New Zealand Bankers' Association

Banking *in New Zealand*

(FOURTH EDITION)

ACKNOWLEDGEMENTS

This is the fourth edition of Banking in New Zealand, originally published in 1991 and revised and updated in 1997. The work of the authors of the first edition, Kathie Willis, Education Resources Manager, Enterprise New Zealand Trust, and Rodney Dickens, a professional economist, is acknowledged.

Dr David Tripe, Director of the Centre for Banking Studies and Claire Matthews Senior Lecturer in Banking, College of Business at Massey University and staff of the New Zealand Bankers' Association were responsible for revising, updating and expanding the fourth edition.

Published by

New Zealand Bankers' Association

P O Box 3043

Wellington 6140

Fax: 64-4-473 1698

2006

ISBN 09583342 3 4

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1. THE ORIGIN OF BANKS

The Original Bankers

Banking may not be the oldest profession, but it pre-dates most modern service industries. Records exist of Babylonian priests accepting deposits from citizens as early as 300 BC. A system of lending and borrowing money was developed by the ancient Greeks and Romans, but these practices died out following the end of the Roman Empire in 476 AD. Banking services were also developed in China and India.

New Zealand's banking system has its roots in continental Europe. Some Jewish people acted as bankers to the princes of Europe in the Middle Ages. Their role as bankers was curtailed because they were expelled from a succession of countries, including England in 1290. This was largely in response to their customers' dislike of paying interest.

The practice of money lending had become well established in continental Europe by the 12th century AD. By the 14th century, Venetian money lenders were not only taking deposits, but also providing their customers with more convenient and safer means of settling debts. Instead of settling debts by physically exchanging money, in the form of gold, it could be achieved by a book entry in the money lender's accounts. The book entry shifted gold deposits from one customer's account to another.

The three traditional services provided by today's banks have therefore been in existence for at least five hundred years. They are:

1. The safe keeping of the public's savings.
2. Acting as intermediaries between people who want to deposit money for safe keeping and those who want to borrow money.
3. The provision of a safe and efficient means of settling transactions such as the purchase and sale of goods and services.

Bankers originated as providers of valuable services to the public, and their services require a large element of trust to function. Today, the elements of service and trust continue to be the key ingredients of a smoothly functioning banking industry.

English Banking

English banking tradition, which is the basis of most Western banking, was spawned from the earlier continental European banking practices. The Lombards of London, money-changers originally hailing from Northern Italy, came to replace the Jewish people as the financiers of many royal houses, although they eventually found themselves, like the Jewish people before them, made scapegoats for the economic ills of the country.

The departure of the Lombards saw the English traders and kings storing their money in the Tower of London for safe keeping. This lasted until Charles I temporarily seized some of the merchants' money in 1640. His son, Charles II, turned to the goldsmiths as a source of funds. This contributed to goldsmiths gaining the reputation as the ancestors of today's banks.

The goldsmiths' receipts (for deposits of gold and other valuables) started to be used to settle transactions. This was one of the earliest forms of paper money.

The use of the goldsmiths' receipts as money grew leaving increasing amounts of gold sitting idle in their safes. They took advantage of this by lending some of the gold to people who were willing to pay interest for its use. Therefore, the goldsmiths provided all three of the traditional banking services listed above.

Early English and continental European banks were operated alongside the family business. As well as the goldsmiths, merchants, brokers and scriveners (scribes or book-keepers) who also became part-time bankers. These early bankers paid interest on deposits, offered loans, exchanged foreign coins, and provided several means of enabling the settlement of transactions (e.g. bills of exchange, payment orders, cheques, promissory notes, bank notes).

In 1708, an Act of Parliament prevented a bank from having more than six partners. This limited the size of banks to little more than family businesses and led to a proliferation of small banks, many of which failed.

An Act of 1826 abolished this restriction and allowed banks to become much like today's

public companies which have shareholders. This allowed the birth of a branch banking system and many of the other banking practices still in use in New Zealand today.

Central Banks

In time, and to avoid robbery, the banks themselves sought a safe place to store their gold reserves and spare bank notes. Privately-owned, profit-making institutions arose in Europe to satisfy this need. These organisations became known as central banks.

The growing importance of banking to the smooth functioning of the economy, and the pivotal role played by central banks in the industry, resulted in close ties developing between them and central governments.

From the 15th century onwards, governments in Europe began to take over the role of central banker. The normal functions of central banks came to include issuing currency, being the banker to the government and to the commercial banks, operating monetary policy, and supervising the financial system. ■

2. BANKING IN NEW ZEALAND

The First Banks

Banks have been servicing the financial needs of New Zealanders since the arrival of the earliest European settlers. The first trading bank to be established in New Zealand, the Union Bank of Australia (a forerunner of the Australia and New Zealand Banking Group (New Zealand) Limited), opened in 1840 on the Petone foreshore, although site difficulties soon saw a move into Wellington. It was associated with the New Zealand Company, which brought many early settlers to New Zealand.

New Zealand's first trustee savings bank was established in Wellington in 1846, but it was short-lived. The first two surviving trustee savings banks were established in Auckland in 1847 and in New Plymouth in 1850. Trustee savings banks were subsequently established in many regions throughout New Zealand.

The gold rushes of the 1860s played an important part in the early growth of New Zealand's banking industry. The trading banks established in New Zealand during this period included the Bank of New Zealand, the Bank of Australasia (which merged with the Union Bank in 1951 to form the Australia and New Zealand Bank), the Bank of New South Wales (one of the forerunners of Westpac Banking Corporation) and the Bank of Otago, whose business was taken over by The National Bank of New Zealand in 1874.

During the period 1840 to 1987 twelve trading banks were established, but with no more than a handful in existence at any one time. For the main part, trading banks were privately-owned businesses, with a predominance of overseas ownership. The New Zealand Bankers' Association was established by the trading banks in 1891 in order to deal more effectively with matters of common concern. http://www.nzba.org.nz/

Government's Guiding Hand

LEGISLATION

Legislation shaped New Zealand's banking industry from the beginning. It required a specific Act of Parliament to establish a trading bank up until 1987, while the existence of savings banks was also governed by legislation.

The legislation which enabled a bank to come into being prior to 1987 also placed specific restrictions on the services it could provide. Trading banks were restricted mainly to servicing the financial needs of businesses and providing cheque accounts for individuals, while savings banks were restricted largely to servicing the other financial needs of individuals.

OWNERSHIP

The government's involvement in banking extended to direct ownership of banks. It established the Post Office Savings Bank in 1865 and the State Advances Corporation in 1894. The motivation for establishing these organisations was to satisfy needs the government perceived were not being fully serviced by the privately-owned banks.

To ensure their success, the government gave these institutions unfair competitive advantages over the privately-owned banks, including a government guarantee on deposits.

The legislation which established the Post Office Savings Bank also curbed the rights of other savings banks and gave it the right to absorb its competitors. This enabled the Post Office Savings Bank to dominate the private savings market, and by the mid 1950s it controlled around 80% of this market. The State Advances Corporation (latterly the Housing Corporation of New Zealand) was equally successful and became dominant in the provision of home mortgages.

The government took a shareholding in the Bank of New Zealand (BNZ) in 1885. It increased its ownership in the 1890s to support the bank in the face of financial difficulties, and nationalised the BNZ in 1945. The government's ownership and support of the BNZ allowed it to become the largest trading bank.

The government's direct involvement in banking also included the establishment of two development banks. The Development Finance Corporation was established in 1964 to assist the growth of exports and to encourage processing of primary products by providing venture capital to small and medium-sized businesses. The Rural Bank was established as a separate

entity from the State Advances Corporation in 1974 as the government's principal agent for concessional lending to the rural sector.

CONTROLS

The integral role banks play in economic life provides governments with a way to control and direct the economy. Monetary policy, (discussed in 9. MONETARY POLICY IN NEW ZEALAND), came to be implemented by the Reserve Bank of New Zealand (established in 1934), reflecting the government's desire to promote economic well-being by overseeing the availability and conditions of credit provided by financial institutions. For example, the government placed limits on the level of banks' interest rates, issued banks with industry-based lending directives, and forced them to invest a proportion of their deposits in government securities to help fund the government's fiscal deficit.

THE EFFECTS

The government effectively divided the finance industry into distinct segments. As a result, the level of competition within the industry was highly restricted. This inevitably led to lower quality and more expensive services for bank customers.

From 1950, non-bank financial institutions began to grow strongly in niche service areas in which the banks were restricted (e.g. building societies, finance companies, and merchant banks). In 1960 finance companies only accounted for 1% of total deposits attracted by M3 institutions (see GLOSSARY), but by the end of 1984 this had increased to 20%. This imposed an unnecessary cost on the economy because these organisations were in many instances less efficient providers of services than banks.

The Deregulation of Banking

THE PROCESS

The government began to ease the restrictions on financial institutions from 1957, but it was a slow process until 1984. The most important relaxation in this period was in 1964, when trading banks were permitted to set up their own savings banks. At the same time, trustee savings banks were permitted to expand their operations to all regions of the country. This heralded the birth of private savings banks, which were the trading banks' vehicles for competing with the Post Office Savings Bank and the trustee savings banks in the personal banking market.

The rapid development in financial markets in the early 1980s made the legislatively-imposed categories of financial institutions increasingly outdated. This made the 1984-87 deregulation of the finance industry inevitable.

The main effect of the deregulation programme was to remove the legislation that restricted competition within the finance sector. The regulations which split the financial services market into different segments and controlled who could operate in each market segment were abolished.

Since 1987 there have been only two categories of financial institution: registered banks and non-bank financial institutions. The main distinction between the two is that banks have to be registered with the Reserve Bank of New Zealand (Reserve Bank) and are the only institutions that can use the word 'bank' in their name (see 8. BANKING SUPERVISION). Non-bank financial institutions are otherwise allowed to compete on a more or less equal footing with registered banks.

THE EFFECTS

Deregulation in the banking industry has given New Zealand one of the most competitive, flexible and service-oriented banking industries in the world.

1. Banks and other financial institutions are now free to develop their own strategies and tactics to best meet their customer needs. They can be as innovative as they desire in the use of technology, pricing strategies, customer care programmes and the marketing of new financial services, e.g. savings products.
2. Increased competition has forced banks to become more customer focused. The customer is now truly monarch with banks working hard to woo and retain customers. As New Zealand is now an integral part of global financial markets, individuals and businesses are able to enjoy services (such as foreign currency accounts, interest rate and currency swaps, futures, forward rate agreements, see GLOSSARY) that are comparable with those elsewhere in the world.

3. The increased likelihood of bank take-overs, mergers and acquisitions in the light of competitive pressures and margin squeezes improved the motivation and the accountability of bank management. As there are no restrictions on the entry of foreign banks (so long as they meet a specified set of criteria, see 8. BANKING SUPERVISION), banks' management teams face even stiffer competition and are under pressure to meet performance targets in order to avoid a change of management and/or possible ownership.
4. Deregulation initially created a boom in the financial services sector as the equity and property markets took off in the mid 1980s. When they collapsed, banks suffered large loan write-offs as asset values fell. This experience has contributed to improved credit risk analysis and more prudent lending policies.
5. In order to remain profitable, competitive pressures and the resulting margin squeezes have led to an on-going restructuring of banks. The major retail banks face ongoing conflicts in respect of their retail delivery channels between expensive bricks-and-mortar branches and lower cost direct banking channels such as internet and telephone banking, Automatic Teller Machines (ATM) and Electronic Funds Transfer at Point of Sale (EFTPOS). Over-capacity in the supply of financial services has been a constant theme and one given credence over the last 20 years by the mergers of ANZ and Postbank, United Bank and Countrywide Bank, the Rural Bank and the National Bank (of New Zealand), National Australia Bank's purchase of the Bank of New Zealand, Westpac Banking Corporation's purchase of Trust Bank New Zealand, the National Bank's purchase of Countrywide Bank, and most recently, the ANZ's purchase of the National Bank. We have also seen the withdrawal of some original and more recent new bank entrants.

At the same time new specialist and more generally focused banks, such as Kiwibank, have appeared on the scene along with new non-bank competitors offering competitive mortgage and deposit rates. It is possible that there will be more bank mergers as competition in the financial services sector continues to erode banks' traditional income. This will force banks to seek out other sources of income and achieve cost savings through rationalisation of delivery channels.

One of the main benefits of deregulation is that the banking industry is free to perform its role as one of the largest and most vital service industries in the economy.

Current Ownership of New Zealand Banks

http://www.rbnz.govt.nz/nzbanks/0091622.html

A significant consequence of deregulation and the free entry of foreign banks into the New Zealand banking sector is that less than 2% of the total tangible assets of the banking sector are now held by New Zealand-owned registered banks. Australian banks have a major involvement in New Zealand, with six of the current sixteen registered banks being Australian owned, including the four largest by assets. Australian-owned banks constitute about 90% of the New Zealand banking sector by total assets.

The rest of New Zealand's banks come from a range of countries: there are three from the Netherlands, and one each from Germany, the United Kingdom, the United States, Korea and Japan.

The Central Bank

HISTORY

New Zealand's first central bank, the Colonial Bank of Issue, was established by the government in 1850. Backed by legislation, it became the sole issuer of bank notes in 1852. It failed to win the support of the public and closed in 1856. This allowed the Union Bank to resume issuing its own bank notes.

New Zealand had no official central bank from 1856 until the Reserve Bank was established by legislation passed in 1933. During this period, the individual trading banks issued their own bank notes, while the BNZ became the government's banker.

The Reserve Bank was originally established as a private company, with the government not assuming full ownership until 1936. It was endowed with the basic central bank functions of being the sole issuer of notes and coins, the

government's banker, and the banker to the trading banks.

The Reserve Bank was made responsible for monitoring and influencing both the amount of money and credit in the economy, and the conditions of credit. The purpose of this function was to promote the general well-being of New Zealand. This responsibility has evolved into the separate roles of operating monetary policy and the prudential supervision of financial institutions.

CURRENT RESPONSIBILITIES

The main functions of the Reserve Bank contained in the Reserve Bank of New Zealand Act 1989 are:

1. To formulate and implement monetary policy in order to maintain (originally to achieve) stability in the general level of prices.

   The Price Stability Target, which is set out in the Policy Targets Agreement (PTA), is renegotiated from time to time between the Minister of Finance and the Governor of the Reserve Bank. The current target is maintenance of the Consumer Price Index (CPI) inflation rate within a 1-3% range over the medium term.

   The PTA allows for deviations from the target where external price shocks (e.g. significant rises/falls in export or import prices, an increase/decrease in GST or other indirect tax, a natural disaster, or interest rates) have a significant impact on the CPI.

2. To promote the maintenance of a sound and efficient financial system through the registration and prudential supervision of registered banks. This would serve to avoid significant damage to the financial system, which could result from the failure of a registered bank.

Other functions include:

1. Issuing of notes and coins.
2. Collecting information and data relating to the business of financial institutions.
3. Holding and managing New Zealand's foreign exchange reserves.
4. Providing banking services to the banks and the government. ■

3. BANKING SERVICES

The services provided by banks must satisfy the fundamental banking needs of customers. This includes: somewhere to borrow money from, a way to make payments to other parties and a place to store savings.

Payment Services

Banks provide the means of settlement for the bulk of payments (by value) which take place both within the economy and across countries. With the exception of barter transactions and payments settled in cash, payments are settled by means of a payment instruction on an account at a bank. The most popular non-cash method of payment of New Zealanders is now EFTPOS (40% of such payments in 2005), having taken first position from cheques in 1998 (which accounted for 9% of non-cash payments in 2005, down from 54% in 1993).

The proportion of payments made by direct debits, electronic credits and credit cards has changed, particularly since 1998, and now stand at 5%, 16% and 19% respectively for 2005. The two forms of payments that have significantly grown in popularity are EFTPOS and, to a lesser degree, credit card transactions. EFTPOS transactions comprised just 8% of all non-cash payments in 1993, while credit card transactions were 5% of all payments at that date. While ATM transactions initially grew from 10% of all non-cash payments in 1993 to a peak of 18% in 1995, they have subsequently fallen to 11% in 2005. The total number of non-cash payments has grown substantially since 1993, with a 134% increase. http://www.nzba.org.nz/Public Payment Statistics 2005.htm

A cheque is an instruction given by the person who writes the cheque, ordering their bank to transfer a specified amount from their current account to the person to whom payment is to be made. The basis of other payment methods is essentially the same – an instruction to take money from the customer's account and either provide cash or transfer it to the account of another party. All forms of payment, but cheques in particular, only work effectively if the payer and the payee have confidence in the bank's ability to carry out the payment instructions. (See 5. THE PAYMENTS SYSTEM for more details).

