The Financial Framework: 2000 and Beyond

by Jeffrey Carmichael

In looking into my crystal ball, I want to emphasize two main points: first, the financial system of the future is going to be very different from that which we observe today; and second, even though I have chosen a long-term horizon as my focus, the changes that are going to shape the financial environment of the future are with us already.

Let me start with an overview of how the financial system looks today. Finance is about channeling resources from surplus units to deficit units—from those who have excess resources to those who have a desire to utilize those resources in production or consumption. Financial markets provide the framework within which these resources and claims on resources can be exchanged and traded. Participants in those markets package and repackage the essential elements in those claims to best suit the risk and return preferences of their client borrowers and lenders.

The financial system is itself a complex matrix of participants (banks, NBFIs, stock brokers, futures brokers, merchant banks and so on) and markets (we usually identify separate markets for money, bonds, mortgages, equities and derivatives). Outside these participants and markets lies the regulatory structure, itself a combination of watchdog institutions (or supervisors) and the legislative framework put in place by governments. In some cases supervision focuses on particular markets, though, in general, the focus is on institutions. Legislation, on the other hand, addresses both institutions and markets.

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While this structure is very familiar to all of us, its evolution was strung out over a long period of history:

- banks, for example, emerged from the Florentine goldsmiths of the Middle Ages;
- co-operatives grew out of the self-help movement of Victorian England;
- merchant banks found their niche in financing wars over several centuries;
- some primitive derivative transactions are recorded as far back as the Bible and up to 2,000 years ago in India, although most of us think of the origins of modern derivative markets as lying more in the Royal Exchange in London around 400 years ago and the Osaka rice futures market around 350 years ago—some people, including a few in Orange County, Procter and Gamble, Cap Corp and Barings might wish that they had stayed there;
- stock markets started a little later when 17th-century English merchants began banding together to form joint-stock companies and to trade shares in the coffee houses of London;
- Wall Street started in the 18th century as an auction market for tobacco, securities and slaves (fortunately, the securities won the business);
- while Australia's history is much shorter, there is still an air of permanency about the structure—we all have our well-defined roles to play.

The question is whether what we see and take for granted today is a structure that has some underlying God-given logic to it or whether it is simply an artifact of evolution and therefore open to change. I think many of you would agree with me that there is a fair potential for instability in the structure.

Ultimately, the finance process is inherently very simple. Modern financial claims are nothing more than fancy packages of basic instruments. Virtually every financial instrument can be broken down into three underlying components:

- voting rights;
- ordered claims over income; and
- ordered claims over changes in capital value.

Debt and equity are simply two extreme packages of these three components. Various hybrids fill in the spectrum, and derivatives are simply claims on the claims. The point is that those who want to make a living by packaging claims need to recognize that their services can be replicated relatively easily by

others. In other words, while the basic function of finance is immutable, there is nothing immutable about the structure of markets and participants that supports it.

To survive in a competitive market of this type you need to be either very cheap (i.e., a supermarket) or very good at delivering a specialized package (i.e., a boutique). The first message for the finance industry is, don't assume that your patch is sacrosanct. Others will come onto it or find ways of replicating your patch in another form and may well do it more cheaply than you unless you stay ahead of the game.

But has that not always been the case? If the current structure has survived these pressures for centuries, why do I suggest that it is under threat all of a sudden? What has happened in the past decade or so, that did not happen in the previous 200 years or more?

I believe there have been three important developments in the past 10 to 15 years that have very significant implications for change. I doubt that you will be surprised to hear that my big three are:

- deregulation;
- globalization; and
- advances in communications technology.

Let me say a few words about each in turn.

DEREGULATION

Deregulation, or what Henry Kaufman calls "Americanization," of financial markets was a striking feature of international financial markets in the 1980s.

Regulation is one of the most effective means of control over commerce. Regulation partitions markets on the "divide and conquer" principle. It stops individuals from trading and, in the process, delivers a degree of control to government. Regulation impedes evolution that would otherwise undermine government control. The financial system as we know it has been largely shaped by regulation. Regulations say who can participate in which markets and what form that participation will take.

