

Financial systems and economic growth: An evaluation framework for policy

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Abstract

The purpose of this paper is to develop an analytical framework for discussing the link between financial systems and economic growth. Financial systems help overcome an information asymmetry between borrowers and lenders. If they do not function well, economic growth will be negatively affected. Three policy implications follow. First, the analysis underscores the importance of maintaining solid legal foundations because the financial system relies on these. Second, it demonstrates the necessity for reforming tax policy as it applies to investment, as this is demonstrated to significantly affect the operation of the financial system. Finally, given the importance of financial development for economic growth, a more in-depth review of New Zealand's financial system in the context of financial regulation and supervision would be valuable.

JEL CLASSIFICATION G10 - General Financial Markets - General
G20 - Financial Institutions and Services - General
G38 - Government Policy and Regulation
H25 - Public Economics - Business Taxes and Subsidies
K20 - Regulation and Business Law - General
K34 - Law and Economics - Tax Law
O16 - Financial Markets; Saving and Capital Investment

KEYWORDS Economic growth, financial development, financial systems, financial regulation; legal system; institutions; tax

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Financial systems and economic growth: An evaluation framework for policy

“When an apparently profitable opportunity to a firm, worker, or household is not exploited, the economic approach does not take refuge in assertions about irrationality, contentment with wealth already acquired, or convenient ad hoc shifts in values (that is, preferences). Rather it postulates the existence of costs, monetary or psychic, of taking advantage of these opportunities that eliminate their profitability – costs that may not be easily ‘seen’ by outside observers”.

Becker (1976, 111-112)

1 Introduction

The purpose of this paper is to develop an analytical framework for discussing the link between financial systems and economic growth. This framework can be used to evaluate policy settings that affect New Zealand’s financial system. The paper does *not* attempt to assess the adequacy of New Zealand’s financial system in providing financial services. Rather it highlights the importance of financial development for economic growth and identifies key policy priorities.

Financial systems, i.e. financial intermediaries and financial markets, are important for economic growth.¹ They can lead to a more efficient allocation of resources because they reduce the costs of moving funds between borrowers and lenders, and help overcome an information asymmetry between borrowers and lenders. If they do not function well the economy can not operate efficiently and economic growth will be negatively affected.

Information asymmetry arises because borrowers generally know more about their investment projects than lenders. Imperfect information can lead to a lack of market coordination (Akerlof 1970). As financial systems represent the market response to such a possibility, they are crucial institutions. Policy settings are important as they can affect the production and discovery of information, key functions of financial systems.

¹ Financial markets refer here to institutions organised for the creation and trade of financial assets, such as a stock exchange. Financial intermediaries are those institutions that carry out the market function of matching providers of funds with users of funds, such as banks, unit trusts or venture capitalists.

The paper proceeds as follows. Section 2 reviews the role of financial intermediaries and markets and their comparative advantages in providing external finance to firms. Section 3 establishes the broad link to economic growth. The cost of external finance is discussed in section 4 and the empirical evidence is reviewed in section 5. Section 6 discusses the importance of the legal environment and other policy influences for financial development and section 7 assesses the potential effects of the New Zealand tax system on the financial system. Section 8 discusses financial regulation and supervision, and the last section summarises and concludes.

2 The role of financial systems in the economy

This section discusses the main functions of financial intermediaries and financial markets, and their comparative roles. Financial systems, i.e. financial intermediaries and financial markets, channel funds from those who have savings to those who have more productive uses for them. They perform two main types of financial service that reduce the costs of moving funds between borrowers and lenders, leading to a more efficient allocation of resources and faster economic growth. These are the provision of liquidity and the transformation of the risk characteristics of assets.²

2.1 Provision of liquidity

The link between liquidity and economic performance arises because many high return investment projects require long-term commitments of capital, but risk adverse lenders (savers) are generally unwilling to delegate control over their savings to borrowers (investors) for long periods. Financial systems mobilise savings by agglomerating and pooling funds from disparate sources and creating small denomination instruments. These instruments provide opportunities for individuals to hold diversified portfolios. Without pooling individuals and households would have to buy and sell entire firms (Levine 1997).

Diamond and Dybvig (1983) show how financial intermediaries can enhance risk sharing, which can be a precondition of liquidity, and can thus improve welfare. In their model, without an intermediary (such as a bank), all investors are locked into illiquid long-term investments that yield high payoffs only to those who consume at the end of the investment. Those who must consume early receive low payoffs because early consumption requires premature liquidation of long-term investments. When agents need to consume at different (random) times, an intermediary can improve risk sharing – by promising investors a higher payoff for early consumption and a lower payoff for late consumption relative to the non-intermediated case.

Financial markets can also transform illiquid assets (long-term capital investments in illiquid production processes) into liquid liabilities (financial instrument). With liquid financial markets savers/lenders can hold assets like equity or bonds, which can be quickly and easily converted into purchasing power, if they need to access their savings.

² The financial system also plays a role in ensuring that payments can be exchanged and settled. This role is largely ignored in this paper.

For lenders, the services performed by financial markets and intermediaries are substitutable around the desired risk, return and liquidity provided by particular investments. Financial intermediaries and markets make longer-term investments more attractive and facilitate investment in higher return, longer gestation investment and technologies. They provide different forms of finance to borrowers. Financial markets provide arms length debt or equity finance (to those firms able to access markets), often at a lower cost than finance from financial intermediaries.

2.2 Transformation of the risk characteristics of assets

The second main service financial intermediaries and markets provide is the transformation of the risk characteristics of assets. Financial systems perform this function in at least two ways. First, they can enhance risk diversification and second, they resolve an information asymmetry problem that may otherwise prevent the exchange of goods and services, in this case the provision of capital (Akerlof 1970).

Financial systems facilitate risk-sharing by reducing information and transactions costs. If there are costs associated with the channelling of funds between borrowers and lenders, financial systems can reduce the costs of holding a diversified portfolio of assets. Intermediaries perform this role by taking advantage of economies of scale, markets do so by facilitating the broad offer and trade of assets comprising investors' portfolios.

Financial systems can reduce information and transaction costs that arise from an information asymmetry between borrowers and lenders.³ In credit markets an information asymmetry arises because borrowers generally know more about their investment projects than lenders. A borrower may have an entrepreneurial "gut feeling" that can not be communicated to lenders, or more simply, may have information about a looming financial risk to their firm that they may not wish to share with past or potential lenders. An information asymmetry can occur ex ante or ex post. An ex ante information asymmetry arises when lenders can not differentiate between borrowers with different credit risks before providing a loan and leads to an adverse selection problem. Adverse selection problems arise when lenders are more likely to make a loan to high-risk borrowers, because those who are willing to pay high interest rates will, on average, be worse risks. The information asymmetry problem occurs ex post when only borrowers, but not lenders, can observe actual returns after project completion. This leads to a moral hazard problem. Moral hazard problems arise when borrowers engage in activities that reduce the likelihood of their loan being repaid. They also arise when borrowers take excessive risk because the costs may fall more on lenders compared to the benefits, which can be captured by borrowers.

The problem with imperfect information is that information is a "public good". If costly privately-produced information can subsequently be used at less cost by other agents, there will be inadequate motivation to invest in the publicly optimal quantity of information (Hirshleifer and Riley 1979). The implication for financial intermediaries is as follows. Once financial intermediaries obtain information they must be able to obtain a market return on that information before any signalling of that information advantage results in it being bid away. If they can not prevent information from being revealed prior to obtaining that return, they will not commit the resources necessary to obtain it. One reason financial intermediaries can obtain information at a lower cost than individual lenders is that financial intermediation avoids duplication of the production of information faced by

³ When markets do not operate costlessly, firms arise if they can reduce market transaction costs by organising resources more cheaply within the firm (Coase 1937).

multiple individual lenders. Moreover, financial intermediaries develop special skills in evaluating prospective borrowers and investment projects. They can also exploit cross-customer information and re-use information over time. Financial intermediaries thus improve the screening of potential borrowers and investment projects before finance is committed and enforce monitoring and corporate control after investment projects have been funded. Financial intermediation thus leads to a more efficient allocation of capital. The information acquisition cost may be lowered further as financial intermediaries and borrowers develop long-run relationships (Petersen and Rajan 1994 and Faulkender and Petersen 2003).⁴

Financial markets create their own incentives to acquire and process information for listed firms. The larger and more liquid financial markets become the more incentive market participants have to collect information about these firms. However, because information is quickly revealed in financial markets through posted prices, there may be less of an incentive to use private resources to acquire information. In financial markets information is aggregated and disseminated through published prices, which means that agents who do not undertake the costly process of ex ante screening and ex post monitoring, can freely observe the information obtained by other investors as reflected in financial prices. Rules and regulation, such as continuous disclosure requirements, can help encourage the production of information.

Financial intermediaries and financial markets resolve ex post information asymmetries and the resulting moral hazard problem by improving the ability of investors to directly evaluate the returns to projects by monitoring, by increasing the ability of investors to influence management decisions and by facilitating the takeover of poorly managed firms. When these issues are not well managed, investors will not be willing to delegate control of their savings to borrowers. Diamond (1984), for example, develops a model in which the returns from firms' investment projects are not known ex post to external investors, unless information is gathered to assess the outcome, i.e. there is "costly state verification" (Townsend 1979). This leads to a moral hazard problem. Moral hazard arises when a borrower engages in activities that reduce the likelihood of a loan being repaid. For example, when firms' owners "siphon off" funds (legally or illegally) to themselves or their associates through loss-making contracts signed with associated firms.

2.3 The comparative roles of financial intermediaries and markets⁵

The main comparative advantage of financial intermediaries over financial markets is in overcoming the information asymmetry between borrowers and lenders. Financial intermediaries are better suited to reducing the public good problem of free-riding. This is because financial intermediaries can make investments without revealing their actions instantaneously in public markets. With well functioning financial markets information is revealed instantaneously through financial prices, providing individual investors with less incentive to acquire information.

⁴ However, the cost of developing long-run relationships may be to discourage competition from switching intermediaries.

⁵ The discussion in this section considers the role of markets and intermediaries in the optimal case. Policy can prevent financial systems from so operating, and later we argue that in fact New Zealand tax policy does undermine the role of the financial system.

Financial intermediaries are also better at ex post monitoring and exerting corporate control than financial markets. This is because with liquid financial markets, individual investors are able to readily sell their shares and have fewer incentives to monitor managers thoroughly. They also generally have less inside information about firms than financial intermediaries. Financial intermediaries may also be better able to exert ex post corporate control if firms are reliant on them for external finance.⁶

Intermediaries are particularly well suited to providing external finance to newer firms that require staged finance. This is because financial intermediaries can more credibly commit to providing additional funds as projects develop, whereas pre-committed stage finance is more difficult to arrange with publicly traded securities (debt or equity). Information asymmetries tend to be larger for small firms. This is because of reduced economies of scale with respect to acquiring information about small firms. Gertler and Gilchrist (1994a and 1994b), for example, find that bank-dependent firms with poor access to (non-bank) capital markets are typically smaller in size for the manufacturing sector in the United States. Because of the comparative advantage of financial intermediaries over financial markets in terms of collecting and processing information, countries with a large number of small firms might be expected to be more reliant on financial intermediaries than markets for external finance.

Moreover, financial intermediaries are better able to diversify aggregate risk. For example, banks have a unique ability to hedge against market wide liquidity shocks (Gatev and Strahan 2003). This is because banks are viewed as safe havens by investors. Deposits tend to flow in during periods of financial distress (low liquidity), at a time when borrowers want to draw on backup lines of credit as external finance from public securities markets has become too expensive because of low liquidity. By eliminating liquidity risk, banks can increase investment in high-return, illiquid assets and accelerate growth. Financial markets can reduce liquidity risk, but do not eliminate it.

In addition, financial intermediaries can provide intertemporal risk sharing. Financial markets are generally less well suited to provide this insurance. This is because intertemporal risk sharing requires the accumulation of reserves in safe assets whereas investors in financial markets would theoretically (though perhaps not practically) continuously adjust their portfolios to earn the highest rate of return (Dolar and Meh 2003).

Intermediaries directly undertake ex post monitoring of firm managers and exert corporate control when it is costly for outside investors to verify project returns. In Diamond's (1984) model, financial intermediaries are delegated the costly task of monitoring loan contracts. A financial intermediary must choose an incentive contract such that it has incentives to monitor the information, make proper use of it and make sufficient payments to savers to attract deposits.⁷ Providing loan contracts and monitoring is costly and diversification can reduce these costs. In Diamond's model, the financial intermediary need not be monitored because it bears all penalties for any shortfall of payments and because the diversification of its portfolio makes the probability of incurring these penalties very small. Moreover, the optimal size for a financial intermediary is infinite. This is because costs are lowered indefinitely by diversification, as long as the returns to borrowers are not perfectly correlated with each other.⁸

⁶ Ex post monitoring may be limited if borrowers can change institutions.