Financial Intermediation

A second major function of the banks is to act as financial intermediaries. They act as a repository for the savings of those who have surplus funds and as a source of funds for those who want to borrow. In playing this role, banks facilitate resource transfers amongst different groups of people in accordance with their differing needs and preferences. These needs and preferences depend, for example, on life cycle factors such as the need to borrow money to buy a house and the need to save for retirement. Banks also play an important role in

Figure 1 – CHANGES IN PAYMENT METHODS (1993 – 2005)

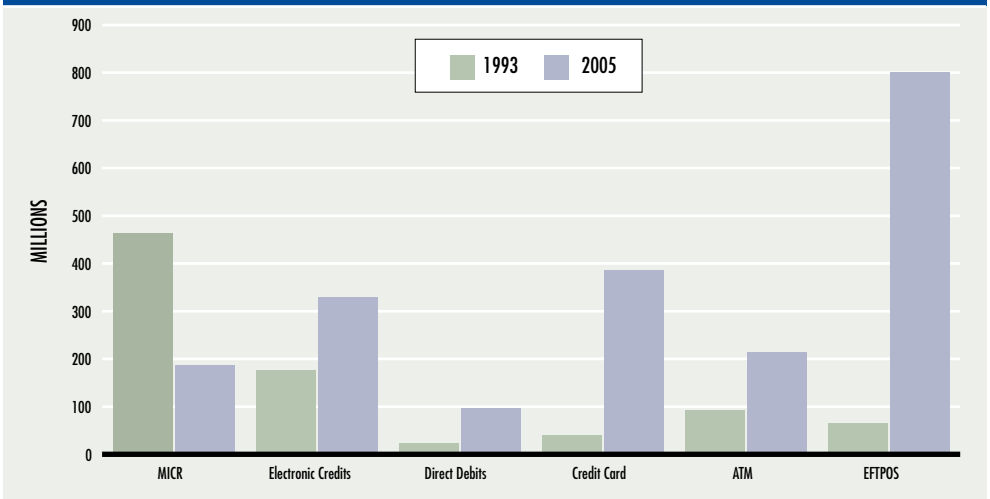
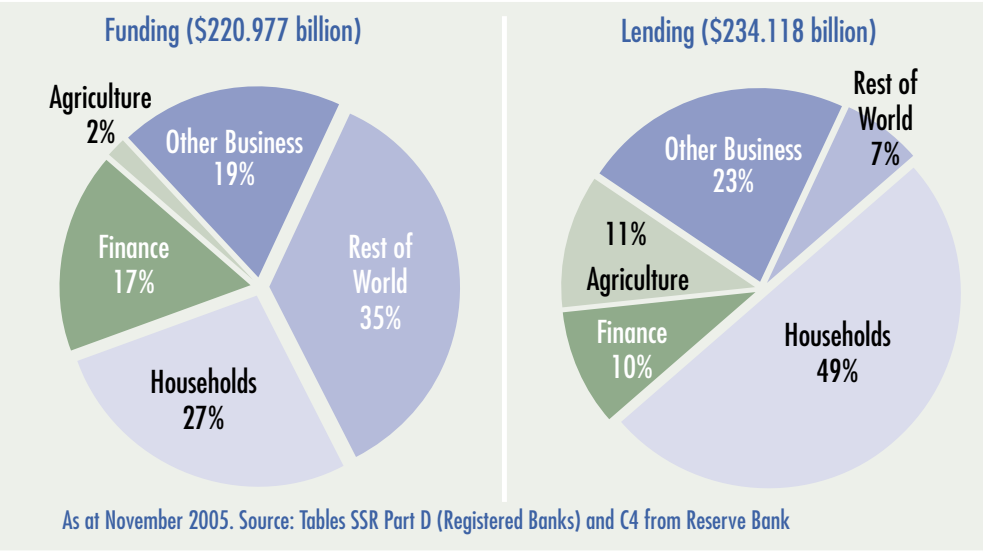


Figure 2 – WHERE MONEY IS RAISED AND WHO IT IS LENT TO



As at November 2005. Source: Tables SSR Part D (Registered Banks) and C4 from Reserve Bank

making savings available for those with productive investment opportunities, e.g. a manufacturer who wants to build a new factory.

Figure 2 shows where banks raise their funds and to whom they lend them. Households stand out on both sides of the bank ledger as both major funders and borrowers. Of the $220.98 billion of total bank funding, households supply 27% and they account for 9% of total bank lending - mostly housing related. One interesting issue is the dependence banks have on off-shore funding, which accounts for 35% of total funding, up from 22% in 1997. This highlights New Zealand's poor savings record and the difficulty banks have in attracting new retail deposits.

Banks are not the only institutions which perform this financial intermediation function. Other institutions such as life insurance companies and superannuation funds also intermediate between savers and borrowers. A significant amount of borrowing and lending is also arranged in the securities market (where financial assets like bonds and bills are issued and traded) without the involvement of any intermediary, like a bank. For example, a major corporate looking to raise $50 million may issue bonds that investors can purchase directly, rather than borrow the money from a bank. Nonetheless, banks in most countries (including New Zealand) remain significant players in the saving and investment process.

One of the main reasons why banks have established and maintained this role as financial intermediaries is because they specialise in assessing the creditworthiness of borrowers. When a person deposits money with a bank, legally, they lend the money to the bank which then lends to third parties (who the depositor does not know). The depositor entrusts their money to the bank with the expectation that the bank will ensure that the value of loans backing the deposit, and therefore the bank's ability to repay, is maintained. The bank does this by carefully assessing and monitoring the creditworthiness of its borrowing customers.

As a result, a large part of the service which the banks provide for their customers is a credit evaluation service. That is, the depositors lend to the banks rather than directly to ultimate borrowers because of the costs and difficulties which can be avoided by having the banks carry out the credit assessment and monitoring role. This specialisation of roles also has advantages for borrowers. By maintaining a banking relationship the bank can constantly monitor the borrower's creditworthiness. This in turn allows the borrower to access funding when needed on a reliable and timely basis, without incurring substantial search costs.

Liquidity

Banks are an important source of liquidity (spending power) for an economy. This is an inherent part of the payment services provided by the banking system, since deposits held for transaction purposes must be available for transfer on demand. A substantial proportion of bank deposits are held in on demand or readily accessible accounts. On the other hand, borrowers generally need longer term

funding. Banks can reconcile these competing needs by operating on the assumption that not all customers holding demand deposits will withdraw or spend them at the same time. Throughout the course of a business day, a bank's customers are likely to deposit roughly the same amount as they withdraw.

However, this balance can be upset if customers lose confidence in the bank. In this event, little will be deposited with it and substantial amounts will be withdrawn, possibly resulting in the ultimate failure of the bank. Therefore, the role the banks play in providing the link between the needs of borrowers and the economy's need for liquid transactions balances is, as with the payments system, primarily dependent on the public having confidence in the banks.

Taken together, these considerations establish an important role for the banking system in the functioning of a modern economy. It plays a critical role in trade, both domestically and internationally, by enabling transactions to be settled, and in the savings-investment process through its financial intermediation role. Generally, the banking system is the major source of liquidity which enables buyers and sellers of goods and services to settle payments in a smooth and continuous manner. Without this financial infrastructure, the scope for an economy to progress beyond a subsistence level is limited.

Other important services provided by banks include:

Business Services

RISK MANAGEMENT

In today's globalised financial markets, volatile and unpredictable interest rates and exchange rates are a fact of life and add substantially to the risks of running a business. For example, an appreciating NZ dollar is likely to undermine profitability of a company's exports, while a depreciating NZ dollar could price a local importer's goods off the market. However, rising interest rates may jeopardise the profitability of an investment project or place a heavily-borrowed company under financial stress. Through their treasury operations, banks now offer a variety of financial products that can assist business clients to reduce their exposure to these types of risk. These services are usually tailored to the needs of individual firms and often include a programme to educate customers' staff in the use of these high-tech financial instruments. The products include futures contracts, forward interest and exchange rate agreements, currency options and swaps (see GLOSSARY).

INTERNATIONAL SERVICES

The removal of the controls which limited people's ability to transfer funds overseas in 1984, and the floating of the exchange rate in 1985 saw the banks' international activities become a much more important part of their overall operations.

Since economic liberalisation started in earnest in 1984, many more New Zealand companies have either set-up operations overseas and/or need to undertake international transactions. Similarly, far more foreign companies have established New Zealand operations and/or need to transact some of their business in New Zealand.

For local banks this has meant:

1. The demand for trade finance and for the facilities to settle international capital transactions has increased markedly.
2. New Zealand's banks have become more involved in correspondent relationships with foreign banks. For example, a local bank will act as an agent for a foreign bank where customers of the latter have to transact business in New Zealand.
3. The increased internationalisation of financial transactions (and corporate ownership) means banks are supplying increasingly complex products. These include products which help customers hedge against adverse exchange rate movements (e.g. forwards, currency options, currency futures contracts), and products which integrate both interest-bearing securities or trade-related transactions on one hand, and transactions involving foreign exchange on the other (e.g. swaps).

SMALL BUSINESS AND RURAL SECTOR

Banks are the primary source of funds for small business, a key sector of the economy. Small businesses (employing five persons or fewer) made up 87% of all enterprises (http://www.med.govt.nz/templates/MultipageDocumentPage____20214.aspx) and employed 10.7%

of employees as at February 2005. http://www.med.govt.nz/templates/MultipageDocumentPage____20215.aspx

Banks provide business term loans, direct credit and debit facilities, credit card merchant services and EFTPOS facilities. Business lending rates generally carry a small margin over the home mortgage rate, recognising the greater risk associated with any form of business venture (see 6. BANKS AND INTEREST RATES).

Because primary industry continues to be the mainstay of the New Zealand economy, banks have always been attentive to the needs of farmers. Along with products such as farm mortgages and term loans, banks offer seasonal finance, overdrafts and revolving credit facilities to cater for the peaks and troughs of rural enterprises.

Banks also offer a range of advisory services, including advice to new business people on fundraising and acquisition; advice and assistance with migration to overseas business people establishing themselves in New Zealand; and advice on trade finance and money transfers to business people wishing to trade abroad.

Personal Banking Services

Deregulation, increased competition, New Zealand's inclusion in global financial markets and ongoing advances in information technology and telecommunications have all been factors in the increasing range of products and services that banks are now able to offer their customers. Many banks can cater for virtually all of their customers' financial needs, offering a comprehensive range of products and services in a single location or, if the customer prefers, from their own home or other location by means of a telephone or internet connection (see Technology in Banking).

The range of products and services available to the individual customer includes:

CASH MANAGEMENT

Debit cards, credit cards, cheque books, direct credits, automatic payments, direct debits, telephone banking and internet banking provide a range of means for customers to purchase goods and services, transfer funds pay bills and obtain cash. Banks also offer foreign currency, travellers cheques, bank drafts and money transfer services for those travelling overseas or purchasing foreign goods, although in many cases customers will find it easier to use credit cards.

SAVINGS AND INVESTMENT

Personal savers can choose between a range of savings, call or term deposit accounts, as well as other possible investment avenues, such as unit trusts and other managed funds options. Unit trusts involve money being invested in non-bank products such as shares, property, government stock and international investments.

A primary target market for unit trusts is people saving for retirement. The market for retirement investment products has been a significant growth area for banks. Major factors contributing to this growth were the demographic fact that the post-war baby boom generation had entered the peak savings age zone and a recognition by many individuals that the government in the future may provide less support for people during their retirement. Contractual savings plans, such as personal superannuation schemes, are also available to such customers.

LENDING

In the home mortgage lending market, which is one of the most competitive areas of business between banks, a wide range of mortgage types, and interest rates as well as terms and conditions for the duration and repayment of the loan are available to personal borrowers. Banks can also assist individuals to fund other personal needs through overdrafts, terms loans, credit card accounts and revolving credit facilities.

PERSONAL INSURANCE

A number of banks now have personal insurance divisions. A range of insurance products, including life, mortgage protection and travel insurance, can be bought from banks.

Technology in Banking

Electronic banking services began to be introduced into New Zealand following computerisation in the late 1960s. This caused a revolution in the way in which customers and banks deal with one another, particularly since the mid-1980s.

The ATM is probably one of the most familiar forms of electronic banking available to the personal customer. As well as dispensing cash, most ATMs can transfer funds between

accounts, provide information on account balances and order cheque books and account statements etc.

The same plastic card (known as a debit, ATM or cash card) that enables customers to use ATMs can also be used to purchase goods and services at an increasing number of retail outlets through EFTPOS. In fact, New Zealand has the highest incidence of EFTPOS terminals to head of population in the world, with one terminal for every 34 people at the end of 2005.

The debit card is put through a special swipe machine by the retailer and the payment is automatically debited from the customer's bank account and credited to the retailer's bank account. EFTPOS has the advantage of providing cleared funds to the retailer, i.e. there is no risk to the retailer of the payment being reversed because the customer does not have the necessary funds available in their account.

Credit cards were introduced in New Zealand around the same time as electronic banking (1979) and are another popular means for people to buy goods and services without having to handle cash. Bills for the amount spent are presented monthly by the bank-owned credit card company for payment in full or on extended, interest-bearing terms, with a minimum payment required monthly. Credit cards can also be used to obtain cash advances through ATMs. Credit cards can be encoded with debit card information and used as debit cards within New Zealand. This means that in many cases customers only carry one card and use it for both credit and debit functions.

Customers have always been able to telephone their banks with questions and instructions. These days telephone and internet-based systems allow customers to directly access their accounts to obtain information, transfer funds from one account to another and pay bills. Telephone banking has grown recently, with transactions growing from 3.2 million in 1993 to 17.9 million in 2005, with a peak of 24.5 million in 2000. Transactions for internet banking were first recorded separately for 2003, with 38 million that year, and grew to 66.1 million in 2005.

Customer Protection

Given the wide range of products and services banks now provide, and the fact that adult New Zealanders are thought to hold more than 10 million accounts with registered banks, it is hardly surprising that not all customers are always satisfied with the service their bank provides. In addition to the internal complaints procedures that all banks have, in 1992 New Zealand banks established the Code of Banking Practice and an independent means of resolving customers' complaints against banks (should internal complaints procedures fail to do so - the Banking Ombudsman Scheme).

The Code of Banking Practice came into force on 1 March 1992 and sets out in plain English minimum standards of good banking practice. The Code is subject to regular reviews, with a comprehensive review and revision in 1995/96, and again in 2002. The second edition became effective from 1 November 1996, with the 3rd edition effective from 2 December 2002. It covers the following key areas: the governing principles and objectives, including the responsibilities of banks and their customers; customer privacy; bank disclosure; cards, PINS and passwords; cheques; other payment services; provision of credit and guidelines for customer complaints procedures, including recourse to the Banking Ombudsman.

The Code was the first among several international counterparts to be specifically linked to both internal bank complaints procedures and to a free independent external complaints review process, the Banking Ombudsman Scheme. The first Banking Ombudsman started work on 1 July 1992. The current Banking Ombudsman, Mrs Liz Brown, is the second holder of the office. The Banking Ombudsman has the power, should a complaint be upheld, to make an award against a bank, in recompense for loss or damage, of up to $120,000 and up to $4000 for non-economic loss, such as inconvenience. A full review of the Banking Ombudsman Scheme was undertaken in 2005/06. http://www.bankombudsman.org.nz/

Charging for Services

The competition in the banking industry which followed deregulation has forced all banks to adopt a user pays approach with regard to pricing their services. Fees for specific services are now a more accurate reflection of the actual cost of providing those services. Former practices of cross-subsidisation, where

a customer using services sparingly effectively subsidised a customer with high usage levels, are now phased out.

To encourage the use of some services such as electronic banking, which is cheaper for banks to provide than, for example, over the counter withdrawals of funds, banks are also providing their customers with an opportunity to reduce costs.

New Zealand banks are following a global trend in seeking to increase their non-interest income, that is, the income they generate from services for which they charge customers. However, this increased level of fee income is being offset by a smaller margin between the average interest rate banks pay for deposits and the average rate they charge borrowers (see 6. BANKS AND INTEREST RATES).

Increased competition has not only impacted on banks' income, but also on banks' costs. In addition to improving their product range and quality of service to the customer, banks have critically reviewed the cost-effectiveness of every part of their operation. For some banks, this has resulted in significant redesign and restructuring of both their corporate and retail operations to further improve their competitiveness in the marketplace.

The customer demand for services changes in response to any fluctuation change in fee structures. This changing behaviour signals to the banks which services their customers value most. Consequently, banks will provide more of the preferred services, which in the

Figure 3 – PRINCIPAL SERVICES OFFERED BY BANKS

PERSONAL BANKING

CASH MANAGEMENT

- Current accounts
  access by debit card, direct debit/credit, cheque, telephone, internet
- Payment of bills
  to banks, utilities, shops and service providers via automatic payments, direct debits, EFTPOS, telephone, internet, cheques, bank counter services

SAVINGS & INVESTMENT

- Savings accounts
- Investments
  term, call, unit trusts, managed funds, personal superannuation schemes
- Money market
  deposit facilities
- Custodial services

LENDING

- Home mortgage loans
  table, reducing, interest only variety of repayment options fixed and floating interest rates
- Other personal lending
  overdraft, term loans, credit cards, revolving credit

OTHER SERVICES

- Insurance products
  life insurance, mortgage protection, house & contents, etc.
- Travel products
  currency and cheques, money transfers, travel insurance, bank drafts, credit cards
- Advisory services
  financial planning, retirement planning, trust and funds management
- Packages of products and services for special customer groups, e.g. students, superannuitants

SMALL BUSINESS & RURAL SECTOR

- Deposit accounts
- Term investments
- Overdrafts
- Seasonal finance
- Business term loans
- Automatic payments
- Direct credits/debits
- Credit card merchant services, EFTPOS terminals
- International trade finance
- Migration services
- Personal banking services
- Electronic bill payment services

CORPORATE BUSINESS SERVICES

- Risk management products, e.g.
  swaps, forward rate agreements, currency options, forward exchange contracts
- Onshore/offshore loan finance
- Syndicated lending
- Capital market products
- Treasury services
- International trade finance services
- Advisory services (fundraising and acquisitions)
- Custodial services
- Electronic bill payment services
- Bulk transaction processing
- Same day cleared payment

end will result in a more efficient use of banks' resources.