Innovation is about getting around those controls. It is about tunneling under or around the walls set up by regulation. Traders have ways of talking and doing business despite regulations (e.g., FX hedge market in Australia in the 1970s). Eventually, commerce undermines the walls—sometimes by sheer weight of innovation and sometimes because of a breakthrough in technology (the financial equivalent of the power drill or a stick of dynamite).

Thomas Stanton, a fellow of Johns Hopkins University in Baltimore, recently wrote a book about the way in which our regulatory framework shapes our institutional framework.* He argues that, for a time, the institutions are protected by the monopoly position afforded them under the regulations—Australian banks in the 1950s and 1960s are a good example. However, as technologies and markets advance, the protected institutions lose market share as the regulatory framework precludes them from offering the new services offered by their competitors (the 30-day rule in the case of banks is again a good example). To prevent the niche from becoming a death trap, the favored institutions must turn to government to loosen the regulations.

Once the innovative process becomes more powerful than the regulations, as it did in the 1970s, governments face the dilemma of either continuing to patch the regulatory walls or simply allowing the walls to crumble. The option of standing, Canute-like, as the waters of innovation wash over you, is an option that only the slowest of governments opted for.

The process of deregulation has yet to run its full course. Much has been done to encourage non-discriminatory competition among domestic financial institutions. In Australia we have seen both sides of the attempt to "level the playing field." On the negative side for them, credit unions lost certain tax advantages that they had previously been granted. On the positive side, both credit unions and building societies have entered the payments system and have enjoyed changes to previously discriminatory legislation enabling certain charities and government bodies to utilize their services.

The next stage will be interesting. In my view, the next stage will require a closer look at the international playing field. I will say more about this in a moment.

GLOBALIZATION

The second development is globalization. This is a catchy term that we use to refer to just about anything we can't explain. To me, globalization refers mainly to the increasing international mobility of investors. The past decade or so has seen the growing presence of what Henry Kaufman calls "high-octane" portfolio managers. Most of these are either associated with the funds management industry or are simply speculators driven by market gurus.

The growth of funds management in Australia has been remarkable. Stimulated by the Government's superannuation policies, we are looking at anything up to US$100 billion by the turn of the century. The US experience is even more dramatic. Between 1960 and 1990, US pension funds grew by $US2 trillion, supplanting insurance companies as the preeminent US institutional investors. By comparison, mutual funds grew almost overnight from a little over $US100 million in 1984 to

* Editor's note: See the article by Tom Stanton on U.S. GSEs in this issue of *Housing Finance International.*

over $US1 trillion in 1990. Not all of these would qualify as "high-octane" investors. Kaufman estimates that, with full leverage, the "high-octane" sector is probably close to $US500 billion and increasing rapidly.

The point is that these investors command enormous portfolios and have no particular loyalty to any product or national marketplace. (The influence of these mobile investors has been very evident in the Australian bond market over the past year.)

COMMUNICATIONS TECHNOLOGY

The third factor conspiring to change the shape of our financial system is the pace of innovation in communications technology.

There can be little doubt that the most important driving force behind even the modest changes on the financial landscape over the past decade has been advances in technology. These have provided improved data collection, calculation, communications and risk management.

It is hard to believe that it took nearly 20 years from the time that Harry Markowitz first proposed modern portfolio theory until computers had the capacity to calculate efficient frontiers without collapsing in the process. Now we solve financial problems on laptops running artificial neural networks that stimulate the behavior of the human brain in "learning" how to recognize patterns in data and to correct their own errors.

As a generation we have become accustomed to increasing our processing power by a factor of 10 every five years or so, at no additional cost. As an indication of the trend; a transistor, costing $5 twenty years ago, costs less than a staple today; while entire reference libraries can now be stored on one 5-inch compact disk. Importantly, the progress is exponential because each innovation feeds on the others.

The February issue of *The Australian Banker* gave an overview of some recent developments. Of particular interest should be the move towards smart cards, which are heading us towards a cashless society. In Europe, cards are being developed which include information about medical records and social welfare payments, as well as allowing access to public telephones, ATMs and EFTPOS devices. Telephone banking is already with us, as is virtual banking, courtesy of Nationwide Building Society in the UK.

