

FINANCIAL MARKET DEVELOPMENT AND THE REAL ECONOMY IN HONG KONG*

Recent economic theory suggests the development of financial markets can promote economic growth and there is some empirical support for this. In Hong Kong, financial market development has taken the form of expanding the bond market, establishing new institutions, improving supervision and creating monetary policy instruments. This appears to have led to a sounder and more efficient financial system.

Introduction

Financial market development seeks three goals, namely raising national saving, facilitating risk management and improving resource allocation. In a sense the first two can be thought of as improvements to the liability side of the economy and the latter as improvement to the asset side, although some developments serve more than one purpose.

The first section of this paper summarises the economic literature on financial market development and the extent to which empirical evidence supports its conclusions. The four subsequent sections examine financial market reforms in Hong Kong – expanding the bond market, establishing new institutions, improving supervision and creating monetary policy instruments – and discusses how they contribute to these three goals.

Summary of Economic Literature

A financial system which can efficiently mobilise savings has long been recognised as a prime element in economic growth. As Bagehot (1873, pp3-4) put it “a citizen of London in Queen Elizabeth’s time ... would have thought it was of no use inventing railways (if he could have understood what a railway meant) for you would not have been able to collect the capital with which to make them.” Similar ideas led Schumpeter (1911, p74) to accord the banker the status of “the capitalist par excellence. He stands between those who wish to form new combinations and the possessors of productive means.” This view is shared by many economic historians and theorists.

Three classic works in the field by economists are Goldsmith (1969), McKinnon (1973) and Shaw (1973). All emphasize the role of capital markets in

raising saving and investment and improving the efficiency of investment by directing funds to areas where they can generate the highest returns. McKinnon and Shaw contrast this with the financial repression evident in many developing economies where (real) interest rates were held down. This both discouraged saving and also meant that some of the reduced flow of saving continued to be employed in less efficient uses.

These ideas have become quite widely accepted in the literature, although there are disagreements about the relative importance of increased saving/investment as distinct from better allocation of it. However they have not gone totally unchallenged. For example, Lucas (1988, p6) believes “the importance of financial matters in very badly over-stressed” in discussions of economic growth.

It may even be the case in some circumstances that development of more complete financial markets could reduce saving. Easier access to debt could lead some agents to save less and this has been suggested as a reason why financial liberalisation has not been associated with increased saving rates in Latin America. Edey and Hviding (1995) note that several international studies found that financial liberalisation was followed by decreases in household saving ratios, although in some cases the effect appears to have been temporary.

Anecdotal evidence of poor lending decisions by banks following deregulation in a number of countries may raise doubts about financial market development improving efficiency but these are (hopefully) transitional effects. The reduction in uncertainty arising from the increase in liquidity associated with the development of equity markets should spur investment demand, but could actually lower saving.

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Notwithstanding these caveats, the majority view remains that financial development is a 'good thing'. The insights of McKinnon and Goldsmith remain the basis for much discussion of the topic. For example, in a recent exposition by Pagano (1993), described in the Box, financial development raises the growth rate by encouraging saving, raising the amount of investment from a given amount of saving by reducing intermediation costs and directing savings into their most productive uses.

These resource allocation functions give a role for financial institutions and markets even in a world of certainty. Financial intermediaries assume an even greater importance when there is more uncertainty about the returns from investment projects. For Lowe (1993, p48) "financial intermediaries exist because of their ability to cost-effectively screen proposed investment projects, to assess the collateral of various loan proposals and to monitor the performance of projects for which funds have been lent." Levine (1996) believes financial markets and institutions arise "to ameliorate the problems created by information and transactions frictions".

It is useful to distinguish here between two classes of financial institutions. Institutions such as mutual funds, unit trusts, Islamic banks, superannuation or pension funds (hereafter called just "investment pools" following IMF terminology) do not promise to pay a fixed rate of return. Banks, building societies, finance companies, savings and loans, credit unions etc (hereafter "banks") do make such a commitment.

Investment pools collect savings of individuals and give them a return that reflects a share of the returns earned from a diversified portfolio of projects. This reduces the risk to the individual savers. For the economy as a whole it allows fewer resources to be held in low-return liquid assets and more in high-return illiquid assets, thereby raising the steady-state growth rate of the economy.

Banks further reduce the risk to their depositors by not just pooling savings but offering a guaranteed return on the money placed with them. The risk that projects may make a loss is therefore transferred from the depositors to the banks' shareholders. They in turn pass on some of the risk to the firms for whom they provide funding by

making loans with set repayments rather than taking equity positions.

In this way banks help move risk from those less willing and able to bear it to those willing to do so in exchange for a higher return. McKinnon (1973) had also discussed the risk management role of financial intermediaries and markets. He comments "the principal *raison d'être* of the financial system is to ensure that risk-bearing is distributed according to people's 'taste' for risk-taking."

Both investment pools and banks help overcome the problems faced by savers in gathering information about borrowers which inhibit direct transfers of funds from one to the other. As Tease and Wilkinson (1993, p3) put it, "financial intermediaries can take advantage of economies of scale to dissipate the high fixed costs involved in assessing and monitoring borrowers. By pooling the funds of a large number of individuals, they can influence management investment decisions, overcome problems of moral hazard, and better align the interests of management and creditors. In addition, through their deposit-taking functions, some financial intermediaries gather information about the performance of firms. Thus economies of scale also provide intermediaries with a comparative advantage in the provision of finance."