There are a wide range of fees that banks may charge, including account maintenance or base fees, transaction fees (which vary by transaction type), honour fees (for allowing payments despite inadequate funds being available in the customer's account) and dishonour fees (for reversing payments due to inadequate cleared funds being available). However, it should also be noted that in many cases customers do not actually pay these fees, as the banks offer a range of exemptions, including for students, superannuitants and those with substantial levels of business with the bank. ■

4. THE CREATION OF MONEY AND CREDIT

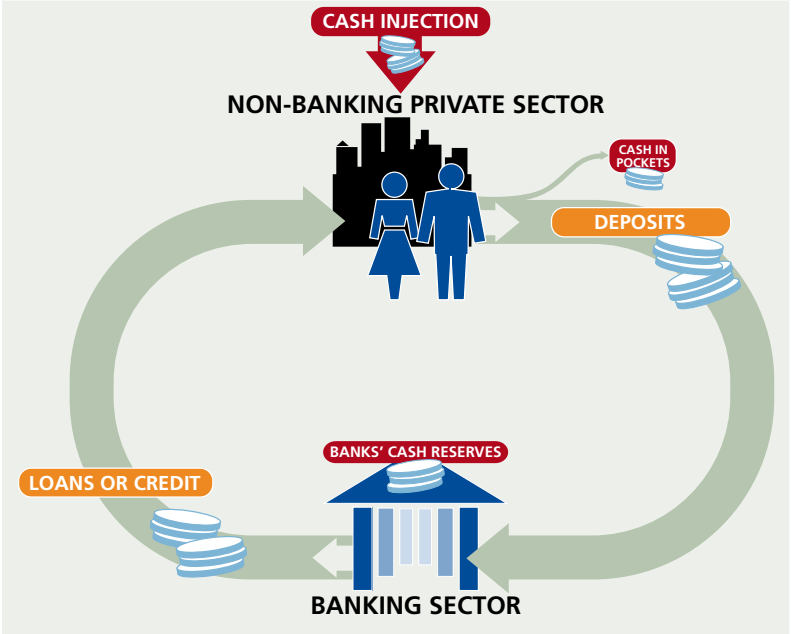
The Traditional View of the Process

The traditional view of the process of creating money and credit is based around cash (i.e. notes and coins) as the most basic form of money in a modern economy. A deposit with a bank represents a claim on it for a specific amount of cash. By acting as financial intermediaries and by providing non-cash means of settling transactions, banks and other financial institutions create more deposits and more credit than there is cash.

The process by which money and credit are created begins with a cash injection, represented by the cash injection arrow in Figure 4. We discuss the sources of such cash injections later in this chapter. The non-bank private sector (or the general public) will hold some of this cash in their pockets and deposit the remainder with banks, represented by the deposits arrow.

Some of the cash will be deposited in current accounts and some will be put aside in term or other deposit accounts. Although the public are able to draw on their current accounts by electronic means or by cheque, not all the new deposits will be withdrawn, which means that, on average, a moderate amount of cash will remain in banks' vaults. Banks respond to this by lending some cash to customers who are willing to pay the current market interest rate for its use. The process of lending the cash creates credit in the economy, which is depicted by the credit arrow in the diagram.

Figure 4 – MONEY AND CREDIT CREATION



Nowadays banks do not lend the physical cash. They provide the borrower with a credit facility such as a loan account or an overdraft on a customer's current account. If the customer opts for an overdraft, they will make use of the credit facility by drawing on the account and using the funds to purchase something.

The person or business receiving the funds will in most cases receive a deposit in an account at a bank. This moves the funds along the deposits part of the money and credit creation circuit again. The banking sector now has assets in the form of the loan and cash in its vault, which are matched by liabilities to the original depositor and to the new depositor.

By providing alternative means of settling transactions to cash and by acting as financial intermediaries, banks have created a new entity called deposit money. A drawing on an account is an instruction to a bank to shift deposit money from the account of one of its customers to someone else's bank account.

Like cash, deposit money has no intrinsic value other than the fact that people accept it as having value. People accept it because they know other people will accept it for settling transactions. The public's belief that banks do on average make sound lending decisions acts as the effective backing of deposit money.

An Example

A practical example is perhaps the best way to illustrate how banks, acting as financial intermediaries, create deposit money and credit from a cash injection. In this example, Figure 5 shows how a $100 cash injection can, under the assumption that banks reserve 10% of deposits, create $1000 of deposit money, $900 of credit and $100 of bank reserves. In this traditional view, banks hold reserves (cash or liquid assets) so they can meet the day-to-day withdrawals of customers.

The process starts when the $100 cash injec-

tion is deposited at a bank. Under our assumption, the bank puts 10% or $10 into its reserve account and lends the remaining $90. Let's say the borrower decides to spend the money on clothes. During the day the clothing retailer deposits the $90 at its bank. The retailer's bank similarly adds 10% or $9 to its reserve account and lends the remaining $81. Likewise, the $81 is spent and ends up as a bank deposit which after deducting the 10% reserve, is also lent. In theory, this process could, continue forever or until the size of the deposits and loans become too small to handle.

If all the deposits (or bank money) created are added together, the total comes to $1000. Similarly, $900 of loans and $100 bank reserves have been generated. The level of deposit money and credit created is, as the example shows, related to the amount or fraction banks hold as reserves. There is a direct mathematical relationship between the fraction held in reserves (r), the initial cash injection (M) and the deposit money created (D) which is D=M/r. In the example above, M = $100 and r = .1 (or 10%) so D = $1000. This simple credit multiplier formula illustrates that the smaller the fraction banks hold as reserves, the more deposit money and credit is created.

The example used here is, of course, an over simplification of what actually happened. In reality, not all transactions go through the banking system. Some money may be held as cash-in-pocket or be channelled through non-banks. Also, deposits may be held for transaction purposes (i.e., to pay the bills), rather than longer-term savings. Leakages from the financial system and the holding of transaction balances tend to weaken the multiplier effect, creating less credit and deposit money than the formula predicts.

Figure 5 – HOW $100 INJECTION CREATES $1000 OF DEPOSITS AND $900 CREDIT (ASSUMING 10% RESERVES)

Banking Sector Balance Sheet

ASSETS		LIABILITIES
reserve	$10	$100 deposit
loan	$90	
reserve	$9	$90 deposit
loan	$81	
reserve	$8.1	$81 deposit
loan	$72.9	
etc ...		etc ...
reserves	$100	$1000 deposits
loans	$900	

The example shows that banks, through their intermediary role between savers and borrowers, play a vital role in fostering trade and economic development by creating bank money and credit.

What Actually Happens

In reality, although the process outlined in the previous sections could occur, cash balances in bank vaults no longer act as a constraint on bank lending in the way that they might have up until the latter part of the 20th century. The key constraint nowadays is banks need to settle the large volume of customer and other transactions on their own account with each other on a daily basis. This occurs through the payments system, as outlined in the next chapter (see 5. THE PAYMENTS SYSTEM).

Banks settle transactions with each other through their accounts with the Reserve Bank, with these accounts having to remain in credit. This means that, when a bank makes a new loan, the proceeds of which might be credited to an account at some other bank, it needs to make sure that it raises enough funds, either in the inter-bank money markets or from customer deposits to ensure that its net cash outflows will remain near enough to zero, and so that its position in its account at the Reserve Bank will remain in credit.

In such an environment, there is still scope for a bank to expand its lending and create credit, but it is dependent on there being net inflows of funds into the banking system as a whole. These inflows of funds may come from depositors from outside New Zealand (and we have seen significant inflows of funds from such sources in recent years), or from the government making net deposits of funds into the banking system (through its fiscal policy, as outlined below).

We also have a situation where, since 1985, New Zealand banks have not had any specific reserve requirements applied to their deposit liabilities. This means that, in theory, banks could keep on creating credit and expanding their loan portfolios indefinitely. In such an environment, it is the cost of credit, based upon the costs that banks have to pay to raise the deposits, that becomes the constraint on

the quantity of credit that is created (See 6. BANKS AND INTEREST RATES).

Constraints on the Process

Banks do not go on creating credit and deposit money indefinitely. Factors that influence the total level of credit and deposits are:

1. The higher the level of deposit liabilities a bank has, the greater the chance that its customers might want to withdraw cash on any one day. Therefore, a prudent bank will only create credit in proportion to the amount of its cash and other liquid reserves. This withdrawal of cash from the process is represented by the cash reserves arrow in Figure 4.
2. The government's fiscal policy influences the level of money and credit. If the government runs a fiscal deficit by spending more than it earns in taxes, it can have an impact on the amount of money in the economy. If it finances its excess of spending over revenue using new cash provided by the Reserve Bank, it increases the amount of cash in the economy. This provides the basis for banks to create a great deal more money and credit. At the other extreme, if it finances the fiscal deficit by borrowing from the public, no additional cash is created.
3. The level of money and credit will also change depending on the state of the economy and changes in the stance of monetary policy. For example, if interest rates are high because the Reserve Bank is operating a tight monetary policy, the demand for credit will fall. This will affect the amount of credit banks can create and impact on the level of interest rates and the total of deposit money. The monetary policy transmission mechanism is discussed in greater depth in 9. MONETARY POLICY IN NEW ZEALAND.

Money and Credit Aggregates

The creation of money and credit is relevant to banks primarily because it is the process by which their assets and liabilities are created. The Reserve Bank and the government have a wider interest in the total amount of money and credit in the economy. This includes the money and credit created by non-bank financial institutions in addition to that created by banks. To measure this the Reserve Bank has constructed a data series for the money and credit aggregates.

Figure 6 – MONEY AND CREDIT AGGREGATES DECEMBER 2005

Money Aggregates	$Millions	Credit Aggregates	$Millions
1. Notes and Coins held by the Public	2,946	**Claims on the Private Sector by:**	
2. Total Transaction Account Balances (1)	19,549	1. M3 Institutions	225,258
3. Less Inter-Institutional Transaction Balances	1	2. Less Inter-Institutional Claims	14,328
4. Less Government Deposits	67	Private Sector Credit PSC=(1-2)	210,930
M1=(1+2-3-4)	22,427	3. Less NZ Dollar claims on non-residents	8,744
5. Total Transactional EFTPOS (excluding cheque accounts) and Other Call Funds	39,217	PSCR (Resident) (PSC-3)	202,186
		Claims on the Government by:	
6. Less Other Call Inter-Institutional Funding	543	4. M3 Institutions	5,034
M2=(M1+5-6)	61,101	5. Reserve Bank	2,535
7. Total New Zealand Dollar Funds	169,813	Domestic Credit, DC=(PSC+4+5)	218,499
8. Less Inter-Institutional Term Funding	14,328	Less Net Foreign Currency Assets plus Reserve Bank net foreign currency assets (NFCA)	42,760
9. Less Government Deposit	353	Less residuals (Capital and Reserves of M3 Institutions, plus net other Residuals and Adjustments)	17,661
M3=(1+7-8-9)	158,078	M3=(DC-NFCA-Residual)	158,078

(1) Balances that are subject to chequing facilities and/or in Sweep accounts.

These figures have been condensed from the Reserve Bank's data table C3 – you may obtain up-to-date figures from that source.

The money supply aggregates measure how much cash and deposit money there is in the economy. The narrowest definition of the money supply is M1. It is shown in Figure 6 to include cash and the categories of deposit money which are most readily available to settle transactions, for example, money in current accounts. M2 is an intermediate definition of the money supply, consisting of M1 plus other funds on call.

M3 is the broadest definition of the money supply used in New Zealand. It adds to M2 the categories of deposit money which are used increasingly as stores of value and less as means of settling transactions, for example, term deposits with a maturity longer than seven days.

The credit aggregates are designed to measure the amount of lending in the economy. Private Sector Credit (PSC) measures the amount of lending provided to the private sector (including firms and individuals) by New Zealand's financial institutions, by the Reserve Bank and by the government. Domestic Credit (DC) adds to private sector credit, the amount of lending by these three groups to the government sector.

The level of domestic credit exceeds the total level of cash and deposits as measured by the M3 money supply. This is because financial institutions fund their lending both by borrowing from overseas and from other non-deposit sources (e.g., capital) in addition to using deposits.

Note that the availability of credit is also impacted by the amount of deposits and other funding provided by non-residents, which totalled $75,603 million as at December 2005. ■

5. THE PAYMENTS SYSTEM

New Zealanders make over five million non-cash payments daily. If people had to make these payments in actual cash, paying bills or collecting debts would soon become a full-time job. Though possible in theory, such a cash-only payments system is highly impracticable, and the economy would soon turn to chaos. With so much cash around, security services would certainly be a growth industry.

Modern payment systems have been designed to make a non-cash transaction an easy and safe experience. Over the years the banking sector has developed sophisticated communication networks and computer systems, within a legal framework, that allow payments to be made and settled with relatively little risk. However, no payment system can eliminate all risks. To function properly modern economies need an efficient and, as near as practicable, a risk-free payments system. Without such a system, the modern economy would not function.

Facilitating payments is, along with the taking of deposits and the extension of credit, one of the three fundamental roles of banks. New Zealand is fortunate that the banking sector has created an efficient and sound payments system that allows individuals, businesses, the government and the financial markets to make payments in a relatively risk-free environment.

This chapter considers the way payment instructions are processed and the various ways the instructions can be issued. The ways in which large (wholesale) payments are dealt with and the settlement process works are described. Lastly, settlement risk and systemic (system-wide) risk are discussed (see GLOSSARY).

Making Payments

When people go shopping or pay the rent, they need to make payments. If it is a small purchase, then cash may be used. However, there are many types of non-cash methods to make payments. Non-cash payment methods are collectively known as payment instructions as they instruct a bank to make payment on behalf of the bank customer in a convenient way. Non-cash payments can be made using:

- EFTPOS cards;
- credit cards;
- cheques;
- direct debits;
- direct credits; and
- automatic payments.

Payment Methods

New Zealanders have many choices when paying for goods and services. EFTPOS is now the most popular single form of payment instruction, accounting for 40% of the total 2 billion non-cash transactions made in 2005, and transactions by electronic means now account for over 90% of all non-cash payments. Cheques continue to be used for around 9% of all non-cash payments (see 3. BANKING SERVICES).

CARDS

Credit and debit cards are versatile types of payment instruction, and they can be used for transactions, at ATMs to withdraw and transfer funds, and at EFTPOS terminals to pay for purchases and to withdraw cash. Some customers' cards are set up to operate with both a debit and credit card function on the same card.

Before money can be withdrawn from ATMs or paid to EFTPOS merchants with a card, the system checks that there are sufficient funds available. After the transaction is validated by entering a PIN or signature, the customer's account is updated. In the case of a transaction through an EFTPOS terminal, the customer's current account or credit card account is debited and the retailer's account gets credited. This transaction cannot generally be dishonoured after it has been completed and therefore the retailer faces minimal settlement risk. There is no customer risk, i.e. the payment cannot be reversed due to lack of cleared available funds in the customer's account, but there is a small and unlikely risk that the paying bank might default, or that a credit card transaction might be reversed with evidence of fraud.

CHEQUES

When a cheque is used to make payment,

Figure 7 – COMPARING DIRECT ELECTRONIC PAYMENTS

Automatic Payment	Direct Credit	Direct Debit
Set amount on regular basis	Any amount at any time	Any amount at any time
One to one payment	One to many payment	Many to one payment
Set up by payer then happens automatically	Set up by payer then payer advises amount and time for each payment	Set up by payer then payee advises amount and time for each payment
E.g. Rent	E.g. Salary	E.g. Power/phone

the receiver (e.g. retailer) of the cheque deposits it at the receiver's bank. The receiving bank passes it through a cheque reader machine where the paying bank's identity, the customer's account number and the value of the cheque is recorded. This information is forwarded to the paying bank, together with either the physical cheque or an electronic image of the cheque generated by the receiving bank, to enable the paying bank to pay the receiving bank. If the customer has insufficient cleared available funds in their account or the cheque is incorrectly issued, for example the cheque is not signed, the paying bank can return the cheque unpaid (dishonoured) to the receiving bank.

The receiving customer, for example, a retailer, faces credit risk or exposure from the time they accept the cheque until it is paid and cleared by the paying customer's bank. The level of risk is related to many things, such as; the size of the payment, the time it takes to be paid and cleared, the creditworthiness of the paying customer and the paying bank, plus the legal obligations generated by the cheque. Generally speaking, the exposure associated with cheques is high because of the high value of some cheques and the time they take to clear. However, the significance of such risk is declining as cheque numbers fall, reflecting the popularity of electronic funds transfer systems such as EFTPOS.