⁷ The optimal contract is a debt contract (an agreement by the borrower to pay the lender a fixed amount) with a non-pecuniary bankruptcy penalty.

⁸ When project returns are not independently distributed and instead depend on several common factors that are observable (such as economic conditions, interest rates and input prices) the intermediary still monitors firm-specific information, but hedges out all systematic risks.

Financial markets can also promote corporate control, for example, by structuring compensation such that managerial earnings are conditioned on firms' performance or by easing takeovers of poorly managed firms (Jensen and Murphy 1990). With takeovers, outsiders buy poorly managed firms, fire managers and transform firms into a more productive enterprise. While takeovers may not always improve performance, in practice the threat of takeover acts to discipline management and so it is difficult to measure the full value of this function. Financial markets possibly facilitate takeovers better than financial intermediaries and thus enhance the flow of capital to its highest value use.

Financial markets provide an alternative to intermediaries and an outlet to limit the potential problems created by powerful banks. Financial intermediaries focus on obtaining information that is not available to other lenders. This focus is crucial to overcome information asymmetry and provide finance, but they may use this inside information to extract rents from firms or to protect firms with close bank ties from competition (Rajan 1992). Financial intermediaries may also collude with firm managers against other lenders and hence obstruct efficient corporate governance (Wenger and Kaserer 1998).

For firms able to access them, financial markets may be better suited for dealing with uncertainty, innovation and new ideas than financial intermediaries because they allow for diversity of opinion. Financial intermediaries such as banks may have a bias towards low risk projects that have a high probability of success. Intermediated financing delegates decisions about investment projects to a relatively small number of decision makers. Disagreement and discrete decision making increases the likelihood of a loan application being rejected and as a result, without specialised intermediaries, intermediated finance may result in the underinvestment in new technologies, for example. For firms with such projects, and which can not access financial markets, the role of specialised intermediaries may be pronounced.

In summary, financial intermediaries and financial markets can in many cases act as substitute sources of financial services. Lenders/savers in particular have a choice between the risk, return and liquidity offered by both segments of the financial system. Each segment is able to offer a different range of investments and offers services to firms that are not complete substitutes. Broadly speaking, financial markets provide lower cost arms length debt or equity finance to a smaller group of firms able to obtain such finance, while financial intermediaries offer finance with a higher cost reflecting the expense of uncovering information and ongoing monitoring. Financial intermediaries and markets may also provide complementary financial services to many firms.

3 The link between financial systems and economic growth

There are two main channels through which financial systems can have an effect on economic growth: capital accumulation (both physical and human); and technological innovation. Both channels are discussed in this section.

3.1 Capital accumulation

Financial systems affect capital accumulation in three ways. First, financial systems lower the cost of channelling funds between borrowers and lenders, by reducing information and transaction costs. A decline in the cost of accessing finance frees up resources for other uses, including consumption, investment and capital accumulation.

Second, they can alter individuals' and households' saving decisions by making longer-term investments more attractive. If financial intermediaries and markets are unable to convince savers of the soundness of the investment projects that they are planning on funding, savers may choose to consume rather than save or place their savings in other less productive forms.

Third, financial intermediation affects capital accumulation by reallocating funds to their most productive uses, which raises the rate of return to saving. However, the effects of a change in the rate of return on saving are ambiguous. This is because higher rates of return increase the cost of consumption today or the cost of not saving, leading to more saving. But an increase in the rate of return to saving also means that individuals/households don't need to save as much to achieve desired future levels of income. Empirically, the elasticity of saving with respect to rates of return is found to be small, suggesting that both effects are of approximately equal importance.

The effects of a change in saving and investment on economic growth can be illustrated with the neoclassical growth model of Solow (1956) and Swan (1956).⁹ It shows that an increase in saving leads to a larger stock of capital, a higher level of output and temporarily faster per capita income growth while the economy moves to that higher level of output.¹⁰

Input accumulation, or capital more broadly defined, can lead to a permanent increase in the long-run rate of economic growth if it has spill-over effects to other factors of production and/or productivity. For example, in Lucas' (1988) model an increase in the human capital of one worker also raises the productivity of other workers. Another example is Romer's (1990) model where research and development (R&D) increases the available pool of knowledge that firms can draw on without cost,¹¹ leading to a permanent increase in the long-run rate of economic growth, all else equal.

3.2 Technological innovation

Financial systems may affect technological innovation. By allowing diversification, financial systems allow savers to obtain their desired level of exposure to high risk/reward firms, potentially increasing the level of finance directed at such activities. Financial intermediaries are well suited to provide external finance to new firms that require staged finance because they can credibly commit to additional funding based on key benchmarks. Specialised intermediaries can improve the willingness of savers to provide finance to firms with innovative or novel business plans through monitoring and oversight activities. Financial markets are effective at financing industries where relatively little

⁹ The Solow-Swan model is discussed further in the next section.

¹⁰ The absence of permanently faster growth results from an assumption of diminishing marginal returns to capital; that is, as more capital is added to a given amount of labour, the incremental additional output from each additional unit of capital gets progressively smaller.

¹¹ The ability of all firms to draw on the available pool of knowledge without cost reduces the private return to the original R&D and may lead to less R&D being undertaken than is socially optimal.

information or few data are available or where a diversity of opinion is persistent. This is because markets allow investors with similar views to form coalitions to finance a particular investment project. New investment financed by financial intermediaries or markets is a channel for the diffusion of new technologies and productivity gains.

4 The cost of external finance

Financing costs are an important determinant in firms' decisions to undertake investment projects. Higher real interest rates, for example, reduce the profitability of an investment project because of higher financing costs, and therefore lower the probability of the project being undertaken. This section reviews the cost of finance in a closed economy with perfect information. The analysis is then extended to the open economy and the effects of asymmetric information are discussed.

4.1 Economic growth and the real rate of interest

The Solow-Swan model of long-run economic growth is a useful starting point for discussing the determinants of the cost of external finance and real interest rates. The focus is on real (rather than nominal) interest rates because they more closely reflect the cost of borrowing. This is because real interest rates account for the loss of purchasing power due to inflation. The link between nominal rates, set by financial intermediaries and markets, and real interest rates is through the Fisher equation.¹²

The Solow-Swan model focuses on the long run, i.e. there is no uncertainty or shocks to the economy. Moreover, it abstracts from international borrowing and lending, a fiscal authority and information asymmetries.

There are four variables in the Solow-Swan model: output, capital, labour and knowledge (or effectiveness of labour or labour-augmenting productivity). Capital, labour and labour-augmenting productivity are combined to produce output.¹³ Capital accumulation is a function of the depreciation rate of the capital stock and domestic savings. Savings are a fixed fraction of current income, and they equal domestic investment because of the closed economy assumption.¹⁴ The two engines of economic growth in the Solow-Swan model are labour-augmenting productivity and labour force expansion.

In the Solow-Swan model the equilibrium real interest rate (cost of capital) is a function of the depreciation rate of capital, labour-augmenting productivity growth, labour force growth and the savings rate. The equilibrium real rate increases (decreases) when the depreciation rate, productivity and/or labour force growth increase (decrease). The steady state real cost of finance increases (decreases) with declines (increases) in the savings rate.

¹² See Claus and Grimes (2003) for more details.

¹³ The production function exhibits constant returns to scale in capital and labour; that is, doubling the inputs capital and labour doubles output.

¹⁴ In general, the savings rate is not exogenously determined and a function of people's time preference or discount factor.

4.2 The cost of finance in an open economy with perfect information

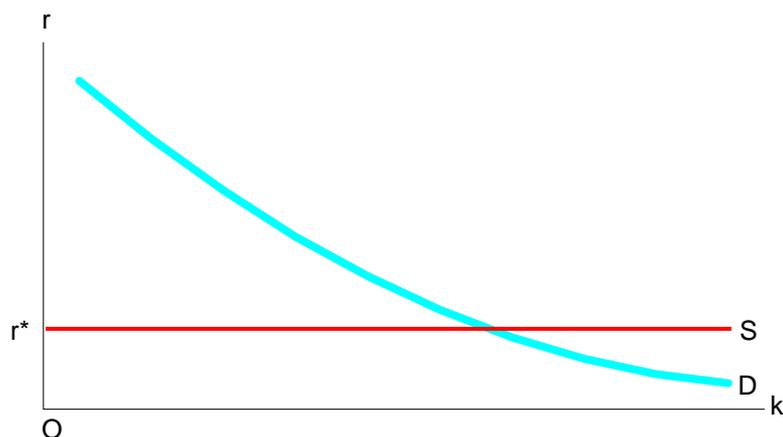
In a small open economy operating under a flexible exchange rate and with perfect capital mobility, the domestic interest rate is a function of the world interest rate and exchange rate expectations. In a perfect foresight equilibrium (with no government taxation) the domestic nominal interest rate is given by

$$i_t = i_t^* + e_{t+1} - e_t \quad (1)$$

where i_t and i_t^* denote the domestic and world interest rates and e_t is the exchange rate at time t . Equation (1) is derived from the assumption that real rates of return of investment projects are equal across countries, i.e. that savers/lenders are indifferent between holding domestic or foreign assets. This condition is known as uncovered interest rate parity.¹⁵ It implies that if the domestic country has a higher (lower) nominal interest than the rest of the world, because of, for example, higher (lower) inflation or less (more) expansionary monetary policy, its currency is expected to depreciate (appreciate).

With no uncertainty or other distortions, in a small open economy the nominal exchange rate adjusts so as to equalise real rates of return and the cost of borrowing is given by the world real interest rate. The supply and demand of capital in a small open economy is plotted in Figure 1, both as a function of the real interest rate, r . A typical downward sloping demand curve is given by D . The supply curve is infinitely elastic at the real world interest rate, r^* , and given by S .

Figure 1 – Supply and demand of capital in a small open economy with perfect information



4.3 The case of imperfect information

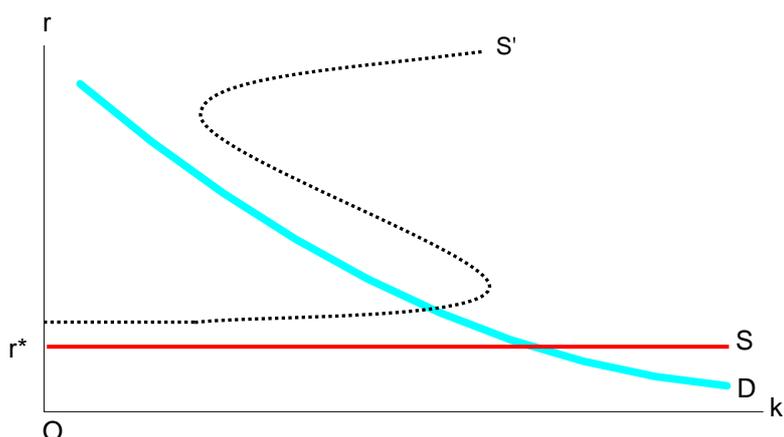
In practice, the assumption of perfect information is unrealistic as borrowers tend to be better informed about their investment projects than potential outside investors (lenders). This information asymmetry and the inability of lenders to monitor borrowers costlessly

¹⁵ Uncovered interest rate parity can be derived from households' optimisation problem. It will not hold as stated when the government taxes nominal interest income and capital gains from exchange rate movements as is the case in New Zealand.

lead to “agency costs” that increase the cost of external financing (Bernanke and Gertler 1989). With imperfect information, capital is only available at a higher real interest rate. The supply curve may even become positively sloped at some point as the level of external financing increases. In other words, the supply of capital may no longer be infinitely elastic in a small open economy. This is because greater reliance on external funds lowers the equity stake of borrowers, which gives them more incentive to engage in risky investment projects and increases lenders’ potential losses from adverse selection. To compensate for these additional risks lenders will demand a higher rate of return.

With imperfect information the supply of capital curve may also become backward bending or downward sloping, i.e. lenders reduce their supply of funds as interest rates increase (Figure 2). The supply curve becomes backward bending when there exists an interest rate that maximises the expected return to lenders and beyond which they will be unwilling to supply funds to some borrowers. This is because adverse selection increases the likelihood that loans will be made to bad credit risks, while moral hazard lowers the probability that a loan will be repaid. As a result, lenders may decide in some circumstances that they would rather not make a loan and credit rationing may occur.