The revolution in the information technology industry is enabling the financial world to operate on a much more complex level than previously. The options business, for example, could not operate as it does today without high-speed computers to monitor positions, risk profiles and valuations. Computer technology has made it possible to disaggregate risk on a broad scale and to redistribute it efficiently. This has enabled management to maintain greater control while giving employees more freedom in exercising their judgment. There are, of course, also dangers in this process, which I will mention shortly.

SUMMARY

These three factors, deregulation, globalization and communications technology have already brought about great change in the past decade or so. In my view, these advances will see a major point in financial market structure that will begin around the end of this century before exploding in the 21st century.

THE FINANCIAL FRAMEWORK IN 2000 AND BEYOND

Let me now turn to my crystal ball to pick up some of the features that are already emerging for the new order.

In looking to finance beyond the year 2000, the only two things that are unlikely to change are human nature and the fundamental nature of finance. Of course, while the financial function may not change, the way in which we perform this function is likely to change enormously.

Let me give you some predictions:

Risk Management Will Be Paramount

I mentioned that human nature is unlikely to change much. One of the constant elements will be the basic need for security. Human nature craves law and order, job security, financial security and so on. Due to a range of spectacular failures in recent times, people are, in my view, coming to regard existing organizations, especially governments, as less and less able to provide their basic security.

If I am correct, the implications with respect to law and order are frightening: private armies; secure compounds and the sorts of things we see in Mad Max films—heaven help us.

With respect to finance, I suspect that people will, of necessity, become more concerned about and involved in their own security. In this respect, risk management will become the cornerstone of institutional financial success in the next century. Successful financial institutions will be those that can gain the trust of their clients and offer the best risk management advice. Of course, to be an effective advisor on matters of risk management, it will be essential that the internal risk management systems of the institutions themselves are above reproach. Beyond 2000, risk management will include comprehensive analyses of risks that we have not even thought about yet; in particular, there will need to be a much greater emphasis on exposures that institutions will have to technology.

A second constant element of human nature is its desire to receive value for money. Globalization and the technological revolution

have lowered the cost of information and reduced the loyalty of customers of financial services. Unless your service is demonstrably better than that of others, the business will gravitate to the lowest cost supplier. As information gets ever cheaper, the cost of finding the lowest cost supplier will also diminish. There will be nowhere to hide inefficiencies.

Finance Will Move Increasingly Away From Financial Institutions

By this comment I am not suggesting that the financial function will change. Finance in 2000 and beyond will still be associated with the channeling of financial resources from surplus to deficit units. Further, that function will still involve risk management, secondary market trading, advising, transactions processing and settlements. That, most likely, is where the similarity will end.

To the extent that financial institutions provide the link, through their balance sheets, between surplus and deficit units, they provide an internal market for funds. The alternative has always been for borrowers to locate lenders directly. Since this can be an expensive process, it was limited for many years to governments and top-quality corporates with sufficient credit standing to be competitive with intermediaries.

Technological advances in packaging and providing information have already reduced this cost to the point where a growing number of firms are finding it cheaper to raise their own finance. In the US, for example, in 1970, commercial lending by banks made up 65% of the short-term borrowings by corporate America. By the mid 1990s, the banks' share had dropped to 36%.

As technology spreads and becomes cheaper, the transactions cost advantage of financial institutions will be eroded further. To make matters worse, as the better credits leave the balance sheets of intermediaries, the credit worthiness of the intermediaries declines further, thereby creating an incentive for the next tier of borrowers to depart the balance sheet.

One area in which we have already seen a large inroad into on-balance sheet financing is securitization. Lowell Bryan of McKinsey has argued for several years that securitization is more than a new financial technology—he sees it as an alternative intermediation system. Bryan estimates that the cost of intermediating a securitized asset over the life of the asset is under 50 basis points, compared with well over 200 basis points for intermediaries. Add to that the liquidity of securities and it is easy to see why financial institutions will be at a growing disadvantage to this form of finance.