Financial market development also contributes to economic growth by facilitating better national risk management, especially from the liability side. Choosing the right financial structure for investment is important for the sustainability of economic growth. Firms need to be able to choose a mix of short-term debt, long-term debt and equity to match the characteristics of the risks, expected returns and cash flow patterns of incremental investment projects, having regard to their existing corporate financial structure.

In some cases this might involve making greater use of long term debt than has been common in Hong Kong. In other circumstances firms may wish to make more use of equity, as it is a 'safer' form of liability than bank loans given the firm has no fixed obligation to repay the equity holders. Equity capital therefore provides a useful cushion to economic shocks and business cycles. On the other hand, a highly leveraged firm is more vulnerable to interest rate risk and other external shocks. Diversification of creditors may not help

because it can bring in problems in debt renegotiation. Having more banks involved increases the risks of delay in debt resolution. As Sheng & Yoon (1993) put it, “the higher a country is leveraged either through domestic or foreign debt, the more volatile its economic performance, with likely long-run consequences of poorer economic growth”.

Historical Patterns and Empirical Evidence

There are four main sources of funding for ‘investment’ projects (including by homebuyers);

- drawing down savings or retained earnings, which requires financial institutions for ‘safekeeping’ but not for intermediation
- borrowing from banks
- raising equity finance
- raising bond finance

Historically these four means of financing have developed in this order, both in the OECD economies and more recently in the Asian region. Where governments were unwilling to fund their expenditure from taxation, government bond markets developed more rapidly. Once equity and bond markets develop, investment pools often proliferate to aid small investors in accessing them. The gradual development of these markets fills out the risk/return spectrum, avoiding inefficiencies due to market segmentation. Faster economic growth might occur where the process proceeds further and faster.

Most studies of this phenomenon have concentrated on the development of banking rather than the other areas. A review of this literature by Goldsmith (1969, p402) led him to opine that those authors whose studies focused on central Europe and Japan in the 19th century were inclined to ascribe a positive growth-inducing role to financial institutions while those looking at non-European countries in more recent periods adopted a more negative attitude.

More recent work draws on the revival of interest in economic growth with the development

of theories of ‘endogenous growth’. A theoretical model along these lines incorporating the role of financial intermediation is presented by Levine (1992).

A recent overview of econometric studies by Levine (1996) concludes that there is now a body of evidence that financial development is an important factor leading to faster economic growth. (Levine notes the literature on how changes in economic activity and other factors influence financial systems is much less developed.) An example of this literature is the study by Johnston & Pazarbasioglu (1995), in which measures of financial market development are added to standard growth regressions.¹ They postulate that an efficient financial system is likely to have positive real interest rates, a larger volume of intermediation (as measured by bank deposits or loans relative to GDP) and a small spread between deposit and lending interest rates. Such variables are included in a comparison of real GDP growth across forty economies which undertook financial reforms between the early 1970s and early 1990s. The variables enter with the correct signs for those economies which did not suffer a financial crisis during the period.

Bank credit to the private sector as a ratio to GDP is used as the measure of financial market development in a similar study by De Gregorio and Guidotti (1992) over a longer time period and covering almost a hundred economies. They also conclude there is a significant positive relationship between financial market development and economic growth. About a quarter of the effect is attributed to an increase in saving and investment and the remainder to improvements in the efficiency of investment. Similar econometric tests by King and Levine (1993, p719) using indicators based on bank deposits and credit provided to firms lead to a “significant robust relationship between the level of financial development and both the current and future rate of economic growth”.

Stock market development is found to have a positive association with economic growth by Levine and Zervos (1996). Rajan and Zingales (1996) present evidence suggesting this may be due to financial development reducing the cost of external finance for firms.

1 The regressions include variables such as initial income, education and investment which many other studies have concluded influence the rate of economic growth.

To illustrate how financial development affects economic growth, we employ cross-country data on 42 economies to estimate the following regression. The dependent variable is the average annual growth rate of real per capita GDP between 1964 and 1992. The explanatory variables are initial income, the average investment share, population growth, average tariff rates as a measure of openness and stock market capitalisation and money as percentages to GDP as measures of financial development. All have the expected signs.

	Coefficient	(t-statistic)
intercept	3.13	(2.5)
GDP per head, % to US in 1964	-0.06	(6.7)
Investment, % to GDP, average 1964-92	0.08	(2.3)
Population growth, average % rate 1964-92	-0.55	(1.7)
Tariff rate, import-weighted	-2.00	(2.1)
Broad money, % to GDP	0.02	(2.4)
Stock market capitalisation, % to GDP	0.02	(3.4)
R ² = 0.66		

The coefficient implies that were economies such as Colombia, Indonesia, Kenya and Peru, where stock market capitalisation is around 5-10% of GDP, to develop their markets to the size of those in continental Europe, about 25% of GDP, this would add over 0.3% to their average annual economic growth rate.

However, this is likely to be an understatement as investment is itself likely to be increased by the expansion of financial markets. The following regression relates investment (as a percentage of GDP) to financial market development and other variables. An increase in capitalisation from 5-10% to 25% would be associated with an increase in the investment share of 1.1 percentage points, which the earlier regression suggests would in turn be associated with a 0.1% higher economic growth rate.

So in this example, which should be taken as illustrative rather than definitive, financial market

development adds to both the quantity and the quality of investment, with the latter effect about three times as important as the former. An increase of 0.4% in the growth rate may not sound large, but over the 28 years considered here the difference between 2.0% growth and 2.4% growth cumulates to over 10%, or five years' growth.