Figure 2 – Supply and demand of capital in a small open economy with imperfect information



There are two forms of credit rationing: some loan applicants may receive a smaller loan than they applied for at the given interest rate, or they may not receive a loan at all, even if they offered to pay a higher interest rate. Jaffee and Russell (1976) develop a theoretical model in which imperfect information and uncertainty can lead to rationing in loan markets, where some agents do not receive the loan they applied for. Stiglitz and Weiss (1981) develop a model of credit rationing, where some borrowers receive loans and others do not. The empirical evidence on credit rationing is discussed in the next section.

Higher financing costs lower investment and economic growth. However, the effects are difficult to measure. It has been empirically shown that real (i.e. inflation adjusted) interest rates (of different maturities) and the cost of capital have only quantitatively small effects on total spending and investment. Moreover, it is difficult to explain the timing and composition of economies’ responses to changes in interest rates solely in terms of cost of capital effects (Bernanke and Gertler 1995). However, these aggregate effects can hide an unequally distributed impact that can harm smaller firms more extensively than larger firms. For example, Gertler and Gilchrist (1994) found that small firms account for a

significantly disproportionate share of the manufacturing decline and slowdown in inventory demand that follows a tightening of monetary policy.

The empirical finding of quantitatively small effects of the cost of borrowing on total economic activity is supported by the results from theoretical general equilibrium models (see, for example, Claus 2003). What seems crucial though is the effectiveness of financial systems in allocating resources to best uses, i.e. the degree to which financial systems overcome information asymmetry between borrowers and lenders. Using a general equilibrium model that is calibrated for New Zealand, Claus (2004) shows that a decline in the degree of information asymmetry increases the long-run level of steady state investment, capital and output. Asymmetric information and other credit market frictions also amplify and propagate conventional interest rate effects, underscoring the importance of financial institutions in minimising the imperfect information problem.

Asymmetric information may be of greater significance in small open economies than in large closed economies. This is because small economies tend to have a large number of small firms (in terms of the size of their balance sheets). Small firms are more affected by asymmetric information than large businesses because of economies of scale in acquiring and monitoring information. Moreover, in small economies financial markets may be less liquid and savers/lenders may not be able to quickly and easily convert assets into purchasing power, if they need to access their savings. In open economies additional information asymmetries may arise between domestic and foreign borrowers and lenders.

If the degree of information asymmetry is large in small open economies, the reliance on bank borrowing, all else equal, should be large as well. This is because financial intermediaries are better able to overcome the imperfect information problem than financial markets. The New Zealand data provide some support of this hypothesis. For example, in a study of business practices and performance, Knuckey *et al* (2002) found that 51 percent of firms in New Zealand in 2002 “used banks to fund some proportion of their innovation or expansion activities in the three years prior to the survey, with 22 percent of respondents using banks to fund more than 50 percent of their activities”.

Moreover, firms facing substantial asymmetric information can be expected to issue the “safest” security first, i.e. the one whose value changes least when inside information is revealed to the market. That is, firms will choose to issue debt and, only as a last resort, equity (Denis and Mihov 2003). The proposition suggests that the Modigliani and Miller (1958) theorem that firms are indifferent between issuing debt or equity does not hold.¹⁶

Finally, imperfect information may be an impediment to international capital mobility. With imperfectly integrated capital markets, domestic interest rates will be influenced by factors, such as the depreciation rate of the domestic capital stock, productivity and labour force growth and the domestic savings rate, in addition to foreign interest rates and changes in the exchange rate. Observed “home bias” in investment portfolios (i.e. investors holding less of their wealth in foreign assets than is optimal for diversification) suggests that there may be some barriers to capital mobility. However, the empirical evidence suggests that smaller countries may be somewhat less affected by home bias, which seems to be the case for New Zealand.¹⁷

¹⁶ The Modigliani and Miller (1958) theorem assumes that there are no information or transaction costs.

¹⁷ See Claus, Haugh, Scobie and Törnquist (2001).

5 Assessment of the empirical evidence

There are several sources of empirical evidence to draw upon in assessing the extent to which countries and firms in general, and New Zealand in particular, are affected by information asymmetries and the development of financial systems to reduce them. There is a literature drawing on the connection between a country's financial development and its rate of economic growth; a literature evaluating whether a shift to financial markets or intermediaries affects growth rates; and a body of research assessing the importance of financing constraints. Each of these areas of research is discussed in this section.

5.1 The empirical link between financial systems and economic growth

The interaction between financial systems and real activity has been investigated empirically since at least Gurley and Shaw (1955), who conjecture that financial systems play an important role in improving the efficiency of intertemporal trade and economic growth. Their conclusion is based on an observed correlation between economic development and financial systems. That is, developed countries tend to have highly organised and broad financial systems to facilitate the flow of loanable funds between borrowers and lenders, while in developing countries the financial system is much less evolved.

The empirical literature on the financial systems and economic growth nexus has expanded rapidly since Gurley and Shaw and the following conclusions seem to emerge.¹⁸ Countries with better developed financial systems tend to grow faster than countries with smaller banking systems and less liquid financial markets. Also, industries and firms that rely on external financing tend to grow faster in countries with well developed financial systems than countries with poorly functioning financial systems (Levine 2003). These results are based on estimations using different statistical procedures and data sets (cross country, panel data, firm and industry level and time series data).

However, conclusions about the empirical link between finance and economic growth and the quantitative significance of financial development need to be drawn cautiously. This is because of two main problems with the estimations. First, financial development can not be directly measured and must be approximated. Second, the estimations are subject to a simultaneity bias, i.e. financial development and economic growth are likely to be simultaneously determined. Financial development affects economic growth and vice versa. The simultaneity bias can be overcome with the use of instrumental variables if appropriate instruments are available. Limited data on financial development unfortunately means that instruments are even more difficult to find.¹⁹ As a result, answering this question presently requires extrapolation from more specific quantitative research.

The empirical link, at a country level, between economic growth and the degree to which countries' financial systems are intermediary or market based is investigated in Levine (2002). Measuring financial structure is difficult and Levine uses a range of indicators for the size, activity and efficiency of various components of the financial system, including banks, securities markets and non-financial intermediaries. The cross-country

¹⁸ For a useful survey see Levine (1997). For a comprehensive analysis see Graff (2000). For a historical perspective on financial development and economic growth see also Rousseau (2003).

¹⁹ For an assessment of the direction of causality between financial development and economic growth see Calderon and Liu (2003).

comparisons do not reveal significant differences between the economic growth of countries with more market based or more intermediary based financial systems. The results show that specific laws and enforcement mechanisms that govern debt and equity transactions are more important in explaining economic growth than the indicators as to whether a system is intermediary or market based. This result is robust to different specifications.

Levine's (2002) data set comprises data series for 48 countries for the period 1980 to 1995 and includes New Zealand. According to Levine's measures, financial intermediaries and markets are both important in New Zealand with a slight predominance of financial markets. The finding of a slightly greater importance of financial markets is somewhat surprising and in contrast with other evidence which suggests that New Zealand is a more intermediary based system. For, example, a recent report by the International Monetary Fund (IMF) on financial system stability in New Zealand noted that the non-bank financial sector accounts for only a quarter of financial system assets.²⁰ Levine's (2002) finding probably warrants further investigation.

The question of access to finance is generally assessed at the firm level. The empirical work shows that access to finance for particular types of firm is constrained in some circumstances. Financing constraints seem to exist for some firms even in countries with highly developed financial systems like the United States.

The propensity of smaller firms to cut work hours and production in response to cash flow constraints by more than larger firms, which are more likely to increase short-term borrowing, provides evidence that small firms are constrained in their ability to increase borrowing (Bernanke and Gertler 1995 and Gertler and Gilchrist 1994b). This view that firms' access to external finance may be limited in some circumstances is supported by the existence of an economically significant non-bank lending sector providing finance for high risk firms unable to obtain bank credit (Denis and Mihov 2003). That younger firms more often resort to the use of expensive trade credit relative to more established firms has also been taken to demonstrate the existence of credit rationing by banks (Petersen and Rajan 1994). Finally, Faulkender and Peterson (2003) find that firms with access to public debt markets have significantly higher leverage ratios than firms without such access.²¹ Their finding can be interpreted as evidence of a financing constraint – firms without access to public debt markets are constrained as to the amount of external finance they can obtain. Each of these conclusions suggests the existence of credit limitations, often particularly for smaller or younger firms, consistent with an information asymmetry hypothesis.

5.2 Empirical evidence in the New Zealand context

A key factor in firms' decisions to undertake an investment project is the cost of finance relative to the rate of return for the investment project. Another factor is access to external financing when firms require additional funds to undertake an investment project. New Zealand research on the cost of capital, the rate of return to investment and access to financing has been limited, and has focused particularly on aggregate and survey data or case studies. Limited analysis has been conducted on the cost of finance below the

²⁰ The report can be found at www.imf.org/external/pubs/ft/scr/2004/cr04126.pdf.

²¹ The differences do not seem to be explained by different firm characteristics.

aggregate level as virtually no information is available at the firm or industry level, or on the effect of aggregate measures on particular instruments.²²

Lally (2000) compares the real (inflation-adjusted) cost of capital in New Zealand, Australia and the United States. He finds that the New Zealand real government bond rate over the second half of the 1990s was comparable with Australia's, but significantly higher than in the United States. The New Zealand term premium for equity capital is similar to that for government bonds. Lally's findings are in line with the results in Hawkesby, Smith and Tether (2000), who find that over the 1990s the term premium in New Zealand's interest rates versus interest rates in the United States was quite large but much smaller versus Australian rates.

Using a panel of OECD countries, Plantier (2003) also finds a persistent although declining margin between real interest rates in New Zealand and the rest of the world. His results provide some support for the hypothesis that the cost of borrowing has been higher in New Zealand because of greater reliance on foreign borrowing. A study by Conway and Orr (2002) of interest rate differentials across a number of currencies suggests that the lower liquidity of the New Zealand dollar may also have been a contributing factor.

These analyses use government bond rates, and focus on the potential cost of finance for larger firms, which may not be a good proxy for the cost of capital for a number of New Zealand firms.²³ To date, no information is available on the proportion of firms that can actually borrow at this near risk free rate. Given the potential importance of bank lending in New Zealand, a useful first step may be to extend the analysis to incorporate the cost of bank borrowing, for which aggregate data are available.

Limited information is available on the rate of return to investment (capital) in New Zealand. Aggregate data suggest that the rate of return to capital, measured by the share of gross operating surplus in value added, is high in New Zealand compared to other OECD countries (Claus and Li 2003).²⁴ However, this measure of rate of return does not adjust for risk. The concept of economic value added (EVA) attempts to adjust for risk. It is an estimate of the amount by which earnings exceed (fall short of) the required minimum rate of return that lenders could achieve by investing in other securities of comparable risk.²⁵ In 2000, the ANZ Bank undertook a study on the economic value added of firms listed on the New Zealand stock exchange (Healy 2000). The results show that economic value added has been negative for several New Zealand companies over the 1990s. Economic value added may be low if rates of return adjusted for risk are low or if firms' cost of borrowing is high. Further research is probably required on the risk adjusted rate of return and cost of capital in New Zealand. The concept of economic value added presents a promising avenue for future work.

The question of access to finance domestically has primarily been addressed through the use of business surveys. Available New Zealand evidence does not generally suggest that respondents believe there are problems with access to finance (Fabling and Grimes 2004 and Knuckey *et al* 2002). The literature reviewed in the previous section, which is based on quantitative studies conducted overseas, suggests that finance constraint issues are endemic and that certain types of firm are more likely to be affected.

²² See Fowle (2003) for a more comprehensive review.

²³ The analyses also do not take into account differing equilibrium real rates. As discussed in the previous section real rates of return may not be equalised across countries if there are information asymmetries and/or other distortions that impede perfect capital mobility.

²⁴ See also Hall and Scobie (2004).

²⁵ For a more detailed discussion of economic value added see Healy (2003).

Reconciling these streams of work depends to some extent on how one interprets the meaning of survey respondents' answers and how one views potential issues associated with the use of survey evidence in this context. Without further quantitative work along the lines conducted overseas, we would hesitate to draw the conclusion that New Zealand's experience is different.²⁶ As a result, further New Zealand specific quantitative study would be valuable. A forthcoming survey of business finance conducted by Statistics New Zealand on behalf of the Ministry of Economic Development will provide valuable insights into firms' access to finance and their use of different instruments.

6 Legal institutions and other policy influences²⁷

There are several areas where government policy affects financial systems. The remainder of the paper focuses on three: (i) the legal environment and other policy influences, (ii) taxation and (iii) financial regulation and supervision. This section discusses the importance of the legal environment and other policy influences.