Until 1995 when an amendment to the Bills of Exchange Act 1908 was passed, the procedure for clearing and processing cheques was cumbersome. Under the original legislation, a cheque was not deemed to be finally cleared or settled until it was physically moved to the branch where the paying bank's customer held their account.

To overcome the costs and logistical inefficiencies of this system of physical presentment, legislation was passed in 1995 to provide for the truncation of cheque clearing procedures. Truncation allows for a process where electronic transmission of an image of all or part of the cheque to the paying bank's branch would occur, rather than its physical movement. Electronic presentation allows significant cost efficiencies to be achieved and speeds up the cheque clearing process. The physical cheque or the electronic image is retained for the legislatively prescribed time frames.

AUTOMATIC PAYMENTS/DIRECT CREDITS/DIRECT DEBITS

These types of instruction are popular and versatile. Depending on the payer's needs one of the payment types in Figure 7 may be convenient. For example, where regular deposits or payments are made such as salaries, direct credits may be used. The risks are similar to those associated with cheques and relate to the creditworthiness of the paying customer and paying bank. Figure 7 outlines the similarities and differences between these types of payments.

There are a number of specialised channels by which these types of payments, most particularly direct credits, can be initiated. These include bill payments usually initiated through telephone or internet banking.

Bill payments allow people to make payments to third parties for what ever reason (including those for the sorts of reasons outlined above in respect of automatic payments, direct credits and direct debits). Most banks will allow desired payments to a New Zealand bank account to be entered into the payments system either for immediate payment or for processing at a later date.

Credit cards are also commonly used for on-line payments, as they allow payment instructions to be made without direct contact between the purchaser and the supplier, with immediate verification of the details of the payment. Because of the wide range of people seeking to receive payments on the internet, it is recommended that such payments should only be made to trusted counter-parties, and preferably

only to sites that are designated as secure.

On-line access to accounts can also be used for things such as checking balances and transaction records, transferring funds between accounts and for changing automatic payments.

LARGE PAYMENTS

The payment systems described above apply to smaller transactions, including almost all of those made by private individuals. For very large payments that may be in the millions of dollars, two dedicated systems have been developed called Austraclear and the Same Day Cleared Payments (SCP).

Austraclear

Austraclear is based on an Australian system of the same name and has been run in New Zealand since 1990 by the Reserve Bank. Austraclear is a real time trade matching, transfer, clearance and settlement system for securities and their derivatives and is available to banks, financial institutions, brokers, money market dealers and companies on a subscription basis. For example, to settle a trade in money market securities, both buying and selling members enter an instruction which must be matched by a corresponding instruction by the other party. The detail of each instruction must match before the transaction will proceed. Then, a simultaneous recording of a change of ownership in securities held in the system depository, and a transfer of funds from the respective members' cash accounts occurs.

All payments, whether for settlement of securities transactions or cash transfers, are irrevocable (cannot be dishonoured) once they are accepted by the system. Transactions are not accepted by the system unless the paying member has sufficient credit provided by their banker within the system to allow the transaction to be completed. Austraclear operates on a real time basis, that is, there is finality of payments between users for each transaction, thus eliminating inter-bank settlement risk.

Same Day Cleared Payments (SCP)

Until decommissioned in 2000, the Kiwi Inter-bank Transfer System (KITS) was the system used to handle high value inter-bank electronic payments within New Zealand. Its replacement was SCP, which is now used for high-value inter-bank transactions, as well as high value customer transactions. The transfer of the NZ dollar leg of foreign exchange transactions is also processed via SCP. For example, a bank paying NZ dollars for foreign exchange either for a customer or on its own account sends an electronic message to the receiving bank and Exchange Settlement Account System (ESAS), using SWIFT messaging via SCP, for the funds to be paid to the bank at settlement. Final settlement of SCP transactions occurs on a real-time gross transaction-by-transaction basis throughout the day.

The Interchange and Settlement Process

Most payments, other than for wholesale or other money market transactions that need to be processed in real time (as discussed above), are finally settled on the morning of the banking day following the day the transactions are initiated. For the settlement of a transaction to occur the next morning, the payment instruction must be interchanged, settlement reports issued and instructions to pay given (via Austraclear) to the Reserve Bank ESAS accounts. Operational rules for the interchange and settlement of payment instructions are administered by the New Zealand Bankers' Association. The actual processing of payment instructions is handled by Interchange and Settlement Limited (ISL).

An overview of the interchange and settlement process is shown in Figure 8. For retail transactions, the process starts off with the issuing of a payment instruction. The instruction is then processed and confirmed by the initiating bank (which may be the payer's or payee's bank). If it is the paying bank that is initiating the transaction, it may be subject to confirmation that sufficient funds are available to honour the instruction. In the next stage, ISL receives payments' information from banks and/or other payment switches which have prepared the information on behalf of the banks. The information arrives at ISL throughout the banking day and in the evening. When all the information has been received, ISL prepares a total sum of each bank's positions against other banks. The inter-bank bilateral positions are then used to work out each bank's net positions against all other banks (the bilateral net positions). In other words, banks' gross positions are converted into net positions. For example, if bank A owes bank B $50 million and bank B owes bank A $70 million, then the net position is

that bank B owes bank A $20 million.

The final stage sees the bank-to-bank bilateral net positions, including EFTPOS transactions, settled using Austraclear the following morning. On the instruction of the paying banks, the Reserve Bank debits or credits each bank's ESAS settlement account in accordance with its position against all other banks. The settlement accounts are not allowed to go into overdraft. If the debiting process would result in an account going into overdraft, the bank concerned is required to lodge sufficient funds to enable the payment to be made.

Ensuring that banks have sufficient settlements funds is essentially automated via the ESAS system, using an "autorepo" facility. The ESAS account holders with intra-day repurchase facilities with the Reserve Bank provide details of the securities they wish to use to obtain liquidity as necessary. Once a pre-set level is reached the ESAS system automatically generates the required autorepo. If the autorepo is not repaid by the end of the day penalty interest is charged.

Should any bank fail to settle due to financial stress or failure, the Reserve Bank has to decide what action, if any, to take, including placing the defaulting bank under statutory management (see 8. BANKING SUPERVISION). The Reserve Bank's primary duty is to ensure minimal disruption to the payments system and maintain confidence in the financial system.

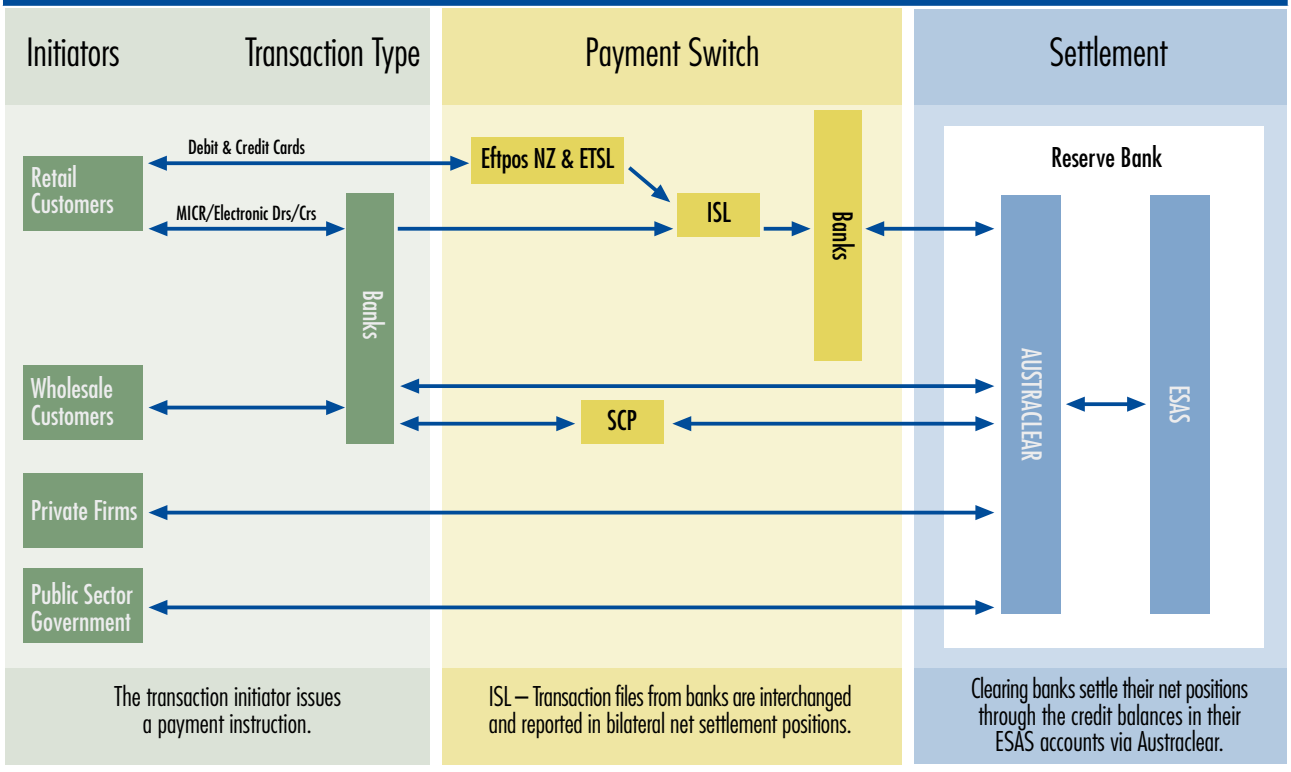
Where transactions enter the clearing system at the initiative of the payee (as with cheques and direct debits), the payer's bank may dishonour them if there are insufficient funds. In such a situation there will usually be a delay before the amount is returned to the initiating bank.

The interchange and settlement of wholesale transactions is as outlined above, and as shown in the lower part of Figure 8.

Payment Risks

Risk is always present in payment systems. Individually, the risks may be small, but together banks and customers can face significant settlement risks. On an average business day, total transfers through all New Zealand payment systems are estimated to exceed $35 billion. Sometimes individual bank exposures can reach well over $1000 million especially where large transactions are involved, such as in settling the NZ dollar parts of foreign exchange transactions. If a bank failed when owing large amounts of money, then its failure could have a domino effect forcing other banks into default. This system-wide failure is called systemic risk. To avoid systemic risk, banks invest in systems and arrangements that

Figure 8 – STRUCTURE OF THE PAYMENT SYSTEM



reduce or manage these risks.

Banks and central banks are keen to reduce risks. In New Zealand, the Reserve Bank and the member banks of the New Zealand Bankers' Association worked together for some years to introduce the Real Time Gross Settlement (RTGS) system (which is now the SCP system). The major advantage of real time systems is that they greatly reduce the duration of settlement risk.

The real time settlement system significantly reduces the degree of settlement risk in the payment system as a whole, but it cannot remove risk altogether. For example, in the unlikely event of a failure of a major bank, the Reserve Bank may need to implement failure-to-settle arrangements to avoid systemic risk to stop a domino effect that could trigger other bank failures.

Banks that fail may dishonour payment instructions, leaving bank customers (paying and receiving) to bear the cost. In general, the reversing of payments by a failed major bank is bound to lead to a loss of confidence in the banking system.

Another payment risk that banks face is in respect of foreign exchange settlement risk. The payment systems discussed above have limited effect on this because they are domestic payments systems, while many foreign exchange transactions are between a New Zealand bank and one in another country. This issue has been recognised internationally and the CLS (Continuous Linked Settlement) Bank was developed in response. CLS Bank came into existence in 1998 and the NZ dollar was added to the list of currencies able to be transacted through it in 2004. CLS Bank offers real-time processing of international foreign exchange transactions, currently for 15 currencies. http://www.cls-group.com/ ■

6. BANKS AND INTEREST RATES

Setting Deposit Interest Rates

Banks obtain 27% of their funding from households. This is in the form of call and time deposits made by individuals. The remainder of funding is obtained from businesses, the domestic wholesale money market and, increasingly, from off-shore.

The money market is a wholesale market where private sector firms, including financial institutions, and government bodies borrow money and invest their surplus operating funds. Individuals and international investors also invest in the money market.

Banks access funds from the money market by offering securities called certificates of deposit to investors. They also obtain funds from each other on the inter-bank call market, which is a sub-market within the money market.

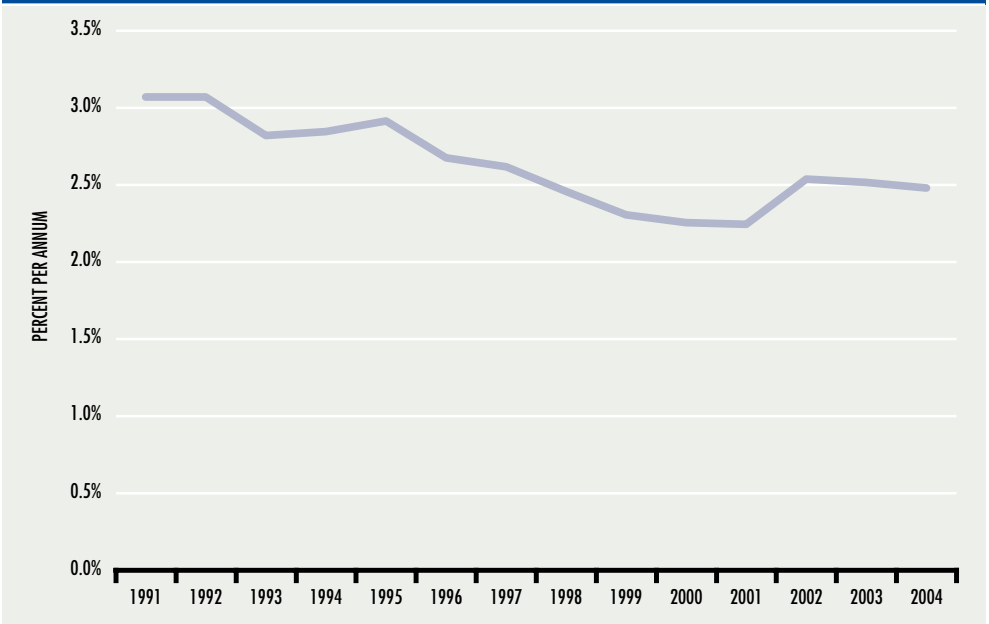
The level of interest rates in the money market is determined by the interaction between the demand for funds and the supply of funds at any point in time, although it will also be impacted by the level of the Official Cash Rate (OCR) set by the Reserve Bank as part of its operation of monetary policy (see 9. MONETARY POLICY IN NEW ZEALAND). Therefore, the interest rate a bank has to pay to raise funds from the money market is largely out of its control. The setting of monetary policy is the over-riding factor which influences market participants' expectations of the appropriate level of interest rates in the money market.

The level of money market interest rates sets the base level of interest rates in the economy. Banks adjust the rate of interest they offer on retail deposits so it is roughly in line with the movements in money market rates.

Raising funds in the retail market is usually associated with higher non-interest costs (relating to branch networks and customer transaction costs), so banks generally offer slightly lower interest rates on retail deposits than are available in the money market. The level of interest rates on retail deposits cannot be too far below the level available in the money market, as individual investors would be likely to find methods of investing in the money market directly.

At any point in time, the relativity between retail interest rates and money market interest rates varies depending on how vigorously banks are competing for deposits. It also depends on the receptiveness of individual investors to bank deposits versus the growing range of alternative but sometimes more risky investments like managed funds, retail superannuation schemes and insurance bonds.

Figure 9 – BANKS' NET INTEREST MARGIN



Over recent years, strong competition for retail deposits has from time to time pushed retail deposit rates above wholesale rates, making them a very expensive source of funds.

The lack of domestic savings and the competition for them has forced banks to increase their off-shore funding. The funds come from non-residents holding NZ dollars in, for example, Singapore, or from banks directly borrowing foreign currencies like US dollars, Australian dollars or Japanese yen (see 3. BANKING SERVICES). In many cases these funds will be routed through parent bank treasury operations in Australia.

In the final analysis, the interest rates that banks have to pay to attract funds from domestic wholesale and retail markets and off-shore are largely determined by forces outside their direct control.

Banks' Net Interest Margin

The net interest margin is defined as net interest income (i.e. interest income minus interest expense), divided by the average total earning assets. Figure 9 illustrates that the banking sector's net interest rate margin has fallen significantly since the early 1990s (and margins were often even higher in the 1980s).

Until 1984, long-standing controls prevented banks from paying interest on deposits of less than 30 days duration, and limited the interest rate payable on ordinary savings accounts to 3%.

Since 1984, individual institutions have attempted to increase their market share by offering higher deposit interest rates than their competitors and/or by offering lower lending interest rates. The level of the banks' net interest margin is now determined by the interaction between the extent of this competition and the cost of providing the relative deposit and loan services. Banks can influence margins only to the extent to which they can control their costs (see 7. PERFORMANCE OF THE BANKING INDUSTRY).

The increased level of competition has not only produced a reduction in the margin, but has motivated banks to seek more efficient and less expensive means of acting as financial intermediaries. Provided the government does not begin to significantly re-regulate the banking industry, customers can continue to look forward to the benefits of a lower margin and to improvements in the quality of the services provided by banks.

The level of the banks' net interest margin does not tell the whole story about its profitability. Some of the decline in the interest rate margin has been offset by increased income from fees charged for specific services and trading activities (see 3. BANKING SERVICES).