	Coefficient	(t-statistic)
intercept	24.82	(14.4)
Population growth, average % rate 1964-92	-3.58	(4.0)
Tariff rate, import-weighted	-6.97	(1.7)
Stock market capitalisation, % to GDP	0.06	(2.7)
R ² = 0.55		

The Development of Hong Kong's Capital Markets

Hong Kong, like many of the East Asian economies, has a high saving rate (over 30%). A considerable proportion of investment by firms and households is funded by drawing down their accumulated savings. However its high degree of financial sophistication, supported by social and monetary stability, means that financial intermediation is also very important. Many Hong Kong companies fund their expansion by borrowing the savings of their fellow citizens through the banking system or selling them equity.

With its high saving rate, Hong Kong has traditionally funded domestic investment with little recourse to foreign borrowing. As a major trading port, banking finance for external trade became the main engine of growth in the financial sector. The historical links with the London capital market and an active investment habit also led to the growth of the domestic stock market. Reflecting its low tax, absence of exchange controls, excellent infrastructure and free enterprise environment, Hong Kong rapidly emerged as an international financial centre in the 1980s. The banking centre expanded with the arrival of American, European, Japanese and other Asian banks. Hong Kong today is the world's fifth largest banking centre (in terms of external assets) and the eighth largest stock market (in terms of market capitalisation).

There is a tendency for financial markets to grow relative to economic activity as economies become wealthier, reflecting both cause and effect. (Chart 1 shows this on a cross-section basis while Goldsmith's (1969) study indicated that the ratio of financial institutions' assets to GNP showed a secular increase over a century.) It is therefore not surprising that Hong Kong's domestic banking and equity markets are large relative to GDP, even before allowing for Hong Kong's role as an international financial centre. In contrast, the development of Hong Kong's bond market has been much slower, reflecting both demand and supply side reasons. Among the most important was probably the lack of a benchmark against which to price bond offerings, a result of the strong fiscal discipline which has obviated the need to issue government securities for financing expenditures. (By contrast in many other developed economies, a steady issue of high quality government bonds fostered the creation of a critical mass of other debt instruments.) Easy access to bank financing for credit-worthy businesses meant there was no urgent need to tap the long-term debt market. On the demand side, retail investors preferred the risk and rewards associated with the more volatile equity markets and there were relatively few large scale pension funds.

By the late 1980s there were some issues of private sector debt paper, comprising mostly negotiable certificates of deposit and commercial paper. However, as these issues mostly had maturities of less than a year, they did not make much contribution to mobilising long term savings.

In the late 1980s, as Hong Kong emerged as an international financial centre, there was a recognition that the monetary authorities had a role in fostering stronger, deeper and more robust financial markets in order to safeguard monetary and financial stability.

Measures to Develop the Bond Market

A number of measures have been taken to develop the bond market in recent years.² As the consistent budget surpluses have obviated the need for government bonds, the Hong Kong Monetary Authority started issuing its own securities in 1990 to provide a cost effective monetary policy

instrument. To provide a benchmark yield curve for private sector paper, the maturity of these securities has been gradually extended. An efficient market infrastructure for trading and settling securities has been established, in the form of the computerised Central Moneymarkets Unit, and there is a favourable tax environment.

Reflecting these measures, gross issues of HK dollar paper rose from US\$4 bn in 1989 to US\$10 bn in 1990 and have since then more than tripled to US\$32 bn in 1995, of which nearly half are private sector issues. Total HK dollar debt paper outstanding amounted to US\$36 bn at end-1996. Most of the private sector paper has an original maturity of three years or more and floating rate securities are more common than fixed-rate.

The next step is to look at the development of an 'Asiaclear', connecting up Asian domestic securities clearing depositories. This would allow the settlement of Asian bonds in the Asian time zone and greatly reduce the transactions costs and risks involved in investing in Asian bonds.