6.1 Legal institutions and financial development

The law and finance theory focuses on the role of legal institutions in explaining differences in financial development across countries. In particular, it addresses questions such as why some countries have well developed growth enhancing financial systems and others do not, and why some countries have well developed investor protection laws and contract enforcement mechanisms to support financial systems and others do not (Beck and Levine 2003).

There are two main hypotheses of the law and finance theory with respect to the importance of legal institutions for financial development. First, the legal based view conjectures that countries have better developed financial intermediaries and markets, where legal systems enforce property rights, support private contractual arrangement and protect the legal rights of outside investors, than countries where these mechanisms are absent. The argument is that finance can be viewed as "a set of contracts" (Levine 2002) and the functioning of a country's financial system will be determined by its contract, company, bankruptcy and securities laws and the enforcement of these codes and regulations. Also important are accounting and governance standards, and auditing practices (Wachtel 2001).

The second hypothesis of the law and finance theory is that legal origin may influence financial development. In particular, there are two channels through which legal origin can affect financial systems: the political mechanism and the adaptability mechanism. The political channel concerns the power of the State while the adaptability channel focuses on differences in the ability of legal systems to evolve with changing conditions.

²⁶ The existence of access to finance problems generally would not imply that a government policy to subsidise access to finance would be valuable. The information asymmetry framework suggests that providing funds to a borrower can change that borrower's behaviour, perhaps negatively. As a result, attempts to overcome an ex ante information asymmetry by increasing a flow of funding, without reducing that information asymmetry has the potential to exacerbate an ex post information asymmetry (moral hazard) problem. While such a policy may get money into the hands of a constrained firm, it may increase the temptation to make risky investments or worse, to take the money and run.

²⁷ The discussion in this section partly follows Beck and Levine (2003).

The political mechanism is based on two premises. First, legal systems differ in the emphasis they put on protecting the rights of private investors versus protecting the rights of the State. The second premise is that the fundamental basis for financial development is the protection of private property rights. The law and finance view conjectures that countries with Civil law will have weaker property rights protection and lower levels of financial development than countries with Common law. This is because Civil law tends to support the rights of the State, whereas Common law tends to support private property rights.

The second mechanism that links a country's legal origin with its financial development is the adaptability channel. This channel is built on the view that legal systems differ in their adaptability to adjust to changing circumstances. The implication for financial development is that if a country's legal system adapts only slowly, then gaps can arise between the financial needs of an economy and the ability of the legal system to support those needs. Legal systems that use case law and judicial discretion tend to be more responsive to changing (financial) conditions than legal systems that follow rigid and formalistic procedures and rely on statutory law (Posner 1998). This is because statutory law is slow and costly to change and the absence of jurisprudence tends to hinder the efficiency with which laws adapt to changing conditions.

New Zealand is generally regarded as a "settler colony", i.e. immigrants settled in New Zealand and created institutions to support private property and limit the power of the State (Acemoglu, Johnson and Robinson 2001).²⁸ The legal system is based on the British Common law. This system is thought to be more supportive to financial development than other legal traditions because of its emphasis on private property protection rather than protection of the rights of the State. Moreover, under the British Common law judges generally have broad interpretation powers and courts can modify and create laws as circumstances change. The British Common law also typically imposes less rigid and formalistic requirements throughout judicial processes. The British Common law system should therefore better be able to respond to changing needs. This adaptability and flexibility of the legal system may be of particular importance for the financial sector given the vast and rapid changes due to growing volumes of international financial transactions, the increased complexity of financial instruments and advances in information technology.

Specific aspects of the legal environment also affect financial development and economic growth. They include measures such as banking regulation and investor protection, which typically interact with one another and reflect broader norms, values and institutional arrangements on the protection of private property and the operation of the free market. The role of financial regulation and supervision is discussed further in section 8.

The effects of legal origin on financial development are investigated by Beck, Demirgüç-Kunt and Levine (2003). Using a cross-country analysis of a sample of up to 115 countries with French Civil, German Civil, Scandinavian Civil and British Common law origins, they find that the adaptability of the legal system matters because it allows the legal system to adjust efficiently to changing socio-economic conditions. The adaptability of the legal system helps explain cross-country differences in the development of financial intermediaries, the stock market and private property rights.²⁹ A legal system that

²⁸ At the other end of the spectrum are "extractive colonies", where settlers did not create institutions to support private property rights, but to empower the elite to extract gold, silver, etc. Examples include Congo, Ivory Coast and much of Latin America (Beck and Levine 2003).

²⁹ The estimation controls for the effects of political mechanisms.

responds to the financial needs of the economy fosters financial development more effectively than a more rigid legal system.

Maintaining solid legal foundations is important because the financial system relies on these. A comparison between New Zealand's legal system and that of other like countries may provide a valuable benchmarking exercise. The legal indicators considered by Beck and Levine (2003) would be a useful starting point.

6.2 Other policy influences

There are several other areas where government policy can impact on financial systems. Government policy can affect financial systems through the types of financial instrument it creates and stands in the market with. Examples include the government bond market, and policy choices over whether inflation indexed debt or longer maturity debt should be issued. Government bonds in New Zealand play an important role in the risk management operations of market participants. Yield curves provide a reference for pricing, and government bonds are regularly used by financial intermediaries and other market players for hedging purposes. "Having access to a liquid instrument for (hedging) purpose(s) is (particularly) important in New Zealand as the futures market has not developed as a viable hedging alternative" (Turner 2002).³⁰

There are also various types of financial instrument (such as state-contingent securities and claims on national income) that it has been proposed a government could issue to improve the allocation of risk throughout the economy. Other policy choices about government financial instruments (such as their liquidity and the transparency with which they are traded) also affect the operation of financial systems. Crown guarantees and indemnities are another category of financial instrument that are used from time to time to facilitate the operation of financial systems.

In New Zealand government policy also has a direct influence on governance arrangements for some financial institutions. This is because of the Crown's ownership of and/or contributions to the New Zealand Superannuation Fund, the Accident Corporation Company (ACC), venture capital funds, the Export Credit Office and Kiwibank, for example.

7 New Zealand's taxation of capital and the effect on the financial system

This section discusses the effects of the New Zealand tax system on the financial system. It first reviews the taxation of capital gains and then outlines how New Zealand's tax system, which classifies some capital gains as taxable income while exempting others, acts to distort the investment patterns toward direct investments in larger and less risky firms or toward passive indexing tracking funds. The information asymmetry framework is then used to assess the potential impact of these distortions on investment decisions and economic growth.

³⁰ During the 1990s corporates and fund managers have increasingly used swaps as a risk management tool.

7.1 Development of the current capital-revenue boundary in New Zealand tax policy

New Zealand considers itself to be a country without a capital gains tax (CGT), with the common assumption being that gains from the sale of assets that have appreciated in value are not taxable.³¹ In practice a significant amount of capital gain in New Zealand is classified as taxable income, and the difference between what gains are or even should be taxable is a contested issue. As a result, the question of whether to adopt a comprehensive capital gains tax is a beehive that is prodded every so often in New Zealand. In each instance, after the buzzing has died down, New Zealand has remained “CGT-free”.

While a comprehensive capital gains tax may or may not be optimal tax policy (a separate issue with a substantial dedicated literature), a country without a capital gains tax does not escape the need to police the difficult boundary issue as to whether a particular sum received should be classified as income or capital (Oliver 2000). These boundary issues arise because of the substantial return to reclassifying income streams (taxed at marginal tax rates) as capital gains (untaxed). Indeed, New Zealand currently faces many of the challenges associated with capital gains taxes because of the practical operation of the capital-revenue boundary which polices against this type of reclassification. As a result, the debate on a capital gains tax has remained a staple of New Zealand tax policy.³² Underneath this unresolved debate remains an approach to taxing capital with serious deficiencies that are likely to affect the country’s growth potential.

The boundary between capital and revenue is a core element of the New Zealand tax system.³³ It seems straightforward to suggest that proceeds from the sale of capital items are generally untaxed, while sums obtained on the revenue side of the boundary are defined as income and so are typically taxed at full marginal rates. In practice the boundary generates widespread uncertainty.³⁴

The history of New Zealand tax law related to capital gains may seem odd to some. While New Zealand’s income tax legislation provides inclusive guidance, it does not define the central term “income”. Judges, when faced with the question of what constitutes income, have borrowed concepts from trust law, which predates income tax law and is inherited by New Zealand’s historical connection with the United Kingdom. The purpose of these trust law concepts is to “differentiate the interests of the life tenant (entitled to income) from the interests of the remainderman (entitled to capital and so to the realisation of capital assets of the trust)” (Royal Commission on Social Policy 1988: 450).

³¹ Tax systems typically distinguish between income and capital gains. Capital gains, when they are not counted as income, are often taxed by an explicit capital gains tax, which is often set at a different rate than the tax on income. When capital gains are considered to be regular income, as is the case for some gains in New Zealand, then normal personal tax rates apply to those gains.

³² While there has not been recent high level advocacy of a capital gains tax, the 2001 McLeod Tax Review proposed a Risk-Free Return Method (RFRM) approach as one tool that may address some of the issues inherent in the definition and taxation of capital. The debate on this issue is beyond the scope of this paper (see Burman and White 2003 and The Treasury and Inland Revenue 2003). It is sufficient to say here that RFRM may improve or exacerbate issues associated with this boundary, as RFRM is a tool that can be implemented in a number of ways to differing effect. Many of these options will not represent an effective solution to the problems described in this paper, so careful consideration is advised. This paper provides some guidance on potential growth impacts of any reform of the current capital-revenue boundary.

³³ This storied history even extends to the argument by some that one of the first significant revenue raising devices in New Zealand, a tax on land purchases from Maori from 1840-1859, was in fact “a capital gains tax in substance” (Hooper and Kearins 2002).

³⁴ Sir Ivor Richardson has declared that drawing the boundary is “an intellectual minefield in which the principles are elusive and the analogies treacherous” *CIR v Thomas Borthwick & Sons (Australasia) Ltd* (1992) 14 NZTC 9,101.

The jurisprudence which has evolved from these concepts has created a definition of income focusing on particular tests, such as whether a sum received is more in the character of a flow (income) or of a one-off payment (capital), and it is tied to analogies such as that of the tree (capital) and the fruit (income). These have been, and will continue to be useful tools to guide difficult judgements before the courts. With respect to the financial system however (for savers and those managing the funds of savers in particular), judicial and policy interpretations of the capital-revenue boundary have generated a substantial degree of uncertainty. The inability to clearly understand the outcome of transactions is likely to provide an additional hurdle to effective contracts. Attempts to generate definitive guidance for superannuation funds and others by reference to test cases have met with limited success.³⁵

This situation is not particularly unique in the evolution of the capital-revenue boundary in New Zealand. A decision by the courts that a particular transaction represents capital means that it is untaxed in New Zealand, while similar decisions by courts overseas may simply determine what rate of tax should apply. Policy concerns have dictated that legislation at times clarify or shape this boundary where reliance on existing case law alone does not provide a satisfactory outcome. With respect to taxation of the financial system, the task is to determine what tax policy is attempting to achieve, what costs arise from the current approach and whether legislative change is the best remedy. An analysis of the current system's workings and its underlying logic is a necessary first step.

7.2 Foundations and operation of the current capital-revenue boundary

The case law on the capital-revenue boundary has developed to assist decisions before the courts on a range of issues, the origin being a question of the ultimate ownership of the assets of a trust. On their own, the tests and analogies evolving from case law are not robust enough to in all cases definitively determine the approach by which a government should base its tax treatment of capital gains. Parsons (1986) expressed this notion best:

“A principle of trust law that would direct that in the circumstances an item should be allocated to the remainderman, because this was the presumed intention of the creator of the trust, seems a strange basis for a conclusion that the item is not one in which the State should share through a tax.”³⁶

Tax legislation based on the legal approach to the distinction between capital and income immediately faces a tension with the conception of comprehensive income held by economists, which includes changes in net wealth broadly defined.³⁷ In practice, comprehensive income can not fully be taxed, with practical considerations requiring on balance decisions to be made to account for the imperfect real world in which tax systems operate. This is often the crux of the argument for supporters of a capital gains tax, who

³⁵ For example, consider *Alexander & Alexander Pension Plan v. CIR* (1995) 19 TRNZ 884, reported also as *Piers v. CIR*, meant to function as a test case but which ultimately did not provide the certainty that the industry had hoped.