While financial institutions will continue to play a role as originators, managers and credit assessors, they are unlikely to dominate these markets to anything like the extent that they currently dominate the on-balance sheet sector. The big winners here are likely to be those who provide the information network and those who insure the loans.

The Role of Financial Institutions in the Transactions Process Will Diminish

I believe that the shift away from institutions and on-balance-sheet financing will also see an elevation of the role of markets in the transactions and settlement processes.

First, few markets will retain monopoly positions by legislation. Physical limitations on the ability of authorities to control technology will see to that. The competition for existing markets will come from the information superhighway and from overseas markets. Let me tackle these in turn.

The competition from overseas markets is already here. The world is the true market place. We have seen a good example of this recently in the telecommunications market where consumers of international phone services can now choose between domestic and overseas providers, with the latter selling unused space on overseas telephone systems. In the finance area, technology will make it very easy for foreign markets to lure investors out from underneath our domestic markets. Beyond 2000, investors will increasingly be represented by global funds located in tax haven countries with no loyalties at all. They will buy shares, bonds, mortgages and so on wherever the price is cheapest. If they can buy Aussie dollar assets out of Frankfurt or the Cayman Islands cheaper than they can here, they will do so. And listings will be no different. If a company can list in the Virgin Islands with access to an electronic investor base worth trillions of dollars at lower cost than they can here, they will do it.

The competition from the superhighway will require even closer watching because it can provide the full range of financial services. Charles Stanford, Chairman of Bankers Trust USA, predicts that global electronic bulletin boards will be the principal medium through which assets and liabilities will be bought and sold in the 21st century.

Financial claims, including loans and bonds, will bypass middlemen and will be bought and sold by electronic auction through these global bulletin boards at minimal cost. Users and suppliers of financial claims will be networked together to exchange real-time data and documents. Supplying financial assistance will be a free-for-all for anyone who has access to the bulletin board.

Even the units of exchange can be modified. With beyond 2000 technology you may be able to hold all your wealth in "wealth accounts." These accounts will hold today's liquid assets, such as houses and cars, as well as what we know today as stocks and bonds, and other financial claims. Computers will keep continuous track of the value of your wealth account, marking both assets and liability to market regularly to make them liquid. These accounts will be tapped by "wealth cards," allowing you, for example, to buy your new

Ferrari by drawing on the wealth inherent in your holiday home.

Automated analytics will provide customers with investment options as well as payment options. In the ultimate extension of today's home-equity loans, instant credit will be available, secured against these accounts. The integrity of the wealth accounts may be validated by financial institutions, though they are very unlikely to be held on the institutions' balance sheets. These accounts will be accessible electronically to any authorized user.

Not only does all this mean that providing financial services will become very competitive, it suggests that the boundaries that we observe between markets today could disintegrate very quickly.

SOME IMPLICATIONS

Let me close by offering some suggestions, based on these predictions. My suggestions will be aimed, in turn, at governments, industry and regulators. My one consistent theme to all three is the need to keep your eyes on the big picture; think global, not local.

Governments

My main message to governments is that they should never lose sight of the contribution that financial markets and institutions make to economic well-being. They provide jobs and income directly, and indirectly, to the extent that they enhance the overall attractiveness of the country to business. They also provide taxes, both direct and indirect, and foreign exchange earnings. In an increasingly mobile world, these benefits can be jeopardized very quickly by ignoring the changes taking place around us.

Part of government's role is to help create an attractive environment within which enterprise can flourish. They achieve this through the regulatory structure, the tax structure and the overall efficiency of the economy. While markets and participants are captives, as they were for most of the 20th century, the most damage that poor government decisions can inflict is slow growth. In the high-speed, technological world of 2000 and beyond, poor government decisions may see whole industries move offshore with unprecedented speed. There is no reason that, in a world of integrated technology, Australia's entire demand for financial services could not be provided by an electronic bulletin board based in Taiwan or somewhere in the Caribbean.

The message for government is to recognize that the world is both the market and the competition. The "level playing field" beyond 2000 will be a global concept rather than a local one. It will be important for governments to avoid strangling the local providers through excessive regulation or taxes. I include in this bracket limitations and costs that may be imposed on competition through ancillary legislation such as credit protection and trade practices. It will be important for governments to head off arbitrary decisions of other governments that may discriminate against our local institutions. The recent suggestion that there may be new capital adequacy rules favoring banks in European countries is a good example of the sorts of tilts in the international playing field that must be countered.