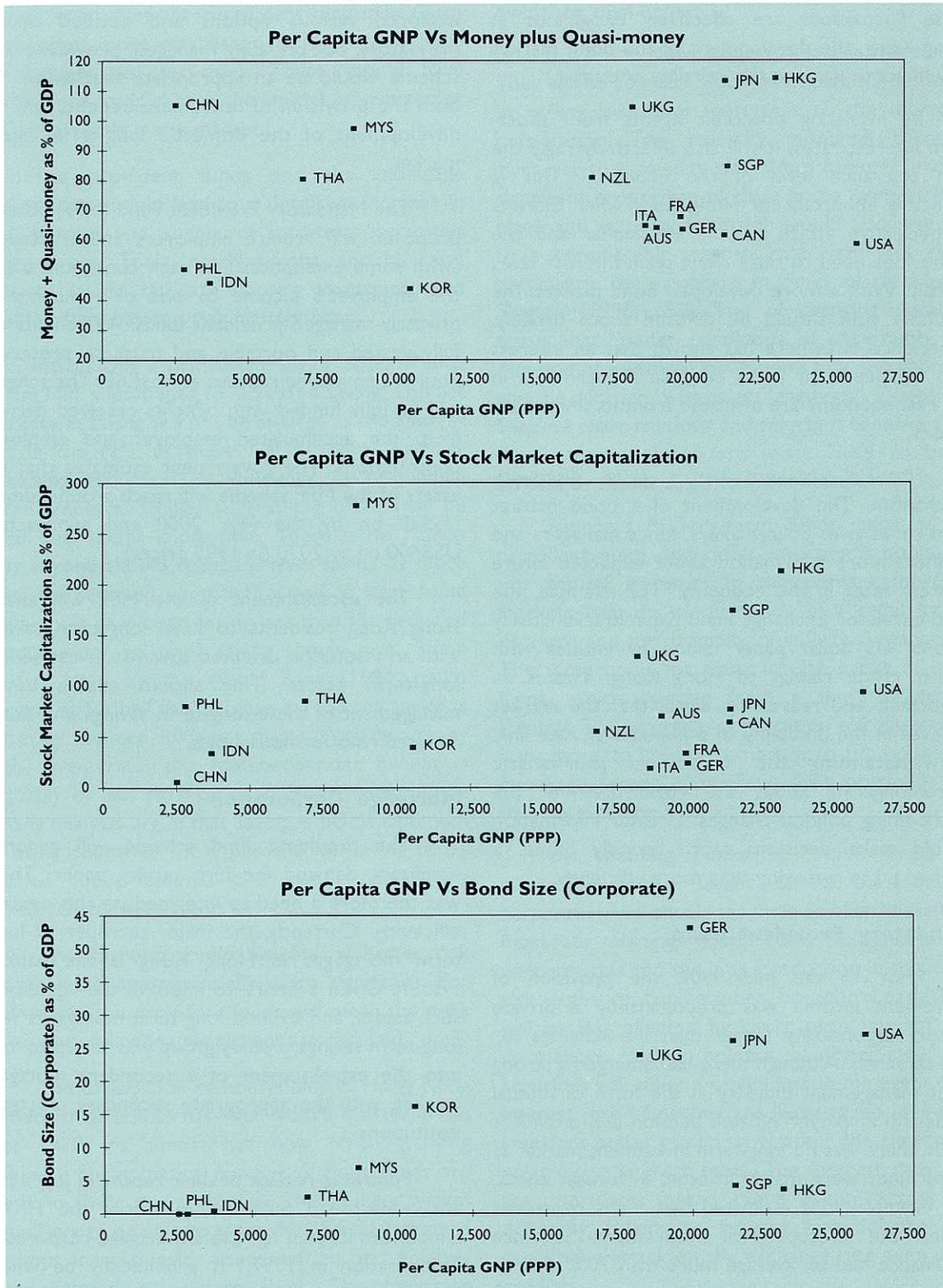
The development of the bond market will help complete the range of financial markets. They should allow firms to reduce the risk of their long-term projects by locking in the availability of finance. For those firms issuing fixed-rate paper, it will also lock in the cost of funds. From the point of view of the firms, this could also be achieved through a long term loan from a bank. However, from a national perspective, the advantage of using bonds instead is that there is not an addition to the maturity mismatch in the banking system (and an addition to interest rate risk there as well, in the case of fixed-rate loans) but rather an additional long-term financial asset is available to investors who are looking for a less risky security than equities.

The development of the bond market should give firms greater access to borrowings and make them less reliant on current cash flows. This should make the economy somewhat less sensitive to both real and financial shocks.

More specifically, an increase in the use of the bond market relative to other forms of financial intermediation will mean that an increasing proportion of the debt of Hong Kong firms may be

2 For further information see Lau (1996) in the February 1996 issue of the *Quarterly Bulletin*.

Chart I
Indicators of Financial Market Development (1994)



Notes: AUS = Australia, CAN = Canada, CHN = China, FRA = France, GER = Germany, HKG = Hong Kong, IDN = Indonesia, ITA = Italy, JPN = Japan, KOR = Korea, MYS = Malaysia, NZL = New Zealand, PHL = Philippines, SGP = Singapore, THA = Thailand, UKG = United Kingdom and USA = United States

at fixed rather than floating rates. The cash flows of corporate borrowers will therefore be less affected by short term interest rate fluctuations. As these fluctuations are effectively exogenous in Hong Kong, the development of the bond market should act to dampen the volatility of output.

By insulating economic agents from short-term interest rates, it will also effectively raise the pain tolerance level of the economy. This is especially important for Hong Kong when there is a speculative attack on the HK dollar and the authorities need to raise short-term interest rates sharply. With a more developed bond market, the resultant pain should be diffused more broadly. Experience elsewhere has shown that an interest rate defence is far more credible if borrowers in the real economy are insulated from its immediate impact.

Financial markets are a price discovery mechanism. The development of a bond market yield curve gives policymakers, funds managers and business more information about expected future interest rates in the economy.³ For example, the yield curve for Exchange Fund paper tracks closely that of US dollar paper issued by entities with similar credit ratings to Hong Kong. This is an important, and reassuring, signal that the market believes in the durability of the exchange rate link, notwithstanding the occasional journalistic scaremongering about the implications of the forthcoming political changes. Greater information should make decisions more soundly based, a further aid to managing risks more efficiently.

Mandatory Provident Fund

Prior to the mid-1990s, the provision of retirement income was predominantly a private sector responsibility (other than the schemes for civil servants). Although there had emerged a strong asset management industry in the form of mutual funds and employer-initiated pension and provident funds, there was no long-term investment market as these funds were mainly invested in foreign assets. For example, it is estimated that funds registered under the Occupational Retirement Schemes Ordinance had on average more than 70% of their assets invested in non-HK dollar assets.

With an ageing population, there was a need to institute a more comprehensive form of income support for the elderly. The government explored various options and decided that a mandatory, but privately managed, provident fund scheme would be an appropriate mechanism for both the provision of retirement benefits and the development of the domestic long-term capital market.

The Mandatory Provident Fund (MPF) scheme proposed will require employers and employees (with some exemptions) to each contribute 5% of the employee's income to one of a number of privately-managed provident funds. All benefits are fully vested and portable and must be preserved until the employee reaches at least 60. The scheme will be fully funded with benefits received derived from the accumulated employer and employee contributions. The government estimates that the assets of the MPF scheme will reach around almost US\$20 bn by the year 2000 and approaching US\$400 bn by 2030 (in 1995 prices).