³⁶ Note that while the capital-revenue boundary for tax purposes does not claim a grounding in economic theory on the income side, there is a better claim to economic substance on the expenditure side, where expenditure on revenue account is immediately deductible whereas expenditure on capital account must be deducted over time to reflect (and match) the economic benefit resulting from that expenditure. It can be argued that there is some degree of inconsistency in a tax system that allows depreciation but only imperfectly captures associated capital gains.

³⁷ Comprehensive income is defined as the sum of the change in an individual's net wealth and the value of consumption, (typically called Haig-Simons income). In theory changes in net wealth and consumption would include even such hard to value aspects such as changes in wealth from human capital and the total personal utility from consumption.

believe that the challenges associated with implementing and administering a capital gains tax are an acceptable trade off for a move closer to the taxation of comprehensive economic income. There may be another way to approach this issue if economics can provide guidance to the way New Zealand approaches the capital-revenue boundary, beyond suggesting the imposition of a capital gains tax (again, a question on which this paper is agnostic). In a country that has decided not to adopt a capital gains tax, reference to economics is still valuable in assessing the objectives and impact of the current capital-revenue boundary, in providing a basis to motivate change and in evaluating proposals for change. While it is beyond the scope of this paper to develop a detailed economic basis for the reform of taxation in this area, the Appendix attempts to reconcile the New Zealand decision not to tax comprehensive income via a capital gains tax with an economic view of the function of financial intermediaries that may allow a simpler and more direct approach to their taxation in New Zealand.

International case law as well as decisions by New Zealand courts influence the definition of income, but over time New Zealand tax legislation has deviated from the interpretations of the courts where the impact of those decisions would be incongruent with the remainder of the New Zealand tax system or where broad application would be too economically or fiscally costly. These moves have defined certain realisations, which might otherwise be defined as capital, to be income. Examples of legislative extension to the judicially defined boundary are the classification as income of the following: gains from assets acquired with the purpose of resale, gains from certain transactions in land, gains from redundancy payments and gains from restrictive covenants.

This evolution has been undertaken without guidance from a professed economic theory, which is not surprising in a country without an explicit capital gains tax when considering the comprehensive definition of income held by economists. Changes have instead been driven by practical concerns in protecting the tax base from erosion. New Zealand tax law has responded to specific incidents involving tax avoidance behaviour and an underlying concern that the absence of a capital gains tax would result in the creation of effectively untaxed occupations. There has been a particular concern about the opportunity to recharacterise what would otherwise be labour income as capital gain.³⁸

If capital gains were completely untaxed a government may be concerned that occupations such as share trading or property development, the income from which would primarily be the result of the purchase and resale of otherwise capital assets, would entirely escape tax. This would create an incentive for persons to leave other employment and to participate in such an occupation, even if they were marginally less productive in doing so.

The other motivation for expanding which capital gains are deemed to be taxable income results from observed behaviour designed to minimise tax by exploiting the capital-revenue boundary. While there have been a number of such concerns, these can generally be illustrated by example. One example is payment associated with a restrictive covenant (a payment made in respect of a contract which restricts one party's ability to perform services, commonly restricting work for a competitor firm, etc). Such payments are held by the courts to be capital, but in practice Inland Revenue expressed concern that the ability to inflate such payments to include the value of services performed was substantial, resulting in such payments being classified as taxable income. Such arrangements could effectively transform an otherwise taxable revenue flow to an untaxed

³⁸ For example, see the 1988 Report of the Committee of Experts on Tax Compliance, 70-75, or the comments of the Finance and Expenditure Select Committee when legislating the treatment of restrictive covenants as income, or discussion more generally on the cases *Henwood v CIR* (1995) 17 NZTC and *CIR v Fraser* (1996) 17 NZTC.

capital gain. There have been several high profile and costly tax avoidance schemes in New Zealand's history that have essentially attempted to take otherwise assessable income and transform that income into capital gain.

While in practice there are several tests to which judges might refer when assessing whether a receipt is income on revenue account or a non taxable capital gain, with respect to investment by savers (direct or intermediated), these tests can be boiled down to two overriding tests. These are the business test and the purpose test, both of which define the conditions in which a gain might be classified as taxable income. The business test classifies as income those capital receipts that are an integral part of the business of the taxpayer and the purpose test classifies the gains from the sale of an asset as income if that asset was purchased with the purpose of resale. These rules essentially separate "traders" from "mum and dad" style savers, and active investment managers from passive index tracking funds.

Obviously there are many guidelines that underlie these two broad tests. While examples are provided in the next section, case law in this area suggests caution before trying to be too explicit, as "(i)t is not easy to state in plain clear words any infallible test by which this question may in all cases be resolved" [CIR v City Motor Services 1969 NZLR 1010].

7.3 The effect on investment decisions

Because capital gains are often taxed in practice, the operation of the capital-revenue boundary will have an important influence on the decision making of some savers.³⁹ The boundary between what is defined as taxable income and what is defined as untaxed capital gain can be uncertain ex ante, which can have significant effects that savers might find difficult to plan for. The difference on a rate of return calculation from taxation at zero for untaxed capital gains or (ultimately) 39 percent for taxable income demonstrates the significance of this boundary.

Individual persons buying shares would not ordinarily be taxed on the gains from selling those shares. A business selling an asset would not normally be taxed on the proceeds from the sale of that asset. Both would be subject to the same tests defining whether a capital gain is classified as income and is thus taxable. In the context of financial transactions, an individual is less likely in practice to face scrutiny because lower dollar values are generally at stake and because for many companies it will in practice be much easier to determine if trading in shares is integral to the business of that company. Because the boundary is indistinct, an individual may be able to obtain some capital gains without resulting in taxation, even though they would be taxable if conducted by some companies. A financial intermediary for whom buying and selling assets such as shares is an integral function will generally be classified as having generated income on revenue account which is taxable. As a result, it is quite possible that while the tests applying to firms and to individuals are the same, in general practice the same transaction made directly by an individual or indirectly through a financial intermediary will attract significantly different tax treatments.

Further, an individual's transaction through an intermediary will take on the character of that intermediary for tax purposes. It will be the intermediary's business practices that determine whether gains from an investment are taxable income, which in some cases will

³⁹ Savings and investment decisions are made for a number of reasons other than because of their tax impact. This paper outlines the potential marginal impact on decisions that result from tax policy. Across a number of taxpayers and over time the effects of such marginal impacts have the potential to be significant.

produce a different result than if an individual were to buy and sell an asset directly. Because an individual may be able to make a purchase and sale of an asset without being taxed, whereas an intermediary would be taxed on the same transaction, and because transactions through an intermediary result in that transaction being defined as taxable because the intermediary is taxable, the practical effect of New Zealand's tax system is a distortion away from the use of intermediaries by lenders/savers and toward investments made directly, or structured in such a way as to appear to be direct.

Transactions through New Zealand financial intermediaries are able to earn untaxed capital gains through passive index tracking funds, on the basis that the purpose of trades made by these funds is to match the composition of the relevant index, rather than for the purpose of resale at a profit. Inland Revenue has provided binding rulings to taxpayers on this subject, providing a degree of certainty⁴⁰ to investors but distorting investment behaviour toward passive index tracking funds.

Not all direct transactions by individuals that result in capital gains are defined as non taxable. Of particular note is the fact that the tax system intends to tax capital gains earned by "traders" and other individuals who essentially conduct the business services of a financial intermediary for their own benefit. Likewise firms that would not consider themselves to be in business as a financial intermediary are still subject to several tests that may result in certain capital gains being taxable as income (the most relevant tests for this discussion can broadly be referred to as a business test and a purpose test as previously noted). These tests are based on two main criteria. The first criterion is whether a transaction was made for the purpose of generating profit from resale (this would result in gains being taxable), which might be determined by the length of time the asset was held or by whether it generated a revenue flow such as a taxable dividend (in which case only the dividend not the capital gain would be taxable). The second criterion relates to the sophistication of the trading activity, to the level of attention paid to transactions, to the number of trades conducted and to whether these factors imply that the taxpayer is actually a professional "trader" and should thus be treated as being in the business of generating capital gains (in which case those gains, *and potentially other gains as well*, would be taxable).⁴¹

The practical effect of these tests is to encourage a saver, who is unsure as to whether capital gains from their purchase and sale of assets would be taxable, to make marginal investments in larger and more established firms and in passive tracking funds. Lenders would be biased toward these types of investment for several reasons. First, dividends are more likely to be paid frequently in larger and more stable firms and so it would be easier to demonstrate that holdings in such firms were made with the purpose of obtaining those dividends rather than to obtain a capital gain on the sale of shares. Second, an investment in an established firm may be easier to leave unchanged for a longer period of time to avoid gains from the eventual sale being taxable. Third, a portfolio of smaller or riskier firms may require a higher level of attention by an investor, which could be taken to be active management and could result in gains from any sale being taxable (even if gains result from the sale of assets that are performing poorly relative to the market). The cumulative effect of these factors would suggest that a saver, who is concerned that gains

⁴⁰ While some will argue that investment in such funds is an appropriate investment strategy, it should be straightforward to suggest that investors ought to make that decision on the basis of relative returns and fee levels such that the superiority of one investment strategy or another is not a good defence for such a significant and unintentional tax wedge between those investments.

⁴¹ For example, an otherwise passive investment fund that deviates from a passive strategy to make informed trades is likely to result in that fund being classified as actively rather than passively managed and all of the capital gains obtained by that fund are likely to be taxable as a result. This is a point on which some uncertainty in case law remains.

from the sale of their assets would be taxable, would choose to make longer-term investments in larger and safer firms or in passive index tracking funds.

While direct investors and financial intermediaries face uncertainty about the tax treatment of capital gains, financial intermediaries such as finance companies or unit trusts will face a further distortion. That is, because they are classified as companies, any distributions to savers using these entities will be treated as dividends and so will be fully taxable as income, even if those dividends represent underlying capital gains on investments. For example, an individual may be able to sell shares in company x for a tax free capital gain, whereas if that investment were held through an investment company or unit trust, when that gain was distributed to the saver, the distribution would be classified as a dividend paid to the saver and would thus become taxable income just like any other dividend. When a gain that is untaxed in the hands of an entity (such as a unit trust or company) becomes taxable upon distribution, the untaxed nature of the gain is said to be “clawed back”. The taxation of distributions by some intermediaries as dividends represents an unequal clawing back of the exemption on capital gains depending on whether a saver uses a financial intermediary or makes an underlying investment directly. The work of Bengé and Robinson (1986) suggests that this type of differential claw back policy will distort savers’ and investors’ choices between different types of entity which implies that this approach sits uneasily with the remainder of New Zealand’s tax system.⁴²

A bias against the use of intermediaries for equity finance compounds the incentive against providing external finance to smaller firms. This is because equity issued by smaller firms is likely to be less liquid and as a result, such an investment is more likely to require intermediation in some form, potentially at multiple levels. This result occurs because specialised intermediaries are generally required to pool investments in smaller firms before larger intermediaries can economically justify taking a position in that market segment. These practicalities further increase the likelihood of any gain being characterised as taxable because of the business of the interposing intermediaries.⁴³ The effect of the bias against intermediaries and its impact on economic growth is developed more fully below.

An additional investment distortion may arise from the current capital-revenue boundary if it affects shareholders’ ability to exercise their governance interests in firms. When providers of external finance attempt to exercise their governance interests, this may place them on the wrong side of the capital-revenue boundary and result in taxation.

A saver whose purchase of an asset was with the purpose of resale to realise gain from that sale will find any gain from that sale to be taxable. One could easily imagine a scenario in which a shareholder informed management of their dissatisfaction with management’s ability to put funds to most profitable uses, as demonstrated by growth in share value relative to industry rivals. If such a shareholder were to subsequently liquidate their position in that firm to take a position in a rival company, the shareholder’s previous communication with management could be taken to suggest that their purpose, (particularly of purchasing shares in the second company) was to obtain capital gain from resale.

⁴² In response to Sir Roger Douglas’ announcement that the Government intended to introduce an imputation system, Bengé and Robinson (1986) outlined how New Zealand should introduce such a system. Their criticism of an unequal approach to clawback, as currently applies to some financial intermediaries, demonstrates one way in which the current tax treatment is at odds with the principles guiding the initial design of the imputation system.

⁴³ That is, unless ‘tax efficient’ structures allow savers using these vehicles to replicate a direct investment position. While such arrangements may reduce tax payments, the overriding economic efficiency of these structures and the system which encourages them is in doubt.