Bank Margins

The level of interest rates applying to securities, called the bank bill rate, is used as a benchmark indicator for levels of money market interest rates in general, including the

Figure 10 – MORTGAGE LENDING RATES AND THE 90-DAY BILL RATE

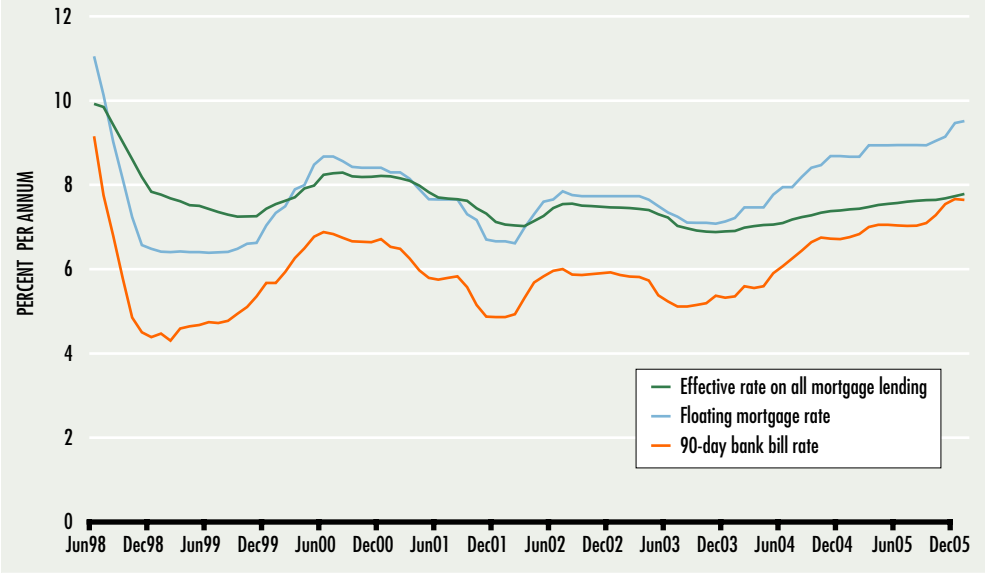
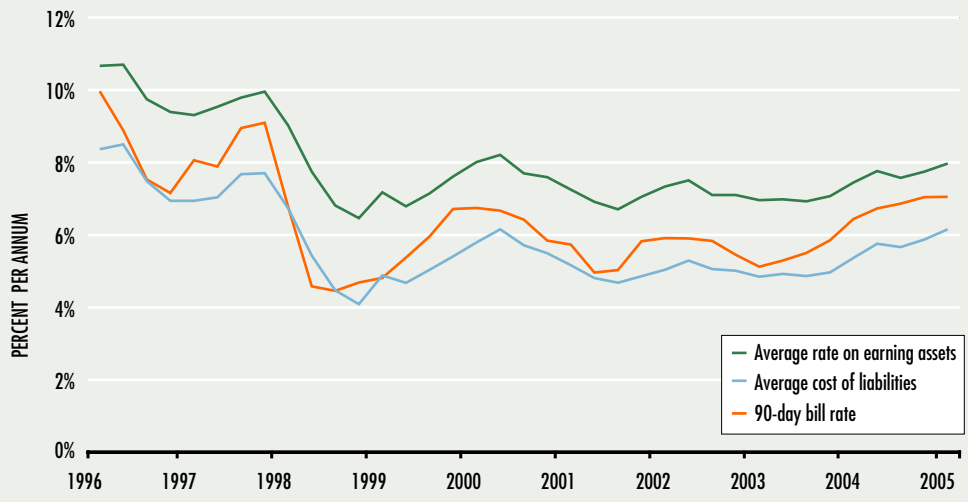


Figure 11 – BANKS' DEPOSIT AND ASSET MARGINS



Banks included in this are those that run retail branch networks, namely ANZ, ASB, BNZ, TSB and Westpac, with NBNZ included up to the time of its acquisition by ANZ.

rates banks have to pay on certificates of deposit. Bank bills are no longer issued to any significant extent, but the bank bill rates are used to price certificates of deposit, issued to money market investors.

For a long time, financial analysts and the media used the margin between the yield on 90-day bank bills and the average floating interest rate banks charge on home mortgages to measure the profitability of the banking sector. The margin between the base interest rate used by banks in setting lending rates for businesses and bank bill yields is often used for the same purpose. Attention has more recently switched to the OCR, although the relationship between the rates has remained more or less stable.

In recent times, the floating mortgage lending rate and the banks' base rates for business lending have become less important, however, with an increased focus on fixed rate loans, particularly for housing. This reflects the fact that fixed rate loans are related to longer term money market rates, which are inclined to be more strongly influenced by international trends than by the OCR. When the OCR has been higher, as in 2004 and 2005, this may mean that longer term rates are significantly lower than short term rates, and borrowers have sought to enter into fixed term loan arrangements accordingly.

Figure 10 shows the relatively stable relationship between the 90-day bill rate and the floating mortgage rate, but it also shows the different trend in effective mortgage rates for all borrowers, because of the effect of fixed rate loans. As at December 2005, 79.9% of all home mortgage lending was at fixed rates, meaning that the floating rate was of limited significance for most borrowers.

The net effect of the switch to fixed rates has tended to be slightly negative for banks' overall margins, as the margins applying to fixed rate loans are typically lower than those applying to floating rate loans. This lower margin reflects more intense competition between banks to undertake fixed rate loans, and the reduced interest rate uncertainty, such as applies to floating rate loans, reducing banks' relative costs in funding the loans.

It is useful to think of bank margins as made up of two parts. The first is the deposit creation margin, which is the difference between the cost of retail deposits and the 90-day bank bill rate. This is a valuable concept because it helps measure whether or not the expensive-to-run networks of bank branches are earning an adequate part of their keep by gathering funds more cheaply than readily available money market funds. The second component of the margin is the asset creation margin, which is the difference between the 90-day bank bill and the interest rate banks receive on assets like mortgages and business loans.

Figure 11 looks at the average cost of funds (relative to interest-bearing liabilities) and the average interest rate on their interest-bearing assets, for the banks that have branch

networks, relative to the 90-day bill rate. We can see that the margins between banks' cost of funds and the interest revenues earned on them (also known as the interest spread) has not changed greatly, although the split between deposit and asset creation margins has moved from quarter to quarter. These differences generally reflect the time lags between changes in the underlying money market interest rate and the actual rates charged or paid to customers.

Setting Lending Interest Rates

The previous section outlined why the average level of lending interest rates is determined by numerous factors, most of which are outside the control of the banking industry. However, banks can largely determine which borrowers will pay a higher rate of interest than the average, and which will pay a lower rate.

Each bank assesses the cost and the risk of default associated with different types of lending. The information provided by credit policy assessments is used to set the relative lending interest rates that are to be charged for the different types of lending.

This is why lending interest rates vary depending on both the category of borrower (e.g. individual versus large corporation) and on the type of lending to each category of borrower (e.g. unsecured lending through credit cards versus lending against the security of a house or other assets).

This is reflected in base lending interest rates set at a higher margin over bank bill yields than mortgage lending interest rates. This is because lending on the security of a mortgage over a residential property is generally safer than lending to most firms. Also under the Reserve Bank capital adequacy regime (which follows international guidelines), banks require twice as much capital (8% versus 4%) for lending to private sector business than for home mortgage lending (see 8. BANKING SUPERVISION).

Distinctions in the lending interest rates charged to individuals are based mainly on the type of lending (e.g. credit card versus home mortgage). In the case of lending to businesses, it is done more on a case-by-case basis. Two companies of similar size and in the same industry could be paying quite different interest charges on the same type of loan. This situation would occur if the bank assessed that one company presented a much lower risk of default than the other.

Accurately assessing the creditworthiness of its customers is vital to the success and, in some cases, to the survival of a bank. ■

7. PERFORMANCE OF THE BANKING INDUSTRY

Since 1990 bank owners and managers have faced challenging times. The deregulatory forces unleashed in the 1980s hit home in the 1990s as intense competition squeezed margins and led to a decline in underlying profitability. Furthermore, the rapid fall in interest rates from 1991 onwards reduced the income that banks earn on free funds, shareholders' funds and non-interest bearing deposits. But the greatest challenge came in the early 1990s from the rapid rise in problem loans which undermined banks' financial position and the soundness of the financial system.

The build-up of sub or non-performing loans can be traced to the equity and property market crashes that occurred in the latter half of the 1980s. In the years following the crash, the problem loans issue was exacerbated by the economy's weak performance. The good news is that those loan problems are now behind the banks. However, the banks still face the challenge of remaining profitable in a very competitive banking market.

Measurement and monitoring of bank performance in New Zealand has been made much easier since the introduction of the disclosure regime at the beginning of 1996 (See 8. BANKING SUPERVISION). This provides for a bank balance sheet and income statement to be made available at the end of each quarter. From this it is possible to construct a combined quarterly balance sheet and income statement for those banks which focus on retail banking through branch networks (i.e. ANZ-National, ASB, BNZ, TSB and Westpac, which provides the basis for the figures in this chapter and forms our core group of banks[1]). We will concentrate on the results for this core group of banks for much of the rest of this chapter.

How Shareholders Have Fared

The owners or shareholders of a bank are primarily interested in the return they will get from their investment. An owners' investment in a bank is referred to as shareholders' funds and they form part of a bank's capital. The owner's investment may take other forms as well, however: many New Zealand banks have their equity capital supported by further subordinated debt, and this is often provided by the parent bank. A further complication in studying the shareholder equity for our core group of banks (i.e. ANZ-National, ASB, BNZ, TSB and Westpac) arises from the situation of Westpac. During the period for which performance figures are shown, Westpac was operating only as a branch of its parent bank, with no consequent requirement to hold any shareholders equity (even though, in practice, for much of the period, it held more equity than the other banks in our core group). We are therefore required to omit Westpac from some of the results reported below (the return on equity calculations in particular).

Shareholders' funds for the non-branch banks in our core group averaged 7.5% of assets over the two-year period from the December quarter 2003 until the September quarter 2005 (i.e. following the acquisition of the National Bank by the ANZ). The remaining 92.5% represents the average proportion of assets backed by liabilities. Shareholders' funds as a percentage of average assets (7.5%) should not be confused with the capital adequacy requirement which reflects both Tier One and Tier Two Capital as a percentage of risk adjusted assets. (See GLOSSARY for definitions).

Viewed from a different perspective, the 7.5% represents the margin of safety for depositors and the other creditors of the banking industry. Banks would, on average, have to write-off loans or other assets worth more than 7.5% of the value of their total assets before the asset backing of their liabilities fell below 100%. (See 8. BANKING SUPERVISION for discussion).

The profit earned by a bank is available to be paid out to shareholders in the form of a dividend or retained and added to shareholders' funds in order to support further asset

[1] Kiwibank is not included in this aggregation of data, at least up until the end of 2005, as they have only been getting themselves established. HSBC is not included either as its branch network is very small relative to the scale of its business. The ratios calculated from the financial statements of these two banks are atypical and completely different from those of the other banks discussed.

growth. A bank's annual profit, calculated as a percentage of the average level of shareholders' funds for the year, is used to measure the return its owners receive on their investment. The average return on shareholders' funds (for our core group of non-branch banks listed) based on profit after tax has averaged 20.7% per annum over the period from the September quarter 1996 to the September quarter 2005 (although returns have been lower over the latter two years of the period, because of the additional equity needed by the ANZ to finance its purchase of the National Bank).

Owning a bank or buying shares in a bank is a more risky investment than depositing your money with a bank. To reward bank owners for this higher risk, the return on shareholders' funds should, on average, exceed the return available in secured interest-bearing investments, and we can see that this is achieved. Higher returns are necessary also as banks need to keep on boosting their capital to sustain their increasing volumes of business.

Bank Profitability

The return on shareholders' funds gives a final picture of how well a bank is being managed, but it is only a summary of the many aspects which contribute to the bank's performance. Therefore, a bank's owners, its management and financial analysts in sharebroking firms regularly monitor several additional indicators of a bank's performance.

The most widely used measure of a bank's performance is its annual profit taken as a percentage of its average total assets. This measures how effective a bank's management have been at utilising all of the funds available to them. This measure is particularly applicable to banking because it is an industry where shareholders' funds make up only a small proportion of the total funds used to finance a bank's operations. The major source of funds for a bank is its deposit liabilities.

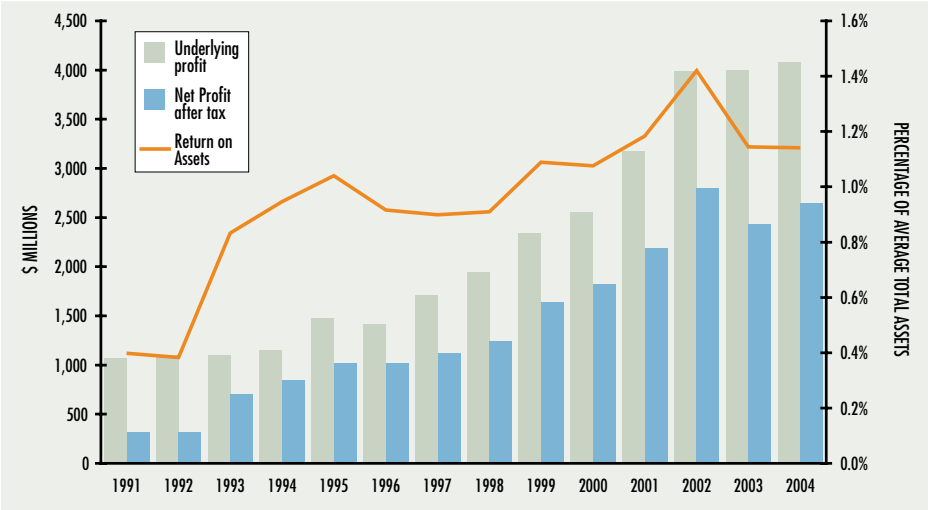
The profitability of banks tends to parallel the overall state of the economy. If economic activity is booming, the level of demand for lending and the level of deposits will grow, while the level of loan defaults will generally be low. Conversely, if the economy is in recession, lending and deposit growth will be sluggish, while the level of loan defaults will be higher than normal.

Figure 12 illustrates how the banking industry's profitability has fluctuated from low profits in the early 1990s to much healthier profits in recent years. Over the last 15 years, banks have had to cope with a variety of profit-squeezing events, including problem loans, lower margins as a result of fierce deposit and lending competition, and, as interest rates have fallen, lower earnings on free funds.

The profit profile in the chart reflects these pressures. In 1989 (not shown in Figure 12) banks collectively wrote-off many hundreds of millions of dollars in loans resulting in an industry-wide profit loss. Despite margin squeezes, lower interest rates and continued provisioning for loan losses, banks' profits recovered slightly between 1990 and 1992. In 1993 the overall profit picture started to improve as expenses relating to the level of sub and non-performing loans on banks' books fell (see Figure 13).

Problem loans and loan write-offs not only impact on profitability, they can also adversely affect the stability of the financial system. Loan write-offs eat up shareholders' funds, and can threaten banks' capital adequacy requirements. Fortunately this did not happen as Tier One Capital, as a percentage of risk-adjusted capital, averaged 7.7% over the 1989-1993 period. Add in the Tier Two Capital and the ratio rose to 10.4%, well in excess of the required 8%. Nevertheless, healthier profits since 1993 and

Figure 12 – PROFITABILITY FOR ALL NEW ZEALAND BANKS



improving asset quality (fewer problem loans) has increased the robustness of the financial system.

Since 1993 bad and doubtful debt expense has been extraordinarily low, both by historic New Zealand standards and relative to banks elsewhere in the world. This reflects the buoyant economic conditions that New Zealand has experienced. 2003 might appear to be an exception, but the increase in bad and doubtful debt expense in that year was a reflection of some one-off adjustments to general provisions, mostly attributable to the ANZ's acquisition of the National Bank.

While profitability after tax and abnormals and extraordinaries is of interest to shareholders, it's also important to know whether the industry's underlying profitability is rising or falling. Underlying profitability indicates how profitable the core business of banking is, leaving aside issues like loan write-offs etc. Underlying profitability is best measured by considering profits before tax as a percentage of average assets. That is, operating income (net interest income and other income) less the expenses incurred in generating the income.

Figure 14 shows a steady improvement in major retail banks' underlying profitability since 1996. This has also contributed to the improved return on assets seen over the last decade, as highlighted in Figure 12.