The establishment of the MPF will enable Hong Kong residents to have long-term savings with an institution oriented towards investment in long-term assets. This should enable better management of these long-term savings and hence reduced risks for households.

Mortgage Corporation

The provident fund scheme will generate significant demand for high quality paper. There was therefore a need to intermediate this demand efficiently. Currently, the major provider of long-term mortgages in Hong Kong is the banking system. Given a desire to improve the liquidity of such assets, and to fund long-term mortgages with long-term savings, a study group was set up to look into the establishment of a secondary mortgage market, with the appropriate secondary mortgage institutions.

Following receipt of their report in July 1995, and widespread public consultation, the HKMA announced its plan to have a mortgage corporation in operation in 1997.⁴ It will initially be wholly government-owned, with a mortgage portfolio of

3 It does however mean that intermediation by banks becomes less important and so the information content of the money and credit aggregates may become less. This would particularly be a problem for countries with monetary targets.
4 For further information, see HKMA (1996).

around US\$2.5 bn. In its initial stage, the corporation will concentrate on the purchase of residential mortgage loans for its own retained portfolio, funded by issue of unsecured debt securities. Once it becomes more established, it is likely to issue mortgage-backed securities. These should have much more liquidity than the limited private sector issues currently in the market.

The provident funds and the mortgage corporation should lead to a significant increase in the demand and supply of long-term securities respectively. Their establishment should raise national saving, facilitate housing investment and enable better national risk management.

Introducing a mandatory saving scheme such as the MPF should lead to increased saving. The net increase in saving will not be as large as the amount put in the MPF as there will be some partially offsetting reduction in voluntary saving. While some empirical studies suggest the offset may be total, this seems implausible. There is no reason why anyone should reduce private saving by more than the required contribution and at least some people will have been saving less than the required contribution. So total saving should rise. Some studies cited by the World Bank (1994, p309) suggest about half the increase in required saving is offset by reduced voluntary saving. With its already high saving rate, this macroeconomic benefit is arguably of less significance in Hong Kong. While "many analysts argue that saving is below optimum in many countries", it is possible for saving to be pushed above optimal rates were compulsory saving schemes taken too far.

The microeconomic benefits of better risk management are potentially more significant. For individuals, the provident funds will mean the risks of poverty following retirement are reduced.

The proportion of households in Hong Kong owning their homes has risen from a quarter in the late 1970s to almost half now. With growing affluence an increasing number of households are likely to share this aspiration. The banking system is unlikely to be able to meet the potential demand without increasing its concentration and liquidity risks beyond a prudent level. The mortgage

corporation allows banks to use their skills in arranging mortgages without building up excessive exposures and so will allow more households to own their own home.

It will also allow banks to manage risk better. They will be able to reduce their maturity mismatch by selling long-term mortgages to the mortgage corporation. This maturity mismatch currently gives rise to a liquidity risk. Were banks to make a significant proportion of their home loans at fixed rates, the maturity mismatch would also give rise to a considerable interest rate risk. This could particularly be a concern in times of turbulence. Sheng's (1996, p52) 'law of changing duration' states that "under conditions of uncertainty, the duration of a financial institution's liabilities shortens and the duration of its assets lengthens". Depositors become more cautious and reluctant to make term deposits while loans are more likely to be in arrears or rescheduled to avoid default.

Suppliers of long-term funds, such as the provident funds and other investment pools, are not natural investors in the primary mortgage markets because of their lack of a retail branch network and the illiquidity of individual mortgages. The same holds for many foreign banks in Hong Kong, which operate from a single branch in Central. The mortgage corporation will allow these institutions to hold an exposure to the household mortgage sector, diversifying their portfolios and thereby reducing risk.

By enabling banks to move fixed-rate mortgages off their balance sheets, the mortgage corporation will encourage them to offer households fixed-rate mortgage loans. Many households may welcome this and see it as a reduction in their own risk exposure. Furthermore, household cash flows will be less affected by short term interest rate fluctuations. While holders of fixed rate debt securities will suffer a capital loss in the event of an interest rate hike, they are likely to be long-term investors better placed to weather the short-term volatility in interest rates. The interest rate risks are therefore spread more evenly across the economy, making an interest rate defence to a speculative attack on the exchange rate even more credible.

Introduction of New Procedures for Bank Supervision

Another area of reforms over the past decade covers prudential supervision and regulation of banks. The reforms in this area have focused on improving transparency and ensuring banks are better placed to manage risk. Improved supervision reduces risks in the economy and by increasing public confidence in the banks encourages saving. As the IMF (1996, p11) recently commented, "improvements in the management of risk and in prudential supervision of banking can also in the longer run make an important contribution to economic performance".

