account of technological innovation and was out of touch with the needs of contemporary business operations. The *Company Law Review Act* 1998, expanded opportunities for electronic lodgment of documents with ASIC. By the time wide-sweeping financial services reform legislation was introduced early this year further legal barriers to e-finance had already been removed. New legislation is presently being planned to deal with other aspects of e-finance activity, such as corporations meetings taking place electronically and electronic proxy voting.

47 See a number of policies that can be found on ASICs website, *asic.gov.au*.

- allow people to form corporations and keep public corporate information up to date;
- allow members of the public to search public corporate and regulatory information;
- receive applications for, and issue, licences from financial service providers;
- receive and respond to inquiries and complaints; and
- provide lists of recently lodged prospectuses and electronic access to them.[48]

Uptake of these services has been high, as is use of ASIC's website generally.

Consumer and investor education

In countries where use of the internet is widespread, regulators are increasingly using the internet as a means of educating consumers and helping them to become better informed users of financial products and services. Investor education will take on greater importance because regulatory risks are more difficult to monitor in a global and electronic world, but at the same time public expectations of what their own regulators can do will not change.

ASIC has established a special purpose website – separate from its main regulatory website – as a way of communicating with consumers looking to us for information or help.[49]

The cross border context

This deserves a special mention of its own, because it potentially involves most of the areas I have listed above. But perhaps most importantly, it raises the very difficult question about the interaction between national regulatory regimes that are sometimes similar but never the same; or are very different indeed.

Work on this area has been done in the international context, including by IOSCO (see the outline above), as well as by national regulators. Key questions that arise include:

- when might regulators assert jurisdiction for activity that is entering their country through the internet;
- how activity that takes place in more than one jurisdiction is to be regulated, and in particular how a regulator in a "host" country can take account of the regulation that takes place in the financial service provider or product issuer's home jurisdiction. In many cases, this means not just acknowledging home country regulation but seeking to use it for domestic purposes;
- since it is inevitable that all regimes will differ in some ways – reflecting domestic cultural and political priorities – how regulators will assess whether other regimes result in outcomes sufficiently similar to their own to mean they can recognise their effect for domestic purposes;

---

48 In 2001, there were: over 8.4 million free and paid company searches; over 1 million documents lodged online; over 24,000 documents lodged through e-registers (to view company details and make changes; lodge annual data, and pay the relevant fees using Bpay); and over 55,000 companies registered through the electronic company registration service.

49 See generally: *http:www.fido.asic.gov.au,* which is ASIC's consumer website. It offers consumers and investors information specifically intended for internet users and Consumer Alerts – for example online share trading, investment advice on the internet, spam related scams and trading offences.

- how much cross border activity will drive the need for national regimes to converge, and how this might take place.

Australia, like many other countries, is grappling with these issues. Specific activities include the establishment of trading links between the Australian Stock Exchange and the Singapore Stock Exchange (which involved some degree of mutual recognition of the Australian and Singapore regimes); the development of a set of principles to guide our future work in bilateral cross border arrangements (we expect to publish those principles in the next few months); and a variety of new policy initiatives directed toward cross border market activity, collective investment activity and offers of financial products.

References

ASIC and Boros (1999) *Multimedia prospectuses and other offer documents*, a joint publication of ASIC and Dr Elizabeth Boros from the Centre for Corporate Law and Securities Regulation, The University of Melbourne *http://www.asic.gov.au/asic/pdflib/nsf/lookup/*

Bank for International Settlements, (2001) 'IT innovations and financing patterns: implication for the financial system', Report prepared by a Working Group of the Committee on the Global Financial System, February 2001

Basle Committee on Banking Supervision, (2001), 'Risk Management Principles for Electronic Banking', Bank for International Settlements, May 2001, *http:/www.bis.org/publ/bcbs82.pdf*

Bekier (2001), 'Return of the Incumbents', *Treasury Management 2001*, Inforich, Sydney

Bekier (2000), 'Emerging internet Trends: A Glimpse of the Future', Paper delivered at the ASIC conference 'E-commerce: The Future for Financial Services', 15 August 2000

Chancellor E (1999), *Devil Take the Hindmost: A history of financial speculation*, Farrar, Straus & Giroux, New York, 1999.