7.4 Growth impacts from present policy implied by an information asymmetry framework

The various tax distortions described here appear, on the margin, to bias investment toward larger, less risky firms and away from financial intermediaries. Because the capacity for arbitrage is high in financial systems and elasticities of response can be significant there is reason to believe that distortions such as these “can have unanticipatedly large and damaging effects” (Honohan 2003). The impact of an incentive to invest in firms with poor return on investment but which were sensible from a tax position illustrates this point. It is no surprise that the financial services industry has expressed unease with the operation of the capital-revenue boundary, and it has been noted as a barrier to the development of the venture capital industry (Lewis 1999 and Chairman’s address at the NZVCA Conference 2002).⁴⁴

Quantitatively evaluating the effects of the particular biases specific to the New Zealand tax system would be a difficult exercise that has not been undertaken to date.⁴⁵ In the absence of such quantitative data, the information asymmetry framework developed in this paper provides a way to gauge the scope, the relative importance and the interconnections amongst the distortions arising from the current capital-revenue boundary. This in turn provides a better ability to track shortcomings in New Zealand’s tax policy to potential solutions and to evaluate the likely effectiveness of those solutions. This paper has discussed relevant quantitative work overseas that is also useful in forming any conclusion.

Financial systems contribute to economic growth by overcoming an information asymmetry between borrowers and lenders, the existence of which creates a crucial impediment to free flow of capital (Mishkin 1997). The development of financial systems represents the key market response to such impediments. Financial intermediaries play a particular role as they have a comparative advantage over financial markets in overcoming information asymmetries associated with smaller and younger firms, particularly those which are novel. A bias against the use of intermediaries would be expected to reduce their use and may result in investment projects not being funded that would otherwise be financed.

An analysis of investment channels in New Zealand highlights the potential effect of these tax distortions and the types of firm likely to be affected. New Zealand is a small open economy that uses international capital to fund part of its current level of investment. In tax policy, this often leads to the conclusion that only the taxation of international investors has the potential to influence investment. This conclusion is based on the assumption that all investment is interchangeable, that the international investor is the marginal investor from the perspective of New Zealand as a whole and that the supply of international funds is infinitely elastic. Following such a line of reasoning, the tax treatment of domestic investment through intermediaries would not be seen as critical. This line of reasoning ignores a fundamental point of the information asymmetry literature, that the channel of transmission of funds is more important for many firms in determining their cost and access to capital than measures of the aggregate cost of capital (Bernanke and Gertler 1995 and Gertler and Gilchrist 1994b). This point is underscored by empirical evidence which demonstrates that information asymmetry affects which firms are likely to receive foreign investment (Kang and Stulz 1997).

⁴⁴ The address was reported in the *Australian Venture Capital Journal* November 2002.

⁴⁵ See Claus (2004) however for a broader, but topical quantitative analysis.

An evaluation of investment channels shows that New Zealand's largest firms are able to access international debt and equity markets directly. New Zealand has in place an Approved Issuer Levy (AIL) regime which allows New Zealand borrowers able to access international debt markets to pay a trivial tax rate for debt finance at world prices. In practice, it is New Zealand's larger banks that transmit offshore debt finance to smaller New Zealand firms while larger firms access offshore portfolio debt directly. Many firms will be unable to obtain finance, or attain their desired leverage ratios by directly borrowing from offshore. This is because debt contracts have a limited ability to overcome information asymmetry for firms in some situations. Some of these firms may be able to access international equity financing as an equity stake in a firm increases investors' ability to limit ex post information asymmetries.

New Zealand firms that are unable to access offshore external financing directly, by issuing debt or equity or by raising funds from individual lenders, will primarily benefit from capital flows into New Zealand through bank borrowing (intermediated debt). Bank borrowing is the most common type of capital available through intermediaries for firms that can not access arms length debt or equity through financial markets.

However, not all firms will be able to access bank lending. Another form of intermediated external financing is provided through private equity investment such as that from venture capitalists and angel investors. The nature of the information asymmetry associated with a particular firm will affect the work that an intermediary has to undertake to reduce that asymmetry and the type of contract that is needed to generate effective monitoring. Banks are large and general purpose financial intermediaries. In some cases they resort to credit rationing rather than to price increases in determining their optimal supply of lending. As a result, particular types of firm are likely to be affected. Smaller and younger firms have been mentioned in this category. Other affected firms include novel firms which lack easy comparison to existing lending relationships, firms that are expanding beyond their ability to collateralise (usually against a personal home) – perhaps for the purpose of export, or firms with assets that are difficult to value or liquidate such as intellectual property. Firms with these characteristics, if they require external finance, may be unable to obtain debt finance through banks and may instead have to turn to private equity investors.

The work of Gertler and Gilchrist (1994b), Bernanke and Gertler (1995), Denis and Mihov (2003), Petersen and Rajan (1994) and Faulkender and Petersen (2003) demonstrates that firms with increased information asymmetries are often constrained in their access to certain sources of finance. As a result they may have to pay higher costs of finance or they may not receive finance. The empirical work cited in this paper provides evidence for the theoretical proposition that the level of financial constraint to some firms has the potential to be significant and as a result, the market response to information asymmetry has an important economic benefit. By extension, resolving the tax distortions against investment through intermediaries because they are the actors with the ability to overcome these asymmetries is necessary to allow the economic value of intermediaries to be realised. The economic benefit could potentially be substantial if resolving the distortions would increase firms' ability to obtain finance in the future.

Because the tax distortion against the use of intermediaries applies to capital gains, and thus to equity investment, these distortions will disproportionately affect investment to the types of firm that rely on such forms of external finance. These firms will bear much of the cost of current distortions.

There are several types of firm and reasons why firms, in particular circumstances, might choose to obtain equity investment via financial intermediaries. Small or fast growing firms may find that typically available debt contracts are not ideal due to volatilities in their cash flow that make servicing debt obligations a poor choice compared with other uses of retained earnings. Another reason that firms may seek equity through financial intermediaries is to obtain the expertise that investors often bring along with their investment capital. Firms may also wish to avoid debt at a certain stage of development in order to preserve their ability to access such finance at a later stage, perhaps to finance a future project where other types of finance might not be as forthcoming.⁴⁶

The ability of firms to obtain equity finance from intermediaries may increase access to additional finance or lower their cost of finance in the future, providing an additional benefit to the information discovery provided by the equity financier. In addition to funding otherwise foregone projects, finance by financial intermediaries has value in providing efficient and effective monitoring (Denis and Mihov 2003). As a relationship deepens with a financial intermediary, and if that intermediary obtains positive information about a firm that is durable and not easily transferred (assuming scale economies in information production) then the cost of capital extended to that firm may decrease over time. This effect of relationship building has been shown in the case of bank lending relationships (Faulkender and Petersen 2003 and Petersen and Rajan 1994), and it may exist to some degree for firms developing relationships with other financial intermediaries. Evidence from overseas banks that participate in venture capital suggests that making an investment as a venture capitalist increases a bank's likelihood of providing a loan to a firm (Hellman, Lindsey and Puri 2004).⁴⁷

Firms' ability to access external financing may be further enhanced if firms' net worth and cash flow improve as a result. Cash flow and net worth (firms' market value) are important signals for lenders who are attempting to assess agency costs and they are thus good predictors of the availability of finance to a firm (Bernanke, Gertler and Gilchrist 1999, Petersen and Rajan 1994 and Walsh 1998). Equity investment that improves these measures for a particular firm would affect well established mechanisms by which banks determine the credit risk associated with a firm. Essentially, private equity investment in a firm would act as a signal reducing information asymmetry associated with that firm, increasing the market value of the firm and thus strengthening the firm's balance sheet. These measures flow back to the ability to obtain debt finance. This result in particular has potential significance in the presence of AIL, which results in low tax rates on debt investments to New Zealand from abroad. This type of investment represents much of the foreign capital imported into New Zealand through financial intermediaries. An enhancement in the discovery of information through private equity investment, if it improves the subsequent ability of banks to provide debt finance could provide reinforcing increases in access to capital and reductions in the cost borrowing.

The tax distortion that affects intermediaries also has an impact on the functioning of financial markets. This is because investors in financial markets rely to some degree on other investors to discover information about firms and to perform the costly monitoring required to promote good governance of listed firms. New Zealand tax policy may undermine this function by biasing investors to hold direct investments for longer periods of time. A passive index tracking fund that deviates from that practice to act on information revealed may result in the taxation of the broader investments of the particular

⁴⁶ Deviations from the pecking order hypothesis in such cases have been explained by the use of multi-period models such as in Viswanath (1993).

⁴⁷ Note that the authors also caution against relying on banks for the development of a venture capital industry.

investment fund in addition to investments directly affected by any information obtained. A bias against the use of intermediaries will increase the costs of acting on information obtained for a class of decision makers that is likely to uncover information about listed companies.⁴⁸ As a result, there is likely to be a decrease in the check on firm governance provided by financial markets and a decrease in the confidence regarding firms on those markets.

8 The role of financial regulation and supervision

Policy influences the operation of financial systems through financial regulation and supervision. This section discusses the main sources of financial instability. It reviews the role of financial regulation and supervision and briefly examines the regulatory and supervisory approach in New Zealand.

8.1 Financial instability⁴⁹

The need for regulation and supervision of the financial system arises because financial intermediaries and markets, like firms, are subject to asymmetric information. A key objective for financial regulation and supervision is to increase the effective functioning of the financial system in order to enhance the ability to absorb shocks and maintain financial stability. Financial instability occurs when shocks to the financial system interfere with the payment system and impact on the ability for normal business and trade to occur. It may be caused by the collapse of a systematically important financial intermediary or other shocks. Any disruption in the financial system can potentially have severe real economic effects.⁵⁰ During the Asian crisis in the second half of the 1990s, for example, the disruption in the supply of credit was a major factor in the recessions experienced by the affected countries. An economic downturn may be exacerbated by falling prices (Fisher 1933). Given that (most) debt contracts are written in nominal terms, a fall in prices increases real debt burdens and reduces firms' ability to borrow, adding further to the decline in economic activity. The problem of falling prices is particularly acute for debt contracts of fairly long duration.⁵¹

There are four main factors that can initiate financial instability: (i) increases in interest rates, (ii) increases in uncertainty, (iii) negative shocks to firms' balance sheets, and (iv) a deterioration in financial intermediaries' balance sheets (Mishkin 1997).

Increases in interest rates

In some circumstances increases in interest rates can potentially lead to large declines in lending or even a collapse in the loan market if some form of credit rationing occurs as a result. Credit rationing can occur because changes in interest rates worsen the adverse selection and moral hazard problems of imperfect information (Stiglitz and Weiss 1981). The adverse selection effect of interest rates is a consequence of different borrowers

⁴⁸ Recall that financial markets provide an incentive to uncover information about listed firms because of the liquidity of the securities such firms offer. Intermediaries commonly use traded securities to provide such liquidity to their clients.

⁴⁹ Sections 8.1 and 8.2 partly draw on Mishkin (1997).

⁵⁰ The role of government in preventing or mitigating the worst effects of a financial collapse has been a dominating theme in Minsky's published writings. See, for example, Minsky (1975 and 1986).

⁵¹ Generally, debt contracts are of fairly long duration in countries where inflation has been moderate (Mishkin 1997).

having different probabilities of repaying their loans. The interest rate an individual is willing to pay may act as a screening device. Those who are willing to pay high interest rates may, on average, be worse risks. They are willing to borrow at high interest rates because they perceive their probability of repaying the loan to be low. As a result there exists an interest rate that maximises financial intermediaries' expected return and beyond which they will be unwilling to supply funds, making the supply of loans curve bend backwards and downward sloping (see Figure 2). A change in interest rates can also affect financial intermediaries' expected return from loans through the moral hazard effect by changing the behaviour of borrowers. Higher interest rates induce firms to undertake projects with lower probabilities of success but higher payoffs when successful. Increasing the rate of interest raises the relative attractiveness of riskier projects, for which the return to the bank may be lower because of increased default risk.⁵² As the interest rate rises, the average riskiness of those who borrow increases and the moral hazard effect reinforces the adverse selection problem. Financial intermediaries and markets therefore have an incentive, in some circumstances, to ration credit.

Increases in uncertainty

The functioning of financial systems may be affected by substantial increases in uncertainty, due to, for example, the failure of a large financial or non-financial institution, a severe recession, political instability or a stock market crash. Increased uncertainty reduces the ability of financial systems to screen borrowers and may result in credit rationing.