Figure 13 – BAD & DOUBTFUL DEBT EXPENSE FOR ALL NEW ZEALAND BANKS

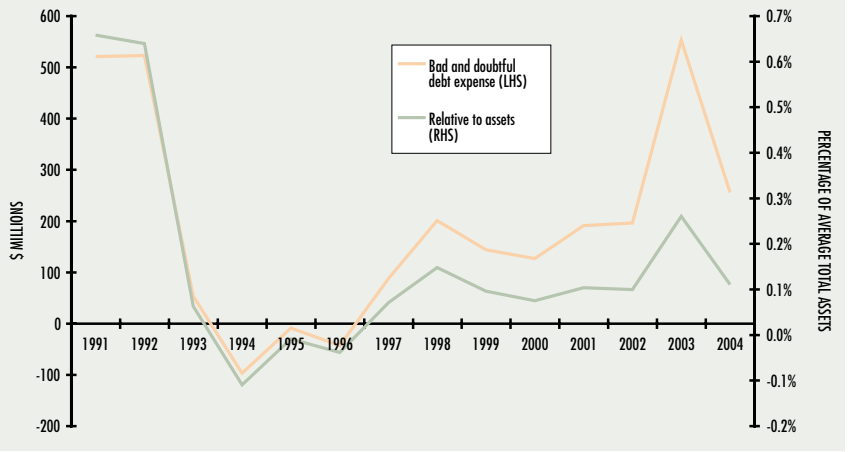
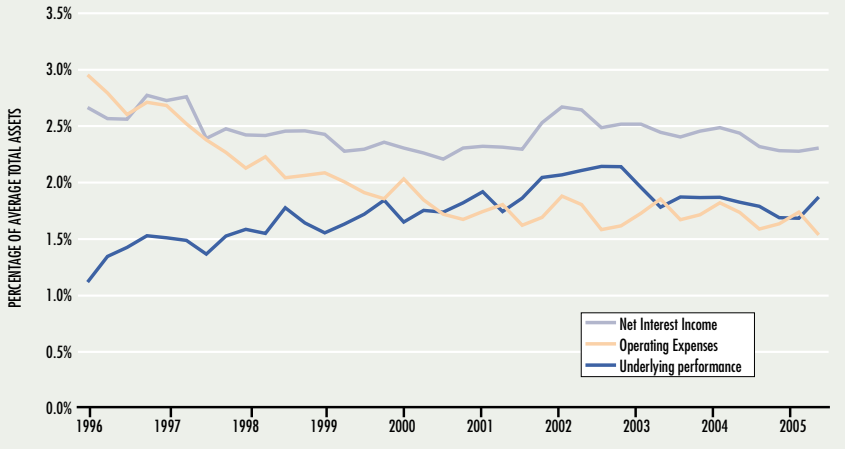


Figure 14 – SELECTED PERFORMANCE MEASURES FOR MAJOR NEW ZEALAND (RETAIL) BANKS



Other Operational Performance Measures

There are several other performance measures, apart from profit, that are useful in understanding the pressures facing banks and the effectiveness of banks' management and their strategies. These include net interest income, operational expenses, and the level of sub and non-performing loans, as a percentage of average total assets.

The interest margin squeeze is often talked about and debated but rarely quantified. We saw something of the pressure on banks' interest margins in Figure 9 in Chapter 6. Figure 14 shows us the trend in net interest income (income from loans less interest paid on deposits) divided by average total assets for the major (retail) banks. The squeeze has not been dramatic, but net interest income has shrunk from 2.66% of average total assets in the September quarter 1996 to 2.28% in the September quarter 2005.

The fall of 38 basis points (or 38/100 of a one percent point) is a 14.3% decline in banks' relative net interest income over the nine years to 2005. In dollar terms this represents a loss of income in 2005, relative to the net interest income in 1996, of approximately $824 million per annum; that is, 38 basis points over $216.75 billion of assets. This has had a significant impact on this group of banks' profits for the year to 30 September 2005, which totalled $2330 million.

Therefore, there is a lot of truth in the argument that banks are facing a declining trend in margins. As long as financial markets remain deregulated, the competition among banks to

lend and borrow will continue to drive down bank interest margins. Banks have responded to the challenge by increasing their operational efficiency, employing more focused marketing strategies, improving service quality and reducing costs by switching customers from expensive-to-run bricks and mortar branches to cheaper direct banking delivery channels such as telephone and internet banking, EFTPOS and ATMs. Overall, banks are having some success with these strategies.

Figure 14 also shows us that banks have managed to lower their non-interest (operational) expenses as a percentage of average total assets from 2.95% in the September quarter 1996 to 1.74% in the September quarter 2005. In terms of costs relative to bank assets, banks have reduced their annual running costs in 2005, relative to 1996, by nearly $2623 million. Nevertheless, Figure 15 shows that banks' actual operating expenses have risen from $656 million in the June 1996 quarter to $930 million in the September 2005 quarter. However, proportionally the increase in operating costs is a lot less than the growth in banks' assets of 109% over the same period. During the earlier part of the period, much of these savings came at the expense of branch closures and jobs. For example, total branch numbers reduced from 1278 to 873 over the four years from 1996 to 1999. Other changes the banks have made to reduce costs have included the promotion of electronic banking, greater use of the internet and other computing support in their own operations, and centralisation of much back-office processing.

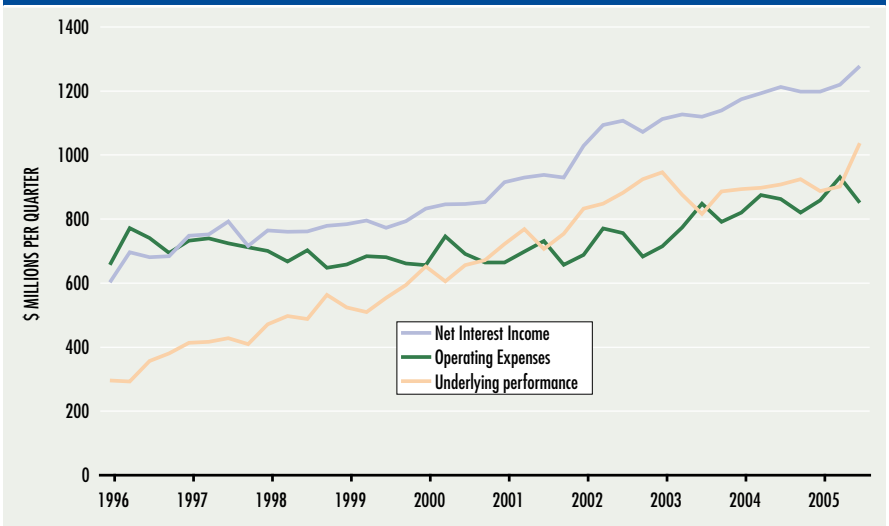
The final performance measure considered is the level of problem loans or impaired assets to the level of total lending. Banks always make a general provision for problem loans. In addition, when a bank identifies specific loans which may have to be written-off, they are included in a specific provision for doubtful debts. The level of problem loans is a measure of the quality of a bank's lending and a measure of the potential risk to shareholders' funds from loan write-offs.

The level of problem loans rose dramatically after the equity and property market crashes in the latter half of the 1980s. By the mid 1990s, banks had succeeded in reducing the levels of problem loans very substantially, with total impaired assets (including past due assets) of $997 million, or 0.93% of total assets, as at March 1996. Total impaired assets as at September 2005 were only $668 million, which represented 0.27% of assets (although this was an increase from 0.20% of assets in the December quarter of 2003).

The ratios for individual banks can be easily calculated from their quarterly disclosure statements.

The general experiences of the banks after the 1987 crash have made them more prudent lenders. Lending policies and procedures are now under tighter control than they were in the 1980s. ■

Figure 15 – QUARTERLY REVENUES AND EXPENSES FOR MAJOR NEW ZEALAND (RETAIL) BANKS



8. BANKING SUPERVISION

The Case for Supervision

Banking supervision in New Zealand is undertaken with the objective of promoting the maintenance of a sound and efficient financial system and to avoid significant damage to the system, which could result from the failure of a registered bank. Unlike many other countries, banking supervision in New Zealand has a focus on protecting the banking system, rather than in protecting depositors, although there will be considerable overlap between the different objectives. Also, unlike most other developed countries, New Zealand does not have a deposit insurance scheme to compensate depositors for any losses which they might incur in the event of a bank failure.

In New Zealand, banking supervision takes the form of a bank registration process and comprehensive requirements for frequent public disclosure of financial and other information by banks, both of which are the responsibility of the Reserve Bank.

Banks require some form of supervision because:

1. The transactional and intermediation services supplied by banks have become a vital component in the efficient functioning of most activities in the national economy. (See 3. BANKING SERVICES for statistics which give an idea of the scale of current business).
2. Banks regularly deposit large amounts of money with other banks. The positions of banks are also related through the payment system since the majority of payment instructions on one bank will end up being collected by other banks. These two factors increase the chance that the failure of one bank could adversely affect other banks and raise the likelihood that depositors would attempt to withdraw their money from all banks in response to concern that just one bank is facing financial difficulties. Therefore, banking supervision attempts to maintain confidence in the banking system to reduce the risk of contagious runs on banks.

The key feature of the current banking supervision regime, which came into force at the beginning of 1996, is a greater reliance on the corporate governance of banks and the discipline of the markets (rather than on the intervention of a central agency), founded on increased and more frequent public disclosure of financial and other information by banks.

Banking Supervision Requirements

There are three aspects to the Reserve Bank's approach to bank supervision. These are:

- regulatory discipline, such as minimum capital requirements and exposure limits;
- self discipline, which includes requirements for strong governance; and
- market discipline, which relies on public disclosure.

BANK REGISTRATION

Since 1 April 1987 a financial institution has had to be registered with the Reserve Bank before it can use the word bank or any derivative of bank in its name. Bank registration policy is designed to promote a competitive banking system, while ensuring that only financial institutions of appropriate standing and repute are able to become registered banks. Subject to meeting the conditions of registration, there is no restriction to the entry of new banks, including foreign banks. There is no upper limit on the number of registered banks. At 7 February 2006 there were sixteen registered banks or banking groups operating in New Zealand. Only two of New Zealand's registered banks are now locally owned (TSB and Kiwibank).

The criteria an institution must satisfy to become a registered bank are:

1. Its business must substantially consist of the borrowing and lending of money, and/or the provision of other financial services.
2. Its ownership structure and corporate form must meet certain requirements.
3. It must have a minimum capital of $NZ15 million to demonstrate the extent of both its financial backing and its commitment to running a viable bank.

4. It must be able to demonstrate its ability to carry on business in a prudent manner.
5. Its directors and senior managers must be suitable for their positions.
6. It and its owner must have good standing in financial markets, which will be based on the manner in which it and/or its owner(s) have conducted themselves in the past.
7. If it is already incorporated as a bank in another country, or is owned by overseas interests, the Reserve Bank will take into account the laws and regulatory requirements imposed on it by the banking authorities in its home country.
8. Where necessary, the Reserve Bank will require an applicant to publish an initial disclosure statement so that there is no time-lag between the time the applicant commences business as a bank and the time appropriate information is made available to customers and potential customers.
9. It will be required to confirm that appropriate anti-money laundering arrangements are in place.

All bank registrations are subject to standard conditions. On occasion, there may also be a need for some bank-specific conditions to be applied.

In having regard to whether an applicant for registration has the ability to carry on business in a prudent manner, the Reserve Bank must confine its consideration to the following matters, which are also the subject of ongoing requirements through conditions of registration and the disclosure framework:

Capital in Relation to the Size and Nature of the Business

A bank's assets are divided into broad categories of risk (eg, government, mortgage-backed, private sector firms). Each category is given a weighting of between 0 and 100%, with categories deemed to have low default risks being given low weighting (see Risk Weighted Categories in GLOSSARY). The sum of a bank's lending and other assets in each category, multiplied by their respective weightings, gives the bank's total risk-weighted assets.

A bank's core or Tier One capital (ie, shareholders' funds and retained earnings) must be no less than 4% of its total risk-weighted assets. Its core capital plus supplementary capital (ie, subordinated debt and other reserves), which comprises Tier Two capital, must be no less than 8% of its total risk-weighted assets.

It should be noted that these are the requirements that apply under the 1988 Basel Capital Accord, which apply at the time of writing. A new capital accord, Basel II, is due to be implemented in 2007 at which time the way in which capital requirements are measured will change. Under Basel II there are three approaches that can be taken. The first is the standardised approach which is an extension of the Basel I rules. Options two and three are Internal Ratings Based (IRB) approaches, with option two being a foundation IRB and option three an advanced IRB.

Loan Concentration and Risk Exposures

The bank must have in place policies and systems to monitor and control loan concentrations and risk exposures in a manner appropriate for a bank. Ideally a bank will have a diversified portfolio of risks which are closely monitored.

Separation from Interests of the Owner and from Other Business

The New Zealand banking business must be kept separate from other business of the corporate group and, in particular, the New Zealand subsidiary of an overseas group must maintain a level of independence. Specific exposure limits are also placed on how much a bank can lend to its owner and to other interests of its owner. The maximum aggregate exposure the bank can have to related parties is 75% of Tier One capital, and within that exposure there is a maximum of 15% to non-bank related parties.

Internal Controls and Accounting Systems

The bank must have in place internal controls and accounting systems that are appropriate for a registered bank and for the type of business to be conducted.

Risk Management Policies

The bank must have in place risk management systems and policies that are appropriate for a registered bank and for the type of business to be conducted.

Outsourcing Arrangements

A large bank must satisfy the Reserve Bank that it has the legal and practical ability to control and undertake any of its business, and any functions relating to any of its business, if these are carried on by a person other than the bank.

MANAGING A BANK FAILURE

The Reserve Bank of New Zealand Act 1989 provides the Reserve Bank with various powers which it can use in the event that a bank distress or failure situation threatens the soundness of the financial system. These powers include:

- power to obtain information;
- power to give direction;
- power to recommend the bank be placed under statutory management;
- acting as the lender of last resort; and
- crisis foreign exchange intervention.

Where the Reserve Bank is satisfied that a bank is insolvent, or is either likely to become insolvent or about to suspend payment of its obligations, the Reserve Bank may recommend to the Minister of Finance that a statutory manager should be appointed. He/she would have complete control over the operations and future ownership of the bank.

PUBLIC DISCLOSURE

Public disclosure represents the primary market discipline tool used by the Reserve Bank in its role as supervisor of the New Zealand banking industry. Banks are required to publicly disclose a comprehensive range of financial and other information. The objectives of the disclosure regime are to:

1. Increase the incentives for banks to monitor and manage their banking risks, so as to avoid the need to disclose adverse events to the market.
2. Provide a more focused role for bank directors in overseeing and taking responsibility for the management of banking risks.
3. Provide depositors and other creditors, financial planners, investment advisers and other users with higher quality, more timely information on banks, to enable them to make more informed decisions and give more informed advice about banks.

The disclosure requirements take two forms.

The **Key Information Summary** (**KIS**) is a simple disclosure designed to provide key information including:

- basic corporate information;
- the bank's credit rating;
- profitability and size;
- capital adequacy information;
- information on the amount of impaired assets and specific provisions held for them;
- information on peak exposure concentration and related party exposures; and
- the availability of the disclosure statements.

The KIS is aimed at the non-expert investor or depositor, and must be displayed prominently in banks' branches and made available free on request. The requirements in respect of the contents of the KIS are very prescriptive, particularly in terms of the order in which the information is provided and the headings to be used.

The **General Disclosure Statement** (**GDS**) is a more substantial document, which provides more extensive and more detailed information about the bank, including:

- detailed corporate information;
- any guarantee arrangements that are in place;
- information on the bank's directorate and auditors;
- any registration conditions under which the bank operates;
- the bank's credit rating;
- the bank's financial statements (income statement and statement of financial position);
- the members of the banking group;
- the auditors' report where applicable;
- the directors' statement;
- capital adequacy details;
- information on the bank's peak exposure

concentration and related party exposures;

- information on the bank's market risk exposures; and
- information on the bank's risk management systems.

1. The disclosure statements must be published at quarterly intervals.
2. The first and third quarter disclosures (the off-quarters) are of a short form nature and must be published within two months of the end of the quarter (although there is an exemption to this allowing an additional month for publication if the bank elects to have an audit completed to the extent required for one of the on-quarters as below).
3. The second and fourth quarter disclosures (the on-quarters) will include an audit report, as the banks' disclosure statements must be audited six monthly. The six month audit is of a limited review nature. These disclosures must be published within three months of the end of the quarter.
4. Banks which operate in New Zealand as branches of overseas banks are required to make disclosures (of their New Zealand operations) along similar lines to those required of banks operating as subsidiaries, as well as publishing information on the global bank of which they are a part.
5. Directors are required to sign statements attesting to the bank's adherence to its conditions of registration as a bank and the adequacy of its risk management systems. These attestations are central to the self discipline aspect of New Zealand's banking supervision framework.
6. All banks are now required to have a long term credit rating applicable to their New Zealand dollar obligations and must disclose the rating in their disclosure statement.

SUMMARY

The Reserve Bank's role as banking supervisor encompasses:

- determining applications for bank registration;
- monitoring banks' general financial condition, primarily by means of their public disclosure statements;
- monitoring banks' compliance with conditions of registration and the disclosure regime;
- requiring a bank to reissue its disclosure statement if the information is false or misleading;
- consulting with the senior management of banks annually; and
- intervening where a bank is insolvent or considered likely to become so or otherwise undermine the soundness of the banking system.

Supervision and intervention are aimed at promoting the maintenance of a sound and efficient financial system and avoiding significant damage to the system, which could result from the failure of a registered bank. ■

9. MONETARY POLICY IN NEW ZEALAND

Objective

The Reserve Bank is responsible for formulating and implementing monetary policy in New Zealand. The Reserve Bank derives its powers from the Reserve Bank of New Zealand Act 1989, which stipulates that the primary function of the Reserve Bank is to operate monetary policy to maintain price stability. New Zealand thus became the first country internationally to adopt an inflation target as the focus of its monetary policy.