Christiansen H (2001), 'Electronic Finance: Economics and Institutional Factors', OECD Occasional Paper, No. 2, Nov 2001 *http://www.oecd.org/daf/financial-affairs/*

Claessens, Glaessner and Klingebiel (2000), 'Electronic Finance: Reshaping the Financial Landscape Around the World', Financial Sector Discussion Paper No. 4, The World Bank, September 2000 *http://www1.worldbank.org/finance/assets/images/Electronic_Finance_Discussion_Paper_No_4.pdf*

Claessens, Glaessner and Klingebiel, (2001), 'E-Finance in Emerging Markets: is leapfrogging possible?', Financial Sector Discussion Paper No. 7, The World Bank, June 2001 *http://www1.worldbank.org/finance/assets/images/E-Finance_II.pdf*

Deloitte Consulting Report (2001) 'Financial Services - The emergence of e-Marketplaces', University of Cambridge and the Judge Institute of Management Studies *http://www.dttgfsi.com/publications/pdf_files/cambridge_dc_study.pdf*

Deloitte & Touche (2001a) 'Regulating Online Financial Services', *http://dttgfsi.com/publications/pdf_files/regulatingnew.pdf*

Deloitte & Touche, (2001b) 'Online Securities Trading 2001', *http://dttgfsi.com/publications/pdf_files/Online_Study_2001.pdf*

Financial Services Authority (2001), 'The FSA's Approach to the Regulation of E-commerce', Discussion Paper

Greenspan, (2000), 'Remarks by Chairman Greenspan: Electronic Finance', Paper delivered at the Financial Markets Conference sponsored by the reserve Bank of

Atlanta, Sea Island, Georgia, October 2000, *http://www.federalreserve.gov/boarddocs/speeches/2000/20001016.htm*

Hawkins (2001), 'Glossary' in Bank for International Settlements, BIS Papers No. 7, 'Electronic Finance, a new perspective and challenge', November 2001

IMF (2001), 'International Capital Markets', August 2001 pp131-132 *http://www.imf.org/external/pubs/ft/icm/2001/01/eng/pdf/chap5.pdf*

IOSCO (2001), 'Report on Securities Activity on the internet II', International Organization of Securities Commissions, 2001, see *http://www.iosco.org*

IOSCO (2002), 'Objectives and Principles of Securities Regulation', Report of the International Organization of Securities Commissions, February 2002, see *http://www.iosco.org*

IOSCO and BIS (Nov 2001) (Committee on Payment and Settlement Systems and Technical Committee of the International organization of Securities Commissions) "Recommendations for securities settlement systems", see *http://www.iosco.org and http://www.bis.org*

Kim Y H (2001), 'e-Finance: Current Developments, Issues, Impacts, and Future Growth', Korean Institute of Finance and Korean-American Finance Association Joint Symposium, July 2001

Kite S (2002), 'Street touts instant messaging to buy side', Securities Industry News, April 2002 *http://www.securitiesindustrynews.com/midweek.cfm?article=482*

Lin, Geng and Whinston (2001), 'A new perspective to finance and competition and challenges for financial institutions in the internet era', in Bank for International Settlements, BIS Papers No. 7, 'Electronic Finance, a new perspective and challenge', November 2001

Sato and Hawkins, (2001), 'Electronic finance: an overview of the issues', in Bank for International Settlements, BIS Papers No. 7, 'Electronic Finance, a new perspective and challenge', November 2001

Schulze C and Baumgartner J (2001) *Don't Panic! Do E-commerce: A beginner's guide to European law affecting e-commerce*, Electronic Commerce team, European Commission

Segal J (2001), 'Managing the Transition to the Cyberworld', (2001) 19 *C&SLJ* 519

Segal J (2002), 'Market Demutualisation and Cross Border Alliances: the Australian Experience', Paper delivered at the Fourth Roundtable on Capital Market Reform in Asia, April 2002

Walman S (1996), 'Regulating in a World of Technological and Global Change', Paper delivered at the Institute of International Bankers Annual Washington Conference, March 1996.