Negative shocks to firms' balance sheets

Information asymmetries and the inability of lenders to monitor borrowers costlessly lead to agency costs, creating a wedge between the costs of internal and external financing for a firm. Firms' market value (or net worth) is an important determinant of agency costs and hence the cost and availability of finance. Adverse shocks to firms' balance sheets and net worth due to natural disaster or a stock market crash, for example, affect their ability to borrow and can have severe real economic effects.⁵³ This is because shocks that lower the market value of firms reduce the value of assets that firms can use as collateral. As a result, financial intermediaries and markets may be less willing to lend to firms because the reduction in collateral increases their potential losses from adverse selection: owners will have a lower equity stake in their firms, which gives them more incentive to engage in risky investment projects. The decline in collateral may lead to loans not being extended upon maturity or being recalled, i.e. to forms of credit rationing.

A deterioration in financial intermediaries' balance sheets

Adverse shocks to financial intermediaries' balance sheets may affect their willingness to lend. A deterioration in financial intermediaries' balance sheets may be caused, for example, by an increase in interest rates, a stock market crash or an unanticipated decline in inflation. Weak bank balance sheets may also be the result of inadequate financial regulation and/or supervision. Adverse shocks to financial intermediaries' balance sheets can have severe economic real effects if the financial institution affected is systemically important either directly or indirectly. A deterioration in financial intermediaries' value of equity can affect lending. If banks, for example, are required by regulators or depositors to retain some minimum capital ratio (defined as the value of

⁵² Higher interest rates may also increase the default risk of existing loans.

⁵³ Negative shocks to firms' balance sheets would need to both be significant and widespread to bring down a financial system. A severe recession could be another factor that could cause this.

banks' equity as a percent of the value of loans outstanding), they will have to either reduce their supply of loanable funds or raise new equity. However, because it takes time to raise equity and also because the cost of new capital has increased due to a lower market value of banks, the typical initial response is a contraction in lending.

Financial regulation and supervision (discussed next) can help increase the effective functioning of the financial system and maintain financial stability. Other factors that are important contributors are a flexible exchange rate regime and a low inflation environment. A sharp depreciation in the exchange rate, for example, may be an early warning to policy makers that their policies may need to be adjusted. Price stability is important because it means that a central bank/government can more credibly take action if required. Sustained low and stable inflation and credible commitment to price stability mean that a central can ease monetary policy or engage in lender of last resort activities (discussed further below) to prevent a financial crisis or promote recovery from it without leading to rapid rises in expected inflation (Mishkin 1997).

8.2 Financial regulation and supervision

Financial instability is caused by asymmetric information and disrupts the efficient functioning of the financial system during periods of distress. Minimising information asymmetry and hence lowering the risk of financial instability is important and requires the production of information through screening and monitoring. Governments can encourage information production by imposing regulations on the financial system. For example, governments typically require financial institutions or firms issuing securities to adhere to standard accounting principles and disclose a wide range of information about their balance sheets. Moreover, governments impose strict penalties for fraud such as hiding information or stealing profits.

Disclosure requirements increase the amount of information available. However, they do not overcome the public good problem of information, leading to socially sub-optimal monitoring and screening of financial intermediaries by the individuals, who provide them with funds. As a result, governments impose further restrictions on the asset holdings of financial intermediaries or capital requirements, for example, to prevent them from taking too much risk.

Demirgüç-Kunt, Laeven and Levine (2003) examine the impact of banking regulations on net interest margins and overhead costs across 72 countries. They find that tighter regulations increase the cost of financial intermediation and do not create countervailing benefits. However, bank regulation must be seen as part of the overall institutional framework, as its effects become insignificant when broader institutional factors such as property rights protection and economic freedom are taken into account.

A second role generally of governments is to provide a safety net. Providing a safety net is important for the banking sector for three main reasons. First, banks are important because they hold and issue a large amount of demand deposits and private loans. Second, banks often provide credit to borrowers who would not otherwise be able to obtain external funding. Third, banks may be subject to contagion, or the risk of spill-over of the effects of shocks from one or more banks to other financial intermediaries or markets, due to interbank exposure.⁵⁴

⁵⁴ The problem of contagion is somewhat reduced with real time gross settlement.

As Diamond and Dybvig (1983) show banks are vulnerable to bank runs. Bank runs occur when depositors panic and withdraw their deposits immediately, including even those who would prefer to leave their deposits in the bank if they were not concerned about the bank failing. Bank runs cause real economic problems because even “healthy” banks can fail, leading to a recall of loans and the termination of productive investment. In Diamond and Dybvig’s (1983) model, when normal volumes of withdrawals are known and not stochastic, suspension of convertibility of deposits allows banks to prevent bank runs and provide optimal risk sharing. In the more general case (with stochastic withdrawals), deposit insurance can rule out runs without reducing the ability of banks to transform assets. A central bank as a lender of last resort can provide a service similar to deposit insurance under the assumption that banks can not select the risk of their loan portfolios. However, when there is a trade-off between optimal risk and proper incentives for portfolio choice, the lender of last resort may not be as effective as deposit insurance. This is because if the lender of last resort were always required to bail out banks with liquidity problems, there would be perverse incentives for banks to take on risk. Deposit insurance on the other hand is a binding commitment that, in theory, can be structured to retain punishment in the case of bank runs. However, implementing deposit insurance in practice can be difficult (see, for example, Demirgüç-Kunt and Kane 2002) because it may encourage risk taking by financial institutions and by those who hold funds in them.⁵⁵

Safety nets are important in reducing the real effects of financial instability. However, a serious problem arises from moral hazard when depositors expect that they will not suffer losses if a bank fails and are less likely to withdraw their deposits when they suspect that a bank is taking on too much risk. As a result, central banks as lenders of last resort often engage in “constructive ambiguity”; that is, “central banks reserve the right to intervene to preserve stability but give no assurances, explicit or implicit, to individual institutions” (Crockett 1997).

Financial supervision ensures compliance with government regulations. The most supervised institutions are banks. Banking supervision generally consists of regular bank examinations to monitor banks’ compliance with capital requirements and restrictions on asset holdings. Moreover, bank examiners try to assess whether banks maintain proper management controls.

One difficulty of regulation and supervision is that it creates a principal-agent problem; that is, the agent (politician or regulator) may not have the same incentives to minimise the costs to the economy as the principal (the taxpayer). To act in taxpayers’ interests, regulators must impose restrictions. But because of the principal-agent problem they have an incentive to engage in regulatory forbearance.

8.3 Financial regulation and supervision in New Zealand⁵⁶

New Zealand’s financial system is dominated by foreign-owned banks, with the four systemically-important banks Australian-owned. Non-bank financial institutions are not systemically important and allowed to compete with banks in all areas of business.

New Zealand’s regulatory system in the non-bank area is based on a disclosure regime, and disclosure plays an important role in the regulation and supervision of banks as well.

⁵⁵ For the latest Reserve Bank of New Zealand comments on the topic see <http://www.rbnz.govt.nz/banking/regulation/0154814.html>.

⁵⁶ For an overview of the financial regulation and supervision in New Zealand see <http://www.rbnz.govt.nz/banking/Regulation/index.html> and <http://www.rbnz.govt.nz/banking/supervision/index.html>.

Outside of banking, authorities mainly rely on requirements to disclose financial and prudential information and less emphasis is put on merit regulation. Merit regulation involves the authorities applying, monitoring and enforcing prudential standards. Merit regulation includes a gate-keeper role, where the gate-keeper enforces standards to be met in order to obtain and keep a licence to operate in the financial system.⁵⁷ The preference for a disclosure based regime for the non-bank parts of the system in New Zealand over merit regulation reflects a view that with a disclosure based regime well-informed markets can develop their own solutions to many of the problems caused by asymmetric information and that more direct merit regulation can undermine those market solutions.

The core, non-bank regulatory regime is provided by the Securities Act 1978 and accompanying Securities Regulations 1983 and the Securities Markets Act 1988. Both acts are administered by the Securities Commission. The Securities Act is a disclosure based regime and applies to all classes of entity raising funds from the public, except for registered banks, and irrespective of the form of the instrument (deposits, debt, equity, syndicate participations, etc). The Securities Markets Act provides for ongoing disclosure by public entities, disclosure by directors and officers and people with substantial security holdings, the regulation of securities exchanges and insider trading. Oversight of much of the non-bank sector and securities markets is undertaken by the Securities Commission, the Registrar of Companies, the Government Actuary and Insurance Savings Unit and the National Enforcement Unit.

To strengthen the regulatory framework in order to encourage investment and enhance the performance of the New Zealand market, a programme of reform has been in progress since 2000. The programme has resulted in the introduction of the Takeovers Code and the passing of the Securities Markets and Institutions Bill. The Securities Trading Law Reform Bill, which implements a new insider trading and market manipulation regime, provides for greater general enforcement and oversight of securities trading law by the Securities Commission and enhanced disclosure. Greater enforcement by the Securities Commission of investment adviser disclosure law will be introduced by the end of the year and a review of the Securities Act 1978 will be commenced later next year.

A specialised regime applies to financial institutions that represent themselves as “banks”.⁵⁸ It is administered by the Reserve Bank of New Zealand and is merit based, albeit with a heavy reliance on disclosure. Moreover, it is supplemented by active home country supervision of New Zealand’s largest banks. To maintain the soundness of the financial system the central bank may also act as a lender of last resort and engages in failure management of financial institutions.

New Zealand’s approach to regulation and supervision has been effective in promoting financial stability over the past decade, at a time of significant financial turmoil in other countries (e.g. the Asian financial crisis, the Russian government’s default on its debt and the failure of a major hedge fund). The general soundness of New Zealand’s financial system has been confirmed in the IMF’s recent assessment of financial system stability. However, the IMF report does recommend improvements in some areas of bank and non-bank supervision and securities market regulation, which are currently being considered.

⁵⁷ Financial regulation is supplemented by self regulation and reporting and internal management incentives. See http://www.med.govt.nz/buslt/bus_pol/bus_law/corporate-governance/financial-reporting/part-one/index.html for a review of the Financial Reporting Act that is currently being undertaken by the Ministry of Economic Development.

⁵⁸ Technically, it is institutions that wish to include the word bank in their name or voluntarily choose to be covered by this regime instead of the Securities Act regime.

9 Concluding remarks

This paper developed an analytical framework for discussing the link between financial systems and economic growth. The first part of the paper reviewed the role of financial systems, their importance for economic growth and the cost of external finance. The second part focused on areas where policy affects financial systems: the legal environment and other policy influences, taxation and finally, financial regulation and supervision.

Existing theory suggests a clear link between financial systems and economic growth. Financial intermediaries and markets can help overcome an information asymmetry in credit markets. They reduce information and transaction costs and improve the allocation of resources, leading to increased capital accumulation and faster economic growth. Empirical evidence suggests that information asymmetries are important and affect firms' access to finance and their cost of borrowing. Removing regulatory or tax distortions that prevent/lower the production and discovery of information will lead to increased investment and output. The magnitude of these effects is uncertain but possibly significant. The economic benefit could be substantial if resolving existing distortions would increase firms' ability to borrow in future. Moreover, additional investment may lead to technological innovation.

The existence of information asymmetry has implications for policy. Policy makers should be aware that different types of financial intermediary are likely to be providing finance to different classifications of firm or different sectors of the economy. This means that distortions arising from policy which create biases against the use of certain segments of the financial system can have impacts that are concentrated amongst particular types of firm. This paper demonstrated one way in which present tax policy may have such an impact. Given the importance of financial development for economic growth a resolution of the tax distortions should be a priority.⁵⁹

When considering issues of cost or access to finance, policy makers should be aware that the existence of finance constraints for some firms may represent the optimal response by financial markets and intermediaries to information asymmetries. Policy that affects the production of information, the effective monitoring of firms, the enforcement of contracts, or institutions that carry out these functions can often have a more pronounced effect for firms than actions aimed at high level measures of capital availability. Because receiving finance can change the behaviour of the borrowing firm and because there is a moral hazard risk from extending funds when information asymmetry issues have not been resolved, increasing the flow of funds to some firms in response to apparent finance constraints can do more harm than good. Encouraging the production of information or removing impediments to effective firm monitoring in such cases would more closely address the cause of finance constraint for many firms. The financial environment is one of growing global integration, rapid changes in financial practice and increasing complexity of financial contracts. A better understanding of the financial instruments available to New Zealand firms would assist our assessment of the cost and access to finance and the impact of New Zealand's financial system on economic growth.

⁵⁹ A review of the taxation of investment has been announced, with a report on a consultation process chaired by Craig Stobo due in October 2004.

Finally, a comprehensive assessment and evaluation of the recommendations in the IMF's report should be of high importance. A number of reviews are currently being undertaken in relation to the financial system. Within the context of these reviews it will be important to consider the IMF's recommendations, ensure that the regulatory regime has the flexibility to meet the financial needs of the New Zealand economy and that any changes to the financial system are considered within developed frameworks on how they can impact on economic growth.