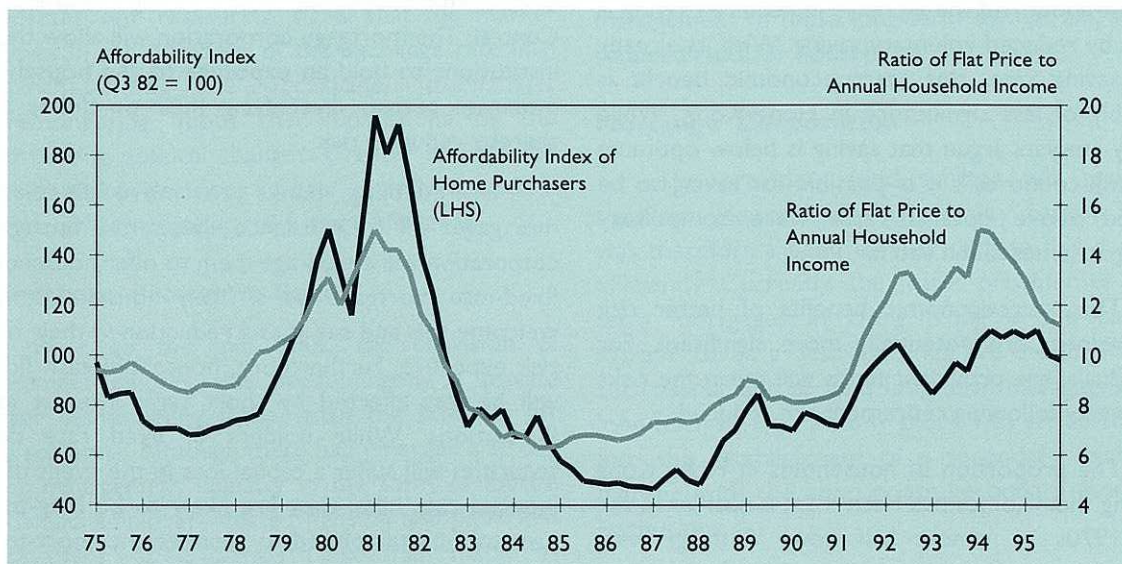
One of the most significant initiatives is that Hong Kong fully implemented the Basle Capital Accord in 1989, three years ahead of the international norm. The current capital ratio for banks in Hong Kong is 17%, more than double the required standard. Another very important measure has been the specific guidelines for bank lending to

guard against over exposure to the property market. Along with the other guidelines and a regime of on-site inspections, these measures have been very effective in ensuring that Hong Kong has a healthy and open banking system.

Managing Asset Price Inflation in Hong Kong

Hong Kong experienced property price booms in the early 1980s and again in the early 1990s. Chart 2 shows housing affordability deteriorated substantially during both episodes. However, the impacts on banking sector stability and real economic activity were quite different. The boom and subsequent bust in the 1980s was one factor leading to a series of bank failures.⁵ Weakness in the banking sector, accompanied by some political uncertainties, led building and construction activities to decline for four consecutive years between 1983 and 1986. By contrast, in the early 1990s, the surge in property prices soon stabilised and the banking sector remained robust and profitable.

Chart 2
Housing Affordability



Note : The affordability index of home purchasers is arrived at by relating mortgage repayments for a 50m² flat to median household income. A rise in the index means deterioration in affordability.

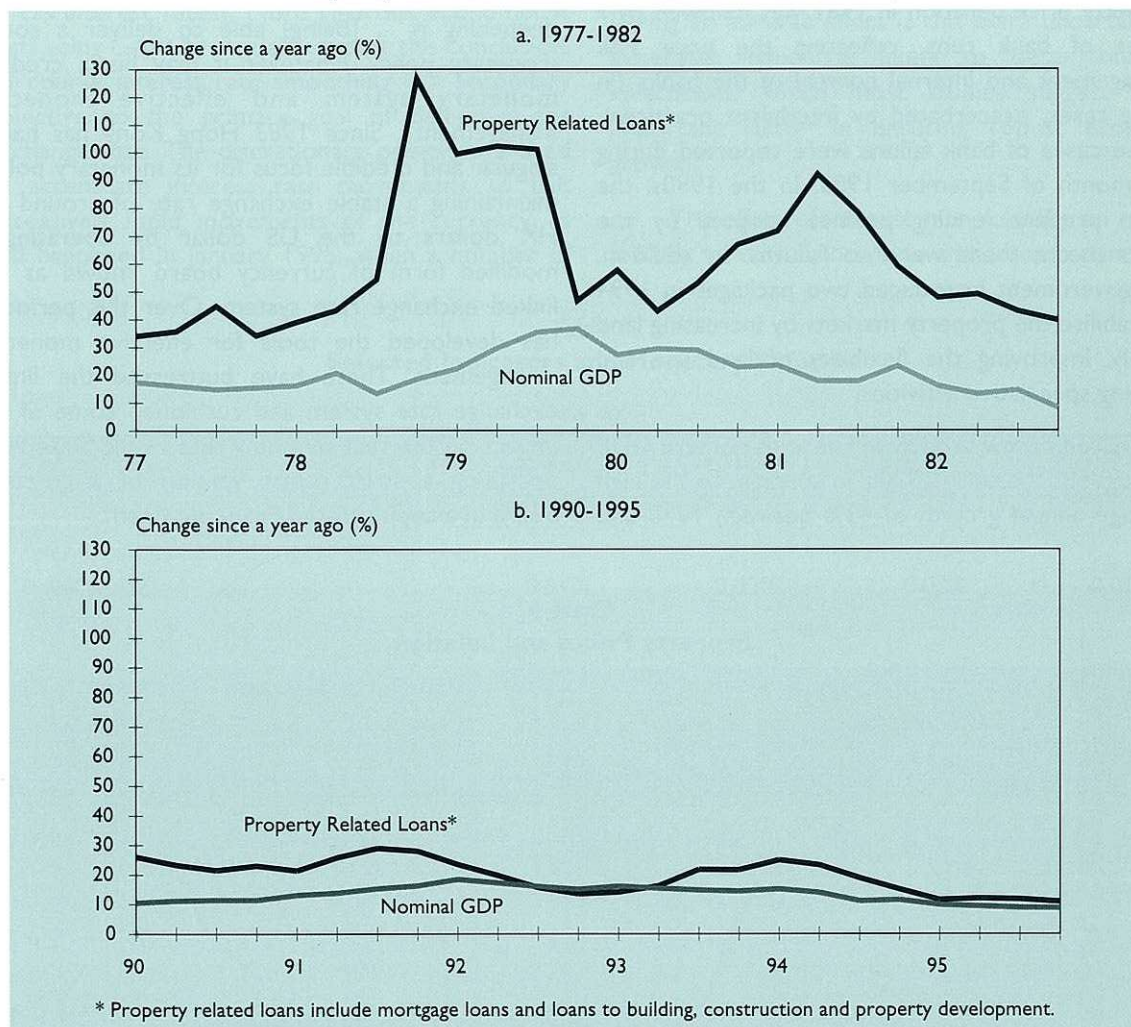
5 Fraud and mismanagement were also important in a number of cases. There had also been a large rise in competition within the industry with the number of licensed banks doubling within a five-year period.