Under the Act, a Policy Targets Agreement (PTA) is signed between the Governor of the Reserve Bank and the Minister of Finance. The PTA sets out the specific targets to be aimed for in pursuing the goal of price stability. The current agreement defines price stability as being 1-3% All Groups Consumers Price Index (CPI) inflation on average over the medium term.

It is acknowledged that the actual annual rate of CPI inflation will vary around the medium term trend, for reasons which would normally be expected to be temporary. These include shifts in price levels as a result of exceptional movements in the prices of internationally traded commodities (such as oil), changes in indirect taxes (such as an increase in the rate of GST), significant government policy changes that would directly affect prices, or a natural disaster affecting a major part of the economy.

The rationale for looking through the impact on inflation of the types of shocks outlined above is that they represent distortions to the general trend of prices, which is what monetary policy should be concerned with.

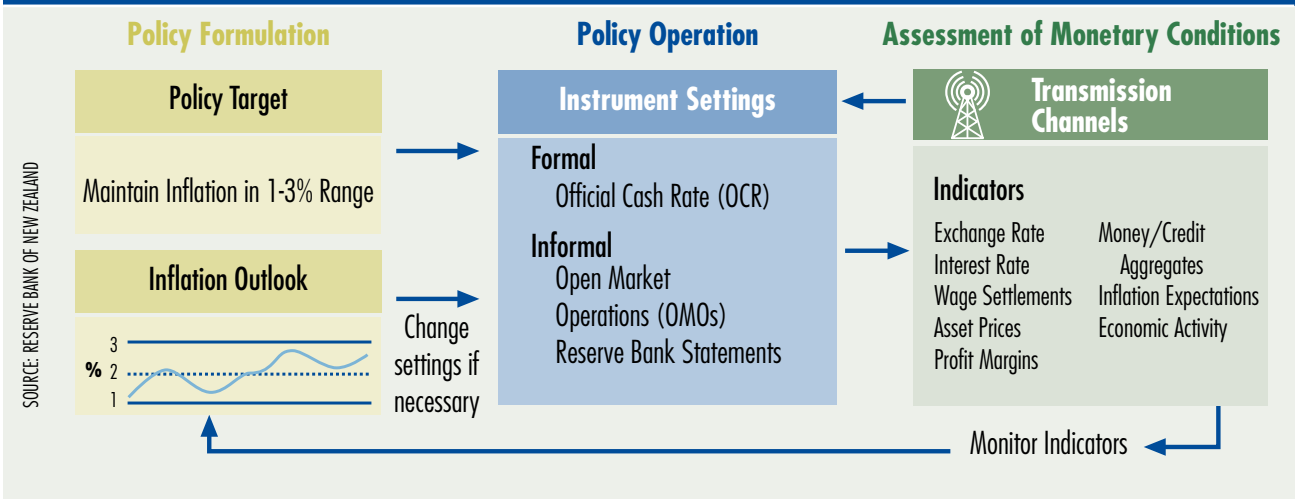
An important feature of the Reserve Bank of New Zealand Act is the legal autonomy given to the Reserve Bank to maintain price stability. In many other countries, the Minister of Finance can directly intervene and instruct the monetary authority to pursue a number of different goals (such as higher employment or economic growth). In New Zealand, if the government wishes to change the inflation target, it can only do this by an Order in Council which must be made public and renewed, if it is to last more than a year. More recent revisions to the PTA (since 1999) have, however, stipulated that monetary policy should be implemented "in a sustainable, consistent and transparent manner and shall seek to avoid unnecessary instability in output, interest rates and the exchange rate." (Clause 4(b) of the PTA).

The Monetary Policy Framework

An overview of the monetary policy process is outlined in Figure 16. Before monetary policy can be implemented, its objectives must first be established. This is the policy formulation stage. In New Zealand the aims of monetary policy are clearly set out in the Reserve Bank of New Zealand Act and the Policy Targets Agreement.

The next stage is to put the policy into operation. This means defining and then calibrating

Figure 16 – THE MONETARY POLICY FRAMEWORK



or setting monetary policy instruments (discussed later) so they effectively influence the path of inflation. The instruments achieve this, in the first instance, through their impact on money market interest rates. The influence of interest rate changes on the path of inflation is transmitted by way of their impact on monetary, economic and other variables like inflation expectations. This mechanism is called the transmission process and the variables involved are known as the transmission channels.

The next step in the process is to monitor the transmission channels in order to assess whether monetary policy conditions are too tight, too loose or just right given the current and future outlook for inflation. If monetary conditions are deemed inappropriate to achieving the policy target (maintaining 1-3% inflation over the medium term), then the formal policy instrument settings are likely to be changed, although there is some scope for less formal processes to be used, in the form of statements issued by the Reserve Bank, outlining their view of the economy and the future outlook.

The Reserve Bank's Role

Monetary policy exerts its control over inflation by directly affecting the level of shorter term interest rates in the wholesale money markets (where parcels of money greater than $1 million are traded). The Reserve Bank can influence interest rates because it plays a unique role in the financial system:

1. The Reserve Bank is banker to other banks - the bankers' banker. Settlement banks have accounts at the Reserve Bank through which they must settle transactions among themselves on a daily basis. (see 5. THE PAYMENTS SYSTEM).
2. The banks cannot go into overdraft in their settlement accounts at the Reserve Bank. The banks are, however, able to borrow settlement cash, generally in accordance with the procedures surrounding the Official Cash Rate (OCR), as discussed later.
3. The government holds the central Public Account at the Reserve Bank. The Bank also issues notes and coins to the public by way of the banks. This means that large financial flows move between the Reserve Bank and the private sector.

The Reserve Bank's place in the financial system and its control over one crucial monetary policy tool, namely the level of the OCR, allows it to influence shorter term interest rates. A key to understanding this process is in the way the banking system and the settlement banks in particular operate. The key to the process is in the supply of settlement cash, the cost of which relates to the OCR. Not all registered banks are settlement banks, but those that are (defined in terms of having settlement accounts at the Reserve Bank), have to settle their positions with each other using settlement cash. Banks are not allowed to go into overdraft at the Reserve Bank, and if they are short of the means to settle, they will have to borrow the necessary cash from another bank. (For more details on the settlement process see 5. THE PAYMENTS SYSTEM).

Therefore, banks with settlement accounts at the Reserve Bank must ensure that they have sufficient settlement cash on a day-to-day basis to avoid the need for expensive borrowing or discounting. By controlling the interest rate at which banks can manage their surplus cash, through the OCR, the Reserve Bank can directly influence levels of short term wholesale interest rates.

Monetary Policy Instruments

Since 1999, the Reserve Bank has used one primary instrument to manage the general level of short-term interest rates, the OCR, although there are other instruments it can use to maintain a stable monetary stance and support the effective functioning of the system.

The OCR is an interest rate around which the Reserve Bank will borrow from and lend to banks in the market. If banks have surplus settlement cash, they can lend this to the Reserve Bank at an interest rate 0.25% (known as 25 basis points) below the OCR, whereas if they wish to borrow from the Reserve Bank (to meet an anticipated shortfall in settlement cash), they may do so at 0.25% above the OCR. If banks are borrowing from the Reserve Bank, they must actually enter into overnight repos (repurchase agreements), which entail lodging securities with the Reserve Bank for repurchase the next business day. In practice, the banks prefer to borrow from and lend to each other at the level of the OCR (i.e. at no margin) recognising that they will sometimes be wanting to borrow settlement cash, while

at other times they will have settlement cash that is surplus to their requirements.

The OCR is subject to review eight times a year, at approximately six-weekly intervals. The dates for reviews are scheduled well in advance, and are published on the Reserve Bank's web-site. At any scheduled review date, the OCR may be changed by 25 basis points or some multiple thereof (and it has occasionally been moved by 50 points). In exceptional circumstances the OCR can be changed at other than a scheduled review date, and this has been done once (in the aftermath of the 11 September 2001 attacks on the United States of America).

The principle of the OCR is that, by setting very short term (overnight) borrowing rates, the Reserve Bank will impact on rates set for other maturities, although it is found in practice (and this is also consistent with theories of interest rates) that for longer periods the OCR has less and less direct effect. Longer term interest rates are inclined to be much more strongly influenced by the level of interest rates internationally. This has meant that, from time to time, the Reserve Bank has been unable to exercise the extent of influence on longer term rates, such as fixed rates for housing, that it would like to have been able to. The process by which the OCR works to influence inflation is described in greater depth later.

OTHER INSTRUMENTS

Foreign Exchange Market Intervention

The Reserve Bank has traditionally not intervened in foreign exchange markets to influence the value of the NZ dollar, but it was given increased powers to do so in March 2004. This policy was aimed at trimming the peaks and troughs of exchange rate movements, where it is considered that these might be outside the range expected on the basis of economic fundamentals, while it should also be consistent with the broad thrust of monetary policy.

As of February 2006, there was no evidence to suggest the Reserve Bank had made use of these new powers, and it has been indicated that the Reserve Bank would confirm any use of these powers, albeit some time after the event, which has not happened.

Open Market Operations

In its daily operations, called Open Market Operations (OMO), the Reserve Bank either withdraws or injects cash into the banking system. By offsetting projected daily liquidity influences of net government expenditure and revenue flows (including some transactions between the Reserve Bank and its customers), the Reserve Bank aims to keep settlement cash at its target level, which is currently set at $20 million.

In the past, the Reserve Bank used the structure of its daily OMO to send low-key monetary policy signals to the market. While these signals were generally understood, there were times when the market became confused. At times it was difficult to know whether the OMO was a genuine monetary policy signal or commercially based. For this reason, OMOs are now strictly used for liquidity management purposes with commercial criteria driving the decision process.

Daily Settlement Cash Level

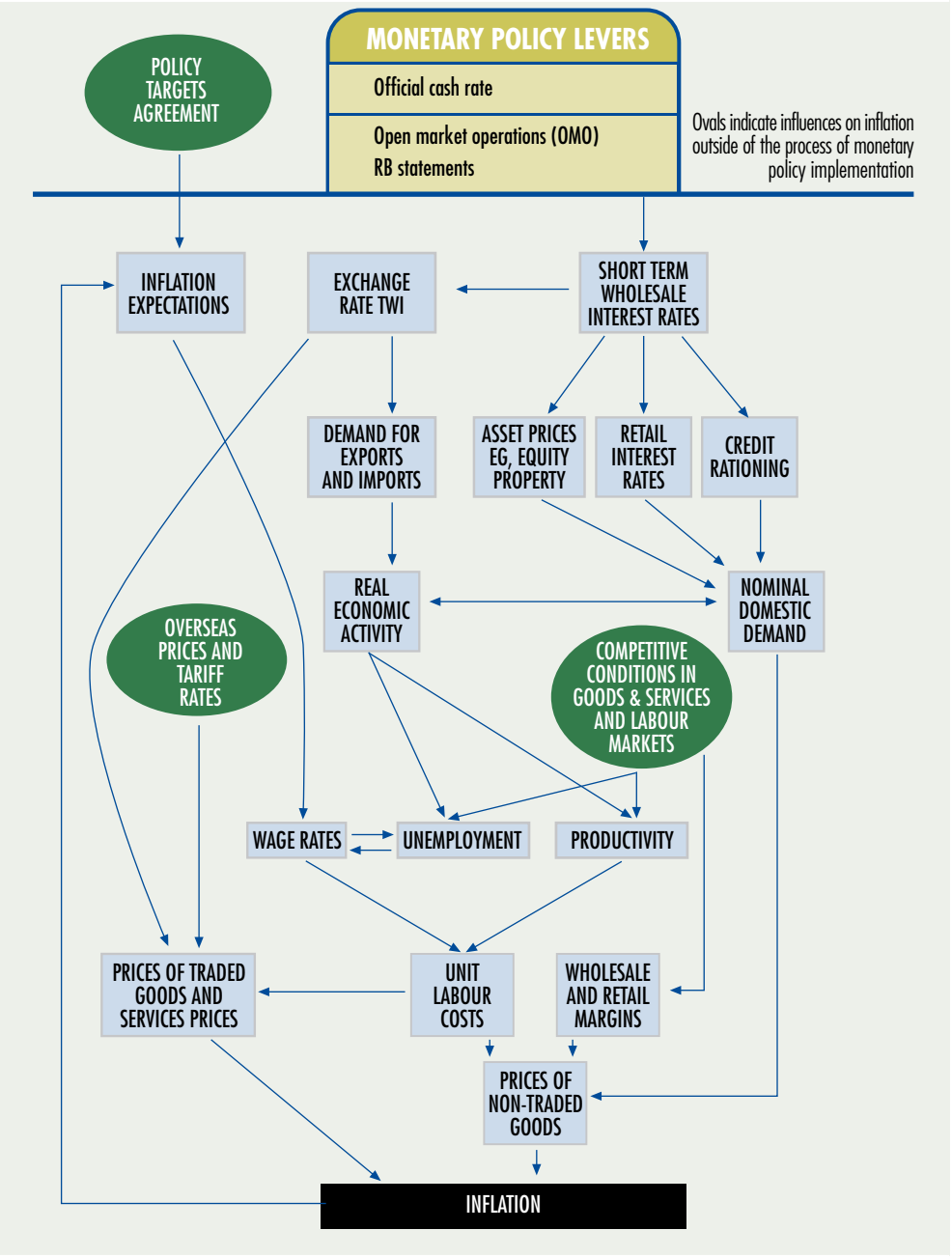
Although the settlement cash level no longer has the importance that it had prior to the introduction of the OCR in 1999, it can be changed in response to economic conditions. A notable case of this was in February 2006, when the settlement cash figure was twice increased, firstly to $500 million, and then to $2000 million. This was in response to liquidity pressures in the market, which were expected to be exacerbated in the lead-up to a government bond maturity on 15 February.

Informal Instruments

The Reserve Bank has also changed the way it communicates with the market concerning its view on the stance of monetary policy and any adjustment that may be needed. It used to use dealers' notes, which consisted of short comments regarding its current views on market conditions. In discussions with market players, Reserve Bank staff used the notes to convey their views and, if necessary, to help them guide a change in monetary conditions. But this is no longer the case. If the Reserve Bank wishes to make a comment in order to influence monetary conditions these days, it issues statements through the electronic news media.

The Reserve Bank has moved to a more explicit and transparent approach to signalling its concerns, views and wishes regarding monetary conditions. By publishing quarterly Monetary Policy Statements, the market gets structured guidance on what the Reserve Bank sees as appropriate market conditions.

Figure 17 – THE TRANSMISSION PROCESS



ALTERING SHORT TERM WHOLESALE INTEREST RATES

Let us look at a situation where the Reserve Bank is concerned about rising inflation, and wishes to tighten its monetary policy stance. It does this by increasing the OCR.

As the Reserve Bank does not allow banks to go into overdraft, any borrowing from each other will be more costly. This consequently puts upward pressure on overnight call interest rates in the money market. If banks perceive the Reserve Bank's action as unlikely to be reversed in the near future, then expectations of future call interest rate levels will rise, causing longer term wholesale interest rates to also rise.

The reverse effect would arise if the Reserve Bank were to reduce the OCR.

Transmission Channels of Monetary Policy

By altering the level of wholesale interest rates, the Reserve Bank can cause the exchange rate

and levels of other interest rates to change. This in turn affects the cost of borrowing for both individuals and companies, as well as directly influencing the prices of goods imported and exported. When this occurs, aggregate demand in the economy will change, which in time eventually causes wages, domestic prices and inflation expectations to alter. The transmission channels through which changes in wholesale interest rates influence inflation are shown in Figure 17.

The transmission process, that is, the magnitude and timing of changes in inflation resulting from changes in wholesale interest rates, will vary for different transmission channels. A large part of this process involves several primary channels directly influencing levels of aggregate demand and activity in the economy, which in turn influence wage and price setting. The following is a brief summary of the primary channels.

Exchange Rate

A rise in New Zealand interest rates relative to foreign interest rates will tend to increase the demand for NZ dollar denominated securities. As NZ dollar denominated securities must be paid for in NZ dollars, upward pressure on the NZ dollar exchange rate is likely to occur. A rise in the value of the NZ dollar will make imports cheaper. Depending on the degree of competition in the domestic economy, over time importers and producers will pass on the reductions in their costs to consumers and so reduce domestic CPI inflation. For exporters, a rise in the NZ dollar will reduce the prices they receive for their goods. The supply of export products (e.g. meat and wool) to the domestic market might increase and domestic prices for these products may also fall. Reduced export earnings resulting from a higher valued NZ dollar will also tend to reduce nominal incomes and demand in the economy. This will influence inflation indirectly through its effect on wage setting behaviour and profit margins.

Retail Interest Rates

A rise in wholesale interest rates will encourage banks to raise more funds via retail customer deposits. This will mean retail deposit interest rates will tend to rise. Once the cost of both wholesale and retail funds rise banks must eventually raise their lending interest rates if they are to maintain profitability. A rise in lending interest rates will reduce economic activity in at least two ways. Firstly, consumers who are net borrowers will find that more of their income will be spent on debt servicing, leaving less income available for consumption on other items. Higher retail interest rates will also tend to encourage savings rather than consumption. Secondly, from an investment perspective, larger corporates and institutions may find that a rise in lending interest rates makes certain projects unprofitable, leading them to defer or reject entirely new investment expenditures. Under both effects, an increase in the cost of borrowing will reduce growth in credit demand, which in turn leads to slower economic activity.