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Appendix: Some considerations for the reform of the taxation of financial intermediaries

The purpose of this paper is twofold, first to demonstrate the importance of financial systems to economic growth and second to outline the potential influence of policy on the effective functioning of financial systems. Because this paper has discussed the tax issues at some length, this appendix provides a brief sketch of one way to view a financial intermediary for the purposes of taxation.

New Zealand's lack of a capital gains tax is driven by practical considerations rather than as an application of economic theory to define the appropriate tax base. The resulting differential taxation between direct and indirect investment appears to create economic harm such that changes to tax policy are suggested on practical grounds alone. It is still valuable to attempt to reconcile an appropriate tax base for financial intermediaries from an economic perspective, in a country with a tax base that deviates from comprehensive income as defined by economists.

The concern that savings through financial intermediaries may be over taxed or taxed inconsistently has been frequently raised, and as a result several proposals have been circulated to address these issues over time. The approach to reform, the selection of reform options, and the design of any reform option would be assisted if economic theory could provide some guidance as to how to conceive of the function of financial intermediaries and their position relative to savers in a tax base that does not tax comprehensive income. In this appendix we outline such an attempt at reconciliation – albeit one that would require further policy development work. At a high level, we suggest that, in a country that does not have a capital gains tax, it may not be necessary to tax all cash flows from financial intermediaries to savers in order to tax this industry at the same level as other services providers.

Across the economy, and particularly with reference to transactions between firms, the current approach to delineating capital gain and income has much to recommend it. As demonstrated previously however, the application of the capital-revenue boundary to financial intermediaries used by savers may not be working well at present. To some extent this is because it fails a fundamental test of tax policy – taxing close substitutes in a widely divergent manner.

There are two overriding economic objectives guiding current tax policy in this area. One is the desire to tax traders (whose business is to generate income through the realisation of capital gain) to avoid distorting labour allocation decisions and to prevent erosion of the substantial services tax base.⁶⁰ The second objective is to tax the productivity of the financial services sector as any other sector of the economy. There is a third practical objective against which any change away from the current approach must be measured, which is to avoid opening avenues to additional tax avoidance.

None of these objectives demand that the capital gains of savers whose funds are managed by intermediaries must be on revenue account (i.e. classified as taxable

⁶⁰ Other objectives could be raised as well, such as approximating the taxation of full economic income, as previously described, by clawing back untaxed gains in the companies in which intermediaries invest when those gains are passed out to savers who use intermediaries. By using an imputation approach and by not having an explicit capital gains tax, this does not appear to be consistent with New Zealand's broader taxation objectives. Other objectives stated by some might be the punitive taxation of "speculation", or a belief that active portfolio management should be discouraged by the tax system. These and other objectives outside the core aims of the tax system are beyond the scope of this paper.

income) or that otherwise untaxed gains received by intermediaries (on the sale of shares for example) must become taxable when these proceeds are distributed to savers. This does not mean that the economic contribution of financial intermediaries should escape tax or bear a reduced tax compared to other industries – they should not. Neither should savers who use intermediaries be over taxed.

With respect to the financial system, the business and purpose tests separate the taxable gains of “traders” from the untaxed gains of regular savers. A trader is defined by tests that reference their practices associated with investment. By analogy, an intermediary that conducts those same practices as a trader is taxed in the same manner as a trader, and if those services are conducted on behalf of a saver then the same tax treatment flows through to that saver. Extending this analogy, “mum and dad” savers effectively become traders if they use an intermediary.

While this analogy sounds intuitively compelling, it does not actually follow from the economic objectives of taxing the sector and in fact following this approach may be economically harmful. The implied approach is in some ways out of line with the way other services would be taxed. Further, in practice, such an approach results in widely varying tax treatment for closely substitutable behaviour. This is because, generally speaking, if “mum and dad” savers did undertake many of the practices done on their behalf through intermediaries, the result would often be that their capital gains would not be taxable.⁶¹

As in other industries, it would be expected that the portion of the benefit an intermediary can provide to a saver that is a potential basis for taxation would be captured in the fees an intermediary can charge savers to provide those services. The basis of taxation of services generally is the fee paid for that service (less expenses). This is despite the fact that it is well understood that the value of the services provided to the consumer is expected to be higher than the fee paid (since they were willing to pay the purchase price). When a service provider is managing the financial assets of a saver, one of the benefits returned to that saver is the potential for increases in the value of the saver’s assets. For a saver, this benefit is delivered as money, but the benefit is no different than the added value a consumer experiences from a taxi trip, over and above the price paid to the driver for the ride (in a country with no capital gains tax). Simply because a benefit is delivered in money does not mean that the benefit is defined as income. To tax the benefit a financial services provider delivers to its clients, when the benefits provided by other providers of services remain untaxed is to apply a more comprehensive definition of income to some services than to others. As a result, in a system without a capital gains tax, it is not necessary to tax the capital gains of savers who use intermediaries in order to effectively tax the production of intermediaries paid to generate those gains.

Further, taxing capital gains on investments through intermediaries is not necessary to effectively tax individual traders or to prevent them from avoiding their tax obligations.⁶² It is not desirable to create a tax subsidy for individual traders. Tax policy is aimed at taxing the productivity of traders in the same manner as other businesses, and does not seek to create an incentive for trading activity relative to the tax burden on other labour. As a result, with respect to investment decisions effectively made by a financial intermediary, to whom a taxable fee for service has been paid, it is not clear that resulting capital gains

⁶¹ In addition to the reasons discussed earlier, many intermediaries must adopt a conservative stance on whether to assess tax on what may be capital gains because those decisions may have an effect on other savers using their services.

⁶² Indeed, many would argue that the current approach does not presently meet this objective, as those with the most resources who are interested in actively managing their financial affairs have ample room to avoid tax impost on capital gain (though with an efficiency cost). More unsophisticated savers are likely to bear the full brunt of tax on their capital gains.

provided by that intermediary to a saver must also be subject to tax by the analogy that the intermediary is effectively carrying out the will of the saver.⁶³ Often, a saver has ceded control of their investment decisions to an intermediary, in order to gain the benefit of that intermediary's talents in return for a fee. This lack of control is particularly apparent in the operation of pooled investment vehicles, which are also the type of intermediary that typically faces tax hurdles of the type described in this paper. Capital gains delivered to the saver in excess of fees paid would represent a benefit to the consumer (consumer surplus), of the type consumers realise with respect to many of their transactions, and which the tax base generally does not seek to take an interest despite the fact that it is sometimes measured in money. There are many instances where an individual might contract a service provider to perform a service that results in the increase in value to a capital asset (such as a house), which does not imply that the asset in question falls on revenue account as income. By contrast, when a trader is effectively conducting the services of a financial intermediary to generate increases in capital value for their own benefit, there is logic to taxing that trader on their capital gains.

Figure A1 considers a transaction between a buyer and a seller in the presence of a tax. This simplified diagram contains a number of implicit assumptions, but it is useful in the context of considering the taxation of financial services in the same vein as the taxation of other services. In this diagram, a typical upward sloping supply curve and downward sloping demand curve are represented. The demand and supply of financial services are both relative to a market fee level. The tax in this diagram is a tax on fees paid. Note that the size of the tax (the difference between the pre and post tax supply curves) is larger than the price increase resulting from that tax. This is because, in this diagram, producers and consumers are sharing the incidence of the tax. The area of the triangle marked as a, below the demand curve but above the market price, represents the value to consumers from purchasing services at a price below what they would be willing to pay for those services. It is the additional value delivered to savers by intermediaries, some of which may be in the form of capital gains. The area of the triangle marked as b, above the supply curve but below the market price represents fees charged in excess of the expenses of an intermediary.

This simple diagram represents the general case of a per unit tax on supply, and demonstrates that such a tax is typically measured relative to income (price times quantity) less expenses (represented by the supply curve). In this case it would be expected that there is an additional untaxed value derived by a consumer (consumer surplus), which is not at all surprising or unusual. If this surplus is represented by capital gain then to tax such gains is to place an additional tax above the one represented in Figure A1, which for the consumer would represent a percentage of the triangle marked as a. An industry that generates such gains for clients would be taxed more comprehensively than other services industries, which may generate less tangible gains. In a country without a capital gains tax, to tax such gains when they occur as the result of contracted services will distort against the use of an industry providing such services.⁶⁴

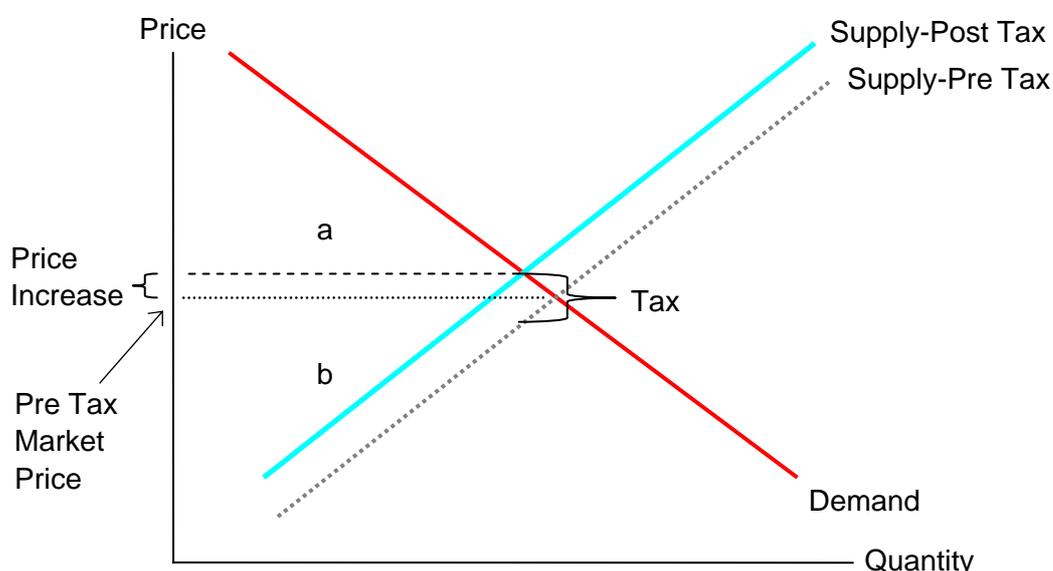
In order for any changes to the tax treatment of the capital gains of savers using intermediaries to have their full effect, those gains could not be clawed back on distribution by the intermediary, as is the case at present. This claw back function also

⁶³ This analysis implies a tax treatment with some elements of a partnership approach and some elements of an entity approach. There are a number of different levels of effective control that a financial intermediary might take in respect of a saver's investments. The implications and definition of non-controlled investment would require additional policy development.

⁶⁴ If the broadest definition of comprehensive income was measurable and it was practical to tax this base, then there would be an argument to tax such gains. This paper demonstrates the costs of running a tax system that takes an inconsistent approach to taxing full economic income, doing so with respect to some institutions and not others.

serves to limit certain types of abuses of the tax base, and so any move to change in this era would have to evaluate potential impacts on the tax base.

Figure A1 – Consumer and producer surplus



a = Consumer Surplus
b = Producer Surplus

With respect to non-controlled share purchases by savers through a financial intermediary, net fee for service may be the appropriate tax base for that transaction. It does not follow that the appropriate tax base is the same for investments made by financial intermediaries for the benefit of themselves, their owners or their shareholders. With regard to these transactions, where the intermediary is conducting services on their own behalf the current taxation of capital gains appears to be appropriate in those cases.

This framework considers the appropriate tax treatment of investment income obtained by an intermediary for the benefit of a saver. The financial system includes a broad range of transactions and tax issues. As a result, this is a brief overview of an area where further work is recommended rather than a detailed policy proposal. Several initial questions of detail are raised by this alternative approach, just as a number of detailed questions remain unresolved about the current tax system in this area. If it is determined that the capital-revenue boundary is an issue worthy of policy attention, this brief outline provides one starting point for a reform process.

One benefit of taxing capital gains and distributions of intermediaries as companies is that it restricts their incentives to participate in certain attempts to circumvent the capital-revenue boundary through lease inducement payments, capital contribution payments, and the like. Any such gains would be clawed back at present when they were passed back to savers as dividends. Any policy movement along the lines suggested in this paper would require that the objective of economic growth be balanced against any potential base maintenance concerns. An important consideration as to whether a change in the basis of taxation for financial intermediaries would be worthwhile is the level of economic cost associated with the current tax regime. The information asymmetry framework used in this paper suggests those costs may be substantial.