The difference in the outcome of the two property price inflations partly reflects the different economic environment of the two periods, with both Hong Kong and global GDP growing somewhat faster in the earlier period.

However, another important difference is the attitude of the banks to property related lending. During the early 1980s episode, households and firms rapidly accumulated fixed assets (mainly real estate) that were financed by equally strong growth in liabilities, mainly in the form of mortgage loans from banks. Loan growth continued to accelerate despite rising interest rates. Between

April 1978 and March 1980, the best lending rate charged by major commercial banks rose from 4.75% to 16%, yet domestic loans grew by 34% in 1979 and by 56% in 1980. Banks shifted their portfolios towards property lending. Banks jumped onto the property lending bandwagon due to concern about maintaining market share and the perception it offered strong and relatively low-risk profit. Apart from mortgage lending, loans to construction and property development also surged rapidly. Loans for property related activities more than doubled in 1978 (see Chart 3). The increase in liquidity provided to the property market reinforced the rises in prices.

Chart 3
Property Related Loans and Economic Growth



Sources: Hong Kong Monetary Authority and Census & Statistics Department, HK Government

By contrast, in the early 1990s property price inflation, reflecting a mix of lessons learnt from the earlier experience and the guiding hand of the supervisory authorities, banks were more prudent in their provision of mortgage loans. The growth rate of loans to property related sectors never exceeded 30% throughout the period.

In both episodes the booms were followed by subsequent property price deflation, that is house prices declined and turnover fell. The consequent reductions in net worth held by property owners reduced consumer spending. Firms cut back business outlays and devoted a larger share of income to servicing existing debts.

However, the impact on the banking system was quite different in the two episodes. The property price deflation in 1981 was followed by a series of bank runs, reflecting the poor risk management and internal control of the banks (in some cases, exacerbated by fraudulent practices). Three cases of bank failure were reported during the month of September 1983. In the 1990s, the more prudent lending policies adopted by the banks meant there were no failures. In addition, the government introduced two packages in 1994 to stabilise the property markets by increasing land supply, improving the flexibility of land use and curbing speculative activities.

Credit grew broadly in line with nominal GDP throughout the early 1990s, in contrast to the high average annual growth of 43% between 1978 and

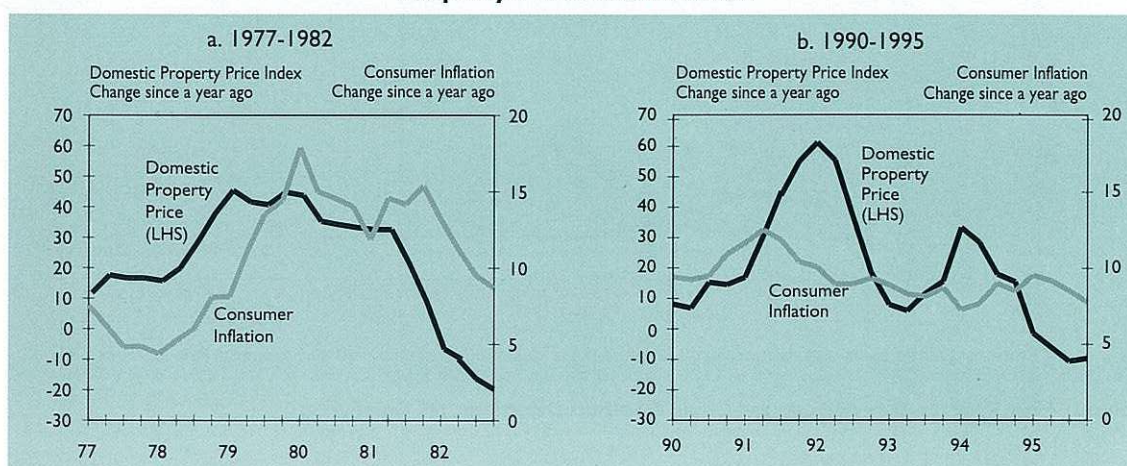
1982. At the peak of the property boom in early 1994, the HK dollar loan to deposit ratio was around 112% compared with the 135% in 1982.

The greater magnitude of the earlier boom-and-bust cycle was reflected in a much more marked effect on economic activity and inflation. While in both episodes there was a tendency for property owners to increase their consumption and to acquire more property on the expectation of further price increases, this effect was more pronounced in the earlier period. The impact on inflation in particular was more muted in the 1990s (see Chart 4).

Monetary Policy Reform in Hong Kong

As Yam & Chan (1993, p99) note, “a prerequisite for a successful pursuit of financial deepening is ... [being] able to deliver a sound monetary policy, whatever it may be, a credible monetary system and effective monetary management”. Since 1983 Hong Kong has had a singular and credible focus for its monetary policy; maintaining a stable exchange rate of around 7.8 HK dollars to the US dollar by operating a modified form of currency board known as the linked exchange rate system. Over this period it has developed the tools for effective monetary management. These have buttressed the linked exchange rate system and cushioned some of the impact on the real economy that would arise from operating a strict purist version of a currency board in a sophisticated financial system.