Governments must also guard against allowing the local providers to ruin the reputation of the local environment through imprudent behavior. Being up with the game and providing a low-cost friendly environment does not mean standing back and allowing anything and everything to take place. That government's role requires a clever balancing act goes without saying. My message is that there is a need to monitor that balance continually.

The Regulators

My second message is for the regulators, and I include myself here. Regulators have the daily responsibility, delegated from government, of balancing the costs and benefits of interfering in the activities of financial institutions for prudential reasons. To the extent that it promotes prudence and eliminates imprudence, it may contribute to the overall perception of our system as a safe environment in which to invest and transact, thereby attracting business to our markets. At the other end of the scale, excessive interference stifles innovation and responsibility.

In looking to the financial framework in 2000 and beyond, this balancing role will become increasingly critical. It will be important for regulators to approach new products and financial technologies with an open mind, no matter how much the ideas might test their preconceptions of how the world should be. It is important that regulators work with industry in assessing the risks and rewards of new activities and directions.

Let me add here a positive note for the inspection system which some of you in Australia may feel is an unnecessary burden. Detailed inspections are designed to promote a level of confidence in the institutions being supervised—confidence in their approaches to problems, in their systems and in their management skills. To the extent that a regulator has this confidence, it should be easier for it to accede to requests to branch into new activities.

There will, of course, be other implications for regulators. Consistent with the change in focus of financial activity, the focus of regulation beyond 2000 will shift away from institutional supervision to supervision of markets. In my view, the emphasis will shift to establishing the legal and ethical frameworks within which commerce will take place in different markets and away from detailed institutional supervision. In the process, there will be more emphasis on disclosure and on prosecuting those who breach the law.

This last thought is a gloomy one because, as I noted earlier, human nature is unlikely to

change much between now and the next century. Dishonesty will be around in the 2000s just as much as it is today. The potentially fantastic forms of robbery and fraud beyond 2000 are hard to predict. Voice recognition, DNA fingerprinting and secure data encryption will help verify transactions on the superhighway, but I have no doubt that new forms of computer crime will emerge that will boggle our minds.

Financial Institutions

Finally, what does all this mean for you? First, let me say that I wish I had some simple answers. My vision of the future could be very wrong. I have limited myself to the impact of changes that are already under way. The speed of technological change means that there will be breakthroughs in the next few decades that we cannot even imagine today.

Whether or not the details of my view are correct is not what is relevant. There can be little doubt that there will be some fairly major changes to the financial framework over the next couple of decades. What is important is that you recognize the skills and attitudes that will be necessary for you and your institutions to be a part of the new order, and to play a role in shaping it. Let me make a few specific suggestions.

First, never stand still. Flexibility will be the key to coping with change. Flexibility is largely a state of mind, but it can be enhanced by simple measures. Education is one. By seeking on-going education and training, you will keep yourselves and your institutions at the inquiring edge. You will be looking for the changes. Complacency will be the kiss of death as we head into the next century.

Second, indulge in frequent brainstorming sessions about the direction of the future. Think global. Ask yourselves how best to respond if particular events or changes should occur. Ask how your competitors would respond. Since the biggest unknown relates to the directions that might occur in communications technology, take every opportunity to discuss the future with specialists in communications technology.

Third, choose your new activities carefully. The rapid changes that are likely to emerge in the financial system will provide many opportunities; too many for any one institution to grasp and do well. The promise of new fields will bring new risks. Make sure that you choose the fields that best suit your expertise and in which you understand the risks and how to control them. The recent demise of Barings is yet another reminder of the dangers of letting individuals run with ideas or products that are not well understood by the old heads in the institution.

Finally, bearing in mind my comment about the desire by individuals for security, know who you are and send consistent messages to the market about who you are. Don't try to be all things to all customers. Your competitors will increasingly be specialists in limited areas. Your focus must remain on being the best at what you do.