Credit Rationing

Rather than raising lending interest rates, banks can reduce credit growth and activity by simply reducing the amount they are willing to lend to customers. The reason for this is that higher lending interest rates will tend to increase the default risk on new lending - as some customers find it difficult to service the higher cost of borrowing. Rather than accepting increased default risk, instead, banks may reduce lending.

Wealth Effects on Expenditure

A rise in wholesale interest rates which reduces credit demand and economic activity can reduce the prices of assets such as shares and property. When this happens, investor wealth will fall, prompting investors to reduce spending and increase savings, or reinvest part of their wealth in short term interest bearing deposits which have higher returns.

The combined effect on aggregate demand via all the above primary transmission channels will influence inflation in three major ways.

1. Where the exchange rate is concerned, there is a fairly direct linkage between changes in the value of the NZ dollar and changes in the prices of those consumer items which have some imported content or which compete directly with imported goods. The exchange rate linkage to domestic inflation can be relatively quick in the case of goods which are both exported and sold in the domestic market.

2. Generally, a fall in economic activity and consumption will tend to increase competitive pressures within the economy. Other things being equal, this will encourage producers to lower profit mar-

gins in order to retain market share. Lower profit margins will lead to lower price inflation.

3. More importantly, there is the output-employment-wage-growth-inflation connection. A reduction in economic activity will influence price setting behaviour via its impact on the labour market. As consumption and activity fall, employers may find it increasingly difficult to justify retaining staff. If employers perceive the downturn in activity to be long term, they may choose to lay-off staff and reduce the size of their operations. As unemployment rises, job uncertainty amongst workers increases and wage demands will moderate. As wage inflation rises more slowly, so too will the operating costs of many producers. As this occurs, producers will be able to moderate rises in the price of their goods, hence, inflation will rise more slowly.

The above description does not imply that the Reserve Bank is not keen to see employment growth. It should be emphasised that the only interest monetary policy has in employment growth is to the extent that it influences unit labour costs and hence inflation. Employment growth can be quite consistent with price stability if wage growth is accompanied by productivity gains so that unit labour costs decline or remain constant.

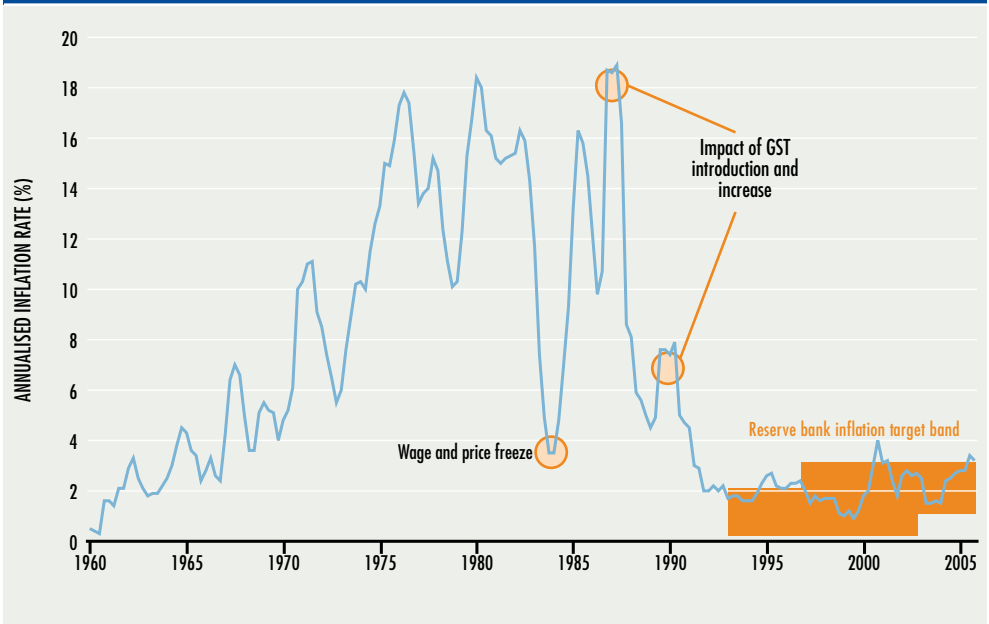
INFLATION EXPECTATIONS

An important feature of monetary policy is the effect that it has on people's inflation expectations. If people believe monetary policy is credible and that it will achieve its goal of price stability, then they are more likely to adjust the rate of inflation they expect in the future. This will assist in reducing wage demands and price inflation. Reductions in inflation expectations will help lessen the impact monetary policy may have on unemployment and so reduce the economic costs resulting from lower activity.

Monetary Policy Indicators

Although it has been subject to a number of improvements and enhancements with the passage of time, the basic form of New Zealand's current monetary policy framework has been operating since 1985. However, the experience to date, as with most other countries which operate similar frameworks, is that there is no stable quantitative relationship between the available policy instruments and inflation. How much will a change in the OCR impact on longer term interest rates, and how much will changes in both short and longer term interest rates impact on levels of inflation? If people think that prices for residential property are going to rise, they may not be put off paying increased prices for it by higher interest rates. As noted, there can be long delays in the policy transmission process, and

Figure 18 – NEW ZEALAND'S INFLATION TREND



there is a widely accepted view that it may be as long as 18 months to two years before an OCR change fully works its way through the economy. On-going structural changes in the economy such as deregulation in labour markets, financial product innovation, changing inflation expectations and a more competitive environment, plus external economic events, can cause the linkages to alter over time.

The difficulty in measuring the relationship between inflation and discretionary changes in the monetary policy instruments has made it necessary for a number of monetary indicators to be monitored. The monitoring enables judgements to be made as to whether monetary conditions are firm enough to achieve the policy goal of price stability. In New Zealand, the Reserve Bank maintains a standard check list of indicators from which it makes regular assessments of the overall state of monetary conditions. The main indicators monitored are listed below:

- the exchange rate;
- the level and shape of the interest rate yield curve;
- the money and credit aggregates;
- developments in the real economy;
- inflation expectations; and
- developments in the international economy and capital markets.

Apart from the exchange rate, the other indicators are of equal importance, but from time to time may rate a higher focus depending upon economic conditions.

In monitoring the monetary indicators, the Reserve Bank stresses that no one single indicator adequately summarises the stance of monetary policy. Rather, each indicator is assessed in conjunction with other indicators, with each regularly reviewed to account for ongoing developments in the economy, and in the way the policy transmission process can change over time. For educational purposes, we can see what each indicator tells us about monetary conditions if we make the assumption that other things remain the same. For example, a tightening in monetary conditions is indicated if:

- the value of the NZ dollar rises;
- shorter term interest rates rise relative to longer term interest rates;
- the rate of growth in the money and credit aggregates declines;
- wage settlements fall or surveys of inflation expectations indicate falling expectations.

The number and type of indicators used serves to highlight the continuous nature of monetary policy. Changes in the instruments, in response to new information about the forecast track of inflation and the current state of monetary conditions, will immediately impact on interest rates and the exchange rate. However, other indicators such as the money and credit aggregates and inflation expectations will be slower to respond. Since the exchange rate and interest rates are more closely linked to the transmission channels and are more timely indicators, the Reserve Bank tends to place more importance on these indicators when assessing monetary conditions. However, all indicators will be transmitting information about the current and future path of inflation. Therefore, the Reserve Bank must constantly assess all indicators and review the appropriateness of its instrument settings.

New Zealand's Inflation Record

The success of monetary policy can be gauged from the information shown in Figure 17. During the 1980s annual inflation averaged around 13%, apart from a period early in the decade when a price freeze was in operation. Inflation started to rapidly fall after the economy headed into recession following the equity and property market crashes of 1987/88. Inflation rose temporarily again in 1989/90 when GST was increased from 10% to 12.5%. When the GST effect ended in late 1990, inflation quickly dropped into the price stability zone and remained there until mid 1994.

Strong economic growth and a surge in house prices during 1994 and 1995 and again in 2004/05 forced the Reserve Bank to tighten monetary conditions by lifting interest rates over this period. Inflation also rose in late 2000 as there was a steep decline in the value of the NZ dollar, although the Reserve Bank did not respond as vigorously on that occasion. ■

10. GLOSSARY

Certificates of Deposit (CD)

These are securities issued by banks to raise funds on the wholesale market. They are promises to pay by a specific date and investors may trade them on the money market if they do not want to hold them to maturity. They may also be called Transferable Certificates of Deposit (TCD) or Negotiable Certificates of Deposit (NCD).

Consumers' Price Index (CPI)

The CPI measures the average price level of the goods and services purchased by the representative New Zealand household. It is calculated four times a year by the Department of Statistics.

Financial Markets

Technology has replaced the stock exchange floor as a place for trading financial securities. Today, dealers employed by banks, investment institutions, and brokers place their bids and offers for most types of securities on computer screens. This applies to trading in bank bills, government stock, foreign exchange and shares. In some cases the dealers negotiate and finalise transactions over the telephone, or the deals are done completely through the screens, which is called screen trading. Like the fruit and vegetable markets, the prices of transactions in the financial markets are the product of supply and demand.

Forward Rate Agreements (FRAs)

A FRA is a contract that allows the purchaser (or seller) to lock into a forward borrowing or lending rate for periods of up to twelve months. Actual rates will be based on the 90-day bank bill rate. The other side of the contract (for a company or other investor) will usually be with a bank, which agrees to pay a pre-defined settlement amount. FRAs enable risk managers to effectively lock into future interest rates.

Government Stock

These are securities issued by the Reserve Bank on behalf of the government in regular tenders. The money raised by their sale is used to finance the government's debt. They are commonly called government bonds by overseas investors.

The government pays a fixed interest rate on the maturity value of government stock, called the coupon rate. They are generally issued with either five, seven or ten year maturities. They are regularly traded in the secondary market before maturity - the primary market refers to the tender process by which they are initially issued by the Reserve Bank. The interest rates on government stock on the secondary market can differ from the coupon rate. The outlook for inflation, the setting of monetary policy, and the state of the government's fiscal accounts are the major factors which determine the level of interest rates in the secondary market.

They are the lowest risk medium to long term maturity interest-bearing investments available. This makes them the favoured low risk investment for banks, pension funds, life insurance funds and for individuals.

Hedging

Refers to behaviour in the money and/or foreign currency markets designed to reduce the risk of loss from future price movements.

Interest Rate Futures (FUT)

Futures contracts are hedging instruments which can be similar in effect to FRAs. The relevant contracts, traded on the New Zealand Futures and Options Exchange are on 90-day bank bills, and on three and ten year government stock.

A contract allows a borrower or a lender to agree to make or take delivery of a standardised amount of the underlying asset at a specified future date (on a specified day in March, June, September or December).

Interest Rate Options (IRO)

Is an agreement giving the buyer of the option the right, but not the obligation, to purchase or sell an interest rate for a future date at a pre-determined price and maturity. This enables the buyer of the option to profit from favourable interest rate movements without the risk of being affected by unfavourable rates.

M3 Institutions

Are the banks and non-bank financial institutions from which the Reserve Bank collects data to calculate money and credit aggregates (see 4. THE CREATION OF MONEY AND CREDIT), although the Reserve Bank no longer places as much emphasis on this group of institutions as it has in the past. The financial institutions included in the group changes from time to time and currently comprises ANZ National Bank Limited, ANZ Funds Management Limited, ASB Bank Limited, Bank of New Zealand, Citibank, N.A. (New Zealand branch) Deutsche Bank AG (New Zealand), GE Finance and Insurance NZ Limited, The Hongkong and Shanghai Banking Corporation Limited, Rabobank New Zealand Limited, Southland Building Society, TSB Bank Limited and Westpac Banking Corporation.

Monetary Policy

The deliberate influence by the government or the Reserve Bank over the supply of money and credit terms, and thereby over total demand for goods and services (see 9. MONETARY POLICY IN NEW ZEALAND).

Price Stability

This is a term defined in the Policy Targets Agreement, signed every two years between the Minister of Finance and the Governor of the Reserve Bank, referring to the maintenance of an annual movement in the Consumers' Price Index (CPI) within a specified range, which is currently between 1 and 3% over the medium term.

Real Time Gross Settlement (RTGS)

A generic term referring to the settlement of (generally wholesale) transactions between financial institutions on a transaction by transaction basis throughout the day (see 5. THE PAYMENTS SYSTEM).

Retail Banking Market

This market consists of individuals who deal in smaller amounts of money than those involved in the WHOLESALE MONEY MARKET. Retail banking comprises the range of services offered through a bank to its personal customers. Retail banking is primarily, but not exclusively, offered through a branch network (see 3. BANKING SERVICES).

Risk Weighted Categories

These are broad categories of credit risk for bank assets, which are used to calculate the quantity of capital that a bank is required to hold under the 1988 Basel Capital Accord. The risk weights for different types of credit exposure are in bands - 0, 10, 20, 50 and 100%. They categorise lending to different groups of customers and economic sectors on the basis of the likely risk of default.

0% – cash and government security investments of less than a year

10% – other lending to central government

20% – lending to other banks, local authorities etc.

50% – loans fully secured by mortgage on residential property

100% – all other assets

(See 8. BANKING SUPERVISION)

These weightings will be revised under the Standardised Approach of Basel II.

Securities

Securities are financial assets which pay income to investors in the form of interest or dividends. In the context of this booklet, the term is only used to refer to interest-bearing investments (e.g. government stock).

Settlement Risk

A general term used to describe both credit and liquidity risks in a payment (funds transfer) system. It is the risk that a party (e.g. a bank) may fail to meet one or more of its obligations to its counterparties (e.g. other banks) or to a settlement agent or institution (the Reserve Bank).

Swaps

These are financial products which enable a firm to swap the denomination of its debt from one currency to another (i.e. a currency swap) or to swap its debt between one interest basis, such as fixed for three years, and another, such as floating rate (i.e. an interest rate swap). Currency and interest rate swaps may be combined as cross-currency interest rate swaps.

Systemic Risk

The risk that the failure of one participant in an interbank payment (funds transfer) system or securities settlement system, to meet its required obligations, will not enable other participants in that system to meet their obligations when due.

Treasury Bills

Securities issued in regular tenders by the Reserve Bank on behalf of the Treasury are called Treasury Bills. They generally have short-term maturities such as seven days to six months and are non-interest bearing (investors get a return from difference between the discount at which they are issued and their face value on redemption). Funds raised by issuing them are used to finance the government's debt and to smooth irregular cash flows between the government and the banking sector. They can be traded on the money market by investors, but cannot be sold back to the Treasury before they mature.

Wholesale Money Market

The wholesale money market consists of dealers in large amounts of money ($1 million or more) not commonly deposited by individuals. Interest margins between borrowing and lending rates are generally smaller than in the retail market.

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12. USEFUL WEBSITES

NEW ZEALAND BANKERS' ASSOCIATION MEMBERS		
ANZ National Bank Limited trading as	ANZ Bank	www.anz.co.nz
	The National Bank of New Zealand	www.nbnz.co.nz
ASB Bank Limited		www.asbbank.co.nz
Bank of New Zealand		www.bnz.co.nz
Citibank, N.A.		www.citigroup.co.nz
Kiwibank Limited		www.kiwibank.co.nz
The Hongkong and Shanghai Banking Corporation Limited		www.hsbc.co.nz
Superbank (St. George Bank New Zealand Limited)		www.superbank.co.nz
TSB Bank Limited		www.tsbbank.co.nz
Westpac Banking Corporation		www.westpac.co.nz

OTHER BANKS	
ABN AMRO Bank NV	www.abnamro.co.nz
Commonwealth Bank of Australia	www.asbbank.co.nz/story4925.asp
Deutsche Bank AG	www.deutschebank.co.nz
Kookmin Bank	inf.kbstar.com/quics?page=s_kbe
Rabobank New Zealand Limited	www.rabobank.co.nz
Rabobank Nederland	www.rabobank.com
The Bank of Tokyo-Mitsubishi UFJ, Limited	www.mufg.jp/english/

OTHER FINANCIAL INSTITUTIONS	
New Zealand Association of Credit Unions	www.nzacu.org.nz
PSIS	www.psis.co.nz
Southland Building Society	www.sbs.net.nz

OTHER	
Centre for Banking Studies	centre-banking-studies.massey.ac.nz
CLS Bank	www.cls-group.com/
EDS (New Zealand) Limited	www.eds.co.nz
EFTPOS New Zealand Limited	www.eftpos.co.nz
Financial Services Federation	www.fsf.org.nz
Finsia	www.finsia.edu.au
New Zealand Bankers' Association	www.nzba.org.nz
Office of the Banking Ombudsman	www.bankombudsman.org.nz
Reserve Bank of New Zealand	www.rbnz.govt.nz

SELECTED AUSTRALIAN SITES	
Australian Payments Clearing Association Limited	www.apca.com.au
Australian Prudential Regulation Authority	www.apra.gov.au
Reserve Bank of Australia	www.rba.gov.au