Chart 4
Property Prices and Inflation



Sources: Census & Statistics Department and Rating & Valuation Department, Hong Kong Government

With no clear guidance from theory or history, practice has evolved with experience. Before mid-March 1994, the HKMA varied the target for interbank liquidity (the 'Balance') only infrequently, making only 30 changes in five years. This made any changes a high profile event and so induced caution in varying the Balance, at times leading to considerable volatility in overnight interest rates. The HKMA now targets short term interbank interest rates instead of the level of interbank liquidity. This entails the injection or withdrawal of liquidity as the case may be to prevent the overnight interbank rate from being excessively volatile.

Table I suggests that these reforms have made overnight interest rates less volatile (and this is not due to any marked reduction in the volatility of US interest rates). More rigorous econometric tests using GARCH models support this conclusion. Of course interest rate smoothing is a secondary objective to the primary goal of defending the exchange rate. The discretionary powers are used to accentuate interest rate movements to halt excessively rapid movements of the currency, as had happened in January 1995, when a number of

Asian currencies were affected by the Mexican crisis spillover.

Macroeconomic Consequences of Reduced Financial Volatility

There are differences of opinion between academics and practitioners about the impact of financial market volatility on real sector activity. A survey by Andersen & White (1996, p12) concludes "there is virtually no evidence in the literature that short-term financial volatility reduces economic welfare". In contrast, business leaders often express concern about financial turbulence. Also, "almost universally central banks place great emphasis in the short run on ensuring stability in the interbank rate" comments Bisignano (1996, p17) from the BIS. The most likely cause for financial volatility having an adverse effect is the extra uncertainty it generates which is likely to deter business investment, which most studies suggest is an important factor in ensuring robust economic growth.

The effect of interest rate volatility on output is likely to vary across time and across economies.

Table I:
Selected Indicators and Monetary Reforms

(daily data)

	Jan 84 - June 88	Oct 88 - May 92	June 92 - Feb 94	May 94 - Nov 96
Average absolute % change in HK\$/US\$	0.04%	0.02%	0.02%	0.01%
Average absolute change in overnight HIBOR	149 bp's	32 bp's	28 bp's	13 bp's
(Average absolute change in US fed funds rate)	25 bp's	24 bp's	21 bp's	19 bp's
Average absolute change in 1 month HIBOR	30 bp's	13 bp's	8 bp's	6 bp's
Average absolute change in 3 month HIBOR	21 bp's	9 bp's	6 bp's	3 bp's
Average absolute difference between overnight HIBOR & LIBOR	291 bp's	83 bp's	48 bp's	31 bp's
Average absolute difference between 3 month HIBOR & LIBOR	154 bp's	46 bp's	23 bp's	12 bp's

For firms, the more ready availability of derivatives for hedging in recent years may have made their operations less interest sensitive. Output is likely to be less responsive to interest rates when a greater proportion of lending is done at fixed rates. (Fixed rate loans are prevalent in continental Europe while variable rates are more common in Hong Kong, Australia and the UK. In the US households usually borrow at fixed rates and corporations at variable rates although securitisation is increasing the fixed rate exposure of the latter.) Another relevant factor is the sensitivity of the price of household assets to interest rates (which is probably higher in Hong Kong, Australia, Japan, Sweden and the UK than in continental Europe).

Concluding Remarks

There will be many different impacts on the real economy from the variety of developments

discussed in this paper. A general theme of the reforms mentioned in this paper, however, is that they have the effect of enabling agents to manage risk better and mobilise resources more effectively. This improved national risk management raises the efficiency of both the financial system and the economy as a whole. A more stable financial system is also likely to encourage saving.

The sort of reforms discussed in this paper are important regardless of the exchange rate regime adopted. In economies with a stable exchange rate, such as Hong Kong, they are important because exchange rate fluctuations are not available to absorb the impact of external shocks to the economy; the real sector adjusts to the exchange rate. In other economies they are important because the exchange rate itself can generate shocks when its movements veer away from fundamentals. ⊕

Box: Pagano's Model of Financial Market Development and Economic Growth

Pagano (1993) postulates a very simple production function where output (Y) is a function of capital (K).

$$Y_t = AK_t \quad (1)$$

The capital stock grows with investment (I) but depreciates at the rate δ .

$$K_{t+1} = (1 - \delta)K_t + I_t \quad (2)$$

For a closed economy saving, less that proportion $(1 - \emptyset)$ used up in the intermediation process, equals investment. Saving is assumed to be a constant proportion (s) of income (which is equivalent to output in a closed economy).

$$\emptyset s Y_t = I_t \quad (3)$$

The growth rate of the economy (g_t) is defined as

$$g_{t+1} = \frac{Y_{t+1}}{Y_t} - 1 = \frac{K_{t+1}}{K_t} - 1 \quad (4)$$

Substituting using (1), (2) and (3) this becomes

$$g_{t+1} = \frac{(1 - \delta)K_t + \emptyset s AK_t}{K_t} - 1 \quad (5)$$

which simplifies to

$$g = \emptyset s A - \delta \quad (6)$$

This shows how financial development can affect growth;

- by raising the efficiency of intermediation (a rise in \emptyset)
- by raising the saving rate (a rise in s) or
- by raising the efficiency of capital (a rise in